

The Archaeology of the Lazy T Cemetery Site (CA-LAN-767), Southwestern Mojave Desert, California

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Abstract

In 1975 a small prehistoric (ca. within the last 400 years) cemetery in the western Mojave Desert was discovered and excavated, resulting in the recovery of 11 burials. Additional testing of the site area in 1991 revealed little else. Many of the burials contained grave goods that imply varying degrees of status. Each of the five measured skulls falls within the Western Mono physical type, suggesting that the population was probably Tataviam.

Introduction

In early 1975 vandals discovered *Olivella* beads and human bones on the surface of a previously unrecorded site located along Amargosa Creek, just west of Palmdale in the western Mojave Desert (Figure 1). The looters dug up a burial and removed most of the bones and many of the accompanying artifacts. This activity attracted the attention of a local landowner, Jay A. Tremblay of Lazy T Ranch, who reported it to one of us (RWR) at Antelope Valley College (AVC). The site was temporarily recorded as AVC-14, later assigned the trinomial CA-LAN-767, and is known as the Lazy T Cemetery site (Figure 2). To prevent any additional burials from being vandalized, professional excavation of the site was undertaken by AVC between February and May 1975.

An excavation unit was placed at the spot of the initial discovery, and while little else was found there, the recovered material was designated Burial 1. The presence of bones and artifacts elsewhere on the surface of the site prompted the excavation of additional units, and 11 burials were ultimately discovered. Seven of the individuals, including Burial 1, had been disturbed by stream action. The four intact burials had been interred in tightly to loosely flexed positions with a variety of orientations. A total of 9,089 beads, mostly *Olivella* spp., were found in direct association with the burials, while an additional 1,354 beads were discovered “loose” in the soil. These latter beads had probably been associated with the burials prior to being disturbed by erosion and/or bioturbation. No midden soil was apparent, and few other artifacts were recovered in association with the burials; thus, the cemetery appears to have been isolated.

In 1991 additional excavations were undertaken at the site as part of an evaluation of a road and creek realignment (Bissell 1991). The goal of that work was to determine whether the site would be adversely impacted by that proposed project. Bissell discovered some artifacts across the site and redefined its boundaries (see Figure 2), but no additional burials were located. The road project did not threaten the site.

Natural Setting

The LAN-767 site is located in the far southwestern Mojave Desert (Figure 1), along the northern margin of the San Gabriel Mountains. The site lies on the floor of the eastern end of Leona Valley, just before it merges with the Antelope Valley near Palmdale. Leona Valley trends generally northwest-southeast and follows the course of the San Andreas Fault. The valley is drained by Amargosa Creek which flows most of the year. As Amargosa Creek enters the Antelope Valley, it turns north and terminates in Rosamond Lake, some 27 km (16 mi) distant. The Leona Valley is bordered by Ritter Ridge to the north and the Sierra Pelona (east of the San Gabriel Mountains) to the south.

The western Mojave Desert is a predominantly windy, dry, and hot desert with extremes in temperature, low

humidity, and high evaporation rates (Rowlands et al. 1982:112). Due to the rain shadow effect of the Coast and Transverse ranges, the mean annual precipitation of the western Mojave Desert ranges from less than four inches in the lower elevations to more than 30 inches at the highest elevations in the mountains (Morrison 1965:267). Daytime summer temperatures can exceed 100°F, while winter temperatures are often freezing (e.g., Felton 1965).

The modern botanical regime of the western Mojave Desert consists of a large variety of species, including shrubs, trees, and succulents, as well as perennial and annual forbs, grasses, and herbs (Rowlands et al. 1982:116). The site lies within a creosote bush scrub community, while a pinyon-juniper woodland is present in the Sierra Pelona immediately to the south. A riparian habitat may have been present in Amargosa

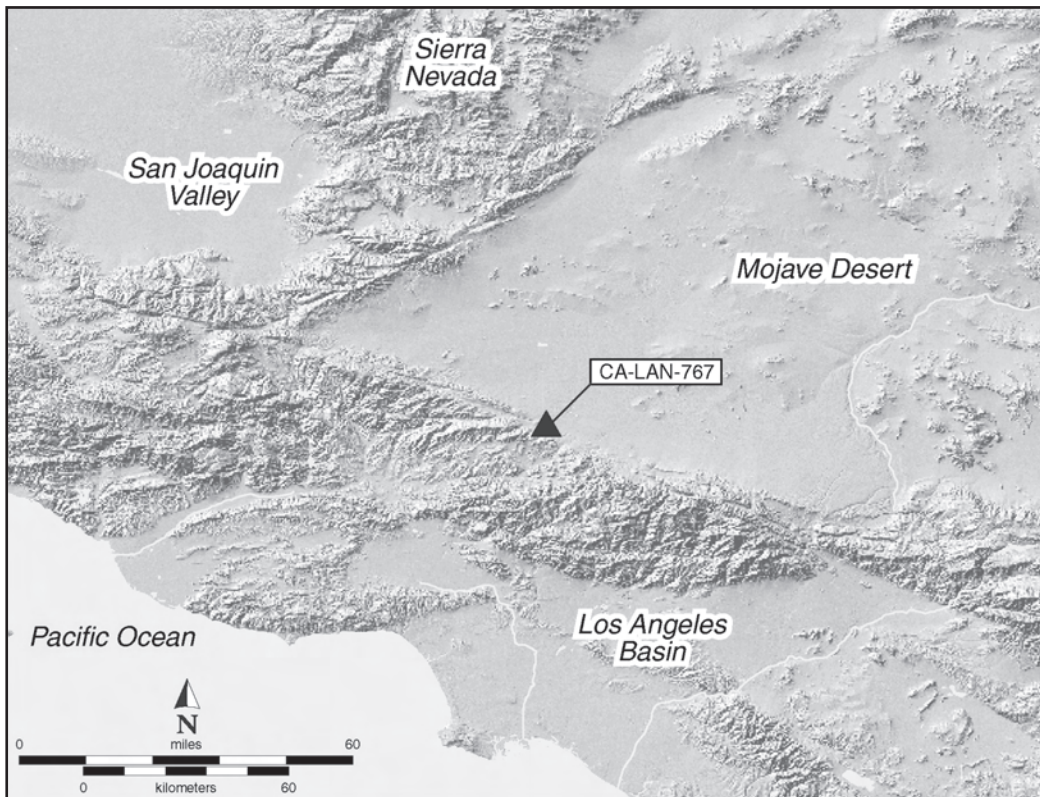


Figure 1. Location of CA-LAN-767 in the western Mojave Desert.

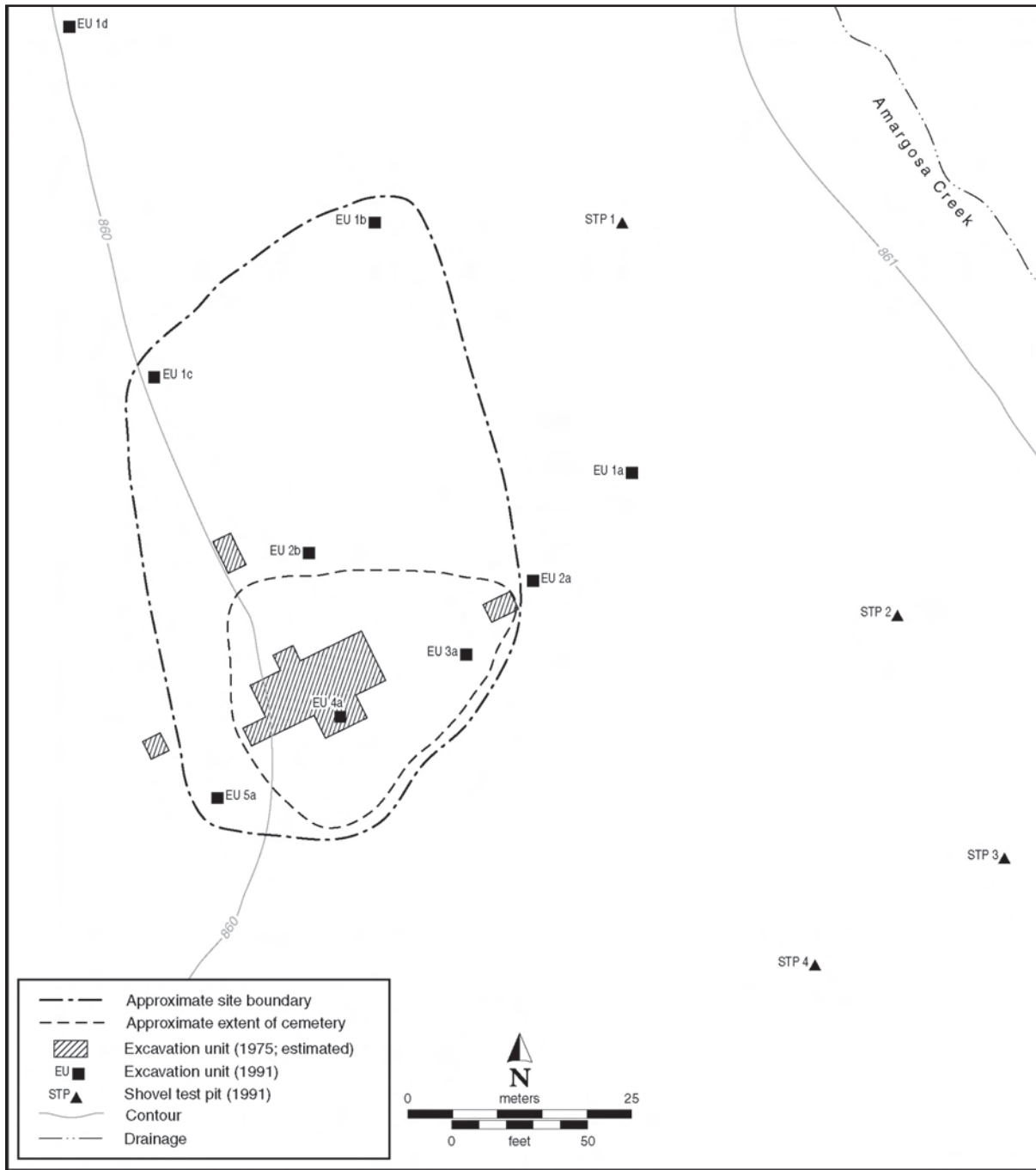


Figure 2. Map of CA-LAN-767, showing the site boundary, extent of the cemetery, location of the 1975 excavations, and location of the 1991 excavations (two of Bissell's STPs are located off the map on the other side of Amargosa Creek). The estimated extent of the cemetery is based on the location of known burials and the appearance of additional beads in rodent holes observed after the excavations.

Creek just to the north of LAN-767. The abundant wildlife of the western Mojave Desert includes a variety of mammals, reptiles, amphibians, and birds (see Cogswell 1977; Robbins et al. 1983; Jameson and Peeters 1988).

Ethnographic Background

The LAN-767 site appears to have been located in ethnographic Tataviam territory, which included the southwestern edge of the Antelope Valley in the western Mojave Desert (King and Blackburn 1978; Johnson and Earle 1990). Little is known about the Tataviam, and most of the information that is available derives from comparisons with neighboring groups and from the archaeological work conducted at Vasquez Rocks in Los Angeles County (King et al. 1974). While several Tataviam village sites have been identified, none are currently known for the southwestern Antelope Valley. The reader is referred to the summaries of Tataviam culture provided by Kroeber (1925) and King and Blackburn (1978; also see Hudson 1982; Johnson and Earle 1990). Several important details of Tataviam culture are noted here.

The mortuary customs for the ethnographic Tataviam are unknown (King and Blackburn 1978), but archaeologically the Tataviam appear to have practiced interment (Sutton 1980, 1988; Robinson 1987) with occasional cremations (e.g., at CA-LAN-2233) (Vaughn 2003). King (1981:326-327, 1990:199) reported the presence of "cremation cemeteries" in Tataviam territory, but the nature and age of these sites are unclear. King et al. (1974:24) argued that the organization of Tataviam cemeteries reflected differential treatment of the deceased and wealth concentration.

Tataviam is currently classified within the Serran branch of Takic, along with Kitanemuk and Serrano (King and Blackburn 1978:535; Goddard 1996:Table 3; also see Johnson and Earle 1990; Sutton 2010). However, there has been some argument that Tataviam

was actually a Chumash dialect (Beeler and Klar 1977:296) or perhaps even the remnant of an unknown language family (Bright 1975:230; also see Shipley 1978:88; Hudson 1982:228).

Prehistoric Background

The understanding of prehistoric cultural systems in the Mojave Desert has greatly expanded over the last two decades. Within the broad temporal periods defined for the Mojave Desert there are a number of cultural complexes, some of which span the transition between periods. The reader is referred to Sutton et al. (2007) for details of the prehistory of the region, but a summary of the Late Prehistoric complexes is presented below.

Late Prehistoric complexes appeared after about 900 B.P. At this time, the environment began to deteriorate (Gardner 2007), new technologies were introduced, populations appear to have declined, and a number of separate cultural complexes believed to represent the prehistoric aspects of ethnographic groups emerged. Warren (1984:420) observed "strong regional developments" across the Mojave Desert, including Anasazi interests in turquoise mining in the Mojave Trough, Patayan influence from the Colorado River, and the eastward expansion of Numic groups from the western or northwestern Mojave Desert beginning approximately 1,000 B.P. (e.g., Sutton 1994). Most of the native population of the Antelope Valley was removed by the Spanish to the missions in the Los Angeles Basin in the early 1800s.

Archaeological Investigations in the Vicinity of CA-LAN-767

Several large development projects in the vicinity of LAN-767 have resulted in major archaeological studies. The first, Ritter Ranch, lies just to the southwest of LAN-767, where 36 prehistoric sites were

recorded. Test-level investigations at two major sites (CA-LAN-953 and -959) revealed subsurface deposits and possible habitation debris (LSA 1991). The final report on that work is not yet complete.

Just to the south of LAN-767, a large number of sites were recorded in the City Ranch project area, and 29 of them were tested (Archaeological Associates 1991). The LAN-949 site was determined to be a habitation locale and may date to the Late Prehistoric (Archaeological Associates 1991:24). The report on this work has also not been completed, but a preliminary analysis of ancient DNA from two burials from LAN-949 suggests a genetic connection with living peoples in the Victorville area to the east (see Johnson and Lorenz 2006:51).

Site Description

The LAN-767 site (Figure 2) consists of a diffuse scatter of surface artifacts in an area of approximately 70 by 40 m, along with a small cemetery of 11 known individuals. The post-excavation observation of shell beads in rodent mounds suggested the presence of additional burials. The site lies on a small alluvial terrace along the south bank of Amargosa Creek at an elevation of 860 m asl (2,830 ft). The creek is some 75 m to the northeast of the site, which is covered by alluvial soils washing down from the west, reflecting the continuing alluvial activity of the area. A small, dry wash leading to Amargosa Creek had cut across the site and was responsible for the initial exposure of the burials.

Other than the few bones and artifacts eroding from the small wash, there was little indication of the presence of a cemetery site. No obvious midden soil was observed or encountered in either the 1975 or 1991 excavations. It seems that the surface artifacts represented background “noise” from other nearby sites and were not directly associated with the cemetery.

Field Methods

The AVC excavations began with the placement of a single 1 x 1 m unit (to become Unit B-10) in order to explore the location of what had been designated Burial 1, but little of that burial was found. A 10 m long trench (to become Trench B) was then laid out to the southwest (oriented along the course of the small wash), and the unit at the end of that trench (Unit 1) was excavated. With the discovery of a second burial (Burial 2), a central block of 15 1 x 1 m units (Units 1 through 15) was laid out and excavated. Seven burials were found in that unit block. The central block was expanded in several places (Units B-1, B-2, C-1, C-2, and 1 WE [1 West]) to search for more burials, and three more were found. Two additional trenches were laid out, Trench A further to the southwest and Trench D to the northwest. Several units at the ends of these trenches were excavated, but no cultural materials were discovered. Finally, a large unit (E) was excavated to the southeast, but no other material was found. In sum, 22 1 x 1 m, two 2 x 2 m, one 1.5 x 1 m, and one 2.5 x 2 m units were excavated (see Figure 3), with a total of 36.5 square meters and approximately 50 cubic meters of sediments being examined.

Given that there was no obvious midden soil present, the AVC units were excavated by shovel in rough 10, 20, or 30 cm levels (depending on the unit). When something was found, work proceeded with trowels and brushes. The burials were excavated with great care. The soils from the excavations were screened through 1/8-in mesh, as were the soils from around the burials, which were also spot-checked with 1/16-in mesh.

In 1991 the site was again mapped and tested with nine 1 x 1 m test units and six shovel test pits, each about 50 x 50 cm (see Figure 2). Each of these units was excavated in 10-cm levels, with the materials being screened through 1/8-in mesh (Bissell 1991:8).

At the termination of each of the units, a posthole was excavated deeper to make sure no deposit was being

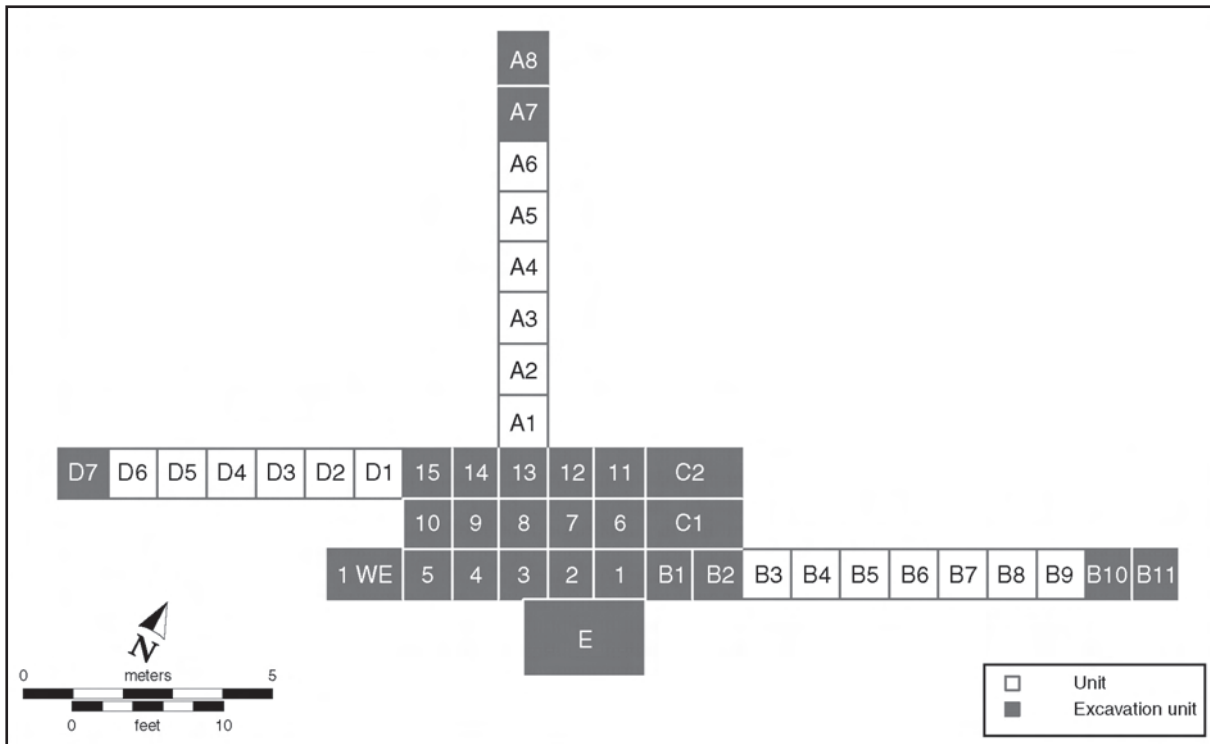


Figure 3. The Antelope Valley College grid and excavated units at CA-LAN-767 (see Figure 2 for location).

missed. The shovel test pits were excavated using a posthole digger, and that material was also screened through 1/8-in mesh (Bissell 1991:9).

Stratigraphy

Three strata (I through III) of sediments were documented during the AVC work, and the same basic stratigraphy was reported by Bissell (1991), although the depth of the strata varied by location. Munsell values were taken by Bissell (1991) from Unit 3A, the closest unit to the AVC excavations. There was no evidence of any midden soil at the site.

Stratum I extended from the modern surface to a depth of about 50 cm and consisted of a brown (10 YR 5/3 dry) loam. This soil contained few large rocks and had been extensively disturbed by rodents.

Stratum II extended from about 50 to 80 cm below the modern surface, depending on the location. This stratum consisted of yellowish-brown (10 YR 5/4 dry) soil containing a natural layer of stream cobbles and gravels that may have been deposited as the result of the meanderings of Amargosa Creek. Only a few artifacts were discovered within Stratum II, likely the result of bioturbation.

Stratum III was brown (10 YR 5/3 dry) rocky-sandy soil that extended to a depth of at least 130 cm. Some of the rocks in Stratum III were relatively large, from cobbles to small boulders.

Material Culture

The material culture recovered from the site was predominately shell artifacts associated with burials, but a

few artifacts of ground and flaked stone not associated with the burials were also identified. Accordingly, the description of these materials is divided into nonmortuary and mortuary sections.

Non-Mortuary Items

A total of 19 artifacts not directly associated with the burials were recovered during the AVC excavations (see Table 1), mostly scattered across the surface of the site. Artifacts recovered included one basalt mano fragment, a worked piece of steatite with scalloped edges (Figure 4a), a worked piece of steatite with a groove across its center (Figure 4b), one apparent pendant of rhyolite (Figure 4c), one rhyolite Gypsum point (Figure 4d), one basalt core, one obsidian biface fragment, and 12 flakes (4 rhyolite, 4 silicate, 3 basalt, and 1 obsidian). In addition, a fairly large number of

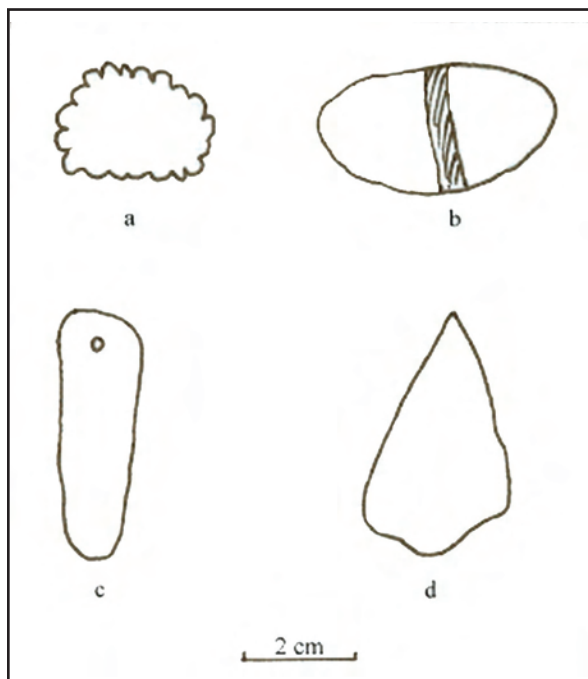


Figure 4. Selected artifacts (redrawn from catalog sketches) recovered from the surface of CA-LAN-767 by Antelope Valley College in 1975: (a) worked steatite piece (Cat. No. 013); (b) worked steatite piece with a groove across its center (Cat. No. 034); (c) perforated rhyolite pendant (Cat. No. 020); (d) Gypsum point (Cat. No. 019).

small steatite “pieces” were found in the screens, but these small stones are a natural soil constituents.

Bissell (1991) recovered seven artifacts from the site (Table 1), including one schist pestle, two granite manos, one steatite bowl/mortar fragment, a steatite pendant blank, and two small flakes (chert and chalcedony), all away from the cemetery. Thirteen small fragments of hematite were also found in various locations, but none was associated with the burials (see Bissell 1991).

Mortuary Items

A total of 9,089 artifacts presumed to be mortuary goods were recovered from the 11 burials at LAN-767 (Table 2). In addition, another 1,354 beads were found in the screens (see Table 1) and are presumed to have been associated with the burials. The artifacts included beads and ornaments of *Olivella*, *Haliotis*, *Tivela*, *Mytilus*, and steatite. These are described below, and their temporal significance is discussed in the dating section.

Olivella Beads

There were 8,995 *Olivella* disk beads recovered in direct association with the burials, 55 of which were edge-incised (Table 2). The majority of the *Olivella* beads were associated with Burials 3, 4, 5, and 10 (the first three being infants or young children and the last an adult female). An additional 1,319 *Olivella* beads were found in the general excavation (Table 1). Of this latter number, 359 were identified as disk beads, 958 as unclassified specimens (five of which were incised and four of which were burned), one as a “spire lopped” bead, and one as a “barrel” bead.

The disk beads are probably Class H disks (see Bennyhoff and Hughes 1987:135), most likely either H1a ground disks or H1b semi-ground disks. The spire-lopped bead is likely Type A1 (see Bennyhoff

Table 1. Summary of the Non-Mortuary Material Culture Recovered from CA-LAN-767.

Cat. No.	Artifact	Provenience	Material	Condition	Lgth (mm)	Width (mm)	Thick (mm)	Weight (g)	Comments	Figure
Materials Recovered by Antelope Valley College in 1975 (Cat. No. AVC-14-)										
001	flakes	surface	silicate	–	–	–	–	28.4	4 flakes	
002	flakes	surface	basalt	–	–	–	–	56.8	3 flakes	
003	flakes	surface	rhyolite	–	–	–	–	13.4	3 flakes	
008	mano	surface	basalt	fragment	83.0	55.0	–	308.3	bifacial	
013	carving	surface	steatite	complete	26.0	18.0	–	4.3	scalloped edges	4a
034	carving	surface	steatite	complete	40.1	20.6	–	20.4	groove across center	4b
020	pendant	surface	rhyolite	complete	40.0	19.0	–	3.55	perforation on one end	4c
018	core	surface	basalt	complete	70.0	60.0	–	147.7	–	
019	point	surface	rhyolite	complete	40.0	25.0	–	4.5	Gypsum dart point	4d
050	flake	Unit 1, 0-30	obsidian	–	–	–	–	–	1 flake	
058	biface	Unit 1, 30-60	obsidian	fragment	30.4	10.7	–	0.9		
176	flake	Unit 1, 30-60	rhyolite	–	–	–	–	1.06	1 flake	
032	beads	surface	<i>Olivella</i>	–	–	–	–	1.0	13 disk beads	
035	beads	surface	<i>Olivella</i>	–	–	–	–	0.1	4 burned beads	
044	beads	Unit 1, 0-30	<i>Olivella</i>	–	–	–	–	–	5 incised beads	
045	beads	Unit 1, 0-30	<i>Olivella</i>	–	–	–	–	–	226 beads	
046a	beads	Unit 1, 0-30	<i>Haliotis</i>	–	–	–	–	–	5 beads	
046b	bead	Unit 1, 0-30	<i>Tivela</i>	–	–	–	–	–	1 tube bead	
162	beads	Unit 1, 0-30	<i>Olivella</i>	–	–	–	–	–	48 beads	
182	beads	Unit 1, 0-30	<i>Olivella</i>	–	–	–	–	0.7	12 beads	
052	beads	Unit 1, 30-60	<i>Olivella</i>	–	–	–	–	26.2	286 disk beads	
053	beads	Unit 1, 30-60	<i>Mytilus</i>	–	–	–	–	0.2	7 disk beads	
054	bead	Unit 1, 30-60	<i>Olivella</i>	–	–	–	–	–	1 spire-lopped bead	
055	beads	Unit 1, 30-60	<i>Olivella</i> ?	–	–	–	–	0.1	5 disk beads	
056	bead	Unit 1, 30-60	<i>Tivela</i>	–	1.0	1.0	–	1.7	1 bead	
060	bead	Unit 1, 30-60	<i>Tivela</i>	–	–	–	–	0.3	1 bead	
136	beads	Unit 1, 30-60	<i>Olivella</i>	–	–	–	–	–	78 beads	
341	beads	Unit 1, 30-60	<i>Olivella</i>	–	–	–	–	8.8	74 beads	
343	beads	Unit 1, 30-60	<i>Mytilus</i>	–	–	–	–	0.2	2 beads	
344	bead	Unit 1, 30-60	<i>Mytilus</i>	–	–	–	–	0.1	1 tube bead	
061	beads	Unit 1, 60-90	<i>Olivella</i>	–	–	–	–	11	140 beads	
062	beads	Unit 1, 60-90	<i>Mytilus</i>	–	–	–	–	11	7 beads	
067	bead	Unit 1, 60-90	<i>Tivela</i>	–	10.8	5.6	–	–	1 tube bead	
261	beads	Unit 1, 90-120	<i>Olivella</i>	–	–	–	–	3.3	38 beads	
361	beads	A-1, 0-30	<i>Olivella</i>	–	–	–	–	1.5	19 disk beads	
381	beads	A-1, 30-60	<i>Olivella</i>	–	–	–	–	–	20 beads	
113	beads	A-1, 0-base	<i>Olivella</i>	–	–	–	–	–	10 beads	

Table 1. (continued)

Cat. No.	Artifact	Provenience	Material	Condition	Lgth (mm)	Width (mm)	Thick (mm)	Weight (g)	Comments	Figure
114	bead	A-1, 0-base	<i>Mytilus</i>	–	–	–	–	–	1 bead	
251	beads	A-7, 0-30	<i>Olivella</i>	–	–	–	–	–	2 beads	
214	beads	B-1, 30-60	<i>Olivella</i>	–	–	–	–	1.0	11 beads	
272a	beads	B-1, 60-90	<i>Olivella</i>	–	–	–	–	–	54 beads	
272b	bead	B-1, 60-90	steatite	–	–	–	–	–	1 bead	
481	beads	B-1, 60-90	<i>Olivella</i>	–	–	–	–	–	115 beads	
482	beads	B-1, 60-90	steatite	–	–	–	–	–	5 beads	
483	bead	B-1, 60-90	<i>Mytilus</i>	–	–	–	–	–	1 bead	
183	beads	B-3, 0-30	steatite	–	–	–	–	0.3	2 beads	
292	bead	B-3, 60-90	<i>Olivella</i>	–	–	–	–	0.2	1 bead	
331	beads	C, surface	<i>Olivella</i>	–	–	–	–	1.5	22 disk beads	
332	bead	C, surface	steatite	–	–	–	–	0.1	1 bead	
321	beads	C-2, 0-10	<i>Olivella</i>	–	–	–	–	0.2	3 beads	
402	beads	C-2, 10-20	<i>Olivella</i>	–	–	–	–	0.5	7 disk beads	
412	beads	C-2, 20-30	<i>Olivella</i>	–	–	–	–	0.3	5 beads	
311	beads	C-2, 30-40	<i>Olivella</i>	–	–	–	–	0.4	5 beads	
471	beads	C-2, 40-50	<i>Olivella</i>	–	–	–	–	–	3 beads	
472	bead	C-2, 40-50	<i>Mytilus</i>	–	–	–	–	–	1 bead	
393	beads	C-2, 60-base	<i>Olivella</i>	–	–	–	–	0.3	2 beads	
523	bead	1 WE, 0-base	<i>Olivella</i>	–	–	–	–	–	1 "barrel" bead	
524	beads	1 WE, 0-base	<i>Olivella</i>	–	–	–	–	–	2 very small disk beads	
525	beads	1 WE, 0-base	<i>Olivella</i>	–	–	–	–	–	5 thick walled disk beads	
222	beads	unknown	<i>Olivella</i>	–	–	–	–	6.3	71 beads	
225	bead	unknown	steatite	–	–	–	–	0.5	1 bead	
281	beads	unknown	<i>Olivella</i>	–	–	–	–	0.8	8 beads	
283	bead	unknown	<i>Mytilus</i>	–	–	–	–	0.1	1 bead	
461	beads	unknown	<i>Olivella</i>	–	–	–	–	–	18 beads	
Materials Recovered by Bissell in 1991 (Cat. No. CA-LAN-767-)										
001	pestle	surface	schist	fragment	175.0	69.0	44.0	898.5	end well worn	
098	mano	Unit 1B, 80-90	granite	–	–	–	–	–	bifacial	
144a	mano	Unit 1C, 30-40	granite	complete	95.0	81.0	44.0	536.3	bifacial, "dimple" on each flat working surface, battered end	
036	bowl/mortar	Unit 3A, 30-40	steatite	fragment	185.0	135.0	79.0	2,314.6	broken artifact reworked into a bowl or mortar	
037	pendant	Unit 3A, 30-40	steatite	complete	27.0	16.0	0.6	3.2	a blank with an unfinished perforation	
158	flake	Unit 1C, 30-40	chert	–	1.0	2.0	0.5	0.6	secondary	
070	flake	Unit 5A, 10-20	chalcedony	–	12.0	8.0	1.0	0.1	secondary	

Table 2. Summary of Mortuary Goods by Burial at CA-LAN-767.

Burial Number	<i>Olivella</i> Disk Beads	Edge-incised <i>Olivella</i> Disk Beads	<i>Olivella</i> "Spiral" Beads	<i>Haliotis</i> Disk Beads	<i>Haliotis</i> Ornaments	<i>Tivela</i> Tube Beads	<i>Tivela</i> Disk Beads	<i>Mytilus</i> Disk Beads	Steatite Disk Beads	Steatite Tube Beads	Totals
Stratum I Burials											
1	494	1	–	1	–	1	1	2	–	–	500 ^a
3	2,104	–	4	–	1	1	–	–	7	–	2,117
4	1,445	–	–	–	1	1	–	1	1	–	1,449
5	1,441	48	5	6	–	6	–	41	–	–	1,547
6	96	–	–	–	1	–	–	–	–	–	97
7	38	–	–	–	–	–	–	–	1	–	39
<i>Subtotal</i>	5,124	48	9	6	3	8	–	42	9	–	5,249
Stratum III Burials											
2	54	–	–	–	–	–	–	–	1	–	55
8	176	–	–	1	–	–	–	2	–	1	180
9	5	–	–	–	–	–	–	–	–	–	5
10	3,080	6	2	2	–	–	1	2	–	–	3,093
11	7	–	–	–	–	–	–	–	–	–	7
<i>Subtotal</i>	3,322	6	2	3	–	–	1	4	1	1	3,340
Totals	8,940	55	11	10	3	9	2	48	10	1	9,089

a. Does not include an unknown number of beads stolen by vandals prior to the 1975 excavations.

and Hughes 1987:118), and the barrel bead is likely Type B3 (see Bennyhoff and Hughes 1987:122). King (1990:183) noted that such bead types were "particularly important during the Late period" in areas occupied historically by the Yokuts, Serrano, Kitanemuk, Tataviam, and Gabrielino.

Haliotis Beads

Ten *Haliotis* disk beads were recovered from four burials, one each from Burials 1 and 8, two from Burial 10, and six from Burial 5 (Table 2). Five additional *Haliotis* beads were found in the general excavation (Table 1). Beads of *H. rufescens* have a wide distribution throughout California. These types were generally made from the epidermis of the shell, but sometimes the nacre (interior mother-of-pearl) was detached and made into beads. No colors were recorded in the catalog for the *Haliotis* beads from these burials, and none

was found in stringing position to determine a bead sequence that may have incorporated *Olivella* beads.

Haliotis Ornaments

Three *Haliotis* ornaments described as pendants in the field notes and catalog were recovered, one each with Burials 3, 4, and 6 (all subadults). Sketches of these artifacts were included in the catalog and are reproduced in Figure 5. The ornament found with Burial 3 (Cat. No. 097) (Figure 5a) measured 60.7 by 40.6 mm, weighed 9.9 g, and lacks an obvious perforation. The second *Haliotis* ornament was discovered with Burial 4 (Cat. No. 105) (Figure 5b), measured 87.1 by 44.8 mm, weighed 8.6 g, and has at least one perforation with the small "notches" along its rim possibly being remnants of three others. The third *Haliotis* ornament (Cat. No. 242) (Figure 5c) appears to be fragmentary and was found with Burial 6. This specimen measured

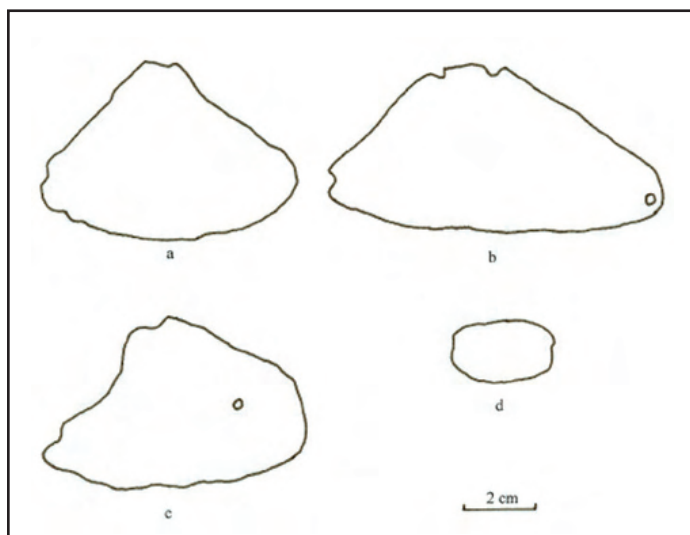


Figure 5. Selected artifacts (redrawn from catalog sketches) from mortuary contexts at CA-LAN-767: (a) *Haliotis* ornament (Cat. No. 097) from Burial 3; (b) *Haliotis* ornament (Cat. No. 105) from Burial 4; (c) *Haliotis* ornament (Cat. No. 242) from Burial 6; (d) large *Tivela* tube bead (Cat. No. 104) from Burial 4.

70.0 by 45.0 mm and has one perforation. The sketches of these artifacts were not of sufficient detail to be able to classify them according to the *Haliotis* ornament types illustrated in King (1990).

***Tivela* Beads**

Eleven *Tivela* tube and disk beads were located in association with the burials. Nine *Tivela* tube beads were associated with four burials (see Table 2); six were associated with Burial 5 and one each with Burials 1, 3, and 4 (Figure 5d). Two *Tivela* disk beads were also recovered, one each with Burials 1 and 10. In addition, two more *Tivela* beads (possibly disks) and two tube beads were found in the general excavation area (Table 1). King (1990:190) reported that *Tivela* disk beads were sometimes strung with *Haliotis* rim tube beads but were just as often only strung with other clam beads, often as necklaces and bracelets.

***Mytilus* Beads**

A total of 48 *Mytilus californianus* disk beads were recovered in mortuary contexts (see Table 2); forty-one from Burial 5, two each from Burials 1, 8, and 10,

and one from Burial 4. An additional 21 *Mytilus* beads were found in the general excavation area (Table 1). Of this number, seven were identified as disks, one as a tube bead, and 13 were not classified.

Because they are dark in color, *Mytilus* beads were typically strung with white *Olivella* or clam beads for color contrast (King 1990:187). Mussel disk beads in general “were used during the Late period in the areas historically held by the Cahuilla, Gabrielino, Tativiam, Serrano, Kawaiisu, and Yokuts” (King 1990:188; also see Gibson 1992:34).

Steatite Beads

Ten steatite disk beads and one steatite tube bead were associated with five of the burials (Table 2). One disk bead each was found with Burials 2, 4, and 7, and seven were discovered with Burial 3. The sole steatite tube bead was associated with Burial 8. Ten additional steatite beads were recovered in the general excavation area. The material source for these beads is unknown but may derive from nearby Sierra Pelona sources (see Rosenthal and Williams 1992). These beads were often interspersed with shell beads when they were strung into ornaments (King 1990:178).

Description and Analysis of the Burials

Eleven burials, five nearly complete, were discovered during the 1975 excavations. Although some of the burials were highly disturbed, all appeared to be primary interments (see Table 3), clustered within a relatively small area (see Figures 2, 6, and 7). No additional remains clearly recognizable as human were subsequently identified by Bissell (1991), but several pieces of “human-sized” bone were noted in two of his units that were in the vicinity of the cemetery.

Osteometric and anthropometric data were collected by Rego (1985), and additional skeletal analyses are provided herein. Some of the data recorded by Rego (1985) have not been included in the following discussion either because it was deemed unnecessary or it was not clear how a measurement was calculated.

The following provides descriptions and analyses of each of the identified individuals interred at LAN-767, including (when available) flexure, position, orientation, age, sex, pathological conditions, nonmetric traits, and associated artifacts (see Tables 2 and 3). The index

Table 3. Summary of Burial Statistics from CA-LAN-767.

Burial	Unit	Depth ^a	General Condition	Flexure/Position	Orientation (T N)	Sex	Age	Stature (cm)	Pathological Conditions
Stratum I Burials									
1	B-10	≤50cm	very poor	unknown	unknown	unknown	subadult (infant or young child)	unknown	unknown
3	8 and 9	47 cm	very poor	unknown	unknown	unknown	subadult (young child)	unknown	unknown
4	7 and 8	50 cm	extremely poor	tightly flexed	generally S	unknown	subadult (young child)	unknown	unknown
5	11	42 cm	extremely poor	unknown	SE, 95°	unknown	subadult (infant)	unknown	unknown
6	C-1	48 cm	poor	loosely flexed, lying on left side	S, 183°	unknown	subadult (infant or young child)	unknown	unknown
7	B-2	50 cm	very poor	tightly flexed, sitting position	generally S	unknown	subadult (juvenile)	unknown	unknown
Stratum III Burials									
2	3	60 cm	very poor	tightly flexed	S, 120°	male	≥ 18-20	164.97-173.47	none observed
8	1	71 cm	very good	loosely flexed, lying on right side	S, 161°	male	older adult (40s?)	162.41-168.89	dental abscesses
9	2	76 cm	excellent	tightly flexed	S, 183°	female	older adult (40s?)	154.87-165.96	dental abscesses, remodeling of mandible
10	1 WE	80 cm	mostly excellent	tightly flexed, semi-upright	S, 185°	female	≥ 25	150.84-162.43	dental abscesses
11	5	88 cm	excellent	tightly flexed, semi-upright	SE, 104°	female	older adult (> 50?)	149.87-161.57	none observed

a. Depth (from modern surface) at which the burial was initially encountered.

names and cranial types in the tables are per Bass (1995). Some of the cranial indices are approximate due to the fragmentary nature of some of the bones. All the cranial ratios reported by Rego (1985) were recomputed for this analysis to check for accuracy, and in some cases the results were slightly different, probably the result of rounding errors. Where possible, attribute names from the original data sheets were updated in the tables to follow those in Buikstra and Ubelaker (1994). All the cranial measurements were taken with sliding or spreading calipers.

In the 1985 analysis, no detailed inventories of the skeletal elements were made, but five of the skeletons were complete enough for numerous osteometric measurements. In some cases the specific teeth and bones for making determinations of age and pathological conditions were not recorded. For sex assessments, observations of pelvic morphology were used, but

no details were provided about which traits were observed. Finally, no data were available regarding whether any of the incisors were spatulate, but it is assumed that they were based on the identification of these individuals as Native American. In the descriptions below, words or phrases in quotations indicate excerpts from the analysis by Rego (1985).

Burial 1

Burial 1 was a primary interment. Because it had been vandalized and mostly removed, what is known about this burial was derived primarily from surface materials the vandals left behind. The precise location of the burial could not be determined, but it was in the vicinity of Unit B-10 (see Figures 3 and 6) at a depth no greater than 50 cm. The remains were scattered and very poorly preserved. The presence of a deciduous molar indicated that this individual was a young child or infant, but no

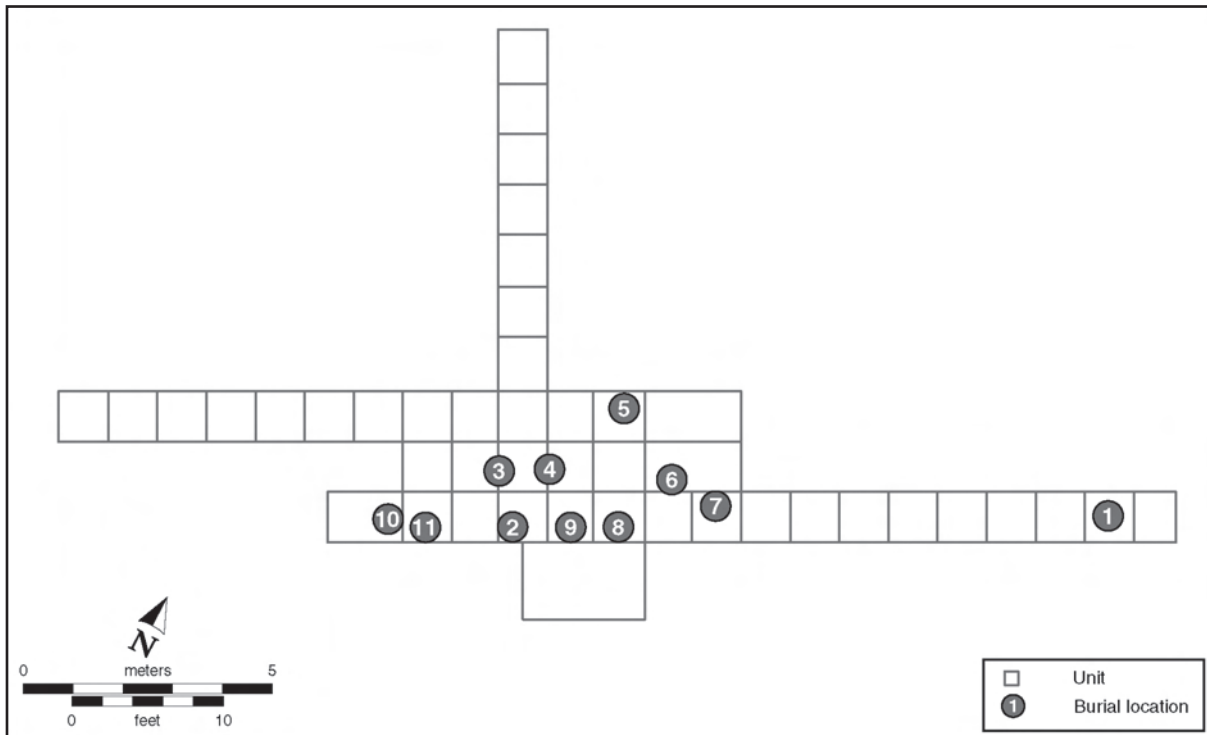


Figure 6. The general location of the 11 burials recovered from CA-LAN-767 by Antelope Valley College in 1975.

data were available on flexure, position, orientation, sex, pathological conditions, stature, or nonmetric traits, nor was it possible to collect osteometric data. No information regarding possible cause of death was available, and no evidence of a burial pit was discovered.

Mortuary goods associated with Burial 1 consisted of at least 500 beads (see Table 2), but it was clear that many other beads had been stolen by vandals prior to formal archaeological excavations. The beads that were recovered consisted of 495 *Olivella* disks (including one incised specimen), two *Mytilus* disks, one *Tivela* tube, one *Tivela* disk, and one *Haliotis* disk. One rhyolite flake was also found, although any burial association is uncertain.

Burial 2

A concentration of shell beads was observed on the surface to the southwest of Burial 1. An excavation unit (to become Unit 3) was placed in that area, and Burial 2 was discovered (Figure 7). Burial 2 was a young adult male found at a depth of about 60 cm (in Stratum III), with a few bones extending to about 120 cm. It was a primary interment with a fairly complete skeleton, but most of the bones were highly decomposed. The skull was in good condition other than minor postmortem fractures of the left parietal. One of the humeri (side unknown) was also in good enough condition to take measurements for estimating stature (see below). No postcranial measurements other than the humerus (see

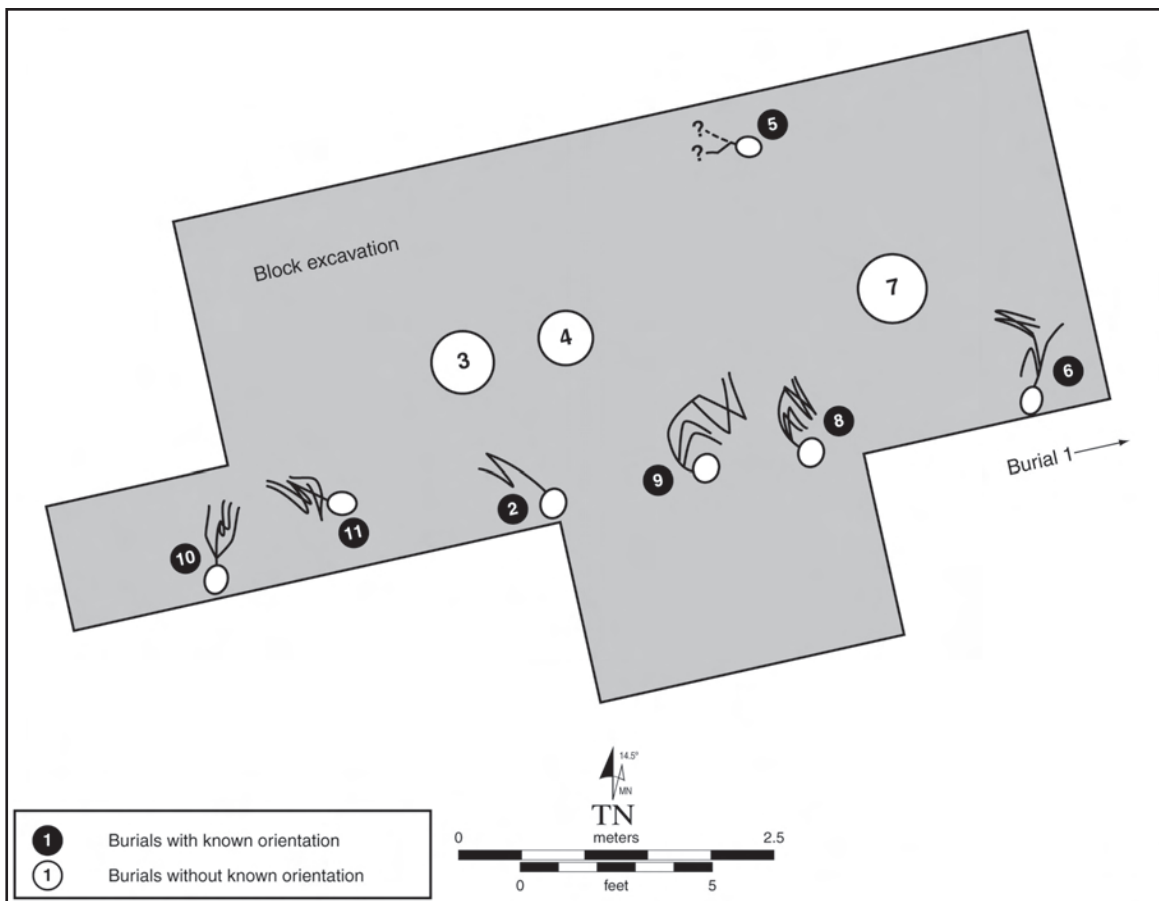


Figure 7. Detailed map of the burials (not including Burial 1) from the main excavation block at CA-LAN-767.

below) were possible due to the poor condition of the bones. There was no evidence of a burial pit, and there was no information available to determine a cause of death. Tables 4 and 5 provide cranial measurements and cranial indices for this individual.

There was some confusion in the field notes regarding Burial 2. The burial summary sheet listed this individual as a 20-year-old male who was loosely flexed on his back with his head to the east, while the field notes, maps, and burial record form indicated that the individual was a female in her late 20s who was tightly flexed on her left side with her head oriented to the south. However, the details of the 1985 analysis match the field notes with the exception of sex (female in the notes, male in the analysis). We believe that the field notes accurately describe the position and orientation of the individual but that the sex was best determined in the laboratory analysis. Thus, the description from the 1985 analysis is provided below.

Flexure, Position, and Orientation

The individual in Burial 2 was tightly flexed. The head was oriented to the south, calculated at 120 degrees from true north. The face was toward the southwest.

Age, Sex, and Pathological Conditions

The eruption of both maxillary third molars and one mandibular third molar suggested that this individual was at least 18 to 20 years old at the time of death. According to the 1985 analysis, although no data were available on the pelvis, “observations made while the burial was still in the ground tend to indicate that this individual was male.” No details regarding those observations were provided, but the person was described as being “of quite large stature,” suggesting that the skull and humerus were of sufficient size and robusticity to make that assessment. In the 1985 analysis, tooth wear was described as “normal” (undefined), and no dental pathologies were noted.

Stature

The stature formula for male Mongoloid presented in Trotter and Gleser (1952, 1958, 1977) was used to determine the living stature of this individual. While the femur and tibia are the best bones to use for this calculation, these long bones could not be measured, and so the next best bone was the humerus (side unknown). The formula and results are:

Male Mongoloid:	$2.68(\text{humerus}) + 83.19 \pm 4.25$
	$2.68(32.1 \text{ cm}) + 83.19 \pm 4.25$
	$169.22 \pm 4.25 \text{ cm}$
	maximum = 173.47 cm
	minimum = 164.97 cm

Based on the high end of this stature range, these results suggest that this individual was the tallest of the five adults identified at LAN-767. This generally, though not conclusively, supports the assessment that the remains were those of a male.

Nonmetric Traits

The nonmetric traits included a highest nuchal line, a lambdoid ossicle, supraorbital foramina on the left and right sides, zygomatico-facial foramina on the left and right sides, Huschke’s foramina on the left and right sides, and tympanic dehiscence on the left and right sides. There was no evidence of cranial deformation as might be expected if the individual had been cradleboarded or had habitually used a tump line.

Associated Artifacts

Mortuary goods associated with Burial 2 consisted of 55 beads, including 54 *Olivella* disks and one steatite disk (see Table 2). Six small unbaked clay fragments were also found, although their association and significance are uncertain.

Table 4. Cranial Measurements of Burial 2 at CA-LAN-767.

Attribute	Measurement (mm)
maximum cranial length (glabella-opisthocranium)	185.5
maximum cranial breadth (euryon-euryon)	135.0
cranial base length ^a (nasion-basion)	99.0
basion-prosthion length (basion-prosthion)	105.0
minimum frontal breadth (frontotemporale-frontotemporale)	98.0
glabella-opisthion	110.0
bregma-opisthion	141.0
bregma-lambda (parietal chord)	100.5
lambda-opisthion (occipital chord)	109.0
basion-bregma height	129.5
upper facial height ^a (nasion-prosthion)	69.1
nasal height ^a (nasion-nasospinale)	46.2
nasal breadth ^a (alare-alare)	27.5
maxillo-alveolar breadth ^a (ectomolare-ectomolare)	68.2
orbital height	33.0
orbital breadth	38.1
bigonial breadth	120.0
maximum ramus height	69.0
minimum ramus breadth	37.5
bicondylar breadth (condylion laterale-condylion laterale)	118.0

a. Approximate measurement due to partial decomposition.

Table 5. Cranial Indices for Burial 2 at CA-LAN-767.

Index Name	Index Ratio	Cranial Type
cranial index	72.78	dolichocrany (narrow or long-headed)
cranial length-height index	69.81	chamaecrany (low skull, high end of range)
cranial breadth-height index	95.92	metriocrany (average or medium)
mean basion-height index	80.81	medium
fronto-parietal index	72.59	eurymetopic (broad)
nasal index	59.52	platyrrhiny (broad or wide nasal aperture)

Burial 3

Burial 3 (Figure 7) was found in Units 8 and 9 (Figures 3 and 6), at a depth of 47 cm (in Stratum I), although some bones extended to about 60 cm. There was extensive rodent damage, and only a portion of the skull and some scattered bone fragments were recovered. This burial was a primary interment, but it was so poorly preserved that no information was available regarding flexure, position, orientation, sex, pathological conditions, stature, or nonmetric traits, and no osteometric data could be obtained. Based on the size of the bones, however, this person was determined to be a subadult, a child perhaps as young as five or six years old. There was no evidence informing on cause of death, and there was no evidence of a burial pit.

Mortuary goods associated with Burial 3 consisted of 2,117 beads and other ornaments (Table 2), including 2,104 *Olivella* disks, seven steatite disk beads, four *Olivella* “spiral” beads (no further description was provided in the field notes or catalog about the type of “spiral” bead), one *Tivela* tube bead, and one *Haliotis* ornament (Cat. No. 097) (Figure 5a). In addition, a few unmodified fragments of actinolite, limonite, and soapstone, as well as a few charcoal fragments, one burned animal bone, and one burned seed, were recovered, most of which likely represented incidental intrusions.

Burial 4

Burial 4 (Figure 7) was discovered during the excavation of Burial 3 (Figure 6). It was encountered within Units 7 and 8 at a depth of 50 cm (in Stratum I). This burial represents a primary interment with extremely poor preservation due primarily to extensive rodent disturbance. Little more than “bone dust” was recovered, and there were few intact elements. This individual appeared to be tightly flexed with the skull oriented generally to the south (insufficient data to

calculate degrees). No information could be discerned about age, sex, pathological conditions, stature, or nonmetric traits, and it was not possible to obtain osteometric data. Based on the size of the bones, it was determined that this individual was a child of perhaps five or six. Cause of death could not be determined, and no evidence of a burial pit was discovered.

The mortuary goods with Burial 4 (see Table 2) consisted of 1,449 beads and ornaments, including 1,445 *Olivella* disks, one large *Tivela* tube (Cat. No. 104) (Figure 5d), one *Mytilus* disk, one *Haliotis* ornament with a single perforation (Cat. No. 105) (Figure 5b), and one steatite disk. One small fragment of limonite and a small amount of charcoal were also found, although their association with this burial is uncertain.

Burial 5

Burial 5 (Figure 7) was found in Unit 11, northeast of Burial 4 (Figures 3 and 6). This poorly preserved primary interment was revealed at a depth of 42 cm (in Stratum I), with some bones extending to about 85 cm (just into Stratum III). Based on the size of the bones and the presence of deciduous teeth, the remains were determined to be those of an infant. The recovered portions of the skeleton included fragments of the skull, a portion of the mandible, fragments of arm bones, and a few teeth (including deciduous teeth). The orientation of the body appeared to be generally to the southeast, an estimated 95 degrees from true north. No data could be discerned regarding flexure, sex, pathological conditions, stature, or nonmetric traits. Cause of death is unknown, and no evidence of a burial pit was discovered.

The mortuary goods associated with Burial 5 (see Table 2) consisted of 1,547 beads, including 1,489 *Olivella* disks (including most [87.3 percent] of the edge-incised specimens from the site), five *Olivella* “spiral” beads, 41 *Mytilus* disk beads (85.4 percent of those recovered from the site), six *Haliotis* disk beads

(60 percent of those recovered from the site), and six *Tivela* tube beads (67 percent of those recovered from the site), although the catalog referred to them as “bead pieces,” suggesting that some may have broken. These six *Tivela* tube beads (Cat No. 156) were all 3.3 mm in diameter and had lengths of 65.5, 37.5, 25.0, 17.1, 8.7, and 7.0 mm.

Clearly, this individual was adorned with a great variety of beads, some of which were still in stringing position. The field notes from 1975 contained a sketch of one strand of beads arranged in a double row in a tight “U” shape, the total width and length of which was 3.0 by 3.5 cm. According to the notes, the number of beads in this strand was unknown. The types were not specified, although they were fashioned primarily of *Olivella* shell.

Burial 6

Burial 6 (Figure 7) was found in Unit C-1 (see Figures 3 and 6) at a depth of about 48 cm (in Stratum I), extending to about 90 cm (into Stratum III). Extreme rodent disturbance had resulted in poor bone preservation. Recovered remains included fragments of the skull, an ulna, a radius, ribs, vertebrae, a proximal femur, and long bone fragments. The size of the bones indicated that this was an infant or young child. This individual was buried in a loosely flexed position on its left side with the head facing northwest, orientated at 183 degrees from true north. There were no data available on sex, pathological conditions, stature, or nonmetric traits. No evidence of a burial pit or possible cause of death was discovered. The mortuary goods recovered from Burial 6 (see Table 2) consisted of 96 *Olivella* disk beads and one *Haliotis* ornament that was perforated on one end (Cat. No. 242) (Figure 5c).

Burial 7

Burial 7 (Figure 7) was discovered in Unit B2 (see Figures 3 and 6) at a depth of 51 cm (in Stratum I).

The bones were in very poor condition (they crumbled upon touch), but a few fragments of the lower limbs, pelvis, and ribs were recovered. Despite the condition of the remains, this individual appeared to be tightly flexed in a sitting position, generally oriented south (insufficient data to calculate degrees) with the head facing generally north. Bone sizes indicated a juvenile (perhaps 12 to 14 years old, according to the 1985 analysis), but no data could be obtained regarding the sex, pathological conditions, stature, or nonmetric traits. No evidence of a burial pit was discovered, and a cause of death could not be determined.

Mortuary goods associated with this burial (see Table 2) included 38 *Olivella* disk beads and one steatite disk bead. A few flakes (of quartz, steatite, and rhyolite) were also recovered during screening, although their association with Burial 7 was unclear.

Burial 8

Burial 8, an adult male (Figure 7), was a primary interment discovered in Unit 1 (see Figures 3 and 6) at a depth of 71 cm (in Stratum III) and extended to about 100 cm. It was immediately east of Burial 9 (see below). The remains in this burial were in very good condition with only a few postmortem fractures, and most of the skeleton was present. No evidence of a burial pit was discovered, and cause of death could not be determined. Cranial measurements, postcranial measurements, and cranial indices for Burial 8 are provided in Tables 6, 7, and 8.

Flexure, Position, and Orientation

Burial 8 was loosely flexed and lying on its right side. The knees were drawn toward the head, which was oriented to the south, calculated at 161 degrees from true north. The face was oriented toward the east.

Table 6. Cranial Measurements of Burial 8 at CA-LAN-767.

Attribute	Measurement (mm)
maximum cranial length (glabella-opisthocranium)	191.0
maximum cranial breadth (euryon-euryon)	132.0
cranial base length ^a (nasion-basion)	96.0
basion-prosthion length (basion-prosthion)	93.0
minimum frontal breadth (frontotemporale-frontotemporale) ^a	96.0
glabella-opisthion ^a	140.0
bregma-opisthion ^a	143.0
bregma-lambda (parietal chord)	109.0
lambda-opisthion (occipital chord) ^a	107.0
basion-bregma height	136.0
upper facial height (nasion-prosthion)	67.5
nasal height ^a (nasion-nasospinale)	47.5
nasal breadth (alare-alare)	25.0
maxillo-alveolar breadth (ectomolare-ectomolare) ^a	59.1
orbital height ^a	39.8
orbital breadth	41.1
maximum ramus height	66.5
minimum ramus breadth	35.2

a. Approximate measurement due to partial decomposition.

Age, Sex, and Pathological Conditions

Based on tooth eruption rates and epiphyseal closure, age was estimated to be older than 25 years. Heavy wear on the teeth further suggested a much older age than 25, perhaps as much as 40 years old. Pelvic observations indicated that this individual was male. Pathologies included abscesses associated with both maxillary and mandibular teeth, although the specific teeth were not listed in the 1985 analysis.

Stature

To determine stature, the formula for male Mongoloid presented in Trotter and Gleser (1952, 1958, 1977) was used. The best bones to use for this calculation are the femur and tibia together. The formula and results are:

Male Mongoloid: $1.22(\text{femur} + \text{tibia}) + 70.37 \pm 3.24$
 $1.22(42.3 + 35.8 \text{ cm}) + 70.37 \pm 3.24$
 $165.65 \pm 3.24 \text{ cm}$
 maximum = 168.89 cm
 minimum = 162.41 cm

As noted with Burial 2, the high end of this stature range indicates that Burial 8 was the second tallest among the five adults. This would be logical given that Burials 2 and 8 are the only two males identified at LAN-767, and males tend to be larger and taller than females.

Nonmetric Traits

Nonmetric traits included a highest nuchal line, supraorbital foramina on the left and right sides, zygomatico-facial foramina on the left and right sides,

Table 7. Postcranial Measurements of Burial 8 at CA-LAN-767.^a

Attribute	Measurement (mm)
<i>Humerus</i>	
humeral length [maximum length]	287.0
maximum head diameter [vertical diameter of head]	45.0
proximal end breadth ^{a, b}	48.0
distal end breadth [epicondylar breadth]	59.0
<i>Ulna</i>	
ulna length [maximum length]	244.0
ulna shaft length [physiological length]	211.0
trochlear notch height ^a	23.0
distal end breadth ^a	20.0
<i>Radius</i>	
radius length [maximum length]	227.0
radius head diameter ^b	20.0
distal end breadth ^{a, b}	29.0
<i>Femur</i>	
bicondylar length	423.0
maximum length	428.0
subtrochanteric diameter (anterior/posterior)	26.0
subtrochanteric diameter (medial/lateral)	28.0
maximum head diameter	44.0
epicondylar width [epicondylar breadth]	75.0
shaft neck angle ^a	125°
<i>Tibia</i>	
tibia length	358.0
proximal end diameter [maximum proximal epiphyseal breadth]	72.0
<i>Fibula</i>	
fibula length [maximum length]	344.0
<i>Pelvis (Os Coxae)</i>	
innominate height [os coxae height]	155.0
breadth of false (greater) pelvis ^a	235.0
sagittal diameter of pelvic inlet ^a	128.0
transverse diameter of pelvic inlet ^a	119.0
transverse diameter of pelvic outlet ^a	113.0

a. These attribute names are from the original data sheets, and some are not directly applicable to those in Bass (1995) or Buikstra and Ubelaker (1994). As such, the original attribute names are provided here, with the presumed corollary in brackets. Those attributes with a superscript "a" have no known corollary.

b. Approximate measurement due to partial decomposition.

Table 8. Cranial Indices for Burial 8 at CA-LAN-767.

Index Name	Index Ratio	Cranial Type
cranial index	69.11	dolichocrany (narrow or long-headed)
cranial length-height index	71.20	orthocrany (average or medium)
cranial breadth-height index	103.03	acrocrany (high skull)
mean basion-height index	84.21	medium
fronto-parietal index	72.72	eurymetopic (broad)
nasal index	52.63	mesorrhiny (average or medium, high end of range)

Huschke's foramina on the left and right sides, and tympanic dehiscence on the left and right sides. There was no evidence of cranial deformation.

Associated Artifacts

Mortuary goods associated with Burial 8 (see Table 2) consisted of 176 *Olivella* disk beads, two *Mytilus* disk beads, one *Haliotis* disk bead, and one steatite tube bead. Also found in the area of this burial were an unmodified steatite pebble and an unmodified steatite fragment. It is not clear whether these items were associated with the burial.

Burial 9

Burial 9 (see Figure 7) was located immediately west of Burial 8 (Figure 7), in Unit 2 at a depth of 76 cm (in Stratum III). The remains of this adult female were in excellent condition, with most of the skeleton present. No evidence of a burial pit was discovered, and no cause of death could be determined. Tables 9, 10, and 11 provide the cranial measurements, postcranial measurements, and cranial indices for Burial 9.

Flexure, Position, and Orientation

Burial 9 was tightly flexed. The body was oriented to the south, calculated at 183 degrees from true north. The face was oriented toward the east.

Age, Sex, and Pathological Conditions

Based on observations of tooth eruption, tooth wear, and epiphyseal closure, it was determined that this individual was of "advanced age" (perhaps as much as 40 years old). Based on pelvic traits, Burial 9 was determined to be female. Pathologies included dental abscesses and remodeling of the right side of the mandible due to loss of the molars from decay. No burial pit could be discerned, and cause of death was indeterminate.

Stature

Because there is no stature category in Trotter and Gleser (1952, 1958, 1977) for female Mongoloid, two formulae were used as cross-references to estimate the stature for Burial 9, one for Mongoloid male and one for white female. The best bones to use for this calculation are the femur and tibia together. The formulae and results are:

$$\begin{aligned} \text{Mongoloid Male: } & 1.22(\text{femur} + \text{tibia}) + 70.37 \pm 3.24 \\ & 1.22(42.8 + 32.9 \text{ cm}) + 70.37 \pm 3.24 \\ & 162.72 \pm 3.24 \text{ cm} \\ & \text{maximum} = 165.96 \text{ cm} \\ & \text{minimum} = 159.48 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{White Female: } & 1.39(\text{femur} + \text{tibia}) + 53.20 \pm 3.55 \\ & 1.39(42.8 + 32.9 \text{ cm}) + 53.20 \pm 3.55 \\ & 158.42 \pm 3.55 \text{ cm} \\ & \text{maximum} = 161.97 \text{ cm} \\ & \text{minimum} = 154.87 \text{ cm} \end{aligned}$$

Table 9. Cranial Measurements of Burial 9 at CA-LAN-767.

Attribute	Measurement (mm)
maximum cranial length (glabella-opisthocranion)	187.5
maximum cranial breadth (euryon-euryon)	133.5
cranial base length ^a (nasion-basion)	99.0
basion-prosthion length (basion-prosthion)	97.0
minimum frontal breadth (frontotemporale-frontotemporale)	97.0
glabella-opisthion	140.0
bregma-opisthion	141.5
bregma-lambda (parietal chord)	116.7
lambda-opisthion (occipital chord)	99.1
basion-bregma height	122.5
upper facial height (nasion-prosthion)	64.0
bizygomatic breadth	135.5
nasal height (nasion-nasospinale)	50.5
nasal breadth (alare-alare)	24.1
orbital height	41.5
orbital breadth	42.5
maximum ramus height ^a	57.6
minimum ramus breadth	29.0
bicondylar breadth ^a (condylion laterale-condylion laterale)	116.0

a. Approximate measurement due to partial decomposition.

Taking the minimum and maximum numbers from both formulae, these results suggest that this individual was between 154.87 and 165.96 cm tall. While neither formula was for a Mongoloid female, the generally small size of the bones supports this stature range.

Nonmetric Traits

The nonmetric traits for this individual included a highest nuchal line, supraorbital foramina on the left and right sides, Huschke's foramina on the left and right sides, and tympanic dehiscence on the left and right sides. There was no evidence of any cranial deformation.

Associated Artifacts

Mortuary goods associated with Burial 9 consisted of five *Olivella* disk beads (Table 2). Two fragments of unmodified steatite were recovered during screening, but their association with this burial is uncertain.

Burial 10

Burial 10, an adult female (Figure 7), was a primary interment discovered in Unit 1 WE (see Figures 3 and 6) at a depth of 80 cm (in Stratum III). Most of the skeleton was recovered, and it was mostly in excellent condition, with the exception of fragmentation of the

Table 10. Postcranial Measurements of Burial 9 at CA-LAN-767.^a

Attribute	Measurement (mm)
Humerus	
humeral length [maximum length]	292.0
maximum head diameter [vertical diameter of head]	41.0
proximal end breadth ^{a, b}	45.0
distal end breadth [epicondylar breadth]	52.0
Ulna	
ulna length [maximum length]	251.0
ulna shaft length [physiological length]	228.0
trochlear notch height ^a	20.0
distal end breadth ^a	19.0
Radius	
radius length [maximum length]	240.0
radius head diameter ^b	19.0
distal end breadth ^{a, b}	30.0
Femur	
bicondylar length	428.0
maximum length	434.0
subtrochanteric diameter (anterior/posterior)	24.0
subtrochanteric diameter (medial/lateral)	32.0
maximum head diameter	44.0
epicondylar width [epicondylar breadth] ^b	75.0
shaft neck angle ^a	121°
Tibia	
tibia length	329.0
proximal end diameter [maximum proximal epiphyseal breadth]	70.0
Fibula	
fibula length [maximum length]	351.0
Pelvis (Os Coxae)	
innominate height [os coxae height]	204.0
breadth of false (greater) pelvis ^{a, b}	270.0
sagittal diameter of pelvic inlet ^a	128.0
transverse diameter of pelvic inlet ^a	139.0
transverse diameter of pelvic outlet ^a	110.0

a. These attribute names are from the original data sheets, and some are not directly applicable to those in Bass (1995) or Buikstra and Ubelaker (1994). As such, the original attribute names are provided here, with the presumed corollary in brackets. Those attributes with a superscript "a" have no known corollary.

b. Approximate measurement due to partial decomposition.

Table 11. Cranial Indices for Burial 9 at CA-LAN-767.

Index Name	Index Ratio	Cranial Type
cranial index	71.20	dolichocrany (narrow or long-headed)
cranial length-height index	65.33	chamaecrany (low skull)
cranial breadth-height index	91.76	tapeinocrany (low skull, high end of range)
mean basion-height index	76.32	low
fronto-parietal index	72.66	eurytopic (broad)
upper facial index	47.23	euryeny (wide or broad face)
nasal index	47.72	leptorrhiny (narrow nasal aperture, high end of range)

pelvis and unintentional damage to the skull during excavation. No evidence of a burial pit was discovered, and cause of death could not be determined. The cranial measurements, postcranial measurements, and cranial indices for Burial 10 are provided in Tables 12, 13, and 14.

Flexure, Position, and Orientation

Burial 10 was interred tightly flexed in a semi-upright posture. The body was oriented to the south, calculated at 185 degrees from true north. The head was facing north.

Age, Sex, and Pathological Conditions

Observations of tooth eruption and epiphyseal closure indicated that the individual in Burial 10 was at least 25 years old at the time of death. Sex (female) was determined based on observations of the pelvis. An abscess was associated with the right mandibular premolar, and the "bad decay" noted for the mandibular molars would have affected the general health of this individual.

Stature

The stature estimate for Burial 10 was based on the same two formulae employed for Burial 9 (Trotter and

Gleser 1952, 1958, 1977). The formulae and results are:

Mongoloid Male: $1.22(\text{femur} + \text{tibia}) + 70.37 \pm 3.24$
 $1.22(41.7 + 31.1 \text{ cm}) + 70.37 \pm 3.24$
 $159.19 \pm 3.24 \text{ cm}$
 maximum = 162.43 cm
 minimum = 155.95 cm

White Female: $1.39(\text{femur} + \text{tibia}) + 53.20 \pm 3.55$
 $1.39(41.7 + 31.1 \text{ cm}) + 53.20 \pm 3.55$
 $154.39 \pm 3.55 \text{ cm}$
 maximum = 157.94 cm
 minimum = 150.84 cm

Taking the minimum and maximum numbers from both formulae, these results suggest stature was between 150.84 and 162.43 cm tall. This range is supported by the generally small size and gracile appearance of the bones.

Nonmetric Traits

Nonmetric traits included a highest nuchal line, supraorbital foramina on the left and right sides, parietal foramina on the left and right sides, zygomatico-facial foramina on the left and right sides, Huschke's foramina on the left and right sides, tympanic dehiscence on the left and right sides, and

Table 12. Cranial Measurements of Burial 10 at CA-LAN-767.

Attribute	Measurement
maximum cranial length (glabella-opisthocranium)	178.5
maximum cranial breadth (euryon-euryon) ^a	127.5
cranial base length ^a (nasion-basion)	101.0
basion-prosthion length (basion-prosthion)	102.0
minimum frontal breadth (frontotemporale-frontotemporale)	99.0
glabella-opisthion	138.5
bregma-opisthion	143.0
bregma-lambda (parietal chord)	110.1
lambda-opisthion (occipital chord)	98.0
basion-bregma height	129.0
upper facial height (nasion-prosthion)	72.5
bizygomatic breadth	131.0
nasal height (nasion-nasospinale)	49.0
nasal breadth (alare-alare)	24.0
maxillo-alveolar breadth (ectomolare-ectomolare)	62.5
orbital height	35.0
orbital breadth	40.0
bigonial breadth	98.5
maximum ramus height	65.0
minimum ramus breadth	37.0
bicondylar breadth (condylion laterale-condylion laterale)	117.5

a. Approximate measurement due to partial decomposition.

a maxillary torus. There was no evidence of cranial deformation.

Associated Artifacts

Mortuary goods associated with Burial 10 (see Table 2) consisted of 3,093 beads, including 3,086 *Olivella* disks (six being incised), two *Olivella* “spiral” beads, one *Tivela* disk, two *Mytilus* disks, and two *Haliotis* disks. While the stringing position could not be determined, many of the beads were recovered in the chest section of the body, some in tight clusters. In addition, two ochre fragments (one limonite, one hematite) were recovered.

Burial 11

Burial 11 (Figure 7) was a primary interment located immediately east of Burial 10 in Unit 5 (see Figures 3 and 6) at a depth of 88 cm (in Stratum III), extending to about 135 cm. This was the deepest and best preserved of all the burials. Most of the skeleton of this adult female was present, although the pelvis was fragmented. No evidence of a burial pit was discovered, and cause of death could not be determined. The cranial measurements, postcranial measurements, and cranial indices for Burial 11 are provided in Tables 15, 16, and 17.

Table 13. Postcranial Measurements of Burial 10 at CA-LAN-767.^a

Attribute	Measurement (mm)
<i>Humerus</i>	
humeral length [maximum length]	287.0
maximum head diameter [vertical diameter of head]	39.0
proximal end breadth ^a	43.0
distal end breadth [epicondylar breadth] ^b	51.0
<i>Ulna</i>	
ulna length [maximum length]	244.0
ulna shaft length [physiological length]	211.0
trochlear notch height ^a	19.0
distal end breadth ^a	17.0
<i>Radius</i>	
radius length [maximum length]	224.0
radius head diameter	20.0
distal end breadth ^{a, b}	25.0
<i>Femur</i>	
bicondylar length	417.0
maximum length	422.0
subtrochanteric diameter (anterior/posterior)	22.0
subtrochanteric diameter (medial/lateral)	29.0
maximum head diameter	42.0
epicondylar width [epicondylar breadth]	74.0
shaft neck angle ^a	123°
<i>Tibia</i>	
tibia length	311.0
proximal end diameter [maximum proximal epiphyseal breadth]	68.0

a. These attribute names are from the original data sheets, and some are not directly applicable to those in Bass (1995) or Buikstra and Ubelaker (1994). As such, the original attribute names are provided here, with the presumed corollary in brackets. Those attributes with a superscript "a" have no known corollary.

b. Approximate measurement due to partial decomposition.

Table 14. Cranial Indices for Burial 10 at CA-LAN-767.

Index Name	Index Ratio	Cranial Type
cranial index	71.43	dolichocrany (narrow or long-headed)
cranial length-height index	72.27	orthocrany (average or medium)
cranial breadth-height index	101.18	acrocrany (high skull)
mean basion-height index	84.31	medium
fronto-parietal index	77.65	eurymetopic (broad)
upper facial index	55.34	lepteny (slender or narrow face, low end of range)
nasal index	48.98	mesorrhiny (average or medium, low end of range)

Table 15. Cranial Measurements of Burial 11 at CA-LAN-767.

Attribute	Measurement (mm)
maximum cranial length (glabella-opisthocranium)	183.0
maximum cranial breadth (euryon-uryon)	136.0
cranial base length ^a (nasion-basion)	95.0
basion-prosthion length (basion-prosthion)	91.0
minimum frontal breadth (frontotemporale-frontotemporale)	94.0
glabella-opisthion	133.0
bregma-opisthion	142.0
bregma-lambda (parietal chord)	121.0
lambda-opisthion (occipital chord)	95.1
basion-bregma height	131.0
upper facial height (nasion-prosthion)	70.5
bizygomatic breadth	134.0
nasal height (nasion-nasospinale)	47.5
nasal breadth (alare-alare)	24.5
maxillo-alveolar breadth (ectomolare-ectomolare)	59.5
orbital height	35.5
orbital breadth	38.5
bigonial breadth	96.0
maximum ramus height	63.0
minimum ramus breadth	35.0
bicondylar breadth (condylion laterale-condylion laterale)	116.5

Table 16. Postcranial Measurements of Burial 11 at CA-LAN-767.^a

Attribute	Measurement (mm)
<i>Humerus</i>	
humeral length [maximum length]	286.0
maximum head diameter [vertical diameter of head]	37.0
proximal end breadth ^a	42.0
distal end breadth [epicondylar breadth]	53.0
<i>Ulna</i>	
ulna length [maximum length]	240.0
ulna shaft length [physiological length]	212.0
trochlear notch height ^a	15.0
distal end breadth ^a	18.0
<i>Radius</i>	
radius length [maximum length]	222.0
radius head diameter	18.0
distal end breadth ^a	28.0
<i>Femur</i>	
bicondylar length	388.0
maximum length	392.0
subtrochanteric diameter (anterior/posterior)	24.0
subtrochanteric diameter (medial/lateral)	30.0
maximum head diameter	39.0
epicondylar width [epicondylar breadth]	71.0
shaft neck angle ^a	123°
<i>Tibia</i>	
tibia length	333.0
proximal end diameter [maximum proximal epiphyseal breadth]	69.0
<i>Fibula</i>	
fibula length [maximum length]	331.0
<i>Pelvis (Os Coxae)</i>	
innominate height [os coxae height]	187.0
breadth of false (greater) pelvis ^{a, b}	243.0
sagittal diameter of pelvic inlet ^a	108.0
transverse diameter of pelvic inlet ^a	131.0
sagittal diameter of pelvic outlet ^a	117.0
transverse diameter of pelvic outlet ^a	114.0

a. These attribute names are from the original data sheets, and some are not directly applicable to those in Bass (1995) or Buikstra and Ubelaker (1994). As such, the original attribute names are provided here, with the presumed corollary in brackets. Those attributes with a superscript "a" have no known corollary.

b. Approximate measurement due to partial decomposition.

Table 17. Cranial Indices for Burial 11 at CA-LAN-767.

Index Name	Index Ratio	Cranial Type
cranial index	74.32	dolichocrany (narrow or long-headed, higher end of range)
cranial length-height index	71.58	orthocrany (average or medium)
cranial breadth-height index	96.32	metriocrany (average or medium)
mean basion-height index	82.13	medium
fronto-parietal index	69.12	metriometopic (average or medium, high end of range)
upper facial index	52.61	meseny (average or medium)
nasal index	51.57	mesorrhiny (average or medium)

Flexure, Position, and Orientation

Burial 11 was tightly flexed in a semi-upright posture. The body was oriented southeast, calculated at 104 degrees from true north, with the head facing northwest.

White Female: $1.39(\text{femur} + \text{tibia}) + 53.20 \pm 3.55$
 $1.39(41.7 + 31.1 \text{ cm}) + 53.20 \pm 3.55$
 $154.39 \pm 3.55 \text{ cm}$
 maximum = 157.94 cm
 minimum = 150.84 cm

Age, Sex, and Pathological Conditions

Observations of tooth eruption, relatively heavy tooth wear, and epiphyseal closure (including complete closure of all cranial sutures) indicated an age for this individual of greater than 25 years, perhaps as old as early to mid-50s. Based on observations of the pelvis, the individual in Burial 11 was determined to be female. No pathological conditions were observed.

Taking the minimum and maximum values from both formulae, these results suggest a stature between 149.87 and 161.57 cm. The generally small size of the bones provides support for this stature range.

Nonmetric Traits

The nonmetric traits for this individual included supraorbital foramina on the left and right sides, parietal foramina on the left and right sides, zygomatico-facial foramina on the left and right sides, partial metopism, and Huschke’s foramina on the left and right sides. There was no evidence of cranial deformation.

Stature

The stature for the individual in Burial 11 was also based on the same two formulae as that for Burial 9 (Trotter and Gleser 1952, 1958, 1977). The formulae and results are:

Associated Artifacts

Mongoloid Male: $1.22(\text{femur} + \text{tibia}) + 70.37 \pm 3.24$
 $1.22(38.8 + 33.3 \text{ cm}) + 70.37 \pm 3.24$
 $158.33 \pm 3.24 \text{ cm}$
 maximum = 161.57 cm
 minimum = 155.09 cm

Associated mortuary goods found with Burial 11 consisted of seven *Olivella* disk beads (see Table 2). In addition, one unmodified fragment of actinolite was found during screening.

Faunal Remains

A number of faunal remains were recovered from both the AVC and Bissell excavations, including rodent and lagomorph bones. None of these remains were modified or burned, and all are considered natural inclusions. One small piece of unmodified shell was recovered from the 90 to 100 cm level of Unit 1B (Bissell 1991:14). The implications of the presence of this shell fragment are unclear.

Dating

No materials other than human bone suitable for radiocarbon analysis were recovered from the site in either 1975 or 1991. Thus, dating relies on the typology of shell beads and ornaments. The Gypsum point found somewhere on the surface of the site has no direct association with the burials and is not viewed as a temporal marker for the cemetery. The *Olivella* disk beads from LAN-767 are probably Class H disks (see Bennyhoff and Hughes 1987:135), most likely either H1a ground disks or H1b semi-ground disks. These two Class H bead types occur primarily in southern California and date between about A.D. 1770 and 1816. Neither the spire-lopped nor the barrel beads have any firm temporal association (Bennyhoff and Hughes 1987:118, 122).

The *Haliotis* disk beads date generally between 3,000 B.C. and A.D. 400 and during part of King's (1990) late phases (ca. A.D. 1650 to 1782). Artifacts similar to the *Haliotis* pendant ornaments recovered from the site occur in many temporal contexts, including the late phases of King's (1990:28) chronological sequence. As such, it is with caution that these ornaments are suggested to provide additional (albeit tentative) support for dating the site to the Late Period.

Mytilus disk beads date initially to post-A.D. 900 but increased in frequency after A.D. 1782 (King

1990:186; Gibson 1992:34). *Tivela* tube and disk beads date generally to the Late Period (King 1990:188, 237, 240-241). There is little temporal significance for steatite beads, but they have been found in late Middle Period to Late Period contexts (King 1990:175).

In sum, the LAN-767 burials appear to date within the last 400 years or so. The absence of any Euroamerican trade materials, such as glass beads, suggests that the cemetery was used just prior to European contact.

Bissell (1991) suggested that an earlier "grinding implement" component may have been present at the site. This was based on the discovery of three milling implements in excavation units placed over a relatively wide area. No actual deposit was identified in either the 1975 or 1991 excavations, no domestic or food processing features were found, and the only dated materials (the shell beads) are all fairly late, although a Gypsum point was found on the surface. Thus, there is no evidence of any real habitation, and we do not agree that an earlier component is present at the site.

Discussion

Eleven primary interments were recovered from the LAN-767 cemetery. While many of the burials were disturbed and in poor condition, sufficient data were obtained to provide insight on a number of topics.

Flexure, Position, and Orientation

Of the seven individuals for whom flexure could be determined (Burials 2, 4, 7, 8, 9, 10, and 11), six were tightly flexed, and one (Burial 8) was loosely flexed. Burial position varied; Burial 2 was on his back, Burial 7 was in a sitting position, Burial 8 was lying on the right side, and Burials 10 and 11 were in semi-upright positions. Orientation was consistently to the southeast quadrant (see Table 3 and Figure 8)

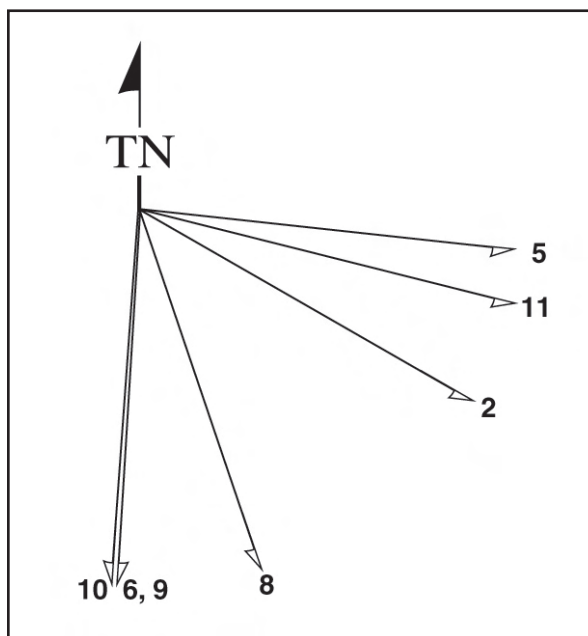


Figure 8. Orientation of the burials recovered from CA-LAN-767.

and ranged between 95 and 185 degrees from true north.

Comparative data are available from one other cemetery believed to be Tataviam. The CA-LAN-487 site (Robinson 1987) is located in Green Valley, some 24 km (15 mi) west of LAN-767. This cemetery was isolated and contained 15 individuals (eight had been badly vandalized, and data were obtained on only seven). Of the five burials (all adults) with observable position, four were tightly flexed in a sitting position, and one was loosely flexed in a prone position (Robinson 1987:32). The orientations of the five burials were north ($n = 1$), southwest ($n = 2$), south ($n = 1$), and east ($n = 1$) (Robinson 1987:32).

Age, Sex, and Pathological Conditions

The ages of the 11 individuals at LAN-767 ranged from infant to older adult. Of the Stratum I burials, six were infants and/or young children, and one was a juvenile, while all the deeper Stratum III burials were

adults (Table 3). Of the five adults, three were female, and two were male. Dental abscesses were observed on the skeletons of Burials 8 (an adult male), 9 (an adult female), and 10 (an adult female). Burial 9 also showed remodeling of the mandible due to tooth loss. No other pathologies could be discerned.

There is no indication of cause of death for any of the burials. No evidence of a violent end (e.g., projectile point in bone or depression fractures on the skulls) was observed, and there was no evidence of chronic disease on the bones.

The demographic profile of the LAN-767 individuals (see Table 3) is intriguing. There is one infant, two infants or young children, two young children, one older child, two young adults (male and female), two older adults (male and female), and one old adult (female). One highly speculative possibility is that this burial population represents a multiple generation family unit, consisting of a grandmother, an older couple, and a younger couple with six children of varying ages. If this had been a family unit, it seems that its members would have had to die together to have been buried together. Recall, however, that there was no evidence of any violence among this burial population, suggesting they were not killed. It is possible that disease caused the deaths of these individuals, despite the fact that no evidence of disease was observed on the skeletons. If it was an acute disease, it would not be unusual to find absence of evidence on the bones, as most infectious conditions observable on the skeleton are chronic. Certainly, if other burials are still present in the cemetery, this demographic profile would have to be revised.

As previously noted, there was another Tataviam cemetery at LAN-487 (Robinson 1987). It contained six adults and one infant. Of the adults, three were male, two were female, and one was of indeterminate sex. Three of the adults (two females and one male) had

dental abscesses, and the male also had a bone lesion in one orbit (Robinson 1987:32).

Stature

Based on the formulae of Trotter and Gleser (1952, 1958, 1977), the stature range for the two males is between approximately 162 and 173 cm, while the range of the three females is between about 149 and 166 cm. Because the range for the three females also includes male Mongoloid as a cross-reference, along with the generally small size of the bones, the range for these three individuals can probably be constrained between about 149 and 155 cm.

No stature information is available for the individuals at the LAN-487 site (Robinson 1987). Gifford (1926a: Tables 13 and 14) provided information on the stature of neighboring ethnographic groups, including the Serrano, Luiseño, Cupeño, and Cahuilla, with values ranging from 167 to 172 cm for males and 156 to 164 cm for females.

Some archaeological data on stature from Late Prehistoric sites in the Los Angeles Basin are available. At *Yaanga?* (CA-LAN-1575/H) near Los Angeles, the stature of the females averaged 149.6 cm (Goldberg 1999). At CA-LAN-2757 near Compton, one female was measured at 150.9 cm (Mirro et al. 2005: Table 5.1). Four females from the nearby CA-LAN-2792 site had statures of 152.15, 152.21, 158.06, and 158.33 cm (Mirro et al. 2005:49-51). Finally, the burials discovered at the Peck Site (CA-LAN-62/H) near Marina del Rey yielded stature estimates of 158.74 cm for males (n = 25) and 147.64 cm for females (n = 32) (Patrick B. Stanton, personal communication 2008).

No interethnic pattern can be detected from these comparative data, nor did one emerge at LAN-767. It is possible that the stature estimates at these various sites are a function of differential nutrition and/or

health and/or reflect simple variation within a given population. Additional skeletal samples are needed to reveal any potential patterns related to stature among different populations in this area of southern California through time.

Nonmetric Traits

Nonmetric traits, also referred to as discrete traits, minor variants, and discontinuous traits, are generally used for population comparisons (Buikstra and Ubelaker 1994:85). The significance of such traits in ancient skeletal samples is that they may indicate genetic relatedness. One of the advantages of the documentation of nonmetric traits is that they often can be observed in fragmentary and poorly preserved specimens (Buikstra and Ubelaker 1994:85).

Nonmetric traits were recorded for the five adults at LAN-767 (Burials 2, 8, 9, 10, and 11). The nonmetric traits common to all five of these individuals include bilateral supraorbital foramina and Huschke's foramina. Four of the five individuals (excluding Burial 11) displayed a highest nuchal line and tympanic dehiscence on the left and right side, and four of the five (excluding Burial 9) had zygomatico-facial foramina on the left and right side. While there were a few traits that were limited to only one individual (e.g., the maxillary torus and parietal foramina observed on Burial 10), these five individuals share virtually all the nonmetric traits recorded in 1985. None showed evidence of cranial deformation, which would typically be the result of cradleboarding or habitual use of a tump line.

Status

The majority of the beads and other mortuary goods occurred with the subadults, particularly Burials 3, 4, and 5 (two young children and an infant). Only one adult (Burial 10, a female) had significant quantities of mortuary goods (Table 2). It is unclear why the

children would have been more embellished with artifacts than the adults, assuming that the adults were not decorated in some other manner, such as with tattoos.

At the nearby LAN-487 site, four of the six adults contained grave goods while the sole infant had none. The grave goods with the males consisted primarily of flaked stone tools, while the offerings with one of the females consisted of shell beads and ornaments. Robinson (1987:32) did not see evidence of ascribed status at that site.

The presence of at least four burned *Olivella* beads on the surface of LAN-767 (Table 1) suggests the possibility that some sort of mourning ceremony took place there. However, no other indication of such activity was found.

Site Structure

The layout of the LAN-767 cemetery is unusual. First, all the infants and children were found in Stratum I, between about 42 and 50 cm, while all the adults were found in Stratum III, between about 60 and 88 cm (see Table 3). Second, all the adults were buried in a “line” with each other while all the nonadults were a bit to the north (see Figures 6 and 7). This vertical and horizontal separation of the adults and the children is almost certainly not random and so is difficult to explain.

Several possibilities present themselves. First, it is possible that this pattern represents two separate periods of site use. The separation of the “upper” and “lower” burials by a cobble layer (Stratum II) could support this idea. Secondly, it could indicate a difference in burial techniques where, for some social or ceremonial reason, the adults were purposefully buried deeper than children. Such a practice might be related to some sort of status (if only age), as the Stratum I children generally possessed greater numbers of artifacts than the Stratum III adults (see Table 2). Lastly, it is possible that all the adults were

placed within an existing wash (explaining their linear relationship, their depth, and the absence of burial pits), while the children were placed in immediately adjacent shallow graves. This latter model would suggest that all the individuals died at the same time. It is also possible that the “linear” nature of the adult placement was the result of the placement of the excavation trench. This was considered during the fieldwork, and as a test, Block E was excavated. The absence of additional remains (see Figures 3, 6, and 7) in that area appears to negate excavation bias.

The burials in Stratum I were all poorly preserved, while those in Stratum III were much better preserved. Rodent disturbance was more extensive in Stratum I and undoubtedly had an effect. It is also possible that the preservation was influenced by varied pH values that may exist between the different soil/sediment types. Some combination of rodent activity, soil chemistry, and/or hydrology may explain this difference in preservation. In addition, most of the upper burials were of children whose remains tend not to preserve well.

Some Thoughts on Ethnicity

Gifford (1926a:224, 1926b; also see Carr 1880; Boas 1896, 1905:356-357) identified three basic physical “types” of California Indian peoples; Californian, Western Mono, and Yuki, the latter being confined to northwestern California. The most common and widespread type, Californian, has a cephalic index, or CI (generally corresponding to cranial index values), of greater than 81 (mesocephalic to brachycephalic). The Western Mono physical type has an average CI of 76 (dolichocephalic) and is quite uncommon in California. In southern California, the Californian type is represented by the Cahuilla, Serrano, Luiseño, Cupeño, Chumash, Mohave, Cocopa, and Yuma (Gifford 1926a:Table 7). The known distribution of the Western Mono type in southern California is limited

to the Gabrielino (Gifford 1926a:Map 2). The only other recorded Western Mono physical type groups in California are the Monache (Western Mono) and Tubatulabal in the Sierra Nevada to the north. Gifford (1926a) did not have any CI data pertaining to the Kitanemuk or Tataviam.

It has been proposed (Sutton 2009, 2010) that Takic groups speaking proto-Gab/Cupan (a branch of Takic) moved south from the southern San Joaquin Valley/southern Sierra Nevada to occupy the Los Angeles Basin at about 3,500 B.P. (the Takic Expansion or “Shoshonean Wedge”). This early Takic group would have been of the Western Mono type, with cranial index values of less than about 75. Sutton (2009, 2010) predicted that the cranial index values of the prehistoric Kitanemuk and Tataviam would be less than 75.

The skulls of five of the burials from LAN-767, all adults, were sufficiently intact to determine cranial index (Table 18). The values ranged between 69.11 and 74.32, all dolichocephalic and well within the range of the Western Mono physical type defined by Gifford (1926a, 1926b). This suggests that the LAN-767 burial population is either Kitanemuk or Tataviam, or possibly even Gabrielino. The cranial index data do not support the idea that the LAN-767 burial population might be Serrano, a Californian physical type (Gifford 1926a:Table 7). If the LAN-767 burial population is Kitanemuk or Tataviam, this represents the only cranial index data available on those groups (except possibly an isolated Late Period burial near

Mojave with a cranial index of 73.8 [Robinson 1982: Table 1]) and the only data in southern California for the Western Mono type besides the Gabrielino. Presently, we believe that the LAN-767 burial population is Tataviam (following the principle of the direct historic approach [Lyman and O’Brien 2001]), primarily due to the differences in cemetery placement between the Tataviam (isolated cemeteries) and Kitanemuk (cemeteries within habitation sites) as modeled by Sutton (1980).

The cranial index sample size from LAN-767 is admittedly small, but all the values are very similar, lending some power to the pattern. One must also remember that the data sets used by (Gifford 1926a) for comparison were also very small (e.g., Titus 1987:8, 10). Further, skull shape is a complex interaction of genetic and environmental factors (Larsen 1997:227), and it should be used judiciously as an ethnic marker.

Conclusions

The LAN-767 site contains a diffuse scatter of surface artifacts, a few subsurface artifacts, and an isolated cemetery with 11 primary inhumations, although additional burials could still be present. The artifacts discovered with the burials suggest that the cemetery dates within the last 400 years. There is no habitation site directly linked to the cemetery, although several possible candidates are known within a mile or so. We suggest that the burial population is Tataviam.

Of interest is the distribution of the burials, with all the subadults in the upper 50 cm and all the adults below 60 cm, with all the adults in a “line,” which clearly does not appear to be a random distribution. The children had a considerable quantity of grave goods while most of the adults did not.

It is also possible that the physical separation of the two age groups represents two episodes of cemetery use (e.g., Bissell 1991). Perhaps the children all died

Table 18. Summary of Cranial Indices for the Five Adults at CA-LAN-767.

Burial	Sex	Cranial Index
2	male	72.78
8	male	69.11
9	female	71.20
10	female	71.43
11	female	74.32

at about the same time, conceivably due to an episode of European disease that could have spread prior to actual contact with Europeans (e.g., Preston 1996; but see Jackson 1994). It is also possible that the site represents a “mass” grave where an entire family unit (see discussion on demographics above) was buried, the adults interred in an existing wash and the children buried “on top” of their adult relatives.

The late date of LAN-767, its geographic location, and the cranial index data support the idea that the site population was Tataviam. It is also possible that the cranial index data could be relevant to an understanding of the Takic Expansion (see Sutton 2009).

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