

Indications and implications of protohistoric Indian use at Laguna Guerrero Negro, Baja California

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Abstract

A handful of protohistoric Cochimí temporary residential bases and isolated finds along Laguna Guerrero Negro in central Baja California exhibit a minor set of artifacts largely related to Spanish exploratory, missionary and colonial times, but also include exotic items brought to the locality by natural means such as in flotsam carried by the California Current. Durable goods were presumably acquired through trade, direct acquisition, scavenging and as gifts and served to replace or augment prehistoric technologies of a largely personal or utilitarian nature. Artifacts include items of glass, metal, ceramic and wood. Inferences regarding chronology, contact, and behavior are presented with respect to the influences on the Cochimí of the central peninsula by the Spanish *entrada* and its materials goods and other exotic introductions.

Introduction

Well-known is the Hispanic *entrada* into Baja California as initiated by conquistador and explorer Fernando Cortés in 1533 as part of his authority to explore the “South Sea”. Both his directed and disastrous 1533 expedition and his personally led 1535 exploratory and colonizing expedition to the peninsula included ships containing “many items of barter” (Mathes 1973:46, 47, 49). Carrying gift and trade goods to encourage friendly contact, discourse, exchange and influence with native peoples has a history that goes back to Christopher Columbus’s New World arrival and for centuries prior. Columbus, for instance, brought green and yellow glass beads to the Americas as trade goods (Columbus 1960:69, 189; Smith and Good 1982:3-4).

The acquisition of non-Indian goods by the natives of Baja California during periods of exploration and missionization, whether by gift, trade/exchange, thievery, scavenging or other means, and the anthropological issues relevant to such attainment, such as world and more local economic/mercantile systems, status, gender, value systems, social opportunity and identity, production, use, meaning, and chronology (see Deagan 2002:4-5), are among topics that have been rather minimally broached in peninsular studies. Most historical archaeology reports, including those dealing with Indian and non-Indian assemblages, have dealt with mission-period ceramics (Davis 1968; Hyland 1997; Massey and Osborn 1961; May 1973; Meighan 1966; Moore and Gasco 2001; Ritter 1979; Tuohy 1970, 1978; Williams 1995, 1997), while others have concentrated on individual artifact types such as glass beads (Williams 1991), possible historic-period milling tools (Alvarez 1978; Aschmann 1949; Ritter 1979), and wares from a



Figure 1. Study area location map.

shipwrecked Manila galleon and later American whaling ship (Ashley et al. 2003; Briener et al. 1999; Skowronek 2003). Muranaka (1992) compared Russian Molokan and Mexican cultural remains in Guadalupe. Recently, there have been peninsular mission studies by the Instituto Nacional de Antropología e Historia (INAH) (Cummings 1983; González 2001; Temple 2003) and the ongoing work of Matthew Des Lauriers of the University of California, Riverside at a contact-period site on Isla Cedros. Nickerson (1953) and Tuohy (1978) have reported corncobs, cloth and glass artifacts from a rock shelter near Comondú.

Research during the late 1990s and early into the second millenium by the author (Ritter 1999, 2002) under permit from INAH in the vicinity of Laguna Guerrero Negro (Figures 1-2) has resulted in the recovery of non-Indian goods from five presumed residential bases along the current lagoon's northeast end. The variety of these remains and their implications with regard to a number of the issues discussed above form the basis of this paper.

Environmental and archaeological background

Research has demonstrated that Indians took seasonal advantage of the fertile marine environment of Laguna Guerrero Negro for at least the last several thousand years. This lagoon straddles the line between modern Baja California and Baja California Sur within the Vizcaíno Desert. The location's relevant coastal setting includes a series of low, older dunes bordered and in places covered by a larger, more active dune field (Figure 2). The outer shoreline in places is prograding with a stable sea level over the last several thousand years (Phleger 1965). This area of coastal sand dune and coastal salt marsh vegetation communities is generally moderate in



Figure 2. 1986 protohistoric site at the north end of Laguna Guerrero Negro.

temperature and occasionally foggy from the effects of Pacific cooling. Marine life in terms of fisheries, sea turtles, sea mammals, crustaceans and mollusks is particularly rich. There is a seeming paucity of fresh water perhaps offset by near-shore shallow wells where potable water can be found several meters below the current surface in places.

The socio-ecological and behavior-oriented research included systematic and intuitive inventory of the coastal setting of both Laguna Guerrero Negro and Laguna Manuela, coupled with test excavations and selective surface collections at the shallow sites. There are 34 sites recorded along Laguna Guerrero Negro (LGN-1 through LGN-34) and 18 sites along Laguna Manuela (LM-1 through LM-18). Five of the Laguna Guerrero Negro sites contain historic-era materials.

The sites are characteristically aligned in a coastal strip of variable-sized patches of cultural materials dominated by shellfish and fish remains in the thousands to millions. Separation into sites is somewhat arbitrary, based on primarily distance (>75-100 m between locations). Patches vary between 75 and 39,000 m² in extent. Features include cremations and burials, cooking and food processing areas and flaked stone workshops.

While somewhat variable by site, there is an abundance of flaked stone debitage, including obsidian worked by a variety of methods. The vast majority of the obsidian is from the Valle de Azufre source some 145 km away in the Tres Vírgenes region. Other prehistoric artifacts include an array of imported and locally manufactured items, including metates, manos, hammer stones and abraders, *chacuacos* or stone pipes/tubes, small to large cores and core tools, common flaked stone artifacts used for a variety of functions (including scraper and knife-like tools, unifaces and edge modified flakes), burin spall tools, graters/perforators and small splitting tools and a well-developed biface industry. Projectile points include a wide variety of types, counting the hallmark small, thin, triangular Guerrero Negro series, Comondú series, Elko-like points, small Manuela tapering-stemmed points, large unnamed corner-notched points, and a number of rare types. There is evidence of local manufacture of some of these points. Bone artifacts such as awls and harpoon tips are present at some sites. Shell artifacts include presumed cutting/scraping tools, probable utensils, beads and ornaments. Historic-period artifacts are discussed below.

The various prehistoric assemblages and site distribution are interpreted as representing the remains from peoples with a specialized maritime adaptation, including specialized tool kits for hunting and fishing, processing and manufacturing activities. Visits to the lagoon were made on a part-time, perhaps regularized basis, by small family groups from different montane

locations in the central peninsula. These visits were likely on a seasonal basis, with shore and near-shore resources exploited over at least 2,000 years and perhaps longer. Of relevance is the inclusion in the assemblage of non-native goods following Euroamerican contact. Such evidence is highly localized in the locality.

Historical chronicles regarding contact goods

The Indians of Baja California were offered Euroamerican gifts or goods for exchange (including goods by way of an expanding world trade network) from the earliest episodes of contact. Mathes (1992:xiv), for instance, notes that there were 19 documented maritime expeditions along the coasts of Baja California between 1533 and 1697, expeditions that familiarized at least the coastal Indians with Spanish customs, material goods and so on. For purposes of examining the southern two-thirds of the peninsula, the transfer of technology and goods can be categorized into the pre-mission expedition period and the time of missionization and colonization. There was also the opportunity for the native inhabitants to obtain non-Indian goods from indirect trade or exchange, from salvage of beach debris or even from happenstance discovery, seizure or pilfering. During mission times, goods were often distributed as rewards, prizes, incentives, and necessities for mission life and bringing the flock into European principles largely according to Spanish standards (even recognizing the many non-Spanish missionaries of the time). Items carried by the Europeans for purpose of ameliorating the contact and any hostilities and “to hold the gentile attention” (Crosby 1994:191) are well documented in the various historic chronicles. While a number of references merely refer to such items as trinkets, gifts, trifles, barter goods, “other things”, and “toys”, a sampling of the literature (see Tables 1-2) indicates there is more specificity in many documents. Such goods can be divided into (1) items of adornment or enjoyment, including glass beads (mentioned frequently), ribbons, earrings, bracelets, necklaces, mirrors, and bells; (2) items with religious connotations, including use as adornments, such as rosaries and crosses; (3) utilitarian durable goods such as knives, axes, “old iron”, nails, scissors, hooks and combs; (4) tobacco and food items, including maize, wheat (cooked and uncooked), hardtack, biscuits, preserves, liquid sweetmeats (candied fruit), salt, meat, seeds, sugar, *pozole*, dried figs and grapes and wine; and (5) items of clothing and cloth, including rawhide moccasins and sandals, blankets, short undershirts, loincloths, woolen and cotton clothing, including trousers and coats, sackcloth, “all kinds of blue and white, coarse and rough cloth” (Baegert 1952:120), hats, garments and pieces of taffeta, silken girdles of diverse colors and napkins.

Even as the Spanish were leaving Baja California for the new mission fields of Alta California in 1769 in the overland expedition from Mission San Fernando Velicatá to San Diego of Fernando de Rivera, Fray Juan Crespí and José de Cañizares, they carried many items of gift and exchange similar to those in use for hundreds of years of European contact in the peninsula. Among the items listed by Crosby (2003:54-55) are 144 rosaries (strings of rosary beads), 396 yd. of assorted ribbons, seven metal finger rings set with stones, 50 pairs of metal earrings with stones, 165 strings of glass beads, three packages of assorted coral, 30 packages of enamel beads, 30 of the same in ivory color, 17 packages of assorted glass beads, 2,212 cigars and other tobacco (likely for Spanish use principally), 35 yd. of blue sackcloth (serge), 32 yd. of coarse cotton cloth, 36 yd. of coarse blue flannel, and 119 yd. of coarse linen as well as a number of other items that could have been used in establishing good relationships with those Indians encountered.

Table 1. Selected references to Baja California contact goods (exploration period).

Context	Contact Goods	Reference
Hernan Cortés 1533	Certain barter goods (p. 47) Any items of barter (p. 49)	Mathes 1973
Francisco de Ulloa 1539	Beads, hats, hooks as gifts (p. 217) Hooks, beads as gifts (p. 221) Garments and pieces of taffeta as gifts (p. 226) Beads (pp. 244, 245) Bells, beads--with feathers returned by Indians (p. 246) Combs, fishing hooks, comfits, trifles (p. 247) Strings of bells, great fishhook, certain beads, comfits, mariner's breeches and apparel, red hat (p. 248) Crown of beads, trifles (p. 249) Beads (p. 250) Trifles (p. 263) Drinking cup offered (p. 265) Earrings, counterfeit diamonds (p. 266)	Hakluyt 1904
Francisco de Ulloa 1539-1540	Collar of tiger skin (p. 34) Beads (p. 41)	Wagner 1929
Fernando Alarcón 1540	Beads and other things (p. 283) Silken girdle of diverse colors (p. 284) Certain little napkins and other trifles (p. 287) Crosses (pp. 295, 300) Seeds (p. 314)	Hakluyt 1904
Sebastián Vizcaino 1596	Corn, hardtack, meat, wine (p. 136) Many gifts (p. 136) Beads for pearls, mirrors, some knives (p. 137)	Mathes 1992
Sebastián Vizcaino 1602	Hardtack and other things (p. 159) Beads and food (p. 162)	Mathes 1992
	Biscuit, glass beads, little looking glasses and other trifles (p. 192) Colored glass, little bells and other trifles exchanged for fish, mescal, cords for fishing, and net bags (p. 226) (San Diego area) bead necklaces of colored glass, cords and ribbons to put around the neck for ornament, strings of glass beads and biscuit (p. 233)	Wagner 1929
Francisco de Ortega 1633-1634	Aquamarine beads (p. 229) Corn (p. 230) Knives for pearls (p. 231) Axes, knives and other trade goods for pearls (p. 235)	Mathes 1992
Pedro Porter y Casanate 1644	"Some very large pearls which were traded for nails, glass beads and other toys." (p. 95)	Mathes 1976
Francisco de Lucenilla 1668	Knives for pearls (p. 43)	Mathes 1966
Woodes Rogers 1708-1711	"Tho' we had Glass Beads of several colours, and other Toys, they would accept none of them. The coveted nothing we had but Knives, and other cutting Instruments" (p. 65) "For when they exchange'd Fish with us for old Knives, of which we had plenty" (p. 68) Shirt provided which was tore into pieces to put seeds into (p. 69)	Andrews 1979
William Betagh 1719	"That any man may lye with the women for a rusty knife, or a porringer of thick milk" (p. 111)	Andrews 1979
George Shelvocke 1721	Liquid sweetmeats (candied fruit) and Peruvian preserves (p. 76) Sugar and coarse blue baise (wool or cotton fabric) (p. 77)	Andrews 1979

Table 1. Selected references to Baja California contact goods (mission period).

Context	Contact Goods	Reference
Admiral Isidro de Atondo y Antillon, Father Eusebio Francisco Kino 1684-1685	Small items of clothing and trinkets (p. 24) Clothing, rawhide moccasins (p. 27) Knives, bracelets, necklaces, earrings, bells, mirrors, scissors, long printed cotton vests, blankets, rawhide moccasins and other items of clothing and trinkets (p. 28) Items of clothing and trinkets (p. 29) Clothing, trinkets, rawhide moccasins, food (p. 30) Trinkets, short undershirts, rawhide moccasins, long cotton vests (p. 33) Rawhide moccasins, small items of clothing, trinkets (p. 34) Items of clothing and trinkets (p. 39) Gifts, clothing, short undershirts, rawhide moccasins (p. 40) Small items of clothing, trinkets, rawhide moccasins (p. 47) Short undershirts, earrings, bells (p. 49) Small items of clothing and trinkets (p. 52)	Mathes 1969
Father Juan María de Salvatierra 1699	Stealing or seizing provisions (p. 34) Rosary around neck (pp. 93, 129) Earrings (p. 106) Knife (p. 167) “Maize is the usual gift and a considerable part of the salary of the working Indian.” (p. 179)	Burrus 1971
Father Francisco María Piccolo 1702	Only mentions gifts given by Kino	Hammond 1967
Father Francisco María Piccolo 1716	“I conferred the canes of Captain on the most important men of the settlements and gave each a blanket and a loincloth” (p. 81) Blanket, some coarse woolen cloth (pp. 83, 84) Wheat to plant, cane of captaincy, corn, tobacco, other items (p. 85)	Burrus 1984
Father Clement Guillén 1719-1721	Tobacco, knives, blankets, sackcloth, and other things (p. 35) Knives, blankets, sackcloth, tobacco, sandals and food (pp. 36, 37, 42) Knives, hardtack and other little things—Indians responded with feathers and deer skins (p. 48) Gifts reciprocated with feathers, raw and roasted fish and other things (p. 52) Blanket and knife given as reward (p. 58) Food to women; “The headman received the bunches of feathers and other gifts, responding with ribbons, feathers, braided cord, and lances with flint tips, which they make” (p. 82)	Mathes 1979
Father Ignacio María Nápoli 1721	Knives and other things which Indians value (p. 40) Ornaments on ribbons, hats, sackcloth, blankets, knives, etc. (p. 52) Salt (p. 54) Corn meal mush (p. 55) Food (p. 61) Garments of sackcloth, pieces of sackcloth, rosaries (p. 63) Blankets, sack and cloth covering, seaman’s canvas bag and the sail (p. 65)	Moriarity and Smith 1970
Father Sebastian de Sistiaga 1744	Cross around neck (p. 122) Food and clothing (p. 140)	Burrus 1984

Context	Contact Goods	Reference
Father Johann Jakob Baegert 1751-1768	Cloth from missionaries or from trade with Spanish soldiers for tanned deer skins. (p. xvi) Refined sugar from soldiers as payment for debt; bulls for labor (p. 71) “All kinds of blue and white, coarse and rough cloth to cover the naked californians” (p. 120) Meat, bushels of Indian corn, dried figs and grapes; “similar foods or some piece of clothing were also distributed as prizes in games or shooting contests” (p. 121) Cooked meat and Indian corn, three meals a day for laborers (p. 122) “At several [other missions] cotton was planted, from which summer clothes, stockings, caps, and other things were woven and knitted for the natives” (p. 130) Clothes and provisions (p. 144) Knife and meat; “ <i>palmilla</i> is the poorest blue cloth sent from Mexico to California. It was customary to give trousers and coats made of this material to native California officials and others whom one particularly wished to honor” (p. 189)	Baegert 1952
Father Wenceslaus Linck 1765	Necklaces of glass beads, mirrors and other gifts (p. 33)	Burrus 1967
Father Wenceslaus Linck 1766	Cross (p. 59)	Burrus 1966
Jesuit mission supplies	“There were 64 short planting hoes (<i>coas</i>), 26 long hoes, 38 woodcutter’s axes, 14 brush-clearing machetes, and 24 knives specified for neophyte use” (p. 143)	Crosby 1994
Rivera / Crespi / Cañizares expedition 1769	Partial list of potential trade goods: needles, rosaries, ribbons, rings, earrings, glass beads, coral, enamel beads, ivory-colored beads, cigars, knives, awls, agave-fiber twine, blue sackcloth, coarse cotton cloth, coarse blue flannel, coarse linen, white under-petticoats, baptismal caps, various food items (pp. 54-55)	Crosby 2003
Father Luis Jayme 1772	(Mission San Diego area) payment of tortillas and ribbons by soldiers to compensate women for rape (p. 46)	Geiger 1970

The historic artifacts

Utilitarian ceramics

The most common historic artifact found at the Laguna Guerrero Negro sites (LGN-1, LGN-30 and LGN-33) (Ritter 1999, 2002) are utilitarian ceramic bowl and, less common, olla sherds, including one partial and one whole bowl and one reworked sherd (Figures 3, 4b). A number of ceramic sherds from the locality are also in the collections at the Museo Naturaleza y Cultura in Bahía de los Ángeles. Together there are 350 sherds collected plus a major portion of one bowl and a single unbroken bowl. Several of these sherds were analyzed by Williams (1997) who describes them as having a hard, smudgy black core with fiber and very fine sand- to silt-size inorganic temper generally less than 0.15 mm in diameter. A thin section prepared from several sherds has quartz and feldspar mineral grains along with acid volcanic rock fragments (including welded tuff), chalcedony, and mudstone. Williams (1997:241) notes the resemblance to the Tizon Brown Ware, Santo Tomás type, Mission series of May (1973). While such sediments could be found along the coastal plain, no evidence of local manufacture was found. In reality the sherds exhibit a variety of coloring and smudging, both interior and exterior, including grays, reddish brown, red, brown, yellowish brown and black (often from smudging and cooking). Up to five different colors may be present on one vessel, suggesting a reduced



Figure 3. Mission ware ceramic bowl from LGN-33.

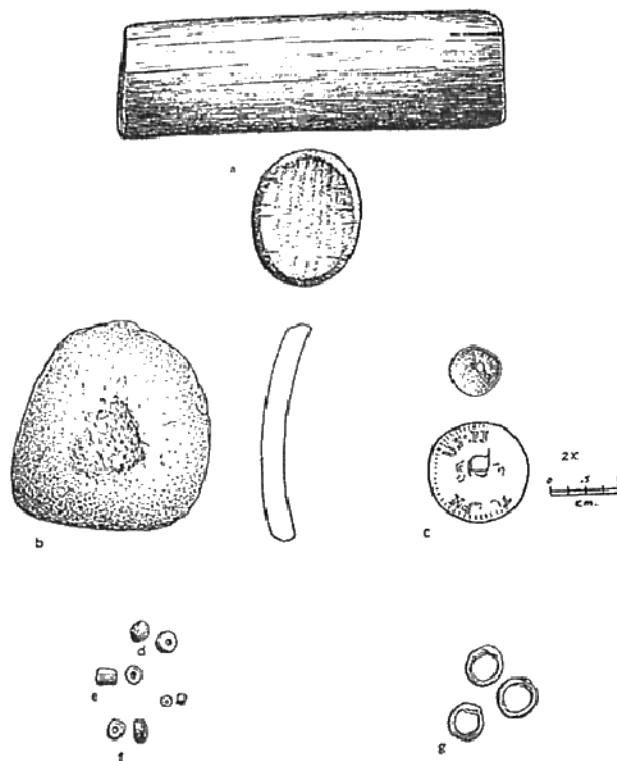


Figure 4. Laguna Guerrero Negro artifacts: (a) LGN-10 hardwood peg or pin; (b) LGN-1-193 Mission pottery sherd with post-breakage edge smoothing; (c) LGN-1-180 perforated coin, 1765-1790; (d) LGN-1-159 Type 5 green glass beads; (e) LGN-1-161 Type 1 turquoise glass beads; (f) LGN-1-161 Type 3 Cornaline d'Aleppo red/green glass beads; (g) LGN-1-160 Type 4 black glass beads.

firing atmosphere. Indeterminate residues occur on the interior and exterior of some vessels. A more thorough petrographic analysis of the sherds would help further define the ceramic assemblage variability.

Vessel manufacture appears to be mixed with examples of paddle-and-anvil, coil-and-scrape and possibly hand-molded types. Interior and exterior smoothing is evident. These vessels are generally thick, with variability within a single vessel. Nineteen sherds from Feature 5 at LGN-1, for instance, average 7.7 mm thick with a standard deviation of 1.4 mm and a range between 5.1 and 10.7 mm. Rim types include beveled; slightly expanding; expanding, flared, or rolled; straight and flat; tapered or rounded; slightly rolled or excurvate and flat; and slightly to moderately rolled or excurvate (recurved rim) with either a rounded or tapered lip.

The whole bowl found at LGN-33 is slightly irregular in its opening, between 15.8 and 18.7 cm diameter. The maximum vessel width is 21.7 cm, with a height of 14.4 cm. The rim thickness is 4.0 mm, and the vessel is likely thicker within the body. Estimates of vessel size were conducted on more complete sherds where there was a rim present. A restricted, shallow bowl appears to be 19.55 cm in diameter, with a height of 7.0 cm. A small partial olla has a rim diameter of 11.9 cm, a bowl diameter of 16.0 cm and a height of 15.5 cm. Other bowl-like vessels range in estimated rim diameter between 14.5 cm and 20.0 cm. Based on the collected specimens, there appears to be a minimum of between 40 and 50 vessels present at Laguna Guerrero Negro sites, mostly utilitarian bowls apparently broken during residency.

Tuohy (1970:42) noted that ethnohistoric accounts (cf. Aschmann 1959:59; Dunne 1952; Massey 1947:345) clearly demonstrate that pottery containers were unknown to pre-contact Indians living south of the 30th parallel. Padre Miguel del Barco (1981:49), for instance, observed, "It is ever surprising that these Indians did not know how to use clay, drying in the sun or baking it in a fire, to make these utensils. However, nothing of this kind was found among them, nor did they know about this until they were taught about it after they became Christians." Tuohy (1970:42) cited his and William Massey's south-central peninsula excavations that demonstrate an association between plain brown ware ceramics and Jesuit missionary influences (1697-1768). Crosby (1994:284) remarked, "Little pottery was made on the peninsula (in reference to Jesuit missions), partly because of the scarcity of suitable clay. Pottery vessels of all sorts were imported from Sonora missions." This implies possible Yaqui manufacture. In fact, Venegas (1757(1):170) related Padre Fernando Consag's discovery of pottery among Yuman speakers in the northern Gulf region and his remark that pottery making was "a business unknown to the peninsula Californians farther to the south, neither heathen nor Christian, until they were taught by people from *la otra banda* [Yaquis?] at the instigation of the California missionaries." In the *memoria* of 1725 listing goods headed from mainland Mexico to the Jesuit missions (see Crosby 1994:144), there is a record of 30 large sets of pottery jugs and 10 sets of pottery jars.

In several other Jesuit missionary accounts, there is a clear record of pottery manufacture by mission or mission-influenced Indians in the southern peninsula. In 1757, Father Johann Jakob Baegert (1982:195) remarked, "Close to the seashore the inhabitants, besides covered huts, could make some earthenware and containers as they see them made for me sometimes in the mission." Later, in his 1771 *Observations in Lower California*, Baegert (1952:125) noted that the missionary's kitchen included "two or three pots made of clay and goat manure, unglazed and only half baked on charcoal in the open air."

The variety of utilitarian ceramics found at Laguna Guerrero Negro sites reflects mission influence. These ceramics could include wares manufactured at the mission setting and/or wares

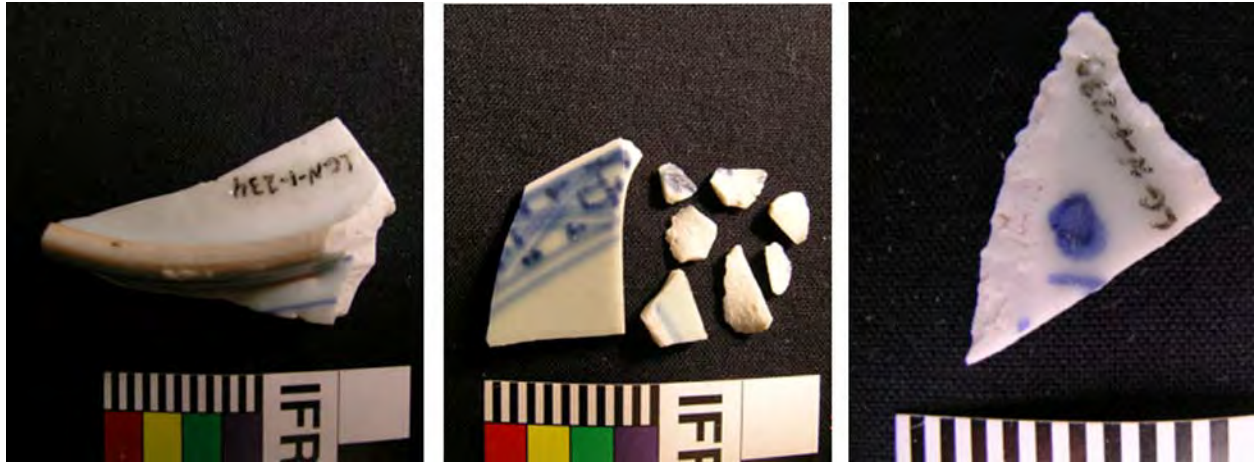


Figure 5. Modified Chinese porcelain sherds: (left) plate with edge modification; (center) vessel shed and flakes; (right) broken projectile point.

imported from mainland Mexico. There is likely a fiber-based ceramic tradition that had its roots among mainland Mexican Indians such as the Yaquis. Williams (2004:130) remarked on the mission-era vessels “made with manure tempering, a technique associated with historic-era ceramics produced in the Pimería of Sonora and Central Mexico.” There is no resemblance in these ceramics to early Spanish colonial earthenware of the circum-Caribbean area, including those from Spain and other areas of Europe and European producers in Mexico and nearby areas of the Spanish Empire (Deagan 1987:24-43).

Chinese ceramics

Chinese porcelain ceramics from one plate, two bowls and four cups were found, primarily at site LGN-1 but also at LGN-18 and LGN-21. Von der Porten (1999, 2004) has described these sherds. They are undoubtedly shipwreck debris broken up initially by the wreck or beach tumbling. These porcelains are underglaze blue-on-white wares and overglaze polychrome wares from ca. 1574-1576, during the early years of the reign of the Wan-Li Emperor (1573-1619) and were produced in the city of Ching-te Chen, China’s porcelain-making center, or nearby. Individual types are described as follows:

- Underglaze blue-on-white plate with “gentleman’s purse with ribbons.” There are 28 sherds of this plate that has been broken further on site, presumably for tool manufacture. Four sherds show unifacial edge flaking (Figure 5). The largest is a sherd with the foot ring evident measuring 4.0 cm long, 2.7 cm wide and 1.8 cm thick with a 30° working edge angle.
- Three sherds from three cups with red medallion and blue cross-cross diaper design.
- Sherd from a blue-on-white underglaze cup with a phoenix motif.
- Two sherds from a bowl with overglaze.
- One sherd from a bowl with blue-on-white rim stripes.
- Four sherds and seven small flakes (Figure 5) from one or more unidentifiable Chinese porcelain vessels.
- Finally, there is a blue-on-white underglaze thin sherd, possibly of one of the vessels described above, that has been pressure-flaked along the margin of a very slightly

curved portion of a cup or bowl into a small projectile point that is missing its base (Figure 5) It is possible that this was a Guerrero Negro series projectile point or a failure from the manufacture of such a point. The break is straight.

Miguel del Barco (1973:253-254), José de Ortega and Juan Antonio Balthasar (1754) and Homer Aschmann (1959:32) note that debris from Manila galleons was found by the Indians along the central west coast of the Vizcaíno Desert near the study sites (also see Briener et al. 1999). Clavijero's (1937:91) second-hand account describes the Indians finding large earthen jars among the sands of the Pacific, left from a Manila galleon; they were reportedly carried inland to a cave where they were deposited as items of wonder. Aschmann (1959:32) notes that Father Fernando Consag made a detour to look at a sand spit in front of one of the lagoons in this western embayment. His Indian companions collected pieces of crockery, including Chinese porcelain and other artifacts of Old World manufacture, and reported that the shore was littered with such material, as well as with broken ship timbers, including disintegrating nails. Miguel del Barco (1973:253-254) also noted that many pieces of Chinese ceramics, a metal candlestick in the figure of a small dog and large blocks of dark beeswax typical of the Manila trade were found along this western shore. Clavijero (1937:93) also reported the 1746 discovery of Pacific-side "earthen jars," which could also be related to the Chinese stoneware reported by Briener et al. (1999).

It is of interest that Ortega (in Mathes 1992:230) described in 1633-1634 "Chinaware plates" found on the beach at San Benabé at the Cape left from Thomas Cavendish's plundering of the Manila Galleon *Santa Ana*. Father Jakob Baegert (1982:225-226) related the misfortunes of a supply ship from San José del Cabo to Mission San Luís Gonzaga Chiriyáqui around 1759 that included among its cargo several dishes of Chinese porcelain left by a Manila galleon. He also noted (Baegert 1982:153) that such "china from Canton" was part of his table setting, a point made by Crosby (1994:483) who commented on records showing that when the Jesuits were expelled from the peninsula in 1768, mission inventories included "porcelain and other items of commerce from the Orient." A more specific count of Chinese porcelain table settings is related by Crosby (1994:264) where in 1762 the Padre Visitador General Ignacio de Lizasoáin visited Comondú and Father Francisco Inama could lay out for him a table from a large set of Chinese porcelain dishes, including 36 plates of various sizes, cups and saucers, and saltcellars. Baegert (1952:130) related the use of 30-qt. stone jars for wine obtained from Manila galleons' stopping at the Cape on their way to Acapulco from the Philippines. This author has seen sherds of Chinese porcelain at Missions San Borja and San Vicente.

It is quite evident that the visitors to the lagoon area were able to procure Manila galleon and possibly other shipwreck-related debris from the shore and utilize it secondarily for tool/weapon manufacture. Typologies of beach wares and site wares show a clear link rather than a relationship to known porcelains at mission sites. That these operations occurred on the campsite is evident from the further breaking of vessels and flaking activities. These porcelains retained qualities suitable for historic artifact reuse through flaking or breaking.

Wood artifacts

The author (Ritter 1999) has previously described a single wooden peg or pin (LGN-10) from the study area (Figure 4a). It is unknown whether this artifact is historic or prehistoric. The smooth, well-shaped item was manufactured from an unidentified hardwood with relatively thick growth rings (3.8-4.4 mm). This artifact is elongated and oval in cross-section. It measures 11.6



Figure 6. Various historic-material artifacts: (left) redwood plank with a spike; (center) cylindrical and flat iron artifacts; (right) green glass Comondú projectile point and flakes (scale in mm).

cm long, 4.1 cm wide and 3.1 cm thick. It is possible this artifact came from a ship and may have been found along the beach where it floated in from elsewhere.

Two redwood artifacts were recovered from LGN-33. There were also other redwood fragments observed at several sites in the sample. The first object from LGN-33 is a smoothed wooden plank (LGN-33-1) that currently measures 23.7 cm in length and was probably longer, since one end is irregular (Figure 6). The specimen is 4.9 cm in width and 1.7 cm thick. In the center of the plank near one end is a remnant of an iron spike or nail that is 0.8 cm across. The second specimen (LGN-33-7) is a bipointed, slightly curved shaft tapered at both ends. This specimen is quite regular and measures 51.0 cm in length, 1.6 cm in width and 1.0 cm thick. Both artifacts are somewhat sand-abraded and likely were collected from flotsam along the outer coast. This is the same coastal stretch where at least four Tolowa or other northwest California Indian canoes of redwood have been discovered (see Moriarty and Moriarty 1980).

Perforated coin

A copper coin with an off-center perforation was found at LGN-1 (Figure 4c). This coin appears to be one-quarter of a Kreuzer, with letters representing Joseph II of Austria (JOSEPH US·II). This is a “current reign” type of small-denomination coin from about 1765-1790 (see Ritter 1999:230)

The partially worn and corroded coin includes embossed parallel lines encircling one side near the edge. The coin is 14.0 mm in diameter and 0.5 mm thick. It has clearly been reused by the Indians, probably serving as a decorative piece on clothing or headgear, or worn as jewelry. The derivation of the coin from Austria is not surprising since Jesuits from the areas of Germany and Austria were among those serving at the missions in the nearby highlands. For instance, German Jorgé Retz was missionary at Santa Gertrudis from 1751 to 1768, and Austrian Padre Francisco Inama was at the Comondú mission, also from 1751 to 1768 (see Crosby 1994:403-412). Furthermore, one cannot rule out totally a derivation from a post-Jesuit Franciscan, Dominican or secular source.

Iron artifacts

Over 200 mostly small (less than 2 cm) historic corroded iron artifacts of cylindrical, flat and amorphous character were found at two Laguna Guerrero Negro sites (LGN-1 and LGN-20)

(Figure 6). The vast majority of these small pieces may have splintered off a larger artifact. Furthermore, rapidly corroding modern trash has added a complication to easy identification. The flattish piece measures 4.5 cm in length, 3.2 cm in width and 0.9 cm thick. A spike-like artifact is 7.5 cm long and 1.8 cm in thickness. Other artifacts are smaller in size. The platy pieces are splitting horizontally, and several other pieces include single small fiber-like casts. One flattish piece of iron is platy in appearance with possible sheet-like blackish and white slag remnants.

Following Aston and Story (1939), these fragments are wrought iron. This is apparent by the corrosion, the wood-like grain, the splitting and splintering along this grain, the fibrous casts, and the apparent siliceous slag remnants that could not be removed from the bloom. The slag was drawn out with the iron, becoming thin glassy-appearing layers as found in the artifacts from LGN-20.

The corroded state of these artifacts creates difficulties in functional interpretations. The elongated spike-like objects may have served as perforators, flakers, harpoon or arrow points, etc. The flatter pieces may have served in cutting-like functions. In Spanish America, Deagan (2002:31) has noted that blacksmiths were present in virtually all settlements from the earliest days of colonization, working with imported raw iron. Crosby (1994:176) noted that at Loreto during the Jesuit times the “naval base” included a *maestro herrero* (master blacksmith). These items may have been obtained from mission settlements or, more likely, historic-period wrecks on the nearby coast, or both. Clavijero (1937:301) related an account of one of the Spanish galleons’ crews in a small landing boat at San José del Cabo being killed and their boat dismantled for the iron afterwards by Indians, an account that shows how well the southern tribe valued iron artifacts.

Cuprous artifacts

There were 118 cuprous artifacts or artifact fragments recovered from two sites, LGN-1 (117) and LGN-12 (1). Many of these have been described by Stapp (1999) who divided the artifacts into a miscellaneous assortment of copper-based wire and sheeting scraps (Figures 7-8). The remains from the 2002 expedition are under analysis by Thomas Fenn of the University of Arizona who will attempt an analysis of the metal’s chemical composition in a search for origins.

The various seasons’ work includes 15 wire objects, 76 sheet fragments, including rolled sheets, one possible eight-sided button with iron residue on one side, a short cuprous tube and 25 fragments. The possible button is 1.8 cm across and is similar in size and configuration to an eighteenth-century button illustrated and described by Deagan (2002:168, Fig. 8.13) as probably used on uniforms, ca. 1700-1750, as found at St. Augustine, Florida. From the other side of the Spanish-American empire is the report by Blind et al. (2004:144) of several undecorated copper alloy loop-back buttons from the presidio of San Francisco.

The cuprous sheets include thinner and thicker pieces, from 1.4 to 2.5 mm thick. Some of the flat pieces could be recycled utensils such as kettle/cauldron fragments. Deagan (2002:178) noted that thin flat sheets of copper were used in the Spanish circum-Caribbean area to produce possible clothing ornamentation copper-alloy “stars.”

Some pieces of the copper wire (1.2-1.5 mm diameter) have a loop formed on one end or eyelets intertwined. At least one of these may be a clothing clasp. Deagan (2002:176) noted that copper-alloy hooks and eyes are found on Spanish colonial sites from the fifteenth through the nineteenth century and were used to fasten doublets, jerkins, bodices, and other clothing

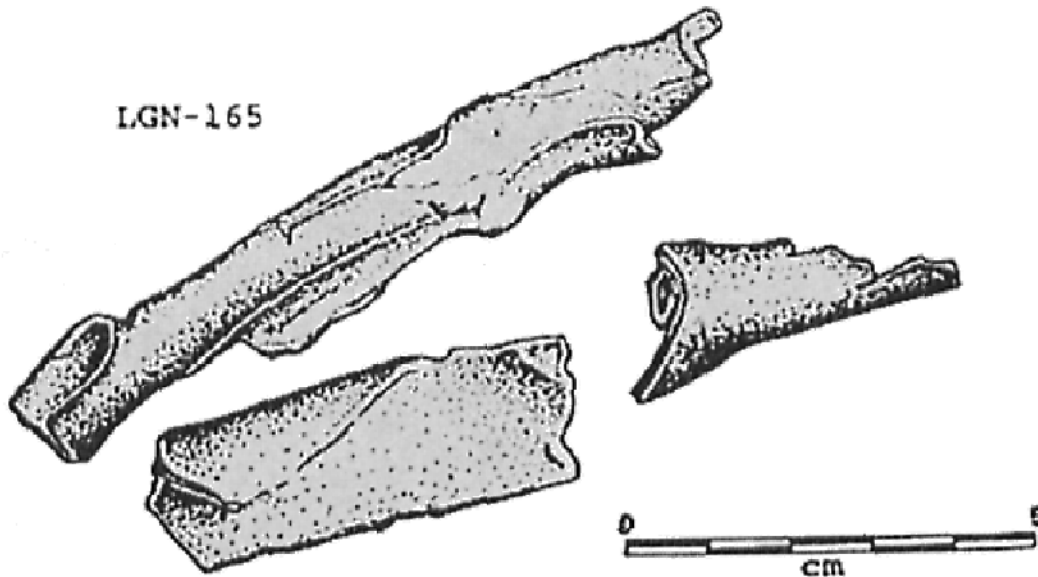


Figure 7. Rolled copper sheets from Laguna Guerrero Negro , site LGN-1.



Figure 8. Metal artifacts: (left) copper alloy wire; (center) copper alloy button with iron remnants; (right) copper alloy tube.

elements. There are other artifacts in the Spanish empire that employed cuprous wire, such as wire connecting rosary beads (Deagan 2002:70-72), twisted copper wire rings (Deagan 2002:127), and even a wire bug, a possible toy (Deagan 2002:300). These various Laguna Guerrero Negro artifacts could come from shipwreck debris off the coast and/or from mission sources in the mountains to the east.

Production of cuprous artifacts in Mexico started very early in the Spanish reign, in part a carryover from Indian metallurgical skills. Deagan (2002:139) noted that copper alloy bells were first cast for the Mexico City cathedral in that city in 1528. She also remarked that among crafts and guilds established in the Indies and Mexico, the *calderos*, or copper pan makers were in place in 1720 (Deagan 2002:32). Baegert (1952:125) explained that missionaries' kitchens would include a copper pan, a small copper vessel in which to prepare the chocolate, "both tinned for

the first and last time when they were bought in Mexico.” Another example of the plentiful copper artifacts associated with the Spanish in Baja California is in Crosby’s (2003:55) inventory from the land expedition of Fernando de Rivera, José de Cañizares and Father Juan Crespí from San Fernando Velicatá to San Diego in 1769. He included the following listed copper items: jugs of various sizes, frying pans, *pozole* stirrers and ladles, chocolate pots, altar bells, candlesticks, with many other artifacts not specified as to metallic character. Hester (1989:218) commented that at Mission San Antonio de Valero in Texas a 1772 inventory of Indian houses included copper pans. Clearly cuprous items were abundant in the peninsula in Spanish times, and these coast Indians valued such artifacts for uses like ornamentation and possibly as curiosities and sharp-edged tools.

Flaked glass artifacts

There are 14 olive green glass artifacts recovered from site LGN-1. These include 10 flakes, two edge-modified flakes, and two projectile points (Figure 6). The flakes appear to be mostly small percussion flakes with several pressure flakes. These range in length from 0.9 to 3.4 cm, with thicknesses between 0.2 and 1.7 cm. Three of the flakes appear to be derived from a flat piece of glass such as a bottle, tumbler or vial. One flake has a dark brown/rusty thin crust of unknown origin with a smooth finish. It appears metallic, perhaps a remnant of an enamel or gilded decoration on glass as discussed by Deagan (1987:140, 142, 143) for circum-Caribbean Spanish colonial sites. Further analysis of this crust is warranted for a better determination.

Two pieces of flat or nearly flat green glass exhibit bifacial edge modification forming a sharp 15° probable cutting edge. The pieces are triangular in outline, with two edges each modified, generally straight. These artifacts are 1.75 cm and 2.3 cm long, 1.6 and 1.8 cm wide, and 0.16 and 0.22 cm thick. Such sharp-edged tools correspond with many edge-modified flakes of obsidian and siliceous rock at the same and neighboring sites.

One complete serrated Comondú serrated projectile point and a second similar broken specimen possibly of the same point series that exhibits a needle-like end were found at LGN-1. Both specimens exhibit fine pressure retouch. The broken specimen, also perhaps a perforator, exceeded 2.2 cm in length, is 1.15 cm wide and 0.3 cm thick. The complete point is 1.3 cm long, 0.7 cm wide and 0.13 cm thick, weighing less than 1 g.

All glass artifacts appear to be derived from the same source, either historic beach debris on the nearby outer coast or glass originating from the missions to the interior. It is noteworthy that Deagan (1987:128) recorded that glass from southern Spain was typically thin-walled and green or yellowish green in color, generally thinner than what was observed at Laguna Guerrero Negro. By the mid-seventeenth century, Spanish colonial sites also included glass of German, English, French, Dutch and Mexican origin (Deagan 1987:127). At best one can say that the glass artifacts are likely derived from contact sources, most likely Spanish, anywhere from the mid-1500s into the early 1800s. The presence of glass Comondú series projectile points again supports the late prehistoric-protohistoric dating of this point type in the central peninsula and the use of bow and arrows in the tool assemblage of coastal visitors.

Glass trade beads

A common historic artifact found at three Laguna Guerrero Negro sites is the glass trade bead. Eleven types were defined (Ritter 1999; work in progress), with 186 beads recovered, all

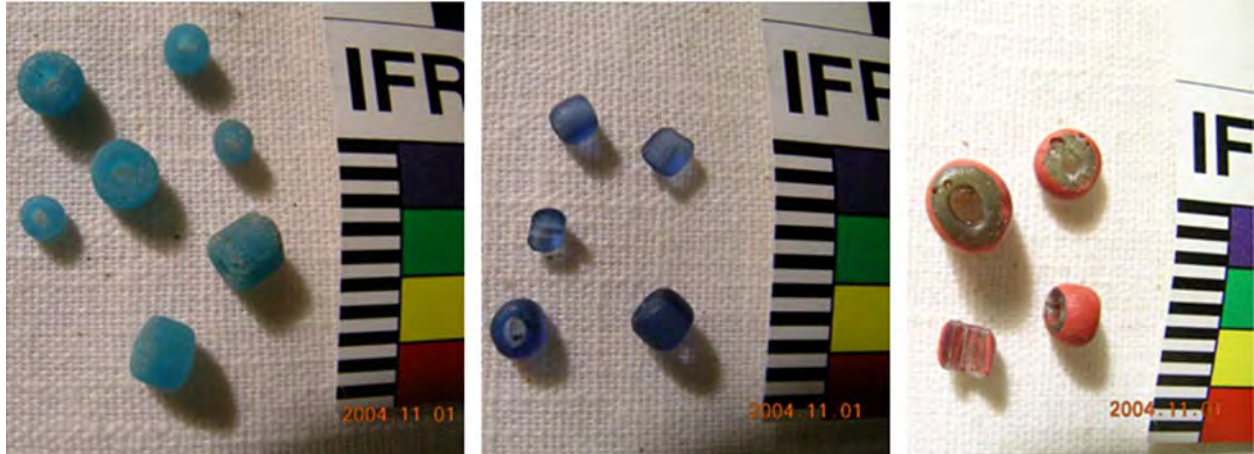


Figure 9. Glass beads: (left) Type 1, turquoise; (center) Type 2, dark blue; (right) Type 3 Cornaline d'Aleppo, red and green.

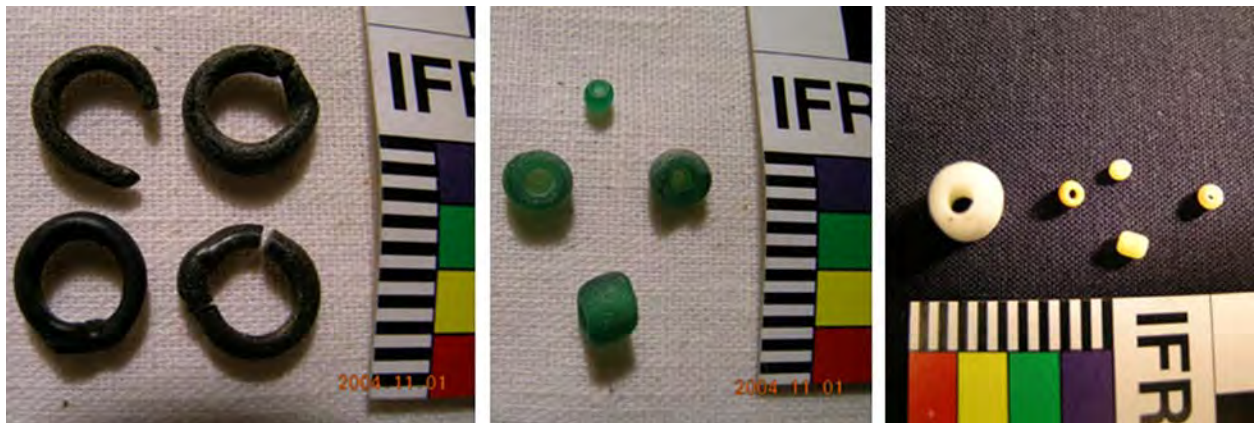


Figure 10. Glass beads: (left) Type 4, black; (center) Type 5, dark green; (right) Type 10, white, and Type 7, yellow.

but three from LGN-1, the remainder from LGN-25 and LGN-33. The most common bead is a turquoise type with 60% of the sample (Figures 4e and 9). This is trailed more distantly by a dark blue type (Figure 9) with 15% of the sample, in turn followed by the red and green *Cornaline d'Aleppo* (Figures 4f, 9), black annular or ring bead (Figures 4g and 10) and the dark green type (Figures 4d, 10), each with 6% of the sample. Rare are the yellow (Figure 10), clear, black to very dark red/amber and simple white beads plus one tubular white bead (Figure 10). Each type is briefly discussed and described further below following Ritter (1999), including measurements mostly from the 1999 sample.

- Type 1 (112) -- Turquoise, simple small to relatively large cylindrical and oblate spheroid with infrequent torus, opaque to translucent, dull, tumbled (Figures 4e, 9). These beads range in length from 1.65 mm to 5.8 mm (mean = 3.4 mm, standard deviation of the mean = 0.9 mm); vary in diameter from 2.4 mm to 5.8 mm (mean = 4.2 mm, standard deviation = 0.8 mm), and have a hole diameter that runs from 1.0 mm to 2.5 mm (mean = 1.9 mm, standard deviation = 0.3 mm). Statistically, there appear to be a small and a large variety.
- Type 2 (27) -- Dark blue, simple, oblate spheroid to cylindrical, translucent, dull, and

- tumbled (Figure 9). Lengths range from 1.8 mm to 3.5 mm (mean = 2.6 mm, standard deviation = 0.45 mm). Diameters fall between 2.5 mm and 3.7 mm (mean = 3.0 mm, standard deviation = 0.4 mm). Hole diameters are between 1.3 mm and 2.1 mm (mean = 1.7 mm, standard deviation = 0.2 mm).
- Type 3 (12) -- *Cornaline d'Aleppo* beads include mostly oblate spheroid specimens with several short cylindrical examples (Figures 4f, 9). These compound beads are dark green in the center with a brick red outer layer. They are translucent in the green center and opaque within the red. They are dull and tumbled. Lengths range from 2.45 mm to 4.6 mm (mean = 3.2 mm, standard deviation = 0.6 mm). Diameters are between 3.0 mm and 5.0 mm (mean = 3.8 mm, standard deviation = 0.7 mm). Orifice diameters range between 1.1 mm and 2.7 mm (mean = 1.9 mm, standard deviation = 0.4 mm).
 - Type 4 (11) -- Black annular or ring beads are slightly oval, wound, opaque, dull to shiny (Figures 4g, 10). The lengths range from 9.2 to 10.5 mm (mean = 9.9 mm, standard deviation = 0.4 mm). Widths vary between 9.9 mm and 10.6 mm (mean = 10.3 mm, standard deviation = 0.2 mm). Ring thicknesses are between 2.1 mm and 2.5 mm (mean = 2.3 mm, standard deviation = 0.2 mm). Most of these beads exhibit a small protrusion on the exterior where the glass was snapped off a rod or similar device.
 - Type 5 (12) -- These dark green beads include cylindrical, torus and oblate spheroid specimens (Figures 4d, 10). The translucent beads are simple, tumbled with a range in length from 1.95 mm to 5.15 mm (mean = 3.7 mm, standard deviation = 1.2 mm). Diameters vary between 2.9 mm and 5.4 mm (mean = 4.3 mm, standard deviation = 1.0 mm). Orifice diameters fall between 1.5 mm and 2.2 mm (mean = 1.9 mm, standard deviation = 0.3 mm).
 - Type 6 (3) -- These are simple, dull oblate spheroid, opaque, tumbled very dark red or dark reddish amber, almost black (without bright back lighting) glass beads. Lengths are 2.1 mm, 3.0 mm and 3.4 mm; diameters are 4.35 mm, 3.7 mm and 4.5 mm while orifice diameters are, respectively, 1.9 mm, 1.9 mm and 2.0 mm.
 - Type 7 (6) -- Five translucent and one opaque yellow glass beads were recovered at LGN-1 (Figure 10). These are simple, dull, tumbled with lengths between 1.7 mm to 2.9 mm; diameters varying between 2.0 mm and 2.7 mm and orifice diameter ranging between 0.5 mm and 1.2 mm. The translucent and opaque specimens may be two varieties or subtypes.
 - Type 8 (1) -- The single clear glass bead that was recovered is oblate spheroid in shape. This tumbled bead may be a wire or wound bead with a length of 2.3 mm, a diameter of 3.5 mm, and an orifice diameter of 1.4 mm.
 - Type 9 (1) -- A white glass bead was found at site LGN-25. This simple, shiny, opaque bead is 1.7 mm in length, 4.0 mm in diameter with a hole diameter of 2.1 mm. This may be a wire wound bead with a torus or ring shape.
 - Type 10 (1) -- This white bead was recovered during the 2002 investigations at LGN-1 and has not been described in previous works. It is an un-tumbled, compound, short tubular or cylindrical bead with a gritty, bubbly, white interior and a thin clear exterior (Figure 10). It has been snapped on the ends and measures 6.05 mm long, 6.8 mm in diameter with a orifice diameter of 2.3 mm.

In the previous discussion, it is quite apparent that glass beads were a popular trade item

from earliest contact times in the peninsula until the extirpation of many central and southern peninsular Indian groups. Use of glass beads as a mechanism to enhance colonization and missionization is evident in Crosby's (2002:55) list of Spanish goods carried into Alta California in 1769 and Johnson's (1989:366-367) discussion of their distribution among the Chumash Indians along the Santa Barbara Channel as a medium of exchange for goods and services. The account of Ulloa on Isla Cedros from 1540 exchanging glass beads for water is the closest record to the study area of contact and trade. More difficult is the task of assigning the various bead types to a specific time period or European source of origin.

Deagan (1987:159) noted that during the eighteenth century the Venetian glass bead center produced at least 562 major categories of beads, including glass rosary beads common to Spanish colonial sites of that century. Other information of note comes from unpublished data from Clement Meighan of the University of California, Los Angeles, where his unpublished manuscript is stored.

Meighan dated turquoise beads to the early Spanish Mission period of Alta California (1780-1810). Deagan (1987:171) found a broader dating range of ca. 1575-1720 for this type in the Florida/Caribbean area. Matthew Des Lauriers of the University of California, Riverside found this bead type at a site on Isla Cedros.

The dark blue beads appear to match Deagan's (1987:177) seventeenth- and eighteenth-century beads from the circum-Caribbean Spanish colonial sites.

The *Cornaline d'Aleppo* bead type was found by Deagan (1987:168) on sites in the circum-Caribbean area as early as the 1500s, with common occurrence on sites from the late seventeenth century through the eighteenth century. These were also found on Isla Cedros.

The black annular beads resemble blue annular beads illustrated by Dubin (1995) from approximately the early 1800s. Deagan (1987:174) listed two amber wire-wound ring beads from southeastern United States sites dating from 1700 to 1775.

The Type 5 green beads resemble Meighan's Type 228, which he dated to the early Alta California Spanish Mission period, from 1780 to 1820 (unpublished manuscript on file at UCLA). Deagan (1987) did not list this bead type from sixteenth- to eighteenth-century Spanish colonial sites in the circum-Caribbean area, so it may be associated with sites of the western Spanish American empire, presumably in later contexts.

The Type 6 very dark red almost black beads may resemble glass beads described by Motz et al. (1986:119), who stated that these were popular from 1790 to 1910 in Alta California, with most examples recovered in 1850-1870 contexts. Deagan (1987:180) reported no similar beads in black, but she did mention a dark red seed bead type of the later eighteenth century. Gregory and Webb (1965:29, 31, 35) reported on black oblate spheroid opaque "seed" beads and larger donut-shaped black beads from sites in Louisiana attributable to French or Spanish sources of the 1714-1820 period. Overall, the sources examined do not provide comfortable matches for this type.

The Type 7 yellow beads may be the same as those described by Deagan (1987:180) as occurring in large numbers in the circum-Caribbean Spanish colonial sites in the later eighteenth century. Their match with those brought by Columbus, as previously mentioned, is uncertain. Gregory and Webb (1965:34-35) described small oblate spheroid yellow beads from an early-nineteenth-century French-American site in Louisiana, although such beads were not mentioned by Smith (2002) as part of the eighteenth-century French colonial trade in North America. They may be a Venetian type secondarily traded or very time-specific to the nineteenth century.

Deagan (1987:170) noted that "spherical or oval drawn beads of clear glass have also

been found in sixteenth-century contexts.” In Table 4 of Deagan (1987:174), wire-wound spherical clear beads are noted as dating from 1675-1800 in the Spanish colonial sites of Florida and the Caribbean.

Opaque white glass beads were reported by Deagan (1987:173) from sites of the 1500s and 1600s in Spanish Florida. She also reported opaque wire-wound beads of shiny white color from the post-1780 period of the Florida-Caribbean area. It seems likely that this bead is a match, although it seems too small to have functioned as a rosary bead as suggested by Deagan (1987:179) for this type.

The cylindrical white bead finds a possible match with Gregory and Webb’s (1965:32) small white tubular beads from a Spanish-French contact Indian site in Louisiana dating from the early eighteenth to early nineteenth century. This bead type was not described by Deagan (1987) from circum-Caribbean contexts or by Smith (2002) from eighteenth-century French colonial sites in North America.

The dating of these various Laguna Guerrero Negro glass beads seems to cover a broad range, with some variability depending on type. Almost all of the types do not appear to have persisted past the early 1800s, and some look to date primarily to the 1700s, the time of primary missionization to the east in the central mountains. It would seem that most of these beads represent Indian losses, discard and/or offerings (as in burial/cremation contexts) derived from approximately a 1700-1800 context. The acquisition of these beads directly or indirectly from Spanish sources seems most likely. These beads were probably intended for decorative purposes, although a few of the larger specimens could have been rosary-related.

Conclusions

The items of historic contact found at sites along Laguna Guerrero Negro overall are not surprising, considering the early Spanish and English chronicles of goods offered or available to the Indians of the peninsula. Certainly there was the serendipitous 1570s and later debris that could be salvaged and experimented with from the central peninsular Pacific beaches. The reaches of the Spanish colonial effort and associated goods offered or acquired by the Indians demonstrate many similarities to what was widely presented in the Americas by the Spanish colonizers, especially with regard to glass beads and copper and iron items. Some of these goods were also carried to the peninsula shores by Spain’s detractors of the time, including the English. Many of the items are duplicated in durable goods recovered from the San Diego Presidio (Williams 2004:129), including the beads, Chinese porcelain, Tizon Brown Ware (Southern California Brown Ware), brass or copper vessel fragments, nails and spikes, hook-and-eye fasteners, copper braid, and coins, among a much longer list. Yet there is a certain uniqueness to the historic assemblage at the Laguna Guerrero Negro sites, a uniqueness evident in the multi-continent assemblage and the unsurprising adaptability of the Indians to economy-serving advantages and cost savings offered by the availability of the goods observed.

The historic goods generally include items that would preserve, including redwood. Furthermore, there were likely valued historic items carried relatively long distances (the closest missions -- Santa Gertrudis and San Borja -- are over 90 km distant) from inland locations to and fro the presumed transitory camps along the Laguna Guerrero Negro shoreline. Transport distance, availability and preference may partially explain the absence of such artifacts as mainland-style metates and manos, rosaries, crosses, bells, mirrors, metal knives, and thimbles. Furthermore, what is present for the most part are workshop debris, broken utilitarian vessels

(including one possibly cached), small items that could be lost in the sands, possible mortuary offerings (although no cremations or burials were observed at the particular sites in question, only those nearby), and/or artifacts that were expedient and easily available (such as workable porcelain and iron from central peninsula beaches). These goods may crosscut gender, with such items as ceramic vessels and possibly ornaments female-oriented and projectile points male-oriented, based on historic accounts (cf. Aschmann 1959). Workable copper, porcelain and iron could transcend gender in terms of workshop activities. The ornamental items may have had a special relationship with respect to status or prestige, but their placement in day-to-day refuse is not revealing in this regard. Similarly, the commonplace of the various goods does not appear to be related to any specific group. The literature suggests strongly that glass beads and knives were either the items most favored throughout the southern two-thirds of the peninsula or the items most given that would preserve. Indeed, there is no disappointment in the variety of glass beads present. Important metal knives may not have broken along the coast and were carried out.

The absence of religious items (unless some of the glass beads and cuprous wire came from rosaries) could indicate pre-mission contact, although the perforated coin and utilitarian ceramics strongly suggest otherwise. Furthermore, the lack of metal fishhooks that appear to be among explorer-period goods offered to the Indians (albeit with no indications in the literature of their value among the Indians) suggests that mainly mission-era contact goods are present, notwithstanding beach-scavenged debris and curation elsewhere. What items are datable, aside from early historic beach debris, including the coin, some bead types and possibly the copper button, suggest acquisition of many historic goods was in the 1700s and early 1800s, a time of mission expansion and Spanish hegemony in the highlands to the east of Laguna Guerrero Negro, with eventual cultural and physical extinction of the Indians.

Many of the historic items can be viewed as substitutes or upgrades of existing material goods, including new shell beads, trinkets and ornaments that substituted or augmented the shell beads and ornaments found in regional sites; utilitarian pottery vessels transported from distant mountain mission locations that could be used in place of or to supplement baskets, shell containers, turtle shell receptacles and the like; glass and porcelain items that could be flaked to augment imported stone artifacts; and iron and copper pieces that had utility in cutting, perforating, knapping and other tasks. It is not known whether any of these items served only as curiosities or had an added element of curiosity. Far less certain is whether some of these artifacts were incorporated into ritual-related activities.

Overall the historic artifacts seem to have merely blended into the tool kits that served these maritime-oriented visitors. They add evidence to a proposed wide-ranging late prehistoric/protohistoric mobility pattern, one that directly or indirectly led to mission establishments (missions, *visitas*, etc.) several day's journey to the east (Santa Gertrudis), north (San Borja) or southeast (San Ignacio). Other than beach debris, the historic goods observed were likely largely obtained from mission-related settlements where such goods in part served as rewards and enticements from missionaries bent on saving souls and in other cases as a means for ensuring an adequate subsistence for the Indians. Indian neophyte diet could only be partially maintained by mission production, necessitating continued gathering of wild foods or acquisitions from mainland Mexico (Aschmann 1959:24, 234). The historic goods are a microcosm of the far-ranging Spanish empire of the sixteenth to nineteenth centuries, with materials from Asia, mainland Mexico (and perhaps other locations throughout Ibero-America) and from various European sources as well (Spain, Italy, Austria, etc.). This developing world economic/mercantile system reached the extreme fringes of the Vizcaíno Desert by the 1500s, a

location identified by Aschmann (1959:43, Map 9) as having only transitory use. Certainly this base of historic-era data will find greater meaning as more Indian historic-period sites are studied throughout the peninsula and comparisons are made in the study of contact-era material culture issues.

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