An 1851 U.S. Coast Survey map showing Fort Guijarros, "Battery (ruined)," at the base of Ballast Point.
FORT GUIJARROS QUARTERLY

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IN SEARCH OF FORT GUIJARROS

A Personal Research Effort Sponsored by the Casa de España en San Diego and The Spanish Consulate in Los Angeles

Donald C. Cutter, Ph.D. with translations by Professor Emeritus Jesús B. Benayas
University of New Mexico

[Editor's Note: The Casa de España and the Spanish Consulate jointly funded a $2000 grant to sponsor a consulting historian to search in Spain for records and maps of Fort Guijarros. Iberia Airlines donated the air fare with the limitation that the scholar return within thirty days. The Fort Guijarros Museum Foundation assisted by forming a search committee to find the scholar. Advisors to the Foundation, Professor Raymond Starr, Professor Brad Bartel, Professor William Phillips, and Professor Carla Phillips, joined Casa de España President (in 1987) Sra. María Olson, and Fort Guijarros Museum Foundation Chair Ronald V. May in the quest. Following several leads, Professor Emeritus Donald Cutter, Ph.D., University of New Mexico, was selected.]

Historical Importance and Setting of Fort Guijarros

Of considerable historical interest is the political and international setting in which the battery at Point Guijarros is couched. Its construction was not a spontaneous, sudden impulse, but rather the result of serious consideration of Spain's declining position in world affairs.

The failure of Spain to maintain its claim to exclusive sovereignty over the Pacific Ocean, which was challenged in the Nootka Sound controversy, is the distant cause of establishment of batteries at strategic points along the California coast. Under no circumstances did Spain think that such small batteries as they were prepared to establish would ward off any concerted attack. Rather these would become strong points against direct attack on those locations, places which an enemy would target for offensive operations.

The inability of Spain to obtain European support for its position in the North Pacific, as represented by the settlement of San Lorenzo de Nutka (1789-1794) and the battery of San Miguel in Friendly Cove, Vancouver Island, forced a gradual and sweeping reassessment of Spain's defensive potential. The first thought was to try to hold as much of the Pacific Northwest as possible. Northern limits were set and subsequently readjusted. One plan was to hold the coast as far north as the entrance to the Strait of Juan de Fuca. When this seemed illogical, the Columbia River (the Entrada de Hezeta) was contemplated. Next was Trinidad Bay just south of the Oregon-California line, followed in turn by Bodega (really Tomales) Bay, north of San Francisco. In an effort to extend to that final goal, two expeditions were sent there in 1793 in an effort to begin colonization, a plan which miscarried.

Even more motivating was the fact that California was visited three times by Captain George Vancouver, a British Commissioner who was meeting at Nootka with Spanish Naval Captain Juan Francisco de la Bodega y Quadra in an effort to implement European political decisions concerning rights and obligations of both nations in Pacific waters.

In the dispute, Spain was largely in the right, concerning its
pretentions, but Great Britain had greater international clout. Spain engaged in a waiting game. Dealt a weak hand, Spain played its cards as well as possible, but the weakness of Spanish California from a military point of view was not easy to hide from the visiting Captain Vancouver. His repeated visits to Monterey, capital of California, prompted Bodega to a quick strengthening of the military posture of California as represented by a battery overlooking the anchorage. Vancouver also visited at other presidios in the province, and they were even less well equipped to defend the area against maritime attack.

As things turned out, the English were never destined to attack, soon becoming engaged full time in the defense of England from the menace of Napoleon. In California, Napoleon's threat was totally unknown, and there was still the possibility of attack by Russia or by United States merchant vessels engaged in clandestine trade. Though the batteries were built too late to fend off the menace that brought them into existence, their construction was timely for the defense of California against less well-equipped incursions which soon did materialize.

It should be kept in mind that the true purpose of establishment of a battery at Point Guizarros was to beef up Spain's coastal defense in view of a probable European attack. It was clearly part of a redeployment of men and munitions geared to protect what Spain had long claimed and which Spain had recently occupied - Alta California.

The documentation encountered in the several archives of Spain fits into the above pattern, as will be pointed out in the following review of the material found.

Archives Consulted During Search (17 April to 14 May 1989)

1. Museo Naval, Ministerio de Marina, Madrid.

2. Museo de America, Madrid.

   Sections: Papeles de Estado, maps.

   Sections: Manuscritos and cartografía (Sala Francisco de Goya)

5. Servicio Historico Militar, Madrid.
   Sections: Library, manuscritos, cartoteca.

Other Places Consulted Through Existing Archival Guides:

   Section: Manuscritos de America.

   Section: Manuscritos.

   Sections: Gobierno, Audiencia de Guadalajara, Estado.

Place Where An Active Search Was Agreed Upon:

   Sections: All portions of the archives.

Persons Consulted and/or Involved In The Search For Fort Guizarros

1. Museo Naval, Madrid.
   Admiral Vicente Buyo, Director of Museo Naval.
   Lola Higuera, Jefe de Investigacion, Manuscritos.
   Maria Luisa Martin-Meras, Jefe de Investigacion, Cartografia.
Pilar San Pio, Jefe de Investigacion, Biblioteca.

2. Archivo Museo Don Alvaro de Bazan, El Viso de Marques, Ciudad real.
   Commander Enrique Casas.

   Captain Fermin Diez Castano, head of research center.
   Lieutenant Nicolas Palomo, head of Cartoteca.
   Senor Garcia, Librarian.

   Sta. Pilar Mezquita, archivist of manuscripts section.
   Sta. Carmen Lister, Jefe de Gabinete, Sala Francisco de Goya (cartographic center).

   Sta. Maria Carmen Guzman, Subdirectora.

6. Museo de America, Madrid.
   Dr. Juan Gonzalez Navarrete, Director.

Non-institutionally Affiliated Individuals

These persons were interviewed extensively on two occasions each.
Both are continuing to look through their extensive files and will be in contact with the researcher if anything is found beyond what is already known to exist in the archives with which they are familiar. See comments below as regards their individual recommendations.

1. Juan Manuel Zapatero. Asesor historico militar, formerly of the Servicio Historico Militar and expert on fortifications and their reconstruction and restoration.

2. Dr. Eric Beerman. Historian and consultant on Spanish archives. Knowledgeable particularly concerning the Spanish Borderlands and the archives thereunto pertaining.

Museo Naval

Due to the nature of the battery at Point Guizarros and its association with the program of defense of California, and because maritime activity was closely associated with it, a substantial period of search time was spent in the Museo Naval. All of the map collection relating to North America was physically checked with the actual result being some negative research. Certain maps had some detail such as III-E-8, which is an inset map of San Diego as of 1790 and there is no evidence of any battery or plans for one. Map IV-B-2, a "carta esferica" by Cardero of 1792 shows Point Loma and stil there is no battery or plans for one. Map IV-B-4 is the well-known Pantoja map of San Diego of 1782; obviously no battery is included but Punta de Guizarros is clearly labeled.

We know now that there is no trace of a map or plans of Guizarros Battery in the Naval Museum. It was felt that if there were any such items that they would be housed in the largely untapped Archivo Don Alvaro de Bazan, the naval archive at El Viso del Marques near Ciudad Real. To the end of utilizing that source, permission was obtained to institute a full time search when time permitted. Though none of the important functionaries were available to accompany me in the limited time available, Commander Enrique Casas has given the word to the personnel stationed there to be on the lookout for any and all materials which might be pertinent. It remains as one of the possible places for future research.

The Naval Museum holdings had mention of Fort Guizarros or Point Guizarros in various places. These
are noted below. The most important source of Museo Naval materials, the Spanish round-the-world naval scientific exploring expedition commanded by Alejandro Malaspina, visited California five years before completion of the battery and several years before there were any serious plans. Therefore, it did not leave any documentation or possess any knowledge of the proposed battery.

A survey was made of the entire Museo Naval holdings of manuscripts which number 2514 catalogued volumes, boxes or bundles. The contents of all were evaluated from a manuscript catalogue and actual physical perusal was carried out on all that seemed to promise some possibility of containing appropriate material. These included MS 91-95 (Corbetas I, II, III, IV, V, VI); MS 96 and 97 (Mar del Sur I, II); MS 117 and 118 (Atlantico y Pacifico I, II); MS 126 and 127 (Pacifico America, I, II); MS 145-147 (Papeles Apreciables I, II, III); MS 154 (Delgado, Diario de Navegacion); MS 188 (Miscelanea G); MS 272 and 273 (Diarios II, III); MS 326 (Atlantico Meridional y Oceano Grande, which has an actual mention of "Pondeadero de idm. [Puerto de San Diego] al N de la Punta de Guijarro en 32 degrees, 42' 00"); MS 330 (California y Costa N.O. de America I); MS 331 and 332 (Costa N.O. de America I, II); MS 336 (Reyno de Mexico IV); MS 575 and 575 bis (Californica Historia y Viajes I, II); MS 961 (Viajes Fragatas Inglese Unicornio y Rusia Swaroff); MS 1864 and 1864 bis (Bodega y Quadra: 1792 and Laminas y Dibujos, Costa N.O. de America); MS 2193 (Jacinto Caamaño: Diario del Viaje del ano 1792); MS 2420 (Miscelanea 1610-1861).

The effort was to physically examine any items that seemed to have a remote possibility of containing anything of interest so that no future repetition would ever be necessary in the Museo Naval, since it was a prime target for possible documentation, maps and drawings. On the basis of my examination, it is 99% certain that nothing exists at the Ministry of the Navy.

The as yet unextinguished possibility of pertinent materials existing in the large naval archive at El Viso de Marques, led me to take steps to cover that area. Such coverage takes the following form:

Persons from the Naval Museum, particularly Commander Enrique Casas, formerly subdirector of the Museo Naval and now in charge of the various changes being initiated at El Viso, have passed the word to that archival employees at that repository to be looking actively for materials concerning San Diego with special reference to the Battery at Point Guijarros. A generalized search such as this is not ideal, but considering the volume of material, the method of organization (mostly service record groups) and the length of time that would be involved in any comprehensive archival retrieval program, these factors led to the conclusion that this was the best solution to a rather difficult problem.

Juan Manuel Zapatero

Zapatero, whom I have known for thirty years, was very cordial in offering advice concerning the Fort Guijarros search. We talked about his work of restoration and reconstruction of many fortifications throughout Latin America, one of which I had recently visited (the Fort at Omoa near San Pedro Sula in Honduras).

Zapatero expressed his opinion that somewhere the plans of the battery on Point Guijarros have to exist. He has agreed to search his personal collection of xerox and photocopies for some clue as where these items might be at the present time. He expressed the opinion that any search (even among his own holdings) might take a considerable time. He referred me to a book that he had done a short while ago entitled La Fortificación Abaluartada en América, published in Puerto Rico.
which he indicated could be obtained from the Instituto de Cultura Puertorriqueño, Apartado 4184, San Juan, Puerto Rico. He did not have an extra copy to be able to give me one, but indicated that in all probability Fort Guijarros must have been of this type of construction. He also gave me a small book, Dos Ejemplos de Fortificaciones Españolas en la Exposición de Puertos y Fortificaciones en América y Filipinas, which he had done in 1985, though it had no relationship to our current search effort.

Among other things, Zapatero oriented me to the holdings of the Servicio Histórico Militar and to what I might expect to find there. He also suggested that there were some places that might have been neglected in any previous searches - such as the British Museum and the Public Record Office in London, places where he has found materials appropriate to his studies. He further suggested that the short time that I might have been able to dedicate to a search of records in Sevilla would be much better invested in local archives in Madrid. He also expressed his strong feeling that Mexico and its archives would be an even more appropriate place as a result of the regional nature (rather than the international nature) of a battery of the type involved.

We discussed at length the use of the term "fort" as distinguished from "battery," and Zapatero felt that the installation at Point Guijarros was more properly a battery and not a fort in the military sense of the term. His final suggestion was that unless a good set of plans were found, that the best thing that can be done is commemoration rather than any attempt at restoration or recreation of the battery.

I utilized Zapatero's various suggestions in dealing with the research possibilities at the Servicio Histórico Militar and his research saved me considerable time in the work that I was able to accomplish there. It is treated in the following sections dealing with the maps and manuscripts of that research institution.

Servicio Histórico Militar

Library Search. The Library had the following promising books:

1. José Antonio Calderón Quijano, Cartografía Histórica de la Nueva Galicia (Guadalajara, Mexico, 1984, Universidad de Guadalajara y Escuela de Estudios Hispano-Americanos de Sevilla).

This is a detailed cartographical study of Nueva Galicia to which California was administratively appended, but only a few maps contain areas as far north as California. Of these, page 165 reproduces the "Plan de por de San Diego en California" dated 1782, which is the La Perouse map and has "Pointe Guijarro" well indicated. Of course, there is no battery yet. The book also reproduces on page 171, a "Plano del fortín a la entrada del puerto de San Blas (sin autor)," 1780. It might be quite similar to what was constructed some years later at San Diego.


This is strictly a listing of books and articles dealing mostly with Florida and has nothing which would deal with the Point Guijarros battery or with San Diego. The value lies with the references.

3. José Antonio Calderón Quijano, Historia de las Fortificaciones en Nueva España (Sevilla, 1953).
This book was not in the library, nor did they have the new edition recently republished (1984) with additional material. This was subsequently found in the Librería of the Consejo Superior de Investigaciones Científicas, with negative results. Almost no mention was made of California and the west coast was represented largely by a substantial study of Acapulco.


This book was not available. It needs to be researched.

Map Research in Cartoteca, Access is via Catálogo de la Cartoteca, Volumes I and II (Madrid, 1981, Servicio Histórico Militar). All pertinent items were checked with the following result:

Page 133, section América del Norte, México, archival number 4.971 and call number 029/055/055. D-9-32. Except for the drawing itself, the full citation and text reads:

No. 4971

Autor: Manuel de Reyes

Año: 1820

No. de hojas: 1

Title: Batería de la Punta de Lastre (Ballast Point Battery)

Escala de 30 varas castellanas.

Su altura sobre el nivel del mar 13 1/2 varas. El espesor inferior 3 1/2 varas, el superior 1 vara. Su coste tres mil treinta y nueve pesos.

Dibujó José Caballero

Méjico 6 de febrero de 1820

Manuel Reyes (rubric)

This drawing is not archivally associated with any other documentation. Reyes did a drawing of Guaymas also in 1820 and an undated one of San Fernando de Córdoba (location not specified). The present status of recataloging of all maps in the Cartoteca made it possible to reproduce this from a card which had a photocopy of the document.

I would be delighted with this find if: 1) it had any supporting documentation; or 2) it gave coordinates of the location of the battery; or 3) had the battery been represented by a shape conforming to
my preconceived ideas; or 4) the battery not have such a high elevation above the ocean. Nonetheless, it is not identified as being at any other specific location; it is clearly identified as a battery; and it is at a place called Ballast (Lastre) Point.

If this represents some other place than Ballast Point, San Diego, there are certainly some remarkable coincidences that need to be explained. One possible approach would be to determine the date at which Ballast Point became called by that name to ascertain if it might have been so called on a 1820 drawing. A second approach would be to find any other place where there was a battery and which had the name Punta de Lastre.

Documentary Research. Access to materials in the manuscript sections of the Servicio Histórico Militar is via two catalogs. These are:


All of these documents are on microfilm rolls. Rolls 9, 10, 55, 56, 57, and 61 showed some promise of having related materials and were examined with the following results:

One document found gives some indication of what the California batteries were like. Seccion de Manuscritos 5-2-4-3 (Manuscript rolls 56 & 57 of microfilm). It forms a portion of a long report written by Juan Camargo, dated Veracruz, 24 October 1815 and is 57 folios in length.

Speaking of the Californias the author states:

"En estas hay Presidios semejantes a los relacionados, y Baterías en Monterey, San Diego y San Francisco, esta última de 14 cañones establecida en el año de 1796 por el Ingeniero Dn. Alberto de Córdova, según su parte es de piedra y barro, las esplanadas de madera, los merlones de adobes rebistidos de ladrillo pegado con barro."

[In these places there are Presidios similar to the ones we are taking about, and Batteries in Monterey, San Diego and San Francisco, this last one with 14 cannons established in 1796 by Engineer Alberto de Cordova, according to his report is made of stone and mud, the esplanades of wood, the merlons of adobes covered with bricks and stuck together with mud.]

What it doesn't say is whether or not Córdova was responsible for the San Diego construction, but it is more than likely. Also the details concerning construction materials were probably the same - stone and clay, the esplanades of wood, the merlons of adobes faced with bricks held in place by clay.

It is not probable that Engineer Cordoba was responsible for the earliest plans because in 1793 he was on assignment in the Philippines, according to documents in the Servicio Histórico Militar. His stay in California was not long since there is a report of 1800 of his transfer to Manila: Ayensa a Coronel, Mexico, 26 February 1800, in Archivo General de Indias, Audiencia de Mexico 1318.

Archivo Histórico Nacional

Access to the map collection is made possible by consulting Pilar León Tello, Mapas, planos y dibujos de la Sección del Estado del Archivo Histórico Nacional (Madrid 1979, second edition). Section III concerns America. There are a considerable number of Pacific Coast
maps listed, but none of them date from as late as 1796.

A physical search was made in the most important and interesting legajos as follows:

Estado 4287 - Contains much on the Pacific Coast, concentrating on Nootka, San Blas, and California in the years 1790, 1791, 1792, and 1793.

Estado 4288 - Is concerned primarily with the expedition of the Spanish sloops Sutil and Mexicana which visited the California Coast after their circumnavigation of Vancouver Island in 1792. Has considerable material on California but there is none on San Diego.

Estado 4289 - Is about the Pacific Coast and Nootka, but is all before 1796. Much concerns the visit of the Count of La Péruse in 1786, and contains a number of autographed originals from California.

Estado 4290 - Among other things it has much material about California in 1795 and 1796, as well as on other areas of the Borderlands. It contains the materials which I use below in the following report concerning preparations for establishment of the three batteries.

Estado 4291(1) - Concerns mostly the background for the Nootka crisis including some historic summaries of explorations along the coast.

Estado 4291(2) - a slim legajo containing more diplomatic exchange over Nootka.

Preparing for the New Batteries

Preparations for new batteries involve the plans for strengthening of California defenses. The matter is clearly tied in to the degeneration of the Spanish position at Nootka, as well as with the visits of Vancouver to California where he could clearly see the weakness of its defense. The existing presidios were really Indian control institutions, and none of them commanded the nearby ocean. The proposed new batteries were designed for coastal defense and it is the existence of these batteries which set the California presidios apart from most of those of the Spanish Borderlands. It is highly unlikely that the presidios would have been attacked by any enemies, since they could easily have been bypassed in case of hostilities. Nevertheless, a nearby ocean-oriented battery manned by trained personnel would have made attack somewhat harder, though all high officials still realized that such batteries would only provide a token defense.

The Guijarros battery scenario starts with Juan Francisco de la Bodega y Quadra's determination in 1792 to fortify Monterey before the arrival of British Captain George Vancouver, who Bodega was under obligation to help with logistic aid. [Bodega to Conde de Revilla Gigedo, 24 October 1792] "Con este motivo [help for Vancouver] entre en él [the Port of Monterey] y viendo lo indefenso del fondeadero por la distancia del Presidio, he dispuesto formar una batería de ocho cañones de buen calibre en La Punta Quemada que sirva de seguridad a los buques y cause algún respeto, lo que noticé a V.E. para su superior inteligencia."

[With this purpose (help for Vancouver) I entered it (the Port of Monterey) and seeing the defenseless anchorage because of the distance of the Presidio, I have arranged for the building of a battery with eight (8) cannons of good caliber in La Punta Quemada to serve as security to the ships and to show defense strength, of which I notify to Your Excellency for your superior intelligence.]
The guns installed at Bodega’s hastily constructed battery at Monterey were taken off his vessels. [Revilla Gigedo to Conde de a Randa, Mexico, 30 November 1792 in AHN, Estado 4290]. On 20 November 1792 Revilla Gigedo wrote twice to the Conde de Aranda in Spain concerning the proposed batteries. "Me parece fundado el pensamiento de fortificar los puertos de San Francisco, Monterrey y San Diego en Californias poniéndolos en estado de una regular y repetible defensa, por que son muy buenos ye especialmente los de San Diego y San Francisco."

[I find sound your thought of strengthening the defense of the fortifications in the ports of San Francisco, Monterey and San Diego in the Californias bringing them to a state of a regular and respectable defense, because they are good, especially those in San Diego and San Francisco... Therefore I believe that these ports ought to be fortified even though this new expense is increased.]

This was to be done as a protection against foreign invasion of "our rich provinces" of Sonora and Nueva Vizcaya: "Considero pues que deven fortificarse dichos puertos aunque se aumente este nuevo gasto."

In the second letter the Viceroy [Revilla Gigedo] points out the poor situation as of that date. "Los Puertos de San Diego, Monterrey, y San Francisco en la Nueva o Alta California, no tienen otras defensas para resistir invasiones de potencias extranjeras, que las inútiles de sus presidios."

[The ports of San Diego, Monterey and San Francisco in the New or Alta California, do not have other defenses to resist foreign invasions, other than the useless Presidio defenses.]

Among the ideas that he was mulling over was: "Además de estas providencias interinas, pienso tomar la de remitir a Californias uno de los mejores Ingenieros de la dotación de este rey, [Beside these interim measures, I am planning to send to California one of the best Engineers of the group in our Kingdom (of New Spain)] but he does not specify whom. He also mentioned his determination to put the presidial companies on a new footing with the addition of artillerymen and other troops.

In a letter of 30 November 1792 cited above, Viceroy Revilla Gigedo told the Conde de Aranda: "También he pasado orden a Don Juan Francisco de la Bodega y Quadra a fin de que instruya con claridad y distinción lo que se le ofreciere y pareciere acerca de las obras con que puedan y deban fortificarse regularmente los indicados puertos [de San Francisco, Monterrey, y San Diego] expresando por cálculos prudentes los gastos que podrán ocasionarse, ejecutándose con la mayor posible economía."

[Also I have given orders to Juan Francisco de la Bodega y Quadra to instruct with clarity and distinction whatever he feels and thinks is necessary about the works that are needed and ought to be done to fortify the indicated ports (the San Francisco, Monterey and San Diego) and express his prudent calculations of expenses that could be incurred, executing them in the most economical way possible.]

The actual job of establishing the fortifications was going to be left to the new governor, the replacement for the recently deceased Jose Antonio Romeu. This meant that the incoming governor, Diego de Borica, was to have the task, assisted by the Engineer who would be sent to aid in implementation of the plan [Viceroy Branciforte to Duque de Alcudia, 43 July 1795 in AHN, Estado 4290].

Even the proposed occupation of Bodega [really Tomales] Bay was being tied into the new defense scheme, but
it proved to be a poorly considered sub-plan, and after an abortive attempt at occupation in 1793, that project was scrubbed.

On 28 November 1793 the three Vancouver expedition vessels arrived in San Diego according to Antonio Grajera, commandant of the San Diego Presidio, who advised Viceroy Revilla Gigedo of the fact on 11 December. Vancouver was tracing the coast and stopping at interesting points. He spent from 28 November to 7 December 1793 at San Diego on the pretext of lack of wood and water.

The narrative thread continues chronologically, but the documentary sequence takes us to the Biblioteca Nacional where access to the manuscript holdings is had via Julián Paz, Catálogo de Manuscritos de América existentes en la Biblioteca Nacional (Madrid, 1933). A new publication covering the Biblioteca's holdings is pending, but will not appear for several years. A very promising lead resulted in the following documentation in Manuscrito 19266, a volume of 276 ff (552 pp) containing among many other things "Informe del Señor D. Miguel Costansó al Exmo. Senor Virrey Marqués de Branciforte sobre el proyecto de fortificar los presidios de la Nueva California" [Costansó to Branciforte, 17 October 1794].

Report of Mr. Miguel Costansó to his Excellency Viceroy Marquis of Branciforte about the Presidio fortification projects of New California . . . the principal purpose was to contribute to the reduction of the numerous gentile population of those regions to civil life and christianity . . . a few simple Batteries of eight (8) cannon of twelve (12) pounds projectile (caliber), whose parapets are supposed to be constructed of dirt faced with adobes, which have been proposed to defend the entrance of the ports of San Diego, Monterey and San Francisco which will cost, in the prudent judgment of experienced and knowledgeable people, around eight thousand pesos each.

In it Costansó states that the troop has a "primordial destino que fue de contribuir a la reducción de la numerosa gentilidad de aquellos regiones a vida civil y cristiana..." He expresses a need to send craftsmen and those versed in building. He continues by stating the need to construct "unas simples Baterías de ocho canones de a 12 libras de bala, cuyos parapetos se suponen construidos de tierra revesidos de adobes, cuales se han propuesto para defender la entrada de los Puertos de San Diego, Monterey y San Francisco [que] tendrán de costa, a un prudente juicio de sujetos prácticos y inteligentes al pie de ocho mil pesos cada una." In addition, there would be the cost of manning the battery by artillerymen.

Action needed to be taken because of various perceived threats - Englishmen who were very motivated and had proven capability in colonization and exploitation; the Russians whom Costansó believed to be a much more remote threat. The immediate need was to occupy Upper California more fully. Colonists for that purpose and other persons should be sent on the San Blas vessels. Costansó also added the possibility of use of the galleon coming from Cavite, which could bring retired soldiers who would leave the Philippines and come to California to live. In California, they would receive parcels of land and would add to the population. In stopping, the galleon crew and passengers would find refreshment; commerce with California would be built up; and shipping of a local nature would be encouraged.

This report was followed some months later by a "Consulta de D. Pablo Sánchez, D. Salvador Fidalgo y D. Miguel Costansó hecha al Exmo. Sr.
Virrey Marqués de Branciforte sobre los auxilios que S.E. se proponía embiar a la California.

[Recommendation of Pablo Sanchez, Salvador Fidalgo and Miguel Costanso made for his Excellency Viceroy Marquis de Branciforte about the assistance that His Excellency was proposing to send to California.]

It is dated Mexico, 13 July 1795 and is similar to, but not totally repetitive of the Archivo Histórico Nacional document written two days later (see next section).

"Exmo Señor: Los auxilios que V.E. se propone embiar a la California Alta, de gente, artillería y pertrechos con la mira de poner a cubierto aquella tierra de invasión o insultos de enemigos, es empresa dificultosa y ardua, si se entiende a la escasez de los medios que pueden emplearse, a la dilatada extensión de las costas de dicha provincia, a su gran distancia de esta capital [Mexico City] y a los costos que prepara semejante expedición en tiempo tan crítico y calamitoso como el presente."

[Your Excellency: The assistance that Your Excellency is proposing to send to Alta California, people, artillery and supplies for the purpose of defending that land from invasion or attack of enemies, is a difficult and arduous enterprise, if you take into account the scarcity of means that can be used, and the broad extension of the coasts of this province, and great distance from this capital (Mexico City) and the costs that will have to be prepared for such expedition in these critical and calamitous times as the present.]

The scarcity of means was principally the result of the almost complete lack of a navy on the Pacific. There were only three small vessels, not very good for transport of troops; to wit, a paquebot, a goleta, and a bergatín (though the names of these vessels are not specified in the document).

They pointed out that the coast is so extended that thought could be given only to defense of the principal points. Mention is made of the fact that the San Francisco battery had been built by the commanders of the Nootka vessels. For this reason it might not serve as a prototype for the other two. Also since the Monterey battery was commenced by Bodega, it may also have been quite different from the one finally built at Point Guijarros.

Up to that date: "nada ha hecho en el Puerto de San Diego donde conviene igualmente situar otra batería sobre la punta llamada de Guijarros inmediata a la entrada con ocho cañones de a doce, pero como la referida punta es rasa y pueden ofrecerse algunas dificultades en la fábrica de esta batería, que en San Diego hai falta de materiales y en particular de maderas, han de tener aquí las obras algún mayor costo del que tendrían si las circunstancias fuesen menos desfavorables."

[Nothing has been done in the San Diego Port where it is suitable to place another battery on the point called de Guijarros next to the entrance of the bay with eight twelve pounder cannons, but since the referred point is flat this can cause some difficulties in the construction of this battery, since in San Diego there is need for materials, in particular wood, the cost of the work will be somewhat higher than if the circumstances were less unfavorable.]

This is the only indication that Guijarros would be more expensive than either of the other batteries.

The proposed batteries would only cover the nearby establishments from a "golpe de mano" by some corsair. Otherwise, if there were to be a more extensive military engagement, it would be essential to retreat into the interior for the sake of safety.

Some of the weakness, even with
the establishment of the proposed batteries, was indicated. "Si las baterías propuestas hubiesen de hacer uso de toda la artillería a la par, necesitarían al menos 8 hombres para el servicio de cada pieza, y contáríamos ciento y sesenta [160] soldados para su manejo, pero puede reducirse esta número a la mitad, proporcionado la defensa al ataque y a las fuerzas del corsario, según nuestra suposición; y consiguientemente a esta podrían embararse treinta y dos hombres al Puerto de San Francisco, treinta y dos al de San Diego y diez y seis a Monterey."

[The greatest care should be taken to see that all have good habits, robustness and aptitude for hard work, keeping in mind that they will not only dedicate themselves to handling the artillery, (this would be the same as assigning them to live in idleness) but that they are to be employed the same way as any other soldier of the presidial companies of the Province, this being the most appropriate conduct for the best service to the King, and to the general good of the Province.]

A final recommendation was made by the three experts: "We consider it essential that two vessels from [the Naval Department of] San Blas be always used in reconnoitering the coasts of New California.

This is the end of treatment of the defense of California in the manuscript section of the Biblioteca Nacional. The narrative of events is followed by returning to the Archivo Historico Nacional, Estado 4290.

Back to the Archivo Historico Nacional

Two days later, in a somewhat similar report, the same three men, Pablo Sánchez, Salvador Fidalgo, and Miguel Costansó, expressed their collective opinion to the Viceroy. It is of some importance to know why the Viceroy asked and heeded the advice of these three men. Pablo Sánchez was Commander of Artillery for New Spain; Fidalgo was a senior naval officer who had been at Nootka, California, and San Blas; and Costansó was a senior member of the Royal Corps of Engineers of New Spain and had been with the founding expedition of establishment of California in 1769.

Some added information included the fact that by the time that San Diego was in the implementation stage, San Francisco had a battery of 12 cannons "situada sobre una eminencia que domina y defiende bien la entrada del puerto."
[Situated on an eminence that dominates and defends well the port entrance.]

Apparently only 8 of the 12 pounders had actually been set up and there was noted a lack of persons who understood their use.

At Monterey, the battery was reported as near the anchorage off Point of Pines and consisted of "8 cañones de hierro del calibre de 8."

[Eight (8) iron cannons of caliber number eight (8).]

As for San Diego: "Nada ha hecho en el Puerto de San Diego donde conviene igualmente situar otra batería sobre la punta llamada de Guijarros inmediata a la entrada con ocho cañones de a doce, construida de tierra y fungina como las anteriores, con un cuerpo de guardia capaz de diez o doce hombres por lo menos, su repuesto de pólvora, de armas, y demás pertrechos que exijen resguardo de fábrica sencilla."

[Nothing has been done in the San Diego Port where it is also suitable to place another battery on the point called the Guijarros immediate to the entrance of the bay with twelve twelve pounder cannons, constructed with dirt and functioning the same as the former, with a proper guard post of at least ten (10) or twelve (12) men, its stock room for gunpowder, armories, and other supplies that need shelter, it should be made of simple construction.]

This is clear evidence that a second building for storage was intended.

It was reiterated that if such places were overpowered or bypassed by the enemy, a general withdrawal of livestock and personal property into the interior would be necessary. Other ideas treated in this report were those of sending Catalanian Volunteers who were then at Perote to garrison California; the sending of an engineer to aid in development of the province; and the designating of two San Blas vessels to be used exclusively in patrolling the coast.

The idea of sending the Catalans found implementation in "Ordenes para el apronto de la Compañía de Voluntarios de Cataluña y pequeño destacamento de artilleros,"

[Orders to make ready the Compañía de Voluntarios de Cataluña and small artillery detachment.]

MS, 1795. These troops were to be placed under the command of Lieutenant Colonel Pedro de Alberni, some of whom were to garrison the battery at San Diego.

Viceroy Branciforte had already addressed the question of inadequate defense in a letter written from Mexico City on 3 July 1793 to the Duque of Alcudia. "La falta de defensa que advertio en los presidios de California el Capitán de Navío D. Juan de la Bodega comandante de las expedición de Límites"

[The lack of defense in the California presidios that was noted by Navy Captain Juan de la Bodega, commander of the expedition of the Limits]

required that these presidios be put in the best possible condition. For such purposes, artillery pieces were to be sent from San Blas. Later, Acapulco was added as a source of cannons as well as of munitions.

The proposal made by Branciforte included the increased deployment at San Diego of a captain, a sergeant, and ten men. San Francisco was to have a captain, a sergeant, and eleven men. "Por eso se puso en el expediente en tramites instruyendo con los informes sujetos de provida, y experiencia; ha dado el suyo el comandante de artilleria [of all of New Spain] Brigadier Don Pablo Sánchez para que en lugar de Trincheras se construyan fuertes en cada presidio, formándose una compañía Provincial fija de
artillería, cuya mayor parte reside en Monterey."

"El Ingeniero de segundo Don Miguel Costansó opina que para adelantar, y asegurar aquellas posesiones avanzadas es el mejor arbitrio poblarlas remitiendo familias en tiempos oportunos, abrirles libre comercio con Sonora y demás costas de esta continente y que la Nao de China verifique siempre allí su escalada." "Ultimamente el Governador Don Diego de Borica dando cuenta de haberse concluido el Fuerte de San Francisco con el gasto de seis mil quinientos tres pesos avisa que ha dispuesto como conviene una batería a la boca del Puerto de Monterey con ocho cañones que hallo y concluire sin mayor gasto pidiendo los peltrechos necesarios para ponerla en buen servicio."

[The Engineer, second class, Miguel Costansó is of the opinion that in order to further and secure those advanced possessions the best means is to populate them by sending families at opportune times, to give them open commerce with Sonora and the rest of the coasts of this continent and that the China Vessel always make its landfall there... Lately, Governor Diego de Borica reporting the conclusion of the San Francisco fort with the total expense of six thousand five hundred three pesos (6503) announces that he has decided as appropriate a battery at the mouth (entrance) of Monterey Port with eight (8) cannons that he found and will and conclude without any great expense asking for the necessary supplies to put it to good service.]

A document signed by Pablo Sánchez, Commander of Artillery for New Spain, Mexico, on 27 July 1795 provides the following important information concerning the batteries.

Relación de la Artillería, Armas, Pertrechos y Municiones que deben de remitirse de Acapulco y San Blas a los Presidios de la Nueva California.

[List of Artillery, Arms, Supplies and Ammunitions that should be sent from Acapulco and San Blas to the Presidios in New California]

Para el de San Francisco
[list follows]

[For the one in San Francisco]

Para el Presidio de Monterrey
[list follows]

[For the Presidio of Monterey]

Para el Presidio de San Diego
[For the Presidio of San Diego]

Canones de Bronce de a 12
[12 pounders bronze cannons]

Id. de fierro
[12 pounders iron cannons]

Balas razas
[common bullets]

1000

Cureñas de Plaza o de Marina
[Plaza or Marine gun-carriages]

Juego de armas compuesto de
cuchara, atacador, y lanada
[Arms kit composed of scoop, ram-rod, and swab]

Sacatrapos
[Worm]

Leva herrada
[Large wooden bucket]

1

Medía leva
[Medium wooden bucket]

1

Espeques herrados
[Wooden plugs]

4

Rascador
[Brush]

1

Gato para reconocer los cañones
[Hoist to inspect the cannons]

1
from Viceroy Branciforte to Duque de Alcudia, Mexico, 31 July 1795. It states that Alberni was to be sent with mostly the First Company of Catalanian Volunteers plus some from the Second Company - 72 in total. Also scheduled for deployment in California were to be eighteen artillerymen (one sergeant, three corporals, and fourteen men.) The total reinforcement was thus to be 90 troops. Necessary artillery and munitions were to be sent from both Acapulco and San Blas. As a result, "las nuevas baterías de San Francisco, Monterey, y San Diego, creo que podrán sostener el decoro y respeto de nuestro pavellón, impedir insultos de corsarios extranjeros, y repeler cualquiera que se intente con pequeñas fuerzas, bajo la confianza que se intende con pequeñas fuerzas, bajo la confianza de que son débiles las que hasta ahora han guarnecido nuestra península."

[The new batteries in San Francisco, Monterey and San Diego, I believe that they will sustain the decorum and respect of our flag, preventing attacks of foreign corsairs, and repel whichever intent is made with small forces, under the expectation that up to now those that guard our peninsula (of California) are weak.]

At this point, the correspondence at the higher levels, those which were brought to the attention of the viceroy and the ministers in Spain, no longer is found in any of the archives visited. It hardly seems possible that there was not a final confirmation of these plans being implemented. Where these documents might be housed is treated in the recommendations for further search in the final section.

OTHER AREAS INVESTIGATED

By means of published catalogs which are the means of access the following additional archives were assessed:
Miguel Santiago Rodríguez, *Los Manuscritos del archivo general biblioteca del Ministerio de Asuntos Exteriores* (Madrid, 1974). There were quite a number of items concerning the Pacific Coast including items by Bodega, Abad y La Sierra, Malaspina, etc. One MS of 90ff which had four maps turned out to be of other areas of American Septentrional.

The Real Academia de la Historia is detailed in *Catálogo de la Colección de Juan Bautista Muñoz* in three tomos. Unfortunately, there is no detailed documentation on California in this section. The holdings of the Real Academia are usually of things of considerable importance and yield nothing on a preliminary examination seeking materials about California.

Biblioteca del Palacio [Real], Madrid, Jesús Domínguez Bordona, *Catálogo de la Biblioteca del palacio: Manuscritos de América* (Madrid, 1935). A promising lead from the Biblioteca Nacional turned out to be a long document entitled "Relación de la entrada de San Lorenzo de Nittka [Nootka], formada por los individuos de la expedición que de orden de Carlos III salió en el año 1788 del puerto de San Blas en la fragata Princesa (Geografía, flora, fauna, religión y vocabularios de las lenguas Nut Kena y de Sandwich). 57 ff. It had been cited on the inside cover of Biblioteca Nacional MS 19266 (cited extensively above) as being related to the contents of that volume, to wit: "Vid Biblioteca de Palacio, Miscelánea, signature 2866, tomo 48."

Biblioteca Nacional - a close scrutiny of the catalog done by Julian Paz substantiated my long held opinion that the Biblioteca Nacional has very limited holdings concerning the Spanish Borderlands. There was only slight reason to revise my opinion save for the previously utilized documents in item 19266 which I have incorporated into this report.

Said document is not archivally associated with any other items concerning California or the defense of California. There are some scattered documents among the many holdings that concern New Mexico, Florida, etc. Those dealing with California are from some scattered documents among the many holdings that concern New Mexico, Florida, etc.

Those dealing with California are from a considerably earlier period. There is one document which might be of some interest to San Diego in general: "Diario del viaje que se hizo en la Provincia de California al norte de esta Península por febrero de 1766. Fue jefe de la expedición el Teniente D. Blas Fernández Somera." It seems to have reached San Diego with Vicente Vila commanding, and it would be an extremely close precursor to the Sacred Expedition of 1769. It is located in the same volume (Doc. 19266) as mentioned above on and is on ff. 121-133.

During the period of the American Revolution Bicentennial and under the auspices of the Comité Conjunto Hispano-Norteamericano para Asuntos Educativos y culturales del Tratado de Amistad y Cooperación entre España y los Estados Unidos de América de 24 de Enero de 1976, a major archival effort was instituted. It was the compilation of catalogs of Documentos Relativos a la Independencia de Norteamérica existentes en archivos españoles which has produced to date eleven volumes, representing the Archivo General de Indias (4 vols.); Archivo Histórico Nacional (4 vols.) and Archivo General de Simancas (3 vols.). A perusal of these guides indicates that the areas selected for treatment have had emphasis on areas other than California. Only volume X has any appreciable amount on California, but none of it is on Point Guizarros. Future volumes might be more useful, but those published so far have not shed any light on our project.
RECOMMENDATION FOR FUTURE SEARCH EFFORTS

1) Archivo Museo Don Álvaro de Bazán, El Viso de Marqués. Permission to begin searching was granted, but nobody in authority was going there during my stay in Spain. However, word has been sent to personnel stationed there to be particularly on the lookout for any materials dealing with a battery at Point Loma, Point Guizarros, or Ballast Point in San Diego for any period from 1793 onward. In time, this effort might have 80% certainty of coverage.

2) Archivo General Militar, Segovia. Limiting factor is that the archive is organized as personnel records. Access would be very hard and a matter of luck. Certainty would only be in the 20%-25% range even with unlimited time.

3) Archivo General de Indias. There are no plans to be found in the most likely places - Audiencia de Guadalajara; Audiencia de Mexico. An adequate search using existing guides would take about 3 months with about 75% certainty of coverage.

4) Archivo General de la Nación, Mexico D.F. This is the greatest remaining possibility, an almost unanimous opinion of those questioned. For example, in California there is information that lumber was taken from Monterey to San Diego for carretas, launcha, guard house, casa mata (arsenal) and the esplanade. It would take two months there to reach a level of 60%-70% certainty.

5) British Museum. Based on Zapatero's suggestion, the British Museum might have some material. Documents are of more rapid access. In about 2-3 weeks, a 90% certainty of coverage could be reached.

6) Bancroft Library, University of California. It is known that the Archives of California, transcripts in Bancroft, have scattered materials. For example, on 23 July 1795 Governor Borica wrote to Felipe Goycooechea that since there is no wood at San Diego from which to make carretas in which to carry materials to build the battery of Ft. Guizarros, it is necessary to ship lumber there from Santa Barbara via the supply ship. Goycooechea was to order cut twenty round trunks, all of oak. They were to be stripped and carried to the beach. (Provincial Record 4). Subsequently Borica ordered Goycooechea to have lumber cut for twenty oxen yokes to be shipped on the Aránzazu. On 14 September Goycooechea reported to the governor that the twenty wheel hubs, forty felloes, ten axles and twenty yokes which were ordered for the Presidio of San Diego will be ready.

For satisfactory coverage of Bancroft Library it would take several months of research. The Archives of California have the drawback of being merely early transcripts of documents destroyed in 1906.
A FIELD REPORT ON THE 1989 ARCHAEOLOGICAL SEASON

Ronald V. May
Director of Archaeology

Introduction

As has been reported in earlier archaeology work in the Fort Guajarros Quarterly, work during the 1981, 1982, 1983, and 1987 field seasons was concentrated on the location of the walls of the fort. Lessons learned from the analysis of a sample of the recovered Spanish tiles led to hypotheses about how the wall fit together. Corroborated by Colonel Frank Quillen's translation of Don Pedro de Lucuze's Principios de Fortificacion, Life Member Fred Buchanan has proposed that the walls were far larger than initially believed in 1981. The 1989 Research Design proposed an ambitious plan to excavate a new area of the wall to test Buchanan's hypothesis.

The lessons learned from correlating archaeological data with analogous sites and the Lucuze treatise are many. The 1981 excavation at Field I clearly encountered a portion of a muralla, or banked wall of cobbles on the outer face of the fort. The massive cobble foundation encountered inside the wall has been interpreted to be the countafuera, a key element that supported the massive walls. The merlones, or upper breastworks, are missing and remnants are scattered down the escarpa, which slopes at an angle of less than 45 degrees. The internal alternate layering of cobbles and earth to form the muralla are a detail not described in the literature.

Two major unresolved problems remain. First, precisely how were the merlones constructed and, second, did the escarpa have a tile or cobble muro? The evidence lies in the jumble of fired tile, plaster, and cobbles strewn down the escarpa on those areas of Fort Guajarros buried under the parking surface at the U.S. Naval Submarine Base, San Diego.

ARCHITECTURAL TYPOLOGY

The analysis of 1200 tile and rubble fragments by Buchanan has revealed a number of key elements that might lead to a confident interpretation of how the merlones were constructed and whether or not a muro existed at Fort Guajarros. First, most fired tiles observed in wall and arch construction in the California missions were piled flat atop one another and plastered over the narrow ends. However, those tiles with plaster from Fort Guajarros yield a crude sandy mortar with impressions of cobbles and adobe blocks on one side and finished plaster over a scum coat on the opposite large flat side. This unusual use of large square tiles suggests a vertical facing rather than internal stacking. The question remains as to where these tiles were recovered in relation to one another along the escarpa. Micro-mapping and individual numbering in each unit was not elected as a data recovery strategy in 1981, but would provide relative associations of tile types that might lend to solution of those questions.

The 1987 field experience revealed that the most informative architectural artifacts were those with mortar and plaster attached. Mapping from that year is currently under analysis, but preliminary field observation revealed that enough key pieces were exposed to suggest a gunport or rodillera. The small copper cannonball recovered in Unit 4, Locus VIII in 1981 could support the interpretation. However, excavation south of the line of units under the modern concrete sea wall revealed
that the ocean had substantially eroded the wall architecture. This new information revealed that the cross-section and wall artifacts are insufficient to draw conclusions concerning the actual shape of the walls of Fort Guijarros. At the close of the 1987 season, plans were made to excavate in an area north of Field I. Designated Field VIII, this new area was marked on the field map in direct line with the foundation core revealed in Field I and would include a complete new section of the wall (Figure 2).

THE FIELD STRATEGY

The proposal for resolving the problem of how the muralla, escarpa, and merlones were constructed required opening Field VIII and exposing Locus VIII in a new cross-section. The section will be analyzed against drawings made in 1981. Additionally, the same method of micro-mapping tile fragments as done in 1987 will be conducted in this new area. A similar grid of units would be measured out over Field VIII in order to control the mapping. Using the architectural typology devised by Fred Buchanan, each unit would be accurately drawn and photographed with each piece coded according to architectural stages in the construction process. Those pieces with plaster, mortar, edge-grinding, unusual shapes, or having as yet unidentified key traits would be carefully examined and may be individually photographed. After this field analysis, the architectural pieces would be returned to their place on the wall. Exceptions would be unique architectural pieces bonded with plaster and mortar or modified in some way that would reveal how the wall had at one time been articulated. In order to determine if the escarpa had a muro of cobble or tile facing, portions of the units will be opened and all soil screened in 1/8 inch wire mesh.

The strategy to implement this research design will not require removal of most architectural remains from the site, but rather a well-planned exposure and recording procedure, the exception being those few articulated tile and mortar masses that would necessitate laboratory analysis in order to key the architecture to the principles of fortification. Two primary goals would be achieved in this process. First the precise micro-mapped in situ relationship of each type of architecture can be correlated to location from top to bottom of the escarpa. Second, exposure of the escapa under the rubble would reveal if it was a muro of cobble and tile.

Figure 1. Excavation cross section.
FIELD STRATEGIES

The strategy for testing the hypotheses and models provided in this research design requires continuing the excavation of the units and balks in Field VIII (Figure 2). This proposal has been approved by Captain Bob Mitchell, Commanding Officer, U.S. Naval Submarine Base. The area measures five by eighteen meters in size, is bounded by concrete traffic barriers, and is fenced with chainlink. Once the 1989 field season came to a close, it was protected in order to resume work in 1990. All the partially excavated units have been sealed with wood shoring and 4 mil thick plastic to protect the site from winter and spring 1990 rains.

A grid layout of two meter squares with 1 meter balks and unit numbers assigned from one (1) to thirty-six (36) are displayed in Figure 2. Excavation has been in natural stratigraphic layers keyed to the strata/loci numbers devised in the Field I, II and III excavations. All loosened soil has been sifted in 1/8 inch mesh screens and all cultural material recovered for cleaning, cataloging, and analysis. Photographs of all encountered features and wall strata have been recorded, sketches drawn of the balk walls, and plan studies have been drawn and photographed of key artifacts in situ, and soil or other samples taken as appropriate.

Above the wall remains, stratified layers from the 1902 to 1924 era the U.S. Army Fort Rosecrans era and 1858 to 1873 whalers' era were encountered. The strata containing Fort Rosecrans and whaling materials have been treated in much the same manner. Both were troweled, screened, and keyed to the strata. However, the architecture of the fort walls will be treated as one large feature exposure. This method would shift to that implemented in 1981 and 1987, which entailed micro-mapping the types of tiles with a series of overlapping sketches. Soil between the tiles would be sifted for artifacts that would date the deposition of the tiles. Key tiles mortared and plastered would be studied to place the puzzle of the wall on paper.

Figure 1 illustrates the north wall cross-section of units 1, 3, 5, 7, 9, 10, 11, 12, and 14. Units 1 through 9 revealed significant Spanish wall architecture. Whalers' deposition appeared only in units 1 and 3. Fort Rosecrans material spanned units 1 through 12, but were most extensive in Units 1 and 3. Of particular interest are features...

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Figure 1. (continued)
revealed in units 1 and 3, units 3 to 9, and units 9 to 12, which appear to be of the 1860s.

Spanish Wall. Figure 2 illustrates that the wall foundation in units 5, 29, and 31 crosses Field VIII in a northeast/southwest trend much as had been found in Fields I and III. However, on the west side of the foundation, a pavement of uneven cobbles extended from the west edge of the foundation seven meters to the west wall of unit 9. The question now is whether this is a support layer for the deck that held the cannons or were the merlones actually over seven meters wide? Further excavation is needed to address this key problem.

Whaler's Camp. Two unusual features in the 1989 Field VIII excavations are attributed to the Yankee whalers. First, from units 3 to 1, the loci did not fall in a gentle and thickening shell midden rich in whale bones and domestic debris as had been found in 1981. Only a few whalers' artifacts in locus 4A of unit 3 correlated to locus 4A and subsequent loci 4B, C, and D of unit 1. More interesting is the thin lens of 4A in unit 3 and nearly one meter of deposit one meter east in unit 1. Rather than shell midden, these broad sand loci yielded little in artifacts or food bone.

The other unusual feature is a cobble and artifact-rich lens in units 9 through 12. This latter feature keys to a 1896 U.S. Army Corps of Engineers map marking a whaler's blacksmith shop. Careful micro-mapping of each artifact within the locus 2A lens of units 11 and 12 and locus 1D of unit 10 slowed the excavation and prevented complete exposure of this feature.

Under locus 2A is a uniform, if jumbled, layer of large cobbles. Voids among the deeper cobbles suggest these cobbles to have been a fallen wall. Since the feature corresponds to the blacksmith shop, it is hypothesized that the U.S. Army pushed over the shop and tumbled the cobbles. Another hypothesis is that this will prove to have been the foundry or forge.

Consultation with Lester Ross of the Riverside City Museum has revealed that late 19th century blacksmith shops are of immense interest to individual archaeologists. The technology in iron-making in that period of the Industrial Revolution changed so rapidly that standard formulae for solving breakage problems failed and change in the shops to solve the problems is poorly understood. Ross has proposed several innovative techniques for predicting the location of work areas within the shop, including chemical analysis of the soil to test for iron filings and welding splatter. More on this research proposal will be reported prior to commencing the 1990 field season.

Fort Rosecrans. In loci 3A and 3B of unit 1, positive evidence of a burned building was dated by a 1916 U.S. ten cent piece. The use of a vacuum cleaner to gently remove the loamy sand revealed structural elements associated with charred "ghosts" of boards and lines of wire iron nails. This burned feature correlates with artifacts found in Fields I and III that were burned and melted and dated from 1902 to 1924. This corresponds to the period when the Coast Artillery occupied Ballast Point before being transferred during the caretaker status in that latter year. The array of personal as well as standard military issue items will prove to be a valuable data set for researching the social history of soldiers in that period.

The Field Laboratory. On-going analysis of the artifact and tile collection from previous years and 1989 will continue at the new Laboratory at Building 127, which is a 1915 structure from Fort Rosecrans. Specialists continue to measure, classify, and quantify bone, ceramic, metal, leather, and other materials on the laboratory tables. Also
Figure 1. Map of excavation site.
located in the laboratory is a coded series of tile, mortar, and plaster samples that form the type collection to be used in the micro-mapping at Field I. These reference samples have code numbers that reflect the stages in construction in the architecture of the fort.

Since shutting down the dig in October, 1989 all the artifacts from units 1, 3, 5, 7 and half of 9 have been catalogued and analyzed. The Foundation purchased a digital scale to assist in this process. At this time, over 1300 catalogue entries have been documented. Reports on this work will be published in future issues of the Fort Gujjaros Quarterly.

MEMBERSHIP REPORT

Michael Nabholz
Membership Chair

Thank you again to the following who joined the Foundation or renewed their memberships as of May 8, 1990 (new members are indicated by *):

Individual
Regla A. Dee
Catherine H. Evans *
Elizabeth Roe Schlappi

Corporal of the Guard
Jim Elwell Martinez

Photograph of the 1989 excavation looking towards Cabrillo National Monument. Units 1, 3, 5, 7, and 9 extend from bottom to top of photo.