Final Archaeological Resources Report
300 Spear Street Project
San Francisco, California

PREPARED BY:

WILLIAM SELF ASSOCIATES, INC.
ORINDA, CALIFORNIA

May 2007

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Final Report

Prepared for

Major Environmental Analysis,
Planning Department,
City and County of San Francisco

On behalf of

Tishman Speyer

Prepared by:

Eric Strother, Allen Estes, Aimee Arrigoni,
James M. Allan and William Self

With Contributions from James Delgado

Illustrations by Angela Cook and Thomas Young

GIS Analysis and Maps by Nazih Fino

May 2007

Cover photo: Stern of the *Candace*

ACKNOWLEDGEMENTS

The 300 Spear Street Project ranks as one of the most significant archaeological investigations in the City of San Francisco's history. Unique among other major archaeological projects that have been conducted in the City, the 300 Spear Street project provided a tangible and highly diverse glimpse into San Francisco's history, from the early days of the Gold Rush through the development of the modern South of Market neighborhood.

Beginning with the preliminary discussion with Tishman Speyer through the completion of field work, our goal was to coordinate the archaeological requirements of the project with construction to avoid unnecessary delays, while maximizing the recovery of information on the historic features anticipated being present on the project site. This naturally involved coordination among many individuals, including project directors, engineers, construction management, project architects, and the archaeologists. The successful completion of this project is a result of those efforts, and the contributions of these many individuals should be recognized. Many thanks to the following individuals.

From an archaeological perspective, the 300 Spear Street Project had the unique advantage of a project sponsor that recognized the importance and significance of the historic information that was encountered as project excavations unfolded. Artfully balancing the financial and construction constraints of the project with the responsibility of recovering for posterity the irreplaceable historic information buried on the site, Tishman Speyer far exceeded the norms of good corporate citizenship, and has provided an example to which, hopefully, future developments will refer.

Ross Asselstine, Project Manager for Tishman Speyer, provided the impetus for much of what we were able to accomplish. His inimitable approach to solving problems in the field, resolving potential conflicts between construction schedules and the needs of the archaeologists, and his oversight and determination in addressing the unique issues surrounding the discovery of a ship buried in the middle of the project area were invaluable, and for that we are very grateful. From the very beginning of the project, Drew Sullins, Sandy Reek, and Chuck Wright of Tishman Speyer provided support and an interest in the archaeological process that were both appreciated and highly beneficial in the completion of our work.

Many of the Webcor and Ryan Engineering construction personnel assisted in making our work on the project flow smoothly. The equipment operators from Ryan went out of their way to assist us with the work, and the assistance and direction provided by Jim Ryan was especially helpful. Jim Romero and Jim Aarhus of Webcor were unfailingly

helpful in every situation we encountered. Seldom have we had the pleasure of working with such supportive and interested construction supervisors.

Experts from the San Francisco Maritime National Historical Park were very gracious with their time and advice regarding the recovery and disposition of the ship and ship parts encountered during project excavations. Steve Canright, Curator of Collections and Dave Casebolt, Conservator, are always welcome additions to any project site, and in the 300 Spear Street project, were particularly helpful in assisting with the identification of the ship and the conservation of the hull.

We were particularly fortunate to have the wisdom and insight of our friend Dr. James P. Delgado, then Director of the Vancouver Maritime Museum, to identify the remains of the buried ship as those of the *Candace.* Few are more knowledgeable about California's Gold Rush-era maritime history than Jim, and there is no one more qualified to have undertaken such a task. It was one of the great educational experiences working with him, and we look forward to doing so again on other projects.

A special debt of gratitude is owed to Gil Castle and Jerome Dodson, then Executive Director and President, respectively, of the San Francisco Museum and Historical Society, for having the vision to see the potential in accepting the remains of the *Candace* for inclusion in the collection of the future Museum of San Francisco.

Many WSA staff members worked on the project over the five months we were in the field. During that period, over 4,600 person-hours were spent on the archaeological aspects of the project. Field archaeologists and archaeological monitors included David Buckley, Angela Cook, Nazih Fino, Christopher Hilgers, Kyle Kearney, Amanda Maples, Leigh Martin, Connie Moreno, Jenni Price, Trevor Self, Cory Stevenson, Tom Young, and McGhie Allan. Many thanks for their tireless efforts and good humor while digging through the mud.

Dr. Allen Estes directed all field efforts during the Phase 1 pre-construction testing and data recovery program with his usual high-level of competence and efficiency, and oversaw the preparation of the project's Archaeological Testing Report, which formed the basis of the subsequent monitoring and data recovery program that was implemented during construction. Aimee Arrigoni served as project historian, providing valuable insights into the past uses of the project site that helped explain much of what was encountered during project excavations. In addition, Aimee worked as a field archaeologist and when called upon, graciously stepped into the role of temporary project manager when the need arose. She is also responsible for directing the artifact analysis and photography that enhances this report. A special thanks to Allen and Aimee for their fine work on this project. In addition to their excellent field work, Angela Cook and Tom

Young undertook the task of preparing the graphics for this report, which add immeasurably to its ability to convey what we encountered on the site. We owe a particular debt of gratitude to Angela for the care and artistic flair she brought to the design and preparation of the ship parts illustrations, which are beautiful, accurate, and informative.

Eric Strother served as Project Manager, generously stepping into this role when Dr. Estes' research responsibilities took him out of the country. From the beginning of the project's mass excavation, Eric supervised all aspects of the archaeological work conducted on the site, from construction monitoring, to excavations of the numerous archaeological features that were encountered, to data recovery, and documentation. He is also the principal author of this report. Despite the difficulty of conducting these tasks under the scheduling constraints inherent in such a large construction project, Eric was unfailingly of good humor and managed to keep his crew in a similar state of mind. His professional and careful handling of every aspect of the archaeology conducted on behalf of the project was exemplary, and is one of the principal reasons we can look back at the successful completion of this project with pride and a sense of a job well done. Thanks, Eric.

James M. Allan, Ph.D.
WSA Principal

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APPENDICES

1.0 INTRODUCTION

In compliance with the City and County of San Francisco Planning Department's (CCSFPD) Mitigation Measure IV-7 (WSA 2005a), and on behalf of Tishman Speyer (TS), William Self Associates, Inc. (WSA) conducted preconstruction archaeological testing, data recovery, and construction monitoring for the 300 Spear Street project in San Francisco, CA during the period March 2005 to October 2005. During these investigations, approximately 4,300 artifacts were recovered and 40 intact features were excavated and subject to archaeological data recovery, including the remains of a Gold Rush era ship breaking yard and the hull of an early 19th century whaling ship. This Final Archaeological Resources Report presents a discussion of the history of the project area, the methodology and results of the archaeological investigations and monitoring, and an analysis and interpretation of the archaeological data recovered as a result of those efforts. This report has been prepared pursuant to the archaeological mitigation measure contained in the Final Environmental Impact Report for the 300 Spear Street Project (CCSF 2003).

Photos and tables referenced in the text are embedded in the text proper. Figures and artifact photos are presented in their respective sections at the end of the report, following the Reference section.

1.1 Project Description and Location

Tishman Speyer (TS), the sponsor of the 300 Spear Street Project, is constructing two multistory towers that incorporate a five-level, subterranean parking garage in the South of Market area of San Francisco, California. The project area is located in the northwest half of the city block bounded by Spear Street on the northeast, Harrison Street on the southeast, Main Street on the southwest, and Folsom Street on the northwest (Figures 1-3). It is situated in Township 2S, Range 5W, in unsectioned land as depicted on the San Francisco North, California 7.5-minute USGS topographic quadrangle map. Project excavations are planned to reach depths in excess of 60 feet below present ground surface.

To mitigate the destruction of buried cultural deposits during project excavations, WSA developed and carried out an Archaeological Testing Program (ATP) and subsequent Archaeological Monitoring and Data Recovery Program (AMDRP) on behalf of TS in compliance with the project's mitigation measures. The ATP was based in part on the historical context statement and research design prepared for the project by Archeo-Tec (Pastron et al. 2004) that was incorporated into the *Final Historical Context Statement, Archaeological Research Design and Archaeological Testing Program for the 300 Spear Street Project, March 2005* (WSA 2005a). In March 2005, the City and County of San

Francisco's Major Environmental Analysis Department (MEA) approved the *Final Historical Context Statement, Archaeological Research Design and Archaeological Testing Program for the 300 Spear Street Project, March 2005*, which combined focused archaeological testing and construction monitoring.

Fieldwork for the ATP began on March 28, 2005 and ended April 7, 2005. A crew of six WSA archaeologists under the direction of Project Manager Dr. Allen Estes conducted the fieldwork associated with the ATP. This included controlled excavations and data recovery in the northwest corner of the project area, placement of a series of auger bores in the southeastern half of the project area, excavation of a series of exploratory trenches, the locations of which were determined by auger bore discoveries, and archaeological monitoring of the excavation of a trench around the perimeter of the project site (referred to hereinafter as the perimeter trench) and the excavation of several potholes dug in search of buried utilities in the project area (Figure 4).

Over 21 historic features were discovered during the ATP, as were numerous diagnostic historic artifacts from several identifiable proveniences. At the conclusion of the ATP, WSA prepared a summary report of the findings that provided a basis for development of the project's AMDRP, as required under the project's mitigation measures.

Implementation of the AMDRP commenced in July, 2005 under the direction of WSA Principal Investigator Dr. James Allan. WSA Senior Archaeologist Eric Strother served as Project Manager. Nineteen historic features as well as numerous diagnostic artifacts were documented during the AMDRP. This report comprises a description of the archaeological approaches implemented during project excavations and a discussion of the results of those efforts.

1.2 Construction Methodology

The project consists of the construction of five levels of sub-grade parking under an at-grade, two-level retail and amenities podium. Four multi-story condominium towers will rise from this podium; one of eight stories, one of nine, one of 37 and one of 41 stories. The completed development will include more than 600 condominiums, with retail outlets on the Folsom Street frontage. A dedicated health club will be located under the central plaza. A central courtyard will be accessible from Spear and Main streets.

The completed building will have a concrete structural frame founded on bedrock. The structural façade will be a curtainwall system in a curvilinear plan. Shoring of project excavations will use soil nails and shotcrete walls around the perimeter. The foundation system will include a concrete mat varying in thickness from 4 to 14 feet; the deeper sections being under the two taller tower buildings.

2.0 PROJECT SETTING

2.1 Environmental Setting

The project area is located in a highly urbanized environment immediately adjacent to San Francisco Bay. The San Francisco Bay is located within the Coast Ranges Geomorphic Province of California, which is characterized by a system of northwest-southeast trending longitudinal mountain ranges and valleys that are controlled by faulting and folding (Humboldt State University n.d.). These mountain ranges and the valley in which the San Francisco Bay resides probably began to form two to three million years ago. It is postulated that there were seven different estuarine periods over the last half million years corresponding to times of high sea level during interglacial periods (Atwater et a1. 1977; Sloan 1989).

After millions of years of seismic and volcanic episodes, the general topographic landscape of the Bay Area was formed. More than 12,000 years ago the San Francisco Bay was a vast valley with deep rivers and streams cut into the then dry earth. During that time, the Pacific Ocean shoreline was near the Farallon Islands, approximately 43 miles west of the Golden Gate. During the transition period between the Pleistocene and Holocene epochs, from approximately 12,000 to 6,000 years ago, a warming climate caused glacial melting and effectively led to an overall rise in sea levels around the world. Sea levels rose 25-30 meters between roughly 10,000 and 8,000 years ago, forming most of the present San Francisco Bay Estuary, and marking the end of the Wisconsin Glaciation, the last major glaciation of the Pleistocene. The rate of sea-level rise in the San Francisco Bay decelerated dramatically between about 8000 - 6000 years B.P. (Before Present) (Atwater 1979; Atwater et al. 1977; Stanley and Warne 1994; Wells 1995; Wells and Gorman 1994). At about 6000 B.P. an abnormally warm, dry Altithermal period began and lasted until approximately 3,000 years ago, causing further glacial melting. Following the Altithermal Period, cool and moist conditions persisted until 1500 B.P. An intense warm and dry period extended from 1500 to 600 years B.P. (Moratto, King, and Wolfenden 1978:151). Conditions returned to a cool and moist period from approximately 600 years B.P. until roughly 100 years ago, at which time California's climate again reverted to the warm and dry conditions that persist today (Atwater et a1. 1977; Sloan 1989).

Geology, Flora and Fauna

Approximately 200 million years ago, the Pacific Ocean floor was subducted beneath the western edge of the North American Plate. The distinctive rocks of the Franciscan Complex formed in this subduction. The Franciscan Complex rocks form the basement for the Coast Ranges east of the San Andreas Fault. The Franciscan Complex primarily

consists of greywacke, sandstone and argillite but also contains smaller amounts of greenstone, radiolarian ribbon chert, limestone, serpentine and a variety of high-grade metamorphic rocks. Franciscan rocks in the Bay Area range in age from about 200 million to 80 million years (Humboldt State University n.d.).

Holocene sand dunes mantle the Franciscan Complex in much of the Bay Area. The dunes are composed of sand that probably originated on the broad coastal plain of the Sacramento/San Joaquin River System. The dunes, constantly shifting and in different phases of ecological succession, produced complex sandy habitats that once supported an array of many different plant and animal species (Humboldt State University n.d.).

Prior to the filling and grading activities of the mid-to-late 19th century, much of San Francisco was covered with a series of these undulating, chaparral-covered sand hills. There is little archival information concerning specific types of native vegetation that existed within the research area at that time; however, historic photographs, drawings and early written accounts of San Francisco confirm that the vegetation, in all likelihood, consisted of the same varieties of flora found throughout most of the northern San Francisco peninsula - mainly grasses, scrub brush and an occasional stand of oak trees or willows (e.g., Davis 1889:76).

Early European explorers marveled at the rich environment of the San Francisco Bay region. Many early writers commented upon the seemingly inexhaustible numbers of both marine and terrestrial mammals, fish, shellfish and waterfowl (e.g., Crespi 1927; La Perouse 1794). For example in 1833, as presented in Camp (1966:123), George C. Yount offered a typically glowing appraisal of the unparalleled bounty of San Francisco Bay and its surroundings:

> ...animals were numerous beyond all parallel - In herds of many hundreds they might be met, so tame that they would merely remove [themselves] to open a way for the traveler to pass - They were lying or grazing in immense herds on the sunny side of every hill, and their young like lambs, were frolicking in all directions – The wild geese and every species of waterfowl darkened the surface of every bay and firth, and upon the land, in flocks of millions they wandered in quest of insects & cropping the wild oats which grew there in richest abundance - When disturbed. . .the sound of their wings was like that of distant thunder - The rivers were literally crowded with salmon. . . It was literally a land of plenty - and such climate as no other land upon the face of the earth can boast of. . .

This abundance of natural resources supported a thriving Native American population for thousands of years prior to the arrival of the first Anglo-American immigrants (Chartkoff and Chartkoff 1984; Kroeber 1925; Levy 1978; Moratto 1984). The geologic deposits of the Bay Area also furnished an abundance of rock and mineral materials that were

utilized by the prehistoric inhabitants. The siliceous minerals of the Franciscan formation, such as chert and chalcedony, were traded with people living to the north. Many of the geologic resources of the Bay Area were traded between various indigenous groups.

2.2 Cultural Setting

Prehistory

Research into local prehistoric cultures began with the work of N. C. Nelson of the University of California, who conducted the first intensive archaeological surveys of the San Francisco Bay region from 1906 to 1908. Nelson documented 425 shellmounds along the bayshore in Alameda and Contra Costa counties, when the area was still ringed by salt marshes, 3 to 5 miles wide (Nelson 1909:322ff.). He maintained that the intensive use of shellfish – a subsistence strategy reflected in both coastal and bayshore middens – indicated a general economic unity in the region during prehistoric times, and he introduced the idea of a distinctive San Francisco Bay archaeological region (Moratto 1984:227).

In 1911, Nelson supervised excavations at CA-SFR-7 (the Crocker Mound) near Hunter's Point in San Francisco County, a site later dated from 1050 B.C. to A.D. 450. L. L. Loud identified archaeological components from this same period in Santa Clara County in 1911 while excavating at CA-SCL-1 (the Ponce, Mayfield, or Castro Mound site). R. J. Drake recognized them in San Mateo County in 1941–42 at CA-SMA-23 (Mills Estate) in San Bruno (Moratto 1984:233).

The work of Nelson and Loud in the Bay Area provided the impetus for investigation into the prehistory of central California, which began in earnest in the 1920s. Stockton-area amateur archaeologists J. A. Barr and E. J. Dawson excavated a number of sites and made substantial collections in the area from 1893 through the 1930s. On the basis of artifact comparisons, Barr identified what he believed were two distinct cultural traditions. Dawson later refined his work into a series of Early, Middle, and Late sites (Ragir 1972; Schenck and Dawson 1929).

Professional or academic-sponsored archaeological investigations began in the 1930s when J. Lillard and W. Purves of Sacramento Junior College formed a field school, conducting excavations throughout the Sacramento Delta area. By seriating artifacts and mortuary traditions, they identified a three-phase sequence similar to Barr's and Dawson's, including Early, Intermediate, and Recent cultures (Lillard and Purves 1936). This scheme went through several permutations, including Early, Transitional, and Late Periods (Lillard et al. 1939) and Early, Middle, and Late Horizons (Heizer and Fenenga 1939). In 1948 and again in 1954, Richard Beardsley refined this system and extended it

to include the region of San Francisco Bay. The result is referred to as the Central California Taxonomic System (CCTS) (Beardsley 1948, 1954; Moratto 1984). Subsequently the CCTS system of Early, Middle, and Late Horizons was applied widely to site dating and taxonomy throughout central California.

Inevitably, as more data were acquired through continued fieldwork, local exceptions to the CCTS were discovered. The accumulation of these exceptions, coupled with the development of radiocarbon dating in the 1950s, and obsidian hydration in the 1970s opened up the possibility of dating deposits more accurately. Much of the subsequent archaeological investigation in the Central Valley focused on the creation and refinement of local versions of the CCTS.

The difficulties of creating a broadly applicable culture history are fully discussed by Bennyhoff and Fredrickson in Hughes (1994). Given the expanse of central California as well as the complex nature of cultural change over space and time, the CCTS is limited to providing a general framework for assigning newly found materials to existing culture chronologies. Nonetheless, a modification of the CCTS (Bennyhoff and Hughes 1987; Milliken and Bennyhoff 1993) that presents an Early, Middle, and Late Period with associated transitional periods and subperiod phases remains a useful way to assign dates or cultural periods, or both, to newly discovered features or assemblages. Complementary techniques such as obsidian hydration or radiometric measurements further increase the accuracy of these assignments.

Of some relevance to the location of the 300 Spear Street project is Scheme B1 of the CCTS developed by Bennyhoff and Hughes (1987:149). In brief and general form, this scheme includes the following periods and chronology:

- Early Period, ca. 6000–500 B.C.
- Early/Middle Period Transition, ca. 500–200 B.C.
- Middle Period, ca. 200 B.C.–A.D. 700
- Middle/Late Period Transition, ca. A.D. 700–900
- Late Period, ca. A.D. 900–1750

These periods of the CCTS are associated with cultural patterns such as the Windmiller, Berkeley, and Augustine patterns. A pattern is:

> [an] adaptive mode(s) extending across one or more regions, characterized by particular technological skills and devices, particular economic modes, including participation in trade networks and practices surrounding wealth, and by particular mortuary and ceremonial practices. [Fredrickson 1973:7–8]

The **Windmiller Pattern** sites are most often found in the Early Period (ca. 6000–500 B.C.) but are known to extend into the Middle Period, possibly as late as A.D. 500 in the Stockton Area (Moratto 1984:210). Windmiller Pattern sites are often situated in riverine, marshland, or valley floor settings, as well as atop small knolls above prehistoric seasonal floodplains, locations that provided a wide variety of plant and animal resources. Most Windmiller Pattern sites have burials with remains that are extended ventrally, oriented to the West, and that contain copious amounts of mortuary artifacts. These artifacts often include large projectile points and a variety of fishing gear such as net weights, bone hooks, and spear points. The faunal remains indicate that the inhabitants hunted a range of both large and small mammals. Stone mortars and grindstones for seed and nut processing are common finds. Other artifacts – such as charmstones, ocher, quartz crystals, and *Olivella* shell beads and *Haliotis* shell ornaments, suggest the practice of ceremonialism and trade.

Some scholars have suggested that Windmiller Pattern sites are associated with an influx of people from outside California who introduced subsistence strategies adapted for a riverine-wetlands environment (Moratto 1984:207). Windmiller assemblages have been found to overlap in time with those of the Berkeley Pattern and date as recently as A.D. 500 in the Stockton area (Moratto 1984).

The **Berkeley Pattern** has been dated from at least 3000 B.C. in the east San Francisco Bay (e.g., Alameda District) (Bennyhoff 1982; Hughes 1994), with the number of sites increasing through A.D. 1 (Moratto 1984:282). The Berkeley Pattern expanded eastward to the Central Valley around 2,500 years ago. Cultures exhibiting the Berkeley Pattern sites are much more common and well documented, and therefore better understood, than Windmiller Pattern sites. Berkeley sites are scattered in more diverse environmental settings, but riverine settings are prevalent.

Deeply stratified midden deposits that developed over generations of occupation are common to Berkeley Pattern sites. These middens contain numerous milling and grinding stones for food preparation. The typical body position for burials is tightly flexed, with no consistent orientation. Associated grave goods are much less frequent than what is encountered in sites of either the Windmiller or the Augustine pattern. Projectile points in this pattern are larger in earlier times but become progressively smaller and lighter over time, culminating in the introduction of the bow and arrow during the Late Period. Wiberg (1997:10) claims that large obsidian lanceolate projectile points or blades are unique to the Berkeley Pattern. *Olivella* shell beads include saddle and saucer types. *Haliotis* pendants and ornaments are occasionally found. Slate pendants, steatite beads, stone tubes, and ear ornaments are unique to Berkeley Pattern sites (Fredrickson 1973:125–126; Moratto 1984:278–279). As with the Windmiller Pattern sites, evidence

of warfare or interpersonal violence is present, including cranial trauma, parry fractures, and embedded projectile points.

The **Augustine Pattern** coincides with the Late Period, ranging from as early as A.D. 700 to about 1750 and is typified by intensive fishing, hunting, and gathering (especially of acorns), a large population increase, expanded trade and exchange networks, increased ceremonialism, and the practice of cremation in addition to flexed burials. Certain artifacts are also distinctive in this pattern: bone awls used in basketry, small notched and serrated projectile points that are indicative of bow-and-arrow usage, clay effigies, bone whistles, stone pipes, and occasional pottery. *Olivella* bead and *Haliotis* ornaments increase in number of types and frequency of occurrence, sometimes numbering in the hundreds in single burials. Beginning in the latter half of the 18th century, the Augustine Pattern was disrupted by the Spanish explorers and the mission system (Moratto 1984:283).

These patterns were at one time treated as useful chronological indicators, although the overlap in Windmiller and Berkeley chronologies has reduced their usefulness in this respect, especially for earlier time periods. The establishment of a chronology allows archaeologists to explore other kinds of evidence and research questions that focus on cultural responses to environmental change, settlement and subsistence strategies, trade and exchange routes, population movement, and related topics. Shifting focus from typology to adaptation in the 1970s, Fredrickson identified widespread cultural patterns on the basis of technology (artifacts and inferred skills), economic modes (inferred from processing equipment and food remains), and cultural tradition (e.g., mortuary practices) (Breschini 1983; Fredrickson 1974). Fredrickson identified Paleoindian, Archaic, and Emergent periods inspired by the original work of Willey and Phillips (1958). Table 1 summarizes the taxonomic framework developed by Fredrickson (in Hughes 1994).

This scheme places subsistence, organization, and exchange patterns and strategies within a chronological framework. Projectile point types, shell bead and ornament types, and other specific artifact types can be associated with a cultural period by virtue of the dates that may be assigned to them, but this scheme is not defined on the basis of specific types of objects, as is the scheme associated with Bennyhoff, the CCTS.

Table 1. Summary of the Taxonomic Framework Developed by Fredrickson (1973, 1994)

Period and Time Range	Technology, Subsistence	Exchange	Organization
PaleoIndian 8000–6000 B.C. Wet and cool; lakeside habitation	Foraging: large projectile points imply hunting with dart and atlatl; groups change habitat to find resources	Ad hoc between individuals	Extended family; little emphasis on wealth
Lower Archaic 6000–3000 B.C. Drying of pluvial lakes, habitations move to rivers, streams	Foraging: milling stones indicate plant food; dart and atlatl imply hunting also important; use of local materials	Ad hoc between individuals	Extended family; little emphasis on wealth
Middle Archaic 3000–500 B.C. Climatic amelioration; local specializations of marine, upland, riverine environments	Foraging: mortars and pestles imply acorn economy; dart and atlatl persist; hunting remains important; tool kits diversify	If changes occur, do not see in archaeological record	Extended family, sedentism begins; growth of population and expansion into diverse niches
Upper Archaic 500 B.C.–A.D. 800 Cooler climate	Foraging, but also some collecting; mortars, pestles; dart and atlatl	More complex: regular exchange between groups; ad hoc continues	Sociopolitical complexity; status distinctions imply wealth; group-oriented religious orgs.; no firm territories
Lower Emergent A.D. 800–1500	Collecting dominates, some foraging; small projectile points imply use of bow and arrow; mortars and pestles persist	Regularized exchanges between groups; more materials in network; ad hoc continues	Status distinctions more pronounced; established territories
Upper Emergent A.D. 1500–1800	Collecting dominates, some foraging; bow and arrow; mortars, pestles; local specialization re: production;	Clam disk beads imply money; local specialization; exchange materials move farther distances; ad hoc continues	

2.3 Ethnography

At the time of initial contact between European explorers and the Native Californians, the area that is now San Francisco was inhabited by a people who were of Penutian linguistic stock and who spoke the Ramaytush language (Levy 1978:485; Shipley 1978:89). These people, referred to as Costanoan, reaped the benefit of living in a bountiful, temperate

environment. Abundant marine and terrestrial resources made both agriculture and animal husbandry unnecessary.

Evidence of the success of their hunter/gatherer subsistence strategy may be seen in the number of flourishing village sites known to have existed at the time of contact with the Spanish (Levy 1978:485-486). The detritus of these sites was found in numerous locations around the shoreline of San Francisco Bay in the form of shell mounds – large accumulations of shell, ash, human artifacts, and occasionally human remains. With the influx of European settlers in the mid-19th century, most of these sites were destroyed or buried (Alvarez 1992:4-22).

The term Costanoan is derived from the Spanish word *Costaños*, or "coast people," but its application as a means of identifying this population is based in linguistics. The Costanoans spoke a language now considered one of the major subdivisions of the Miwok-Costanoan, which belonged to the Utian family within the Penutian language stock (Shipley 1978: 82-84). Costanoan actually designates a family of eight languages. Of these, Ramaytush was the language spoken by the estimated 1,400 people who occupied the area now designated as San Francisco and San Mateo counties (Levy 1978). Tribal groups occupying the area from the Pacific Coast to the Diablo Range and from San Francisco to Point Sur spoke the other seven languages of the Costanoan family. Modern descendants of the Costanoan prefer to be known as Ohlone and formed a corporate entity in 1971, the Ohlone Indian Tribe. They are named after the *Oljón* tribal group, which occupied the San Gregorio watershed in San Mateo County (Bocek 1986:8). The two terms are used interchangeably in much of the ethnographic literature.

On the basis of linguistic evidence, it has been suggested that the ancestors of the Ohlone arrived in the San Francisco Bay area about A.D. 500 from the Sacramento-San Joaquin Delta region. The ancestral Ohlone displaced speakers of a Hokan language and were probably responsible for the artifact assemblages that constitute the Augustine Pattern described above (Levy 1978).

Although linguistically linked as a "family," the eight Costanoan languages actually comprised a continuum in which neighboring groups could probably understand each other. Beyond neighborhood boundaries, however, each group's language was unrecognizable to the other. Each of the eight language groups was subdivided into smaller village complexes or tribal groups. These groups were independent political entities, each occupying specific territories defined by physiographic features. Each group controlled access to the natural resources of the territories. Although each tribal group had one or more permanent villages, their territory contained numerous smaller campsites used as needed during a seasonal round of resource exploitation.

Extended families lived in domed structures thatched with tule, grass, wild alfalfa, ferns or carrizo (Levy 1978). Semi-subterranean sweathouses were built into pits excavated in stream banks and covered with a structure set against the bank. Tule rafts, propelled by double-bladed paddles similar to those used in the Santa Barbara Channel Island region, were used to navigate across San Francisco Bay (Kroeber 1925).

Warfare was quite common in Costanoan culture and usually centered on territorial disputes. Battles were waged with other Costanoan tribal groups as well as with the Esselen and the Salinan to the south, and the Northern Valley Yokuts to the east (Levy 1978). Music, ritual and myth were extensive in Costanoan life. Song was employed in the telling of myths, in hunting and courtship rituals, and in other ceremonial activities. Musical instruments were typically whistles made of bird bone, and flutes and rattles made of wood from the alder.

The Ramaytush usually cremated a corpse immediately upon death but, if there were no relatives to gather wood for the funeral pyre, interment occurred. Mortuary goods were all or most of the personal belongings of the deceased (Levy 1978).

Mussels were an important staple in the Costanoan diet as were acorns of the coast live oak, valley oak, tanbark oak and California black oak. Seeds and berries, roots, grasses, and the meat of deer, elk, grizzly, sea lion, rabbit, and squirrel also contributed to the Costanoan diet. Careful management of the land through controlled burning served to insure a plentiful and reliable source of all these foods (Kroeber 1925; Levy 1978).

The arrival of the Spanish in the San Francisco Bay area in 1775 led to the rapid demise of native Californian populations. Diseases, declining birth rates, and the effects of the mission system served to eradicate the aboriginal life ways (which are currently experiencing resurgence among Ohlone descendants). Brought into the missions, the surviving Costanoan along with former neighboring groups of Esselen, Yokuts, and Miwok were transformed from hunters and gatherers into agricultural laborers (Cambra, et al. 1996; Levy 1978; Garaventa 1983; Shoup and Milliken with Brown, 1994). With abandonment of the mission system and Mexican takeover in the 1840s, numerous ranchos were established. Generally, the few Native Californians who remained were then forced, by necessity, to work on the ranchos.

2.4 Regional History

Spanish through Early American Period (1776-1849)

European colonization of the San Francisco Bay area began with the arrival of the Spanish expedition of 1776, led by Lieutenant Juan Bautista de Ayala in what was then known as Alta California. The Presidio and Mission San Francisco de Asís (Mission

Dolores) were quickly established, and Spanish colonial activity focused around these centers.

Following the ceding of Spain's North American colonial outposts in 1822 to the Republic of Mexico (then referred to as New Spain), Alta California became, somewhat unwillingly, a province of the Republic of Mexico. Mexican rule resulted in the secularization of the mission holdings, and property belonging to the missions was sold off. Large land grants, known as ranchos, were allotted to citizens for stock grazing. Americans and British began to immigrate to Alta California, becoming Mexican citizens and obtaining land grants (Hoover et al. 1990:xi-xii).
Captain William A. Richardson moved to Alta California in the first year of Mexican rule. Richardson gained permission to settle, provided he taught maritime skills and carpentry to the local residents living in the Presidio. He developed maritime trade and communication, managed the shipping industry, and is credited with founding the settlement of Yerba Buena in 1835 (Hoover et al. 1990:334-335). Yerba Buena was established as a base for public officials to receive vessels in the harbor, but was not considered an ideal location for a township due to a lack of potable water and provisions, poor weather, lack of a suitable harbor, isolation and vulnerability to outside attacks. Hence, the town developed slowly (Dow 1967:35).

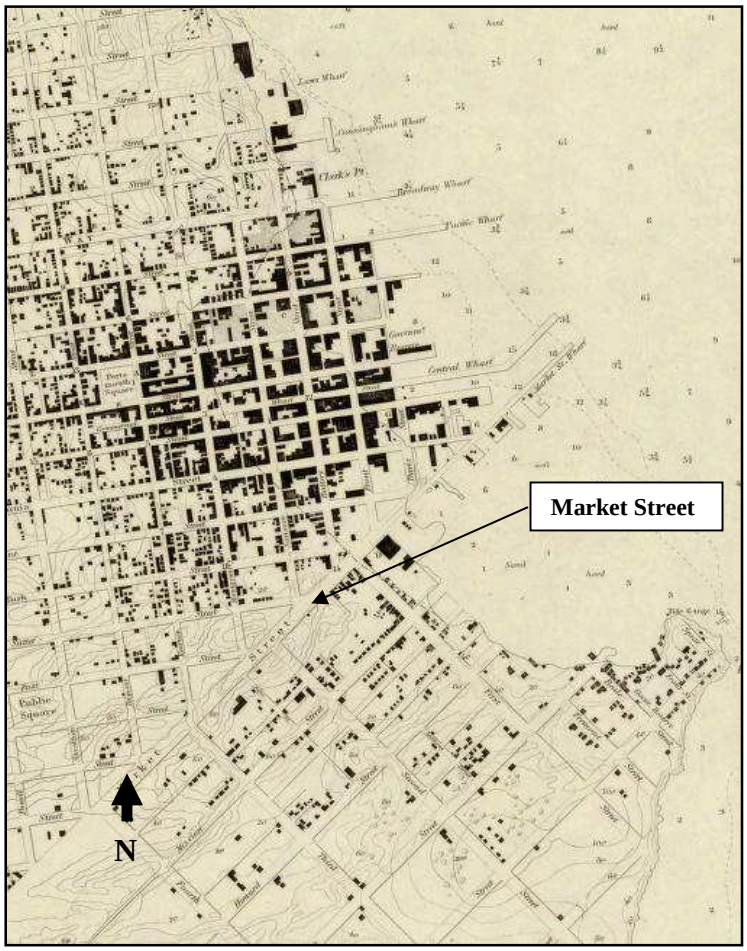
Overland migration of American settlers from the east into Alta California began in 1841. Around that time, relations between the United States and Mexico became strained, with Mexico fearing American encroachment into their territories. The political situation became unstable and, in 1835, Mexico rejected an American offer to purchase Yerba Buena. In 1836, a revolution in Texas drove out the Mexican government and created an independent republic. This republic was annexed to the United States in 1845, causing a rift in the diplomatic relations of the two nations. The following year Mexico and the United States were at war. American attempts to seize control of California quickly ensued, and within two months, California was conquered by the United States. Skirmishes between the two sides continued until California was officially annexed to the United States as part of the Treaty of Guadalupe Hidalgo in 1848, which ended the war with Mexico (Hoover et al. 1990:xiii-xiv).

Soon after American annexation, the town of Yerba Buena was renamed San Francisco in response to competition from the nearby town of Francisca to become California's commercial center (Dow 1967:36). While this aided the development of the little community, rapid expansion did not occur until the discovery of gold in California.

The Gold Rush Period (1849-1859)

The discovery of gold in the Sierra Nevada in 1848 produced a major population increase in the northern half of California, as immigrants poured into the territory seeking gold or the opportunities inherent in producing goods or services for miners. Prior to the Gold Rush, San Francisco was a sleepy hamlet with an approximate population of 800. With the discovery of gold and the sudden influx of thousands of optimistic gold seekers, a city of canvas and wood sprang up around the cove and on the surrounding sand dunes and hills.

To accommodate the growing population, the city spread out in all directions – including into the waters of Yerba Buena Cove, which had defined the eastern boundary of the early settlement. Street alignments were projected into the waters of the cove and pilings were driven along the alignments to define "water lots" that were later filled and built upon. The United States Coast Survey Maps of 1852 and 1853 indicate the early city population was largely concentrated between the shores of Yerba Buena Cove and Taylor Street (Dean 1996:9; WSA 1996a).



1853 U.S. Coast Survey Map showing maritime commerce concentrated on the north side of Yerba Buena Cove.

Construction of docks and wharves along the waterline began shortly after the first influx of gold seekers reached the shores of Yerba Buena Cove. By 1850, a substantial arrangement of wharves projected across the shallow waters. The wharves and the businesses built upon them serviced the booming maritime trade spawned by the unprecedented population growth associated with the Gold Rush.

As depicted on the 1853 U.S. Coast Survey Map, the maritime commerce of the city was concentrated on the northern side of the cove, north of Market Street and its projecting wharf. South of Market Street, undulating sand dunes – some in excess of 60 feet in height – defined the topography between the city's commercial district and the rocky formation of Rincon Hill.

Photo 1. "Forest of Masts." Yerba Buena Cove in 1851, view to the east.

During the Gold Rush, Yerba Buena Cove began to fill with abandoned ships, which had been used to transport gold seekers to California, along with the goods to support them. By 1851, the waterfront was referred to as a "forest of masts," because it was so clogged with ships (Photo 1). Since construction materials were scarce, some vessels were converted into buildings and some were salvaged for materials.

Late Nineteenth Century (1860-1906)

Between 1850 and 1880, the San Francisco waterfront was dramatically altered with the construction of a seawall and the filling of Yerba Buena Cove. The fill was imported from the surrounding sand dunes and hills, including Rincon Point and Rincon Hill. At the same time, efforts were made to bring San Francisco's city grade up to a prescribed level, which necessitated extensive filling and leveling of the sand dunes that covered much of the peninsula. Topographic modification of Rincon Point continued throughout the second half of the 19th century and into the 20th century, with the partial grading of Rincon Hill. Subsequently, the South of Market area became the primary locus of early San Francisco industrialization.

Industrialization occurred in two great economic upswings, 1862-75 and 1878-1893 (Walker 2004). At the center of San Francisco's early industrialization was the coal industry. Coal was essential to the early industrial boom in San Francisco, as it provided the energy needed to keep foundries operating and furnaces burning, and the coal gasification plants in production. During these upswings, Rincon Point accommodated the densest

concentration of industrial manufacturing facilities on the Pacific Coast (Praetzellis and Praetzellis 1992:4-94).

Twentieth Century (1906-Present)

Throughout the 1900s, San Francisco experienced dramatic economic highs and lows. World War I brought prosperity and a 20 percent increase in population to San Francisco, which was then followed by a sudden downturn in fortunes during the Great Depression. Economic hardships, combined with high unemployment and labor disputes, led to city-wide labor strikes in 1934, which resulted in the "Bloody Thursday" attack. However, San Francisco weathered the Depression better than most cities in the country and it continued to develop (Cole 1988:120-123). During the 1930s, construction began on the two bay bridges, the Golden Gate Bridge and the San Francisco-Oakland Bay Bridge, decreasing San Francisco's reliance on the ferry system and opening the city to motorists (Cole 1988:124-125).

World War II had a profound effect on the development and demographics of San Francisco. While there had been a flood of immigrants into California during the Depression the previous decade, the influx during the war was substantially greater. The defense industry expanded and new cities developed rapidly, particularly in the San Francisco Bay area (Hoover et al. 1990: xvi). New shipyards came into existence, the number of factories in use increased by a third, and the population of industrial workers more than doubled (Cole 1988:129).

Towards the end of the 20th century, San Francisco had become a haven for new Americans, with a large population of foreign-born or first-generation residents, in particular Asian immigrants, relocating there to escape wars within Southeast Asia (Hoover et al. 1990:xvi). During the 1980s, a recession caused a decrease in population and industry as people moved out of the city and into the suburbs and rural areas (Cole 1988:137). Today, industrial areas South of Market are being converted into residential buildings and new apartment complexes are being constructed.

2.5 History of the Project Area

There is little documentary evidence suggesting that any sort of concentrated economic activity occurred in the vicinity of the project area prior to the development of the Rincon Point area in the aftermath of the Gold Rush. In 1850, Charles Hare, a recent immigrant to San Francisco, established a ship breaking yard within and to the northeast of the project area, helping to develop one of the earliest industries in San Francisco. Addressing the need to dispose of the hundreds of ships that had been abandoned in Yerba Buena Cove at the onset of the Gold Rush, Hare's enterprise was an important

industry in the San Francisco of the 1850s. The ship breaking activity involved systematically dismantling the abandoned ships to recover and recycle their wood timbers, rigging, and metal fastenings.

The 1853 Coast Survey Map depicts three historic structures on the original shoreline (that were situated within what is now the project area) that have also been identified in contemporary photographs (Figures 5-7). The 1859 U.S. Coast and Geodetic Survey Map illustrates that in the intervening six years, that portion of the cove had been partially filled, and the three structures depicted in the 1853 map had been removed. By 1859, several other structures had been built along what remained of the original shoreline (Figure 8).

The U.S. Marine Hospital was built directly south of the project area in 1853, and its grounds included the southern portion of the project site. Refuse from the hospital or human remains from a cemetery thought to exist on the hospital's grounds were rumored to have been buried within the project area.

The 1853 U.S. Coast Survey Map indicates that the original shoreline of Yerba Buena Cove crossed the project footprint from the northeast to the southwest (refer to Figure 5). As much as 18 feet of fill was ultimately used to fill in the cove, burying the original shoreline to provide flat, buildable land. Erratic or incomplete filling often left shallow pools (like the one pictured on the 1859 Coast Survey map) into which neighborhood residents and businesses may have dumped their trash and waste. Many also dumped waste directly into the cove. This material was later buried when the cove was filled.

It appears that a good portion of this filling occurred between 1853 and 1859, as indicated by the U.S. Coast Survey maps of those years (refer to Figures 5 and 8). However, the U.S. Coast and Geodetic Survey Map of 1859 suggests that at that time, the fill was not sufficient to sustain building, as structures built on the parcel by 1859 were concentrated along the original shoreline rather than on the newly reclaimed land (refer to Figure 8). However, by 1872 this was no longer the case. By then, a number of buildings had been constructed on the project parcel, most of which were concentrated in the northwest corner (Figure 9). According to the 1871 San Francisco City Directory, the structures located in the project area at 131, 133, 135, and 136 Folsom Street served as male-operated boarding houses, while those located along Main Street at numbers 309 and 311 were residential.

Analysis of historic land uses, based on Sanborn Fire Insurance Company maps and the Hicks Judd Block Book, indicates that by 1887, the elevation of the project parcel was near, if not identical, to the elevation of modern day. The Muybridge Panorama of 1872 (refer to Figure 9) clearly illustrates that by that, time the filling of Yerba Buena Cove had been completed in this area. In the southern portion of the parcel, approximately 20-30 feet of

Rincon Hill had been graded during the cove filling activity of the 1850s and 1860s. No data has been found regarding land uses between 1859 and 1872.

Following the filling of Yerba Buena Cove, the South of Market area became the primary locus of early San Francisco industrialization, with coal storage of primary importance. During this period, the project site and surrounding area were extensively developed. As depicted on historic maps and in historic photographs, from the 1870s until World War I, a coal yard occupied half of the project area (Figure 10). By 1886, the project area was home to several saloons, residential structures, a box factory, and a lumber yard as well as the coal yard (Figure 10).

According to historic documents, German, Irish, English, Finnish and Swedish immigrants inhabited the project area, as well as second-generation Californians and migrants from the East Coast. The residences of craftsmen and vendors often were not fully segregated from the places where they plied their trade and sold their wares (Praetzellis and Praetzellis 1992: 4-60). Families lived above stores, in the upper floors of commercial buildings, or in extensions and outbuildings associated with them.

Commercial and residential uses of the site continued through the early part of the 20th century. The project area was spared the destruction associated with the 1906 earthquake and fire, the latter of which stopped just short of the parcel's northwest corner (Figure 11). The 1913 Sanborn Fire Insurance Company Map indicates that at least one of the saloons in the northwest corner was still operating at that time, but the remaining structures in that corner were vacant and the residential structures along Main Street were gone. The coal yard was still in business, but the box company and lumber yard had been replaced with two large warehouses, one of which remained on the site until at least 1950 (Figure 12). The coal yard closed sometime between 1913 and 1950, and in its place several large storage sheds were constructed (Figure 13).

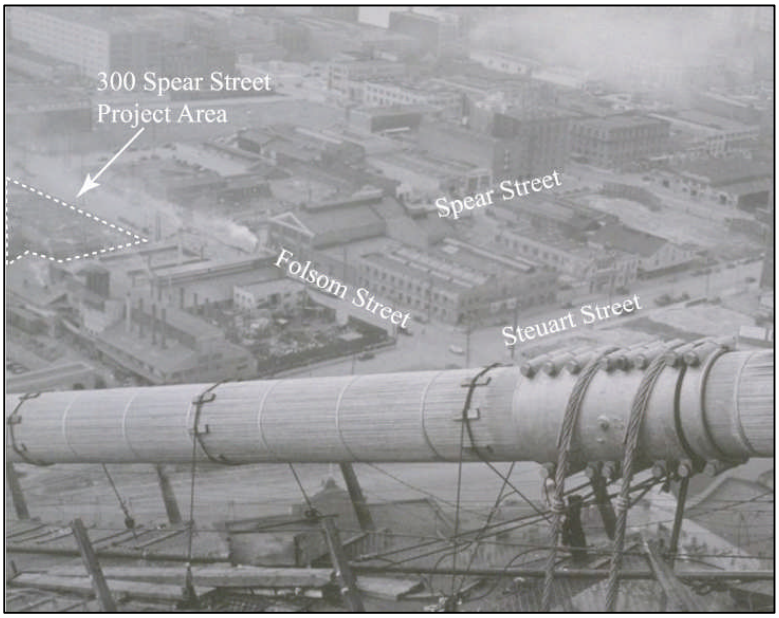


Photo 2. Western anchorage of the San Francisco Bay Bridge (1936).

Construction of the San Francisco-Oakland Bay Bridge began in the 1930s, the western approach to which was anchored on top of

Rincon Hill. Bridge construction was completed in 1936, changing the neighborhood in the vicinity of the project area. The project area may have been used for the storage or staging of material during the bridge construction (Photo 2).

3.0 RESULTS OF THE RECORDS AND LITERATURE SEARCH

3.1 Native American Heritage Commission Consultation

WSA contacted the Native American Heritage Commission (NAHC) in Sacramento, California, on November 28, 2005, by letter with a description of the proposed 300 Spear Street project. The letter included a request for a listing of local, interested Native American representatives and information on traditional or sacred lands within the project area and vicinity. NAHC staff member Ms. Debbie Pilas-Treadway wrote in response to the WSA letter on February 24, 2006, that a "search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area." Included with this response was the requested list of Native American contacts. No individual or tribal members have been notified as part of this report. Tishman Speyer may use the attached list of individuals to solicit comment on the project's environmental document, if desired (see Appendix A).

In October 2004, Archeo-Tec submitted a records search request on behalf of Tishman Speyer to the staff at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) in Rohnert Park, California, as part of the Archaeological Research Design and Treatment Plan (Pastron et al. 2004). The record search included a review of archaeological, ethnographic, historical, and environmental literature as well as records and maps on file at the California Archaeological Inventory.

3.2 Known Cultural Resources in the Project Vicinity

The following section is excerpted from the *Archaeological Research Design and Treatment Plan, 300 Spear Street Project, City and County of San Francisco, California*, prepared by Archeo-Tec of Oakland, California on behalf of TS.

From Nels C. Nelson's early 20th century investigation of prehistoric shellmounds near Hunter's Point to Archeo-Tec 's 2001 unearthing of the Gold Rush store ship *General Harrison* in the Financial District, academic and construction-related excavations have revealed close to 200 archeological sites beneath the ground surface of the San Francisco Peninsula. Using the information gathered from the literature and records search, archaeologists can more accurately predict the types of deposits that may exist beneath the modern landscape. The following section summarizes relevant Prehistoric Period and Historic Period archaeological sites that have been discovered in San Francisco.

Prehistoric Archaeological Studies

Research into the prehistory of the San Francisco Bay area is one of the oldest archaeological traditions in California. In the 19th century, the Bay area's landscape was marked by numerous large and small mounds of earth and shell containing a variety of prehistoric cultural materials and features. These captivated early 20th century archaeologists like N.C. Nelson and Max Uhle.

As is the case with many of the heavily urbanized regions of the United States, the prehistory of San Francisco is not as well understood as most archaeologists would like. Yet, a number of important and revealing sites in and around San Francisco have been systematically excavated during the past hundred years by professional archaeologists who have carefully analyzed their data and published the results of their research. As a result, a basic outline of human activity in the San Francisco Bay area prior to the arrival of Europeans has been pieced together from the artifactual remains left behind by the region's first inhabitants.

Judging from the archaeological evidence, most archaeologists agree that the earliest traces of human habitation in the San Francisco Bay area date to around 6,000 years ago. Native American peoples lived in and around San Francisco continuously between around 4,000 B.C. and the appearance of Europeans in the last decades of the 18th century. As discussed above, the early inhabitants of the San Francisco Bay area made their living by hunting and collecting wild foodstuffs and did not farm or keep domestic animals until the beginning of the Mission Period (1776). In the San Francisco Bay region, shellfish provided one of the more reliable and predictable sources of food. In addition, the Ohlone (Costanoans) collected wild plants and fished and hunted numerous species of land animals. They lived in villages of varying size and moved seasonally from the bay to the wooded hillsides in search of food.

When U. C. Berkeley archaeologist N. C. Nelson conducted the first intensive archaeological survey of the region between 1907 and 1908, he recorded no less than 425 shellmounds on or near the shoreline of the Bay (Nelson 1909, 1910). It is useful to cite Nelson's discussion concerning the wide variety of environmental settings in which prehistoric sites were located throughout the San Francisco Bay region:

> [Shellmounds were] situated in a great variety of places; but, on the whole, the positions may be characterized as "convenient" rather than in any sense "strategic." Many of the largest mounds are located at the head of sheltered coves [such as the Bayshore Mound - CA-SFR-7], yet not a few deposits lie in thoroughly exposed places, out on the bluff and higher headlands. Occasionally a hillside, with or without any accommodating shelf or hollow, has been chosen, doubtless on account of some small spring issuing in the vicinity. . . Some

> mounds are found in apparently unnatural situations, such as on the plain where no streams pass, or out in the salt-marsh, where fresh water could not be had, [but] normally shellheaps lie close to sea level.
>
> The fact is that nearly all the mounds lie within fifty feet of the surface of the bay water... but exceptions occur, [some] mounds lie very far above the normal zone...[and] at least ten of the known deposits extend below sea level [for example, the Bayshore Mound, CA-SFR-7, and the Ellis Landing Mound in the city of Richmond, on the eastern shore of the bay] (Nelson 1909:328-329).

A. L. Kroeber offers the following observation regarding the extensive archaeological heritage of the region:

> The entire Costanoan frontage on ocean and bay is lined with shell deposits. San Francisco Bay in particular is richer in such remains than any other part of the State, except perhaps the Santa Barbara Islands (1925:466).

Until the mid-1980s, most of the known prehistoric sites in San Francisco had been found in the Hunters Point/Islais Creek area. The largest and most important of these is CA-SFR-7 (Nelson's Shellmound #387), variously referred to as the Crocker Mound, the Bayshore site, and Johnson's Landing. SFR-7 is located near Hunters Point. A review of Nelson's unpublished manuscript, on file at the Archaeological Research Facility, U. C. Berkeley, revealed the following about the location and environmental setting of SFR-7: The mound lies on the northern edge of the lagoon and extends beyond the present branch out into the bay (Nelson 1910:Manuscript #11).

According to Nelson's site record, SFR-7 at one time covered an area approximately 60 feet north to south and 230 feet east to west. The staff and students of the University of California excavated the mound in 1910. Recovered cultural materials included 60 artifacts, 23 human burials and a small historic period crucifix, at depths ranging between two and eight feet below the contemporary ground surface. Upon examination of the archaeological collection, Kroeber remarked that the “Artifacts obtained agree closely on the whole with those previously secured on the eastern shore of the bay” (1910: 227).

Several other prehistoric sites have been noted in and around Hunters Point. One of these is CA-SFR-17, exposed during the excavation of a garden plot in the U.S. Marine housing project near the intersection of Alemany and Bayshore boulevards in 1951. The site record reveals that the mound was found on an old sand dune in immediate proximity to a marsh (site survey records on file at the Archaeological Research Facility, U. C. Berkeley). A newspaper article provides the following additional information regarding this site:

> [A] skeleton was found by J. C. Hoeger... while digging in his backyard. He found an old stone pestle near the skull and assumed that the remains were those of an Indian. A native resident said that some 20 years ago when Gaven Street was being built seven skulls and many Indian relics were found. According to the police several bodies have been found in the area before, and it is presumed to be the site of an old Indian burial ground (*San Francisco Call Bulletin* 1951).

In addition to the sites discussed above, more recent archaeological work in San Francisco reveals that numerous relatively intact prehistoric deposits may be scattered throughout other parts of San Francisco. These deposits appear to have been deeply buried beneath the region's sand dunes long before the beginning of the historic era. Hence, they were hidden from Nelson when he conducted his pioneering archaeological survey of the San Francisco Bay area. For the most part, these sites are buried deep enough below the present ground surface to have been spared the impacts of more than a century of intensive development.

For example, the discovery of a fragmentary human skeleton in October, 1969, during the course of excavation at the BART Civic Center station, and the subsequent analysis of the remains, points to the possibility of the existence of deeply buried prehistoric finds throughout San Francisco. The human remains, designated as CA-SFR-28, were found about 75 feet below present grade, 26 feet below the mean sea level, and 14 feet above the bottom of a 40-foot layer of clayey silt underlying the sand that characterized the 1852 surface topography (Kelly 1976:45; Olmsted et al 1979:42). Radiocarbon dating places the bones at a surprisingly early 2950-1250 B.C. This radiocarbon date is the oldest in Central California for human remains (Henn et al. 1972), with the exception of "Stanford Man" (CA-SCI-033), which has been dated to approximately 3905 B.C.

Another South of Market site, CA-SFR-2, is located on the south side of Harrison Street, west of Third Street. This prehistoric deposit (Nelson's Shellmound #439) was encountered during construction work in 1929; it was investigated by E.W. Gifford of U.C. Berkeley and has been described as follows:

> The lot between two buildings was being excavated by steam shovel. On April 18, the work had ceased in order to brace the walls of the two adjacent buildings. The base of the shell deposit is 10 feet below street level. The deposit was about four feet thick, but may once have been deeper, as remains of an old building were resting on top of the deposit which probably had been cut away for the floor of the building. Underlying the shell deposit was black loam mostly and in one place yellow sand. An hour's scrutiny of the cuts through the deposit revealed no artifacts. Shell was very abundant, and there were pockets of whitish gray and yellow ash. Bird bones were fairly numerous and a few mammal bones were obtained. All of the specimens are cataloged as 1-27097 [at U. C. Berkeley's Hearst Museum of Anthropology]. More or less charcoal was visible in lumps. No

> human remains had been encountered by the steam shovel men. The same is true with regard to artifacts. Cooking stones were abundant (Site record for CA-SFR-2, perhaps written by E. W. Gifford, on file at the Phoebe Hearst Museum of Anthropology, U. C. Berkeley).

Within 10 days of Gifford's visit to this site, D. J. and T. Sullivan of Folsom Street donated the skeletal remains of at least two adult individuals, a chert biface and a complete flat-bottomed stone mortar with a beveled edge to U. C. Berkeley (Rudo 1982).

A large quantity of charcoal was encountered at CA-SFR-2, but none of it was saved. Since the site investigations occurred before the discovery of radiocarbon dating, and no data could be extracted from the carbon at that time, the site produced no radiocarbon dates. CA-SFR-2 is believed to have been totally destroyed after Gifford's investigation (Kelly 1976:45).

Another example of a deeply buried prehistoric site was discovered in 1977 in San Francisco's South of Market area, at the northwest corner of Third and Folsom streets – the site of the George Moscone Convention Center. A test boring encountered an obsidian scraper of undoubted prehistoric manufacture at a depth of between 18 and 20 feet (Pastron 1978:210). While only an isolated specimen, this find points to the fact that unrecorded prehistoric materials do indeed exist at various locations throughout San Francisco.

In the summer of 1986, archaeological consulting firm, Archeo-Tec, discovered and excavated two deeply buried, previously unrecorded prehistoric shellmounds in San Francisco's South of Market district. These sites, now designated CA-SFR-112 and CA-SFR-113, are respectively located near the intersections of First and Mission streets and Fifth and Market streets. Both deposits appear to have been buried by drifting dune sand prior to the beginning of the historic period and therefore had not been recorded by Nelson or subsequent archaeological researchers. Both sites were found to be reasonably intact at the time of their discovery.

Based on an analysis of artifact typology, coupled with radiocarbon and obsidian hydration analysis, it was determined that CA-SFR-112 was intermittently inhabited between A.D. 400 and A.D. 900, while the older CA-SFR-113 appears to have been occupied between 100 B.C. and A.D. 100 (Pastron and Walsh 1988a, 1988b).

Another previously unrecorded prehistoric site, the Yerba Buena Shell mound (CA-SFR-114), was encountered in the summer of 1988 and intensively excavated during the spring and summer of 1989 by the staff of Archeo-Tec along the line of Howard Street, between Third and Fourth streets (Pastron et al. 1990). In addition to substantial midden deposits,

this site yielded a discrete cemetery containing a total of 11 burials, all associated with extensive mortuary offerings (Pastron et al. 1990).

Archaeological investigations at the 560 Mission Street project on Mission Street between First and Second streets revealed prehistoric site CA-SFR-135 at a depth of 15 to 20 feet below street level. Three human bones were discovered, as well as several obsidian and chert flakes, fire-cracked rock, a wide variety of faunal bone, and an abundance of shell (WSA 2001).

Another prehistoric deposit (CA-SFR-136/H) was recently discovered south of Market Street by the staff of Archeo-Tec Inc. near the intersection of Eighth and Howard streets (Archeo-Tec 2002). This deposit consisted of a small, dispersed lithic scatter representing a temporary, transient encampment or work site dedicated to the manufacture of stone tools. Later buried beneath dune sand, this site was encountered at depths ranging between six and nine feet below the contemporary ground surface. It is possible, due to its close proximity to CA-SFR-28 that this deposit is associated with a larger settlement, or group of settlements, deeply buried beneath dune sand in the vicinity of Eighth, Market, Mission, and Howard streets.

A shell midden site within the block bounded by Market, Mission, Third and Fourth streets was discovered by Archeo-Tec in the summer of 2003. Designated CA-SFR-147, the site consisted of several areas of dense cultural soils containing a very dense concentration of prehistoric shell remains, few faunal materials, and very few fragments of culturally modified obsidian and chert. Floral analysis revealed a notably low content of organic material in the soil. Radiocarbon dates range from 30 B.C. to A.D. 400 (Archeo-Tec: Final Report Pending in 2004).

In 2003, situated southwest of the current project area, a prehistoric and possible protohistoric deposit was located by the California Department of Transportation during excavation for the new Central Freeway. Officially designated CA-SFR-148, the site consisted of prehistoric shell midden, faunal remains, a glass bead, and obsidian and chert cores, bifaces, and debitage. This 20-cm thick layer was found 1.5 to 2.5 meters below ground surface (Site P-38-004319).

The presence of a multiplicity of deeply buried prehistoric deposits in the most intensively developed parts of San Francisco points to the strong possibility that other unrecorded archaeological deposits of similar, or even earlier, age may exist in various places throughout San Francisco. It is clear from the above examples intensive development and urbanization does not necessarily result in the destruction of underlying prehistoric archaeological resources.

Only a tiny fraction of the total number of prehistoric sites in San Francisco was ever systematically recorded; for by the time the first serious researchers arrived on the scene, the city had already been extensively developed. It is probable that many sites were simply covered over rather than destroyed. There are numerous examples in the history of the City's development of prehistoric remains being casually blanketed by fill and built upon during the dynamic advances of a youthful urban center, only to be unexpectedly discovered years - even centuries - later in the midst of construction.

Historical Period Archaeological Studies

The historical record of San Francisco mainly consists of maps, newspaper accounts, oral histories, journals and photographs which together tell the city's story. These sources, though rich compared to the scant records available from the prehistoric period, provide a relatively narrow and often biased view of life in San Francisco throughout the historic period. Archaeological investigation provides a means of adding detail to San Francisco's history. Artifacts that can be tied to pivotal events and prominent people can augment or even alter existing historical records. Deposits that can be directly connected to the personal lives of ordinary people, such as trash deposits traced to individuals listed in census data, can lend historical information not available from traditional documentary sources.

In 1921 and again in 1925, remains of the buried storeship *Apollo* were discovered and excavated at the Federal Reserve Bank site at Clay and Battery. In 1978, the remains were reencountered and excavated by the San Francisco Maritime Museum. Two years later, the intact, buried hulk of the Gold Rush ship *William Gray* was partially test excavated by Archeo-Tec and reburied at Levi's Plaza in a matrix of Telegraph Hill fill. In 1986 at Clay and Battery streets, Pastron and Hattori (1990) excavated the Hoff Store site, arguably the most significant Gold Rush site from the land-filled Gold Rush urban core.

Archeo-Tec's 1988 field investigations at the Hills Plaza site (CA-SFR-115H), located along Stuart Street between Harrison and Folsom streets, revealed a very significant site containing the remnants of Charles Hare's mid-1850s ship-breaking yard in the block directly northeast of the 300 Spear Street project site. The site produced numerous ship's timbers and metal fittings lost or discarded by Charles Hare's workers during the salvaging process, at a time when the area was situated near shallow water (early to mid-1850s). Many artifacts were concentrated along Spear Street, suggesting that the site extended across Spear Street and into the present project area. Only the modern Spear Street right-of-way separates the Hills Plaza site and the present 300 Spear Street project site.

The morphology and provenience of the timbers, fastenings, and fittings recovered at the Hills Plaza site were salvaged from a minimum number of four, though probably more, Gold Rush-period vessels. The maritime remains from the Hills Plaza site are in most respects similar to timbers, fastenings, and fittings documented from other Gold Rush vessels that have been encountered in San Francisco, namely the *Niantic* and *La Grange* (Smith 1981, Smith et al. 1988). Specific vessel identification is impossible for the isolated remains recovered from the Hills Plaza site, and the remains could derive from any of some 80 brigs, barks, and ships broken up at Rincon Point and South Beach between 1852 and 1859 (San Francisco Maritime Museum 1963).

Given the near-complete dismantling of the Gold Rush hulks, the recovered timbers are probably associated with the last of the Gold Rush vessels to be broken up there during the years 1857 - 1859. In 1857, the *Bulletin* announced, "the names of those which are now undergoing the dissection by the Chinamen and vanishing piecemeal are the *Regulus, Fortune, Candace, Harvest,* and *Panama*" (San Francisco *Daily Evening Bulletin,* February 11, 1857). The remains found in 1988 could well be from these vessels, although no definitive evidence regarding ship identification could be adduced (Pastron and Delgado 1991).

Evidence that Hare's work involved breaking up storeships where they lay was discovered in 2001, when Archeo-Tec unearthed the storeship *General Harrison*. The vessel, which had burned in a fire after its conversion to a storeship, was found partially dismantled. Maritime archaeologist James P. Delgado determined in the field that such careful reverse construction was likely Hare's work. Further archival research confirmed that Hare's crew had indeed been sent to break up the vessel (Personal Communication, Rhonda Robichaud of Archeo-Tec, April 2004) (Final Report Pending).

A Chinese fishing village (CA-SFR-116H) was discovered on the south side of Rincon Point as part of excavations at the Rincon Point/South Beach project. One of the earliest of many Chinese fishing villages along the California coast, the site represented an early fishing cooperative in which Chinese fishermen, excluded largely from trade with non-Chinese, sold and traded goods with Chinese merchants. Archaeo-Tec discovered large amounts of abalone shells, imported Chinese goods, and remnants of dismantled Gold Rush vessels that were possibly salvaged by Charles Hare's operation (Pastron 1990).

CA-SFR-120H, located on the block bounded by Mission, Steuart, Howard and Spear streets, revealed several structures fronting Steuart Street during the later 19th century. Archeo-Tec unearthed cultural materials from several sailor's boardinghouses, a Chinese laundry, and the floor of a coal bin (Site P-38-000105).

The Rincon Annex Post Office (CA-SFR-96H), located near the intersection of Steuart and Howard streets, was the location of several boarding houses used primarily by sailors during the later 19th century. Archaeo-Tec's excavations in the mid-1980s produced architectural remnants of these dwellings, along with associated domestic refuse, such as crockery, glass bottles, leather, metal (Site P-38-00087).

In the mid-1990s, WSA discovered a dense deposit of historic fill material (designated CA-SFR-127H) ranging in date from the Gold Rush era to the 1906 earthquake. The site was located on the block bounded by Market, Steuart, Howard, and the Embarcadero, near the original area of Yerba Buena Cove (Site P-38-000126).

The hulk of the *Lydia,* an 1840s whaler, was discovered in 1978 near the intersection of King Street and the Embarcadero during excavations for an extensive, city-wide sewage treatment system. The well-preserved remains of the *Lydia* were buried in or around 1907 beneath what had been the basin for the Pacific Mail Steamship Company (James P. Delgado, Sept. 28, 2006, pers. comm.). The chance discovery of the *Lydia* provides a dramatic example of the likelihood that other previously unrecorded hulks exist beneath the surface of the ground in the Rincon Point-South Beach area, and in other areas outside the historic core of Yerba Buena Cove.

CA-SFR-119H was a relatively small, temporary encampment of an early settler of the Happy Valley area, located at 100 First Street (Archeo-Tec 1986). Two levels of occupation were identified at the site: a temporary, wood and canvas structure dating to the early 1850s, and a subsequent prefabricated structure built on top of it. Resources observed at the site were entirely encompassed in a dry sandy matrix (Delgado, personal communication 2006).

The Wing Lee Laundry Site, discovered in January 2001 as part of the Mission Bay Redevelopment Project, contained the remains of a previously unknown Chinese-run business located on the tip of Steamboat Point within the block bounded by Third, Fourth, King and Berry streets. The laundry was a one-story wood-frame building where Chinese immigrants lived and worked from the early 1850s through the 1890s. An in-situ brick hearth connected to a redwood drainage channel was discovered, along with several opium pipes, dense caches of buttons, leather, bone brushes, and a wide variety of intact and broken Chinese ceramics (Archeo-Tec 2003c).

Two smaller historic sites have also been discovered within the Mission Bay Redevelopment area: The San Francisco Glass Works and the Crystal Hotel. The San Francisco Glass Works was discovered by Archeo-Tec in the fall of 2001 on the block bounded by Third, Fourth, Townsend and King streets. Remains of the Glass Works, which operated from 1865 until 1868, included mirroring brick rectangles possibly

associated with an oven or furnace, and artifacts representing all stages of glass manufacture (Archeo- Tec 2003b).

A historic period site was found at 680 Mission Street, near the intersection of Third and Mission streets. The site, which is located near to the "Happy Valley" encampment, yielded an abundance of cultural remains that dated from the Gold Rush era and later 19th century. All recovered material appeared to be refuse deposits and consisted of glassware, ceramics, wood, metal, and animal bone (Archeo- Tec 2001).

Between 1998 and 1999, WSA monitored construction activities at the Tichenor's Ways project site (CA-SFO-130H); a mid-19th century marine railway and drydock located approximately one mile south of the 300 Spear Street project area (WSA 1999). Three historic wood features were discovered during the project to be the remains of the marine railway and drydock Henry B. Tichenor established in 1851, and operated until 1868 (WSA 1999).

In 1998 and 1999, WSA conducted subsurface testing and archaeological monitoring at the Yerba Buena Tower Project, located three-quarters of a mile southwest of the current project area. Numerous intact historic features, including several brick walls and concentrations of isolated domestic debris, were encountered dating to the mid-1800s (WSA 1998).

Archaeological monitoring conducted by WSA for the MUNI Metro Turnback Project (WSA 1996b) yielded numerous historic artifacts including ceramics, bottles, leather, metal, crucibles, and faunal remains. A portion of a Gold Rush-era wooden sailing ship (the *Rome*) was encountered during subsurface boring beneath Justin Herman Plaza. It was concluded by WSA that at least 80% of the ship's hull remains *in-situ* beneath Justin Herman Plaza (WSA 1996b).

4.0 ARCHAEOLOGICAL TESTING PROGRAM (PHASE 1)

The preconstruction archaeological testing program (ATP) was designed and implemented by WSA on behalf of TS in compliance with the project's mitigation measure IV-7 (WSA 2005a). The ATP was developed to mitigate the destruction of buried cultural deposits that were likely to be encountered during construction. The testing plan focused on the archaeological potential of the project site and was based on the historical context statement and research design that was prepared for the project by Archeo-Tec (Pastron et al. 2004). The City and County of San Francisco's Environmental Review Officer approved the ATP in March 2005. The ATP was designated as Phase 1 to distinguish the features and materials recovered therein from those encountered during

the subsequent data recovery, conducted during project excavations. The latter was designated as Phase 2.

WSA conducted the preconstruction archaeological testing from March 28 to April 7, 2005. A crew of six WSA archaeologists under the direction of Project Director Dr. Allen Estes conducted the fieldwork. The ATP was multifaceted, and included controlled excavations and data recovery in the northwest corner of the project area, placement of a series of auger bores in the southeastern half of the project area, excavation of a series of exploratory trenches - the locations of which were determined by the results of the auger bores, and archaeological monitoring of a trench excavation around the perimeter of the project site (perimeter trench) and several pothole excavations for buried utilities in the project area (refer to Figure 4).

The results of the Phase 1 testing were positive: WSA identified 21 historic features, collected a large quantity of diagnostic historic artifacts from several identifiable proveniences, and acquired a general understanding of site stratification.

4.1 Rationale for the Archaeological Testing Program

General Discussion of the Area's Historic Uses

Rationale for the ATP can be found in the *Final Historical Context Statement, Archaeological Research Design and Archaeological Testing Program for the 300 Spear Street Project* (WSA 2005a). The study of available archive material and the results of previous archaeological work conducted in the vicinity of the project area indicated that there was considerable potential for encountering extensive prehistoric and historic deposits at the 300 Spear Street project site.

Since the project site is located on the original shoreline of Yerba Buena Cove, prehistoric deposits were considered to be potentially present. It is known from other studies in the Bay Area as a whole, and in the project vicinity in particular, that prior to Euro-American occupation, the original landform adjoining the bay shoreline was intensively inhabited by prehistoric people. Marsh areas found along the bay shoreline in natural inlets were exploited for their natural resources of fish, shellfish, birds, animals, and vegetation.

Historically, the project site is located in an area that was used intensively at the onset of the Gold Rush. The area around Yerba Buena Cove was overrun by gold seekers, which resulted in the explosive growth of the town of Yerba Buena, by then renamed San Francisco, and was transformed virtually overnight into neighborhoods of a bustling city. Written accounts and previous archaeological evidence of settlement in the area suggest that communities often grew haphazardly out of tent encampments (e.g. Happy Valley,

which was located near the project area) and temporary buildings that were gradually made permanent.

Yerba Buena Cove itself was glutted with abandoned sailing ships that had transported gold seekers and the goods to support them to California. By 1851, the San Francisco waterfront had become a "forest of masts." Because of the scarcity of construction materials, the vessels were often converted to buildings or salvaged for their materials. Although this unique practice has been documented historically, archaeological discoveries have added significantly to the growing body of knowledge concerning this aspect of San Francisco's maritime history. The northwestern shore of Rincon Point, with its calm, shallow waters, was ideal for ship breaking and ship repair.

As discussed above, part of a ship breaking yard has been unearthed in the block east of the project site (Pastron and Delgado 1991). From an archaeological standpoint, there was good reason to believe that the rest of the ship breaking yard (a continuation of the Hills Plaza site) could be located within the project area.

The U.S. Marine Hospital was built directly south of the project area in 1853, and its grounds encompassed the southern portion of the project site. As part of the Phase 1 Testing Program, it was considered a possibility that refuse from the hospital or human remains from a cemetery rumored to exist on the hospital's grounds could be encountered on the project site.

Although no documents directly link the historic Chinese community of San Francisco with the project parcel, a sizeable Chinese population has been documented on Rincon Point. Many of them worked in the ship breaking yard. Since Chinese businesses and settlements are often undocumented and are sometimes unexpectedly found during archaeological investigations, the project vicinity was thought to be a potential source of archaeological evidence for studying the relationships of the Rincon Point Chinese neighborhood to the non-Chinese communities nearby.

Between 1850 and 1880, the modern San Francisco waterline was established with the construction of the seawall and the filling of Yerba Buena Cove. The archaeological record can aid in filling in the void of historical documentation on municipal filling and dumping practices in 19th century San Francisco. Since the project area is located at the southern end of the former Yerba Buena Cove, the potential for developing new data on the filling of the cove was considerable. Erratic or incomplete filling often left shallow pools (like the one pictured on the 1859 U.S. Coast Survey map) into which neighborhood residents and businesses presumably dumped their trash and waste. Many also dumped waste directly into the cove, which was then filled – burying whatever material had been discarded into it. Although the individual incidences of refuse disposal

have less research potential than refuse pits that can be directly associated with a household, the ATP anticipated that an accumulation of a large number of small dumping episodes could be discernable in the stratigraphy and could provide information and insight into many forms of cultural behavior.

San Francisco was eventually transformed into a thoroughly industrialized city. Sanborn maps and City directories underscore the transformation of the flats around Rincon Point into a heavily industrialized area after Yerba Buena Cove had been filled in. The coal industry was at the center of San Francisco's early industrialization. Although the remnants of the coal yard located within the project area may have possessed limited potential for developing new information about the coal industry itself, refuse left by the coal yard workers could give insight into their lifestyles and cultural practices. In addition, until the turn of the 19th century, the area surrounding the project parcel housed the greatest concentration of industrial manufacturing facilities on the Pacific Coast (Praetzellis and Praetzellis 1992:4-94), the remnants of which could easily have found their way onto the project parcel.

According to historic documents, German, Irish, English, Finnish and Swedish immigrants inhabited the project area during the latter part of the nineteenth century, as well as second-generation Californians and immigrants from the East Coast. The residences of craftsmen and vendors often were not fully segregated from the places where they plied their trade and sold their wares (Praetzellis and Praetzellis 1992: 4-60). Families lived above stores, in the upper floors of commercial buildings, or in extensions and outbuildings associated with them. Consequently, it was considered highly likely that at least some of the cultural material recovered from the project parcel would reflect domestic activity to an extent greater than is suggested by an examination of the historic record. Included in this would be reflections of social status, social integration, and ethnicity, as well as demographic information possibly not described by census data. Information about gender and age of the neighborhood's residents would potentially be reflected in deposits buried in the project parcel.

The historic urban landscape is an important source of information on past lifeways, as physical manifestations of those lifeways result in the creation of archaeological property types. One of the primary goals of the ATP was to identify any historic property types found in the project area and use them to describe the patterns of behavior that were reflected therein. Property types are defined as groups of archaeological resources (or groups of artifacts) that share important characteristics as defined below:

Table 2. Expected Historic Property Types within the Project Site*

Property Type	Feature Type	Identifying Attributes
Refuse	Hollow, refuse-filled features (e.g., pits, privies, wells)	Identifiable in exposure as discrete deposits
	Sheet refuse	Diffuse deposit of artifacts, may have accumulated over a long period of time
Architecture	Foundation alignment, footings, wall trenches	Brick and concrete foundations and alignments, usually matching up with historic maps and photos
	Ovens, stoves	Brick base, fire-affected brick, metal hardware fragments or identifiable stove fragments (e.g., doors, rates, stovepipes)
	Maritime Architecture	Large oak planks, treenails, fittings, copper sheathing, ship remnants
	Walls, pilings, other structural remnants	Nail concentrations, wood, plaster, doorknobs
	Floors	Earth (hard-packed), wood, adobe, brick, tile, or concrete
Landfill and Landscape	Debris fill	Glass, metal, bone, wood, etc.
	Sand fill	Sterile sand with few (if any) cultural inclusions
	Imported fill	Gravel, non-native soils
Infrastructure	Sewer lines	Brick, concrete, cast iron or ceramic pipes
	Power lines	Post holes visible in exposure, or metal pipes
	Pipes (water, gas, etc.)	Cast iron, wood, or clay
	Roads	Gravel, asphalt, cement paving blocks, cobblestone, wooden planks

*Adapted from Archeo-Tech 2004:54-55.

Pre-construction Data Recovery in the Northwest Corner

The northwest corner of the project parcel was considered to be in the "critical path" of construction planning. Consequently it was important to address any potential buried cultural deposits early in the construction process, and equally important to insure that, once underway, construction in this area was not delayed due to the discovery of previously unknown cultural deposits. To address this need, WSA conducted controlled excavation and data recovery in the northwest portion of the site in conjunction with both the excavation of a perimeter trench for the sheer wall construction, and with the removal of contaminated soils (WSA 2005a).

Pre-construction Testing on the Remainder of the Parcel

A combination of auger bores and trenching was conducted for the remainder of the project parcel to determine the presence/absence of buried cultural material and to make a

preliminary assessment of depositional integrity and significance. The location of the bores and trenches was based on an analysis of the data presented in the historic context report (Pastron et al. 2004) and the potential to encounter subsurface remains of activities, structures, and deposits associated with both prehistoric and historic uses of the central and southern half of the project parcel.

The 1853 U.S. Coast Survey Map indicates that the shoreline of the former Yerba Buena Cove crossed the project footprint from the northeast to the southwest (refer to Figure 5). Archaeological deposits associated with prehistoric occupation of the project parcel were considered potentially present immediately east and southeast of the original shoreline, deeply buried, and difficult to identify in a testing program.

Given the fact that the subsistence strategies of the original native inhabitants of the area was focused on a diet of fish and game, the shores of Yerba Buena Cove would have been ideal for exploiting various species of mollusk, such as clams, mussels, oysters, as well as fish such as salmon, steelhead, rays, perch and smelt. Tules, which were harvested and used as material for building structures and serviceable watercraft that provided access to the resources of the Bay, would have been found here. The testing program attempted to account for any evidence of these activities that might still remain in the form of buried deposits along the original shoreline, and areas to the south and east of it.

The potential for historic structures and deposits along the original cove shoreline has been amply documented in historic sources. The 1853 coast survey map depicts three structures on the original shoreline that have been identified in contemporary photographs (refer to Figures 5-7). The 1859 U.S. Coast and Geodetic Survey Map illustrates that in the intervening six years, that portion of the cove had been partially filled, and the three structures depicted in the 1853 map had been removed. By 1859, several other structures had been built along what remained of the original shoreline (refer to Figure 8).

In little over a decade, the shoreline of the cove was buried under fill during the remarkable reclamation effort of the 1850s and 1860s, and the cove was converted into a flat expanse of land, upon which much of the industrial and commercial expansion of San Francisco in the late 19th century took place. By the early 1870s, the portion of the cove in the project area had been completely filled in, and the original shoreline of the cove had been obliterated (refer to Figure 9).

In the southern portion of the parcel, an area where some 20-30 feet of Rincon Hill had been cut down during the cove filling activity of the 1850s and 1860s, cultural deposits were expected at depths similar to those anticipated in the northwest corner of the parcel. Such deposits were thought to be likely associated with the post-1870 uses of the area, in particular debris (or burials) associated with the U.S. Marine Hospital, which once stood

just south of the project parcel. Deposits associated with the Gold Rush-era occupation of the southern portion of Rincon Hill would have been destroyed when the massive cut in the hillside was made. If the material removed from Rincon Hill was subsequently used to fill the central and northern portions of the site, these historic deposits, and any prehistoric cultural material that was once situated along the base of Rincon Hill, may have been dispersed throughout the parcel in the form of secondary deposits. Deposits associated with the post-19th century uses of the parcel were also expected to be encountered. These were anticipated to be concrete and brick foundation remnants associated with the warehouses and storage sheds that once occupied the area.

With this background in mind, WSA proposed to drill a series of test bores using an open-flight screw auger in various locations along the projected alignment of the original cove shoreline to ascertain whether remnants of any of the structures or activities associated with the prehistoric and historic uses of the site might be present (refer to Figure 4).

4.2 Methods Utilized in the Archaeological Testing Program

The ATP relied on the strategic placement of a combination of auger bores, trenches, and areal excavation to identify in advance of construction the general location and nature of buried cultural deposits. Observations and discoveries during the monitoring of potholing and perimeter trench excavation were also utilized in the identification and initial assessment of cultural deposits. In this way, the results of the archaeological testing were used in consultation with construction personnel to coordinate the controlled exposure and recovery of potentially significant remains as a part of the construction excavation plan.

In conjunction with the fieldwork, a record of the natural and cultural deposits encountered during the testing was kept on auger sheets (for auger bores) and in field notes (for excavation and monitoring). All features discovered during areal or trench excavations, or during pothole or perimeter trench excavations, were mapped using a GPS receiver, digitally photographed, and drawn to scale in a sketch map. In addition, characteristic trench profiles were drawn and photographed. All features recorded during the Phase 1 testing program were mapped from a site datum that was established at the southern edge of the project area, and plotted on a virtual grid developed from the datum using measurements made with a Topcon GTS-3B Total Station. All diagnostic artifacts discovered during excavations and monitoring were collected for analysis.

Pre-construction Data Recovery in the Northwest Corner

The northwest corner of the project area was selected for preconstruction controlled excavation and data recovery, which occurred in conjunction with the removal of contaminated soils from elsewhere on the site. The northwest corner is the historic

location of the Yerba Buena Cove shoreline, which was filled in as part of the post-Gold Rush urban expansion of San Francisco. By 1887, the filling of the cove had been completed, bringing the elevation of the project parcel to a rough equivalent to what it is today. Structural remains and historic deposits dating from the period after the cove was filled to the time when the parcel was paved and used as a parking lot were expected to be found in the upper five feet of fill material.

To investigate the northwest corner, a bulldozer and an excavator were used to expose an area measuring 130-x-200 feet to a depth five feet below the existing grade. An additional two feet (i.e., a total depth of seven feet below existing grade) was excavated in a 70-x-30-foot area in order to remove all contaminated soils deemed hazardous under criteria set forth in the Resource Conservation and Recovery Act [RCRA].

When discoveries were encountered, they were fenced with yellow caution tape, and the excavation shifted to another location while WSA staff began data recovery. Initial exposure involved excavation using mechanical means (i.e., the excavator) to remove sterile soils. Once cultural soils were encountered, profiling and screening of the surrounding matrix was used to determine depositional history. Structural remains were exposed in their entirety, digitally photographed, and mapped in situ using WSA's Trimble Geo-XT GPS Data Logger, which provides sub-meter accuracy. Soil color and texture samples were recovered and soil profiles were drawn when appropriate.

Diagnostic artifacts were recovered, bagged, labeled with provenience data, and later cleaned and culled[1] on site, before being transferred to the WSA conservation lab, where they were catalogued. A variety of types and classes of diagnostic artifacts were encountered during the test excavation. A representative sample of a given type of artifact was collected; artifacts recovered throughout the excavation include, but are not limited to, the following classes: whole or fragmentary embossed glass; transfer-ware or embossed porcelain or ceramics; leather goods, historic wood or metal, if diagnostic; and any type or class of artifact deemed integral to addressing the project-related research issues. Some of the recovered artifacts possess archaeological or historical significance. These were described and discussed in the preliminary report of the results of the preconstruction testing (WSA 2005b). All of the recovered artifacts are discussed later in this report.

[1] "Culled" artifacts were disposed of at the site. These artifacts were normally non-diagnostic, highly fragmentary, or collected in abundance. Numerous artifacts collected during Phase 2 were transferred to the WSA lab, cataloged and analyzed, and subsequently discarded.

Pre-construction Testing on the Remainder of the Parcel

A combination of trenching and augering was used to test the remainder of the site. The auger bores were placed east and west of the projected alignment of the 1853 Yerba Buena Cove shoreline and were drilled to determine the presence/absence of buried cultural material and to make a preliminary assessment of the integrity and significance of the deposits (WSA 2005a). In addition, the placement of auger bores was made to ascertain whether projection of the original shoreline was reasonably accurate.

Using GIS software, WSA plotted the locations of the original Yerba Buena Cove shoreline, and the structures within the project parcel that are depicted on the 1853 and 1859 U.S. Coast Survey maps. A quasi-stratified sampling strategy was then developed that targeted specific locations for the test bores, depending on the historic use of space within the project footprint. The bores were situated in locations determined to have once been either along the bay littoral, and possibly used for subsistence practices during the prehistoric era, or used for commercial or storage activities during the early days of San Francisco's history (refer to Figure 4).

Based on the projected location of the original shoreline, it was assumed that cultural deposits would be encountered at shallower depths on the east or landward side of the original shoreline and, because of the filling episodes, at deeper levels on the west or cove side.

Twenty-three individual borings were drilled, all on the southeastern half of the project site. Auger bores were excavated with an 18-inch-diameter open flight drill bit. Bores were excavated in 12-inch increments, most to depths of 14-20 feet below grade, depending on the nature and composition of the subsurface sediments. In previous geotechnical and environmental investigations of the site, the water table was encountered at a depth of 14 feet below grade in the center of the project parcel and at depths ranging from 8-13 feet across the remainder of the site (Treadwell and Rollo 2000:10). WSA anticipated, therefore, that strata containing cultural material would be encountered in depths of 14 feet or less, and that culturally sterile sediments would be encountered 15 feet below the present ground surface (assuming the water table occurs at a similar depth today as it did historically). This assumption was reinforced with data (albeit limited) from the geotechnical borings, in which cultural material was identified only in depths less than 14 feet below grade.

Sediments from each level were screened using ¼-inch wire mesh. Enough dirt was screened to determine the presence or absence of cultural material and to characterize the sediments (e.g., brick debris, historic artifacts, constructional fill, etc.). Sediment color (Munsell) and texture for each level was also recorded.

Test trenches were excavated as supplementary investigations of deposits identified in the bores (WSA 2005a). Decisions for further exposure through trenching were made solely on the basis of auger results. Since the auger bores encountered a buried concrete slab throughout the southwestern half of the project area, there was limited need for the supplementary trenches. However, three test trenches were excavated to explore areas in the vicinity of two of the auger bores where human remains had been recovered. Trenches were excavated to investigate the possibility that burials were present. Trench 1 was placed adjacent to Auger 20 where a human canine tooth was discovered. Trench 2 was placed near Augers 10 and 23 to investigate the area near Auger 10 where a human humerus was discovered. Trench 3 was placed north of Auger 10 and reached a depth 16 feet below grade. All trenches were mechanically excavated using an excavator equipped with a toothless bucket.

Cultural resources collected during the testing/data recovery conducted in the northwest corner were transported to the WSA conservation and analysis laboratory in Orinda for inventory, conservation, cataloguing and analysis.

Monitoring the Perimeter Trench and Pothole Excavation

A perimeter trench was excavated around three sides of the project area – along Main, Folsom, and Spear streets (refer to Figure 4). The trench was four feet in width and reached a depth five feet below grade. The excavation of this trench was monitored by a WSA archaeologist. In addition, two potholes were excavated, one along Spear Street and one in the center of the project area, to check for utilities that might be in the way of construction. The potholes measured approximately ten feet in length and four feet in width, and reached depths between five feet and ten feet below grade. All features encountered were documented in the same way as those encountered during the controlled excavations of the northwest corner. All diagnostic artifacts observed during the perimeter trench and pothole excavations were collected.

Human Remains

When human remains were encountered in one of the auger bores (see below), the remains were treated in accordance with the requirements of CEQA Section 15064.5 and Section 7050.5(b) of the California Health and Safety Code. WSA contacted the San Francisco Medical Examiner on March 29, 2005 regarding the discovery of human remains on the project parcel. The Medical Examiner arrived on site the following day and took possession of the human remains.

4.3 Results of the Archaeological Testing Program

Twenty-one historic features were recorded during the Phase 1 archaeological testing program and the initial construction monitoring of the 300 Spear Street Project. The features encountered, which are tabulated below (Table 3), ranged in date from the Gold Rush settlement period to the early 20th century. Feature descriptions are presented below.

Table 3. Features Discovered During the ATP and Initial Monitoring Phase

Feature #	Description	Location	Date Range	Depth	Comments
*P1-F 1	Redwood plank floor	NW corner	1886-1920	~1 foot**	Coal shed floor depicted on Sanborn 1899
P1-F 2	Concrete foundation	NE corner	Post 1920	~1 foot	Foundation remnant for unidentified post-coal yard structure
P1-F 3	Concrete footing	NW corner	Post 1920	~1.5 foot	Foundation remnant for unidentified post-coal yard structure
P1-F 4	Concrete footing	NW corner	Post 1920	~1.5 foot	Foundation remnant for unidentified post-coal yard structure
P1-F 5	Redwood plank floor	NW corner	1886-1920	~2 feet	Coal shed floor depicted on Sanborn 1899
P1-F 6	Brick wall foundation	Along Folsom St.	1886-1950	~2 feet	
P1-F 7	Concrete footing	NW corner	Post 1920	~5 feet	Foundation remnant for unidentified post-coal yard structure
P1-F 8	Two parallel brick walls	NW corner	Post 1886?	1 foot	
P1-F 9	Brick rubble	Along Folsom St.	1886-1950	~2 feet	
P1-F 10	Layer of concreted coal dust and assoc. wood features	NE corner	1872-1920	~7 feet	"coal yard" on the 1886 Sanborn and coal bin on the 1872 Muybridge Panorama
P1-F 11	Redwood plank floor	NW corner	1886-1920	~7 feet	Assoc. with coal yard
P1-F 12	Concrete foundation wall w/brick superstructure	Along Main	1913-1950	~1.5 foot	SF Warehouse Company's Sunset U.S. Bonded Warehouse

Feature #	Description	Location	Date Range	Depth	Comments
P1-F 13	Road (?) cut	N edge	1886-1920	~4 feet	Assoc. with coal yard
P1-F 14	Brick wall frag.	Along Folsom St.	1886-1950	~1 foot	
P1-F 15	Brick wall foundation	Along Folsom St.	1886-1950	~4 feet	wall of shop depicted at 124 Folsom Street on the 1886 Sanborn
P1-F 16	Concrete foundation	NE corner	Post 1920	~1 foot	Foundation remnant for unidentified post-coal yard structure
P1-F 17	Wood floor and post remains	Along Spear St.	Post 1886	2 feet	Unidentified post fill structure
P1-F 18	Concrete foundation wall w/brick superstructure	Along Spear	1913-1950	1 foot	SF Warehouse Company's Sunset U.S. Bonded Warehouse
P1-F 19	Brick wall foundation	Along Spear St.	Post 1886	1 foot	
P1-F 20	Brick and concrete slab	SE corner	Post fill	2.5 feet	Unidentified post fill structure
P1-F 21	Concrete slab	SE corner	1913-1950	2 feet	SF Warehouse Company's Sunset U.S. Bonded Warehouse

*P1 (Phase 1)-F1 (Feature 1) refers to the first feature discovered by WSA during Preconstruction Archaeological Testing and Preliminary Data Recovery at 300 Spear Street (WSA 2005b).
**Depths were measured from the surface of the original parking lot to the top of the feature.

Northwest Corner Excavations and Data Recovery

Nine features, representing at least two distinct construction phases that postdate the filling of the cove, were recorded during the excavations in the northwest corner. P1-Features 1, 5, 10, 11, and 13 represent the earliest of these construction phases (refer to Figure 4). These features lay immediately above the sand-and-rock stratum that represents the earliest cove fill. The fill material contained very little historic debris, a characteristic of fill that was deposited in the cove over a relatively short time span. The five features were associated with extensive deposits of coal dust and represent the historic coal yard that is documented in historic maps and photographs of the project parcel (refer to Figure 9).

P1-Feature 15, a brick foundation that was set into the sand and rock of the cove fill, may also have been associated with the coal yard, but the evidence for this is uncertain. The stratigraphic relationships observed during the data recovery indicate that P1-Features 2,

3, and 4 represent post-coal yard constructions: P1-Feature 2 was overlying a portion of P1-Feature 10 and P1-Feature 4 had been cut into P1-Feature 5.

The Coal Yard: P1-Features 1, 5, 10, 11, 13, and 15

The 1869 U.S. Coast Survey Map portrays the project area as being somewhat undeveloped (Figure 14), with an arrangement of structures considerably different than those depicted in the later 1872 Muybridge Panorama and the 1886 Sanborn map of the project area (refer to Figures 9 and 10). The 1886 Sanborn map depicts the J. McDonough Coal Yard occupying the northwest portion of the project area, with additional shops fronting the city streets, along with domiciles located at 309 and 311 Main Street. According to the 1880 San Francisco census, John Wharton and James Jones lived at 309 Main Street; and both are listed as "coal carters." The arrangement of structures depicted on the 1872 Muybridge Panorama and on the 1886 Sanborn map indicates the configuration of this portion of the project area remained unchanged for at least the intervening 14 years.

P1-Feature 1[2]

P1-Feature 1, located approximately one foot below the surface of the original parking lot, was a fragmentary redwood plank floor that measured 30-x-40 feet (Figure 15). It was likely the floor of the coal shed depicted on the 1899 Sanborn map in the west corner of the project area, near the intersection of Main and Folsom streets. Intact floorboards were covered in finely granulated, concreted coal dust, some of which was embedded in the wood. Most of the planks ran north to south, with one long beam (probably a floor joist) oriented east to west. A portion of cast-iron water pipe was found beneath the floor, as well as a segment of brown ceramic sewer pipe. Both the water pipeline and the sewer line appeared to be in situ.

P1-Feature 5

P1-Feature 5 was another fragmentary redwood plank floor, similar in construction to P1-Feature 1 and probably part of the same floor (Figure 16). It was found slightly deeper than P1-Feature 1; approximately 2 foot below the surface. The portion of P2-Feature 5 that was visible was approximately 14-x-24 feet in size. The floor boards were also covered with concreted coal dust. All of the floorboards were oriented north to south. There were redwood boards overlying the floorboards along the eastern side. These boards were oriented east to west and probably represent the remains of a back wall that

[2] Refer to Figure 4 for a depiction of the location of the features discussed in this section.

had collapsed onto the floor. One board, probably a cross brace for the wood frame of the structure, was lying diagonally across these boards.

P1-Feature 10

P1-Feature 10 covered a relatively large area (approximately 60-x-20 feet), and consisted of a 12-inch-thick slab of concreted coal dust with associated wood structural elements (fallen posts, floor joists, floor planking, etc.) embedded in the coal dust (Figure 17). It was found approximately seven feet below the surface of the parking lot. P1-Feature 10 was in the same location identified as the J. McDonough Coal Yard on the 1886 Sanborn map (refer to Figure 10). As depicted in historic photos, it was a large rectangular area with wood plank flooring and was surrounded by a post-and-board fence. Within this structure enormous quantities of coal were stored. Such a structure appears in the 1872 Muybridge Panorama of the project parcel (refer to Figure 9).

P1-Feature 11

P1-Feature 11, located approximately seven feet below the parking lot surface, was a redwood plank floor fragment that covered an area measuring approximately 12-x-12 feet. The construction of the floor fragment was similar to that of P1-Features 1 and 5. As with those features, the thickness and width of the floor planking could not be determined because of the redwood's advanced decomposition. As there was no noticeable coal dust on the surface of this floor fragment, unlike P1-Feature 1 and 5, this floor did not appear to have been used for coal storage.

P1-Feature 13

P1-Feature 13 was an 8-foot-wide, roughly 4-foot-deep, swath cut through the rock-and-clay cove fill. It was oriented perpendicular to Folsom Street and led into the coal yard floor (P1-Feature 10). Although the cut itself was not excavated during data recovery, it appeared to have been filled with debris from coal processing. The depth of the cut could not be determined during data recovery operations in the northwest corner, as it was deeper than five feet below the modern surface – the depth limit of the data recovery operation. The cut might have represented a road that led into the coal bin from Folsom Street. Two such roads are depicted on the 1899 Sanborn map (Figure 18).

P1-Feature 15

P1-Feature 15 was a brick foundation wall that ran perpendicular to Folsom Street. It had been built into the rock-and-clay cove fill, and was observed approximately four feet below the original parking lot surface. The wall measured 13 inches in width, three feet in

height (this equals eight courses of brick), and approximately 25 feet in length. The foundation was situated in the location of the northeastern wall of the shop depicted at 124 Folsom Street (in the middle of the block) on the 1886 Sanborn map (refer to Figure 10)

Post-Coal Yard Features: P1-Feature 2, 3, and 4

Several concrete features were also discovered below the parking lot that were associated with later constructions, postdating the coal yard structures. P1-Feature 2 was a concrete foundation that partially overlay P1-Feature 10. P1-Feature 3 and 4 were both concrete footings for 8-x-8-inch upright posts that were embedded in the concrete. P1-Feature 4 was cut through the wood floor of P1-Feature 5, indicative of its later construction. All three features were discovered in situ.

P1-Feature 2

P1-Feature 2 (Figure 19) was a rectangular concrete foundation; it had been built without forms but reinforced with ⅝-inch, rounded-and-grooved rebar. The foundation wall was 18 inches thick and approximately 30 inches high. It was discovered approximately one foot below the original parking lot surface. The foundation extended over an area measuring 41 ½ feet in width and over 60 feet in length, with the northeastern end of the foundation continuing into the unexcavated area in the northern corner of the project area. The possible eastern end of the foundation was found while excavating the perimeter trench along Spear Street. The concrete appeared to be the foundation for a cinderblock superstructure. A single course of embedded cinderblocks was observed in the northeastern foundation wall. The cinderblocks measured 15 inches in length and 6 ½ inches in height and depth. They were laid end to end and mortared. Fragments of other cinderblocks were observed in several other places along the foundation wall. P1-Feature 2 overlay the remains of the coal yard (Feature 10). The footprint for P1-Feature 2 does not appear on the Sanborn Fire Insurance Maps.

P1-Feature 3

P1-Feature 3 was a concrete footing (8 inches high, 18 inches square at the bottom) with an 8-x-8-inch upright wood beam set into it (Figure 20). It was approximately 1.5-feet below the original parking lot surface.

P1-Feature 4

P1-Feature 4 was a concrete footing similar to P1-Feature 3, cut into the wood plank floor of P1-Feature 5 (refer to Figure 16). It was observed at the same level as P1-Feature 3: approximately 1 ½-feet below the surface of the parking lot.

Coiled Cables in Western Corner

Three large, coiled, plaited steel cables were found in the western corner of the project area (Photo 3). Two of the cables measured two inches in diameter; one measured 1 ¼ inches in diameter. Each of the cables was over 50 feet in length, although the exact length could not be determined. The cable ends were spliced around thimbles to form large eye connectors. Two of these were connected to a large, stud-link anchor chain 11 ½ feet in length (23 individual links). Each chain link was 8 inches in length, 5 inches in width, and 1 ½ inches in thickness; two interconnected links measured one foot in length. The exact stratigraphic relationship to P1-Feature 1 could not be determined, but the easternmost chain appeared to overlay a portion of the redwood plank floor that comprised P1-Feature 1.

Photo 3: Coiled Steel Cables with Spliced Ends.

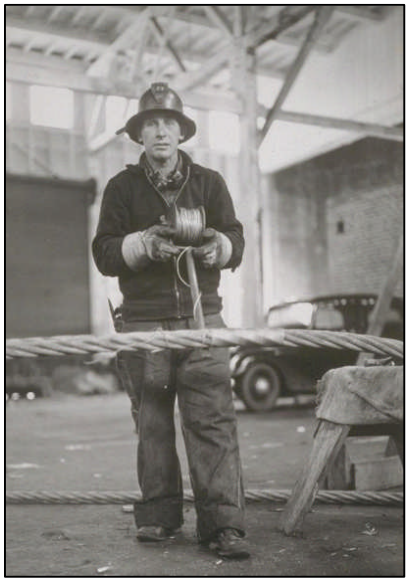


Photo 4: Preparing a Cable for the Bay Bridge, 1936.

Similar braided steel cables appear in historic 1930s photographs of the construction of the San Francisco-Oakland Bay Bridge (Photo 4). It appears that the three cables may have been discarded on the project site at the completion of the bridge construction. Many vacant areas in and around Rincon Hill, including Rincon Point, were used as staging, storage, or discard areas during bridge construction, as illustrated in many historic photos of the area taken during the period of the bridge's construction (Photo 5).

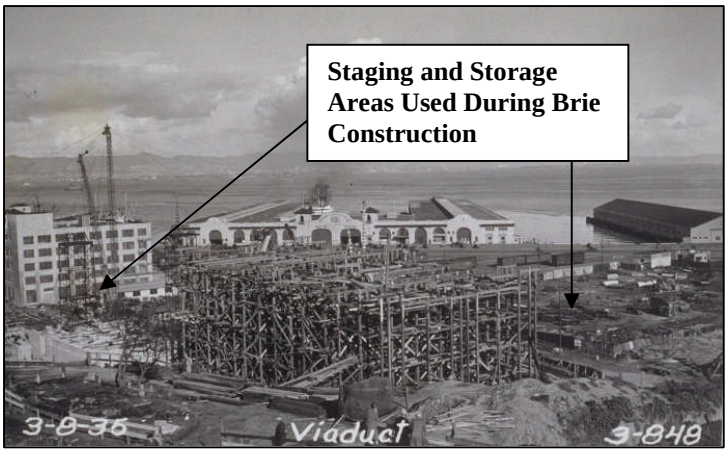


Photo 5: SFO Bay Bridge, Western Anchorage. View East. 300 Spear Street Project Area not depicted in Photo.

The northwestern half of the project area was vacant at the time the bridge was constructed and may have been used as a storage or staging area (Figure 21).

Tanks

Three discarded tanks (possibly boiler tanks) were encountered in the fill along Main Street during Phase I testing. Two were only the twisted and rusted remnants of tanks; the third tank was intact (measuring 6 feet in height and 2 feet in diameter). The top of the tank had pipe fittings installed, and the tank was riveted down the side (Photo 6).

Auger Bore Results

Auger 1 is an example of a bore investigation. It was excavated in 13, 12-inch levels to a depth 15 feet below grade. Augering was halted intermittently because of problems connected with the sandy sidewall collapsing back into the borehole, which threatened to undermine the surrounding area. All of the levels contained historic artifacts except level 12 (154-168 inches below the surface). However, it could not be determined with certainty that material coming from above and below level 12 had not been dislodged because of the collapsing bore wall, which introduced the possibility that the material could have originally been coming from elsewhere along the bore wall. For a summary of auger bore results see Table 4.

Photo 6: Possible Boiler Tank

Table 4. Auger Bore Results

Auger	Depth (in.)	Cultural Material	Sediment Type	Munsell (color)
1	0-12	Asphalt and gravel base	Sand	10YR 4/4 (dark yellowish brown)
	12-28	Brick fragments	Sand	10YR 4/4 (dark yellowish brown)
	28-45	Faunal bone	Sand	10YR 3/4 (brown)

Auger	Depth (in.)	Cultural Material	Sediment Type	Munsell (color)
	45-60	Brick and metal fragments	Sand	10YR 3/4 (brown)
	60-76	Redwood, faunal bone, blue transfer ceramic, iron, glass, shell, brick	Sand	10YR 3/4 (brown)
	76-95	Ceramic, faunal bone, metal, glass	Sand	10YR 4/4 (dark yellowish brown)
	95-112	Metal, brick, faunal bone, ceramic	Sand	10YR 4/4 (dark yellowish brown)
	112-120	Brick, faunal bone, glass, copper wire	Sand	10YR 4/4 (dark yellowish brown)
	120-127	Brick, faunal bone, glass, iron	Sand	10YR 4/3 (brown)
	127-139	Faunal bone, glass	Sand	10YR 4/3 (brown)
	139-154	Glass	Sand	10YR 4/2 (dark grayish brown)
	154-168	None	Sand	10YR 4/3 (brown)
	168-180	Burned bone	Sand	10YR 4/3 (brown)
2	0-16	None	Asphalt	N/A
	16-33	None	Sand	2.5YR 5/3 (dark reddish brown)
	33-48	None	Sand	10YR 4/2 (dark grayish brown)
	48-60	None	Sandy clay	2.5YR 4/3 (reddish brown)
	60-78	Glass	Sandy clay	10YR 5/2 (grayish brown)
	78-96	None	Sandy clay	2.5YR 5/3 (dark reddish brown)
	96-112	None	Sandy clay	2.5YR 5/3 (dark reddish brown)
	112-127	None	Sandy clay	2.5YR 4/3 (reddish brown)
	127-135	None	Sandy clay	2.5YR 4/3 (reddish brown)
	135-144	None	Sandy clay	10YR 3/2 (dark mud)
	144-156	None	Clay and rock	10YR 3/2 (dark mud)
	156-184	None	Mud and rock	10YR 2/2 (dark mud)
3	0-12	None	Clayey sand	2.5YR 4/3 (reddish brown)
	12-24	None	Clayey sand	2.5YR 4/3 (reddish brown)
	24-42	None	Clayey sand	2.5YR 4/3 (reddish brown)
	42-66	None	Clayey sand	2.5YR 3/2 (dusky red)
	66-80	None	Clayey sand	2.5YR 3/2 (dusky red)
	80-96	None	Clayey sand	2.5YR 3/2 (dusky red)
	96-108	None	Silty sandy clay	2.5YR 3/1 (dark mud)
	108-125	None	Silty sandy clay	2.5YR 3/1 (dark mud, gray rock)
	125-137	None	Silty sandy clay	2.5YR 3/1 (gray rock)
	137-160	None	Silty sandy clay	2.5YR 3/2 (dusky red)
4	0-36	Bricks, wood	Clayey sand	10YR 3/1 (very dark gray)

Auger	Depth (in.)	Cultural Material	Sediment Type	Munsell (color)
	36-48	None	Clay	10YR 3/2 (very dark grayish brown)
	48-60	None	Clay	10YR 3/1 (very dark gray)
	60-78	None	Silty clay	10YR 3/2 (very dark grayish brown)
	78-102	None	Clay	10YR 3/1 (very dark gray)
	102-120	None	Silty clay	10YR 3/1 (very dark gray)
	120-138	None	Clay	10YR 3/1 (very dark gray)
	138-162	None	Clay	10YR 3/1 (very dark gray)
5	0-12	Bricks, brown sewer pipe	Clayey sand	10YR 3/1 (very dark gray)
	12-30	None	Sandy clay	10YR 3/2 (very dark grayish brown)
	30-48	Wood	Sandy clay	10YR 3/2 (very dark grayish brown)
	48-66	None	Clayey sand	10YR 3/2 (very dark grayish brown)
	66-78	None	Rock	N/A
	78-96	None	Clayey sand	10YR 3/1 (very dark gray)
	96-114	Cut nail	Sandy clay	10YR 3/1 (very dark gray)
6	0-12	Bottle glass, brick, metal, wood, concrete	Sandy clay	10YR 5/8 (yellowish brown)
	12-24	Brick, concrete	Sand	10YR 4/3 (brown)
	24-48	Wood, faunal bone, brick, glass, metal, ceramic	Sandy clay	10YR 4/3 (brown)
	48-60	Wood, ceramic, concrete	Sandy clay	10YR 4/3 (brown)
	60-72	Burned wood, wire nail, glass ceramic, brick	Sand	10YR 3/1 (very dark gray)
7	0-12	Ceramic pipe fragments, faunal bone, metal pipe	Sandy loam	10YR 4/1 (dark gray)
	12-24	None	Silty sand	10YR 4/1 (dark gray)
	24-48	None	Silty sand	10YR 3/1 (very dark gray)
8	0-12	Brick, wood	Sand	2.5Y 5/6 (dark yellowish brown)
	12-36	Brick, wood	Sandy clay	2.5Y 3/2 (very dark grayish brown)
	36-54	None	Sandy clay	2.5Y 3/2 (very dark grayish brown)
	54-84	None	Sandy clay	2.5Y 3/2 (very dark grayish brown)
	84-102	None	Sandy clay	2.5Y 3/1 (very dark gray)
	102-126	None	Sandy clay	2.5Y 3/2 (very dark grayish brown)
	126-146	None	Sandy clay	2.5Y 3/1 (very dark gray)

Auger	Depth (in.)	Cultural Material	Sediment Type	Munsell (color)
9	0-12	Wood	Sandy clay	10YR 5/4 (yellowish brown)
	12-24	None	Sandy clay	10YR 4/3 (brown)
	24-60	Wood	Sandy clay	10YR 3/2 (very dark grayish brown)
	60-84	None	Sandy clay	10YR 4/2 (dark grayish brown)
	84-108	None	Sandy clay	10YR 4/2 (dark grayish brown)
10	0-24	Cobblestone, brick	Sandy clay	10YR 4/4 (dark yellowish brown)
	24-39	Wood, brick	Sandy clay	10YR 4/6 (dark yellowish brown)
	39-81	Gold foil, cloth	Loamy sandy clay	10YR 2/1 (black)
	81-108	Wood, ceramic	Loamy sandy clay	10YR 2/1 (black)
	108-168	Brick, glass, leather shoe, human humerus	Silty clay	10YR 2/1 (black)
11	0-12	Brick, glass, shell	Clayey sand	2.5Y 6/8 (olive yellow)
	12-24	None	Sand	2.5Y 4/3 (olive brown)
	24-48	Ceramic, bone	Sandy clay	2.5Y 4/3 (olive brown)
	48-78	Brick, wood, cut nail	Sandy clay	2.5Y 5/6 (dark yellowish brown)
	78-102	Brick	Sandy clay	2.5Y 4/1 (dark gray)
	102-120	Wood, cut nail, brick, ceramic	Sandy clay	2.5Y 3/2 (very dark grayish brown)
	120-138	Faunal bone, ceramic, wood	Sand	Very dark gray
	138-180	Wood, leather, shell	Sand	Very dark gray
	180-240	Shell, wood, ceramic	Sand	Very dark gray
	240-276	None	Sand	2.5Y 5/4 (reddish brown)
12	0-36	None	Sandy clay	2.5Y 5/6 (dark yellowish brown)
	36-72	Brick, ceramic, glass, concrete	Sandy clay	2.5Y 5/6 (dark yellowish brown)
	72-102	Metal, saw-cut bone, ceramic, glass, leather, wood, brick	Loamy sand	10YR 3/2 (very dark grayish brown)
	102-114	Glass, faunal bone, metal, ceramic, brick	Loamy sand	10YR 2/1 (black)
	114-144	Leather, brick, ceramic, faunal bone	Silty loam	10YR 4/6 (dark yellowish brown)
	144-156	Faunal bone, glass	Sand	10YR 4/6 (dark yellowish brown)
	156-240	None	Sand	10YR 4/6 (dark yellowish brown)
13	0-24	Concrete	Sandy clay	10YR 5/2 (grayish brown)
	24-48	Faunal bone, glass, ceramic, leather, brick	Sandy clay	10YR 3/4 (brown)
	48-84	Metal, saw-cut bone	Loamy sand	10YR 2/2 (very dark brown)
	84126	Ceramic, leather, glass, cobblestone	Sand	10YR 4/4 (dark yellowish brown)

Auger	Depth (in.)	Cultural Material	Sediment Type	Munsell (color)
	126-240	None	Sand (down to bedrock)	10YR 4/4 (dark yellowish brown)
14	0-24	Glass	Sand	10YR 5/3
	24-66	Glass, ceramic, wood	Sandy clay	10YR 4/3 (brown)
	66-96	Wood, ceramic	Sandy clay	10YR 4/3 (brown)
	96-240	Wood	Sand (down to bedrock)	10YR 4/4 (dark yellowish brown)
15	0-24	None	Sandy clay	10YR 4/6 (dark yellowish brown)
	24-48	Faunal bone, glass	Sandy clay	10YR 4/6 (dark yellowish brown)
	48-96	Leather, wood, ceramic, glass, faunal bone	Sandy clay	10YR 2/1 (black)
	96-126	Faunal bone, bottle glass	Sand	10YR 5/6 (yellowish brown)
	126-264	Ceramic, brick	Sand	2.5YR 5/4 (reddish brown)
16	0-24	Concrete	Sandy clay	2.5YR 5/4 (reddish brown)
17	0-24	None	Sandy clay	2.5YR 5/4 (reddish brown)
	24-48	None	Sand	2.5YR 3/2 (dusky red)
	48-84	Wood, ceramics, metal	Sandy clay	2.5YR 4/4 (reddish brown)
	84-120	Wood, shoe leather, metal	Sandy loam clay	2.5YR 3/1 (dark gray)
	120-132	Ceramic, shoe lace, boot leather, metal	Loamy sand	10YR 2/1 (black)
	132-192	Metal, ceramic, leather	Sandy clay (down to bedrock)	10YR 4/4 (dark yellowish brown)
18	0-24	Ceramics, glass	Sandy clay	10YR 4/6 (dark yellowish brown)
	24-48	None	Sandy clay	2.5Y 5/2 (grayish brown)
	48-78	None	Sandy clay (down to bedrock)	2.5Y 5/2 (grayish brown)
19	0-36	Brick	Clay	2.5Y 4/4 (dark yellow brown)
	36-60	None	Sandy clay	2.5Y 4/4 (dark yellow brown)
	60-84	None	Sandy clay	2.5Y 4/4 (dark yellow brown)
	84-102	None	Sandy clay (down to bedrock)	2.5Y 5/2 (grayish brown)
20	0-24	Brick	Sandy clay	2.5Y 4/3 (olive brown)
	24-48	Ceramic, wood	Clay	2.5Y 4/3 (olive brown)
	48-72	Ceramic, wood	Sandy clay	2.5Y 4/2 (dark grayish brown)
	72-100	Human canine, clay pipe fragments	Sandy clay	10YR 5/2 (grayish brown)
	100-126	Leather, ceramic, clay pipe stems, faunal bone	Sandy clay	N 4 (dark gray)
	126-156	Brick	Sandy clay (down to bedrock)	10YR 3/1 (very dark gray)

Auger	Depth (in.)	Cultural Material	Sediment Type	Munsell (color)
21	0-24	Brick	Sandy clay	10YR 4/4 (dark yellowish brown)
	24-72	Leather, ceramic insulator, charcoal, brick	Loamy sand	10YR 2/1 (black)
	72-108	Faunal bone	Sandy loamy clay	10YR 2/1 (black)
	108-180	Metal, shell fragments	Loamy sandy clay (down to bedrock)	N 2.5 Y (black)
22	0-24	None	Sandy clay	10YR 4/3 (brown)
	24-48	None	Sandy clay	10YR 4/3 (brown)
	48-66	None	Sandy clay	10YR 4/3 (brown)
	66-96	Ceramics, faunal bone, shell	Sandy loam	10YR 2/1 (black)
	96-120	Glass	Sand	N 2.5 (black)
	120-132	Wood	Sand	N 2.5 (black)
	132-156	Rope, beer bottle, glass, faunal bone, metal	Sandy clay	N 2.5 (black)
	156-264	Nail	Sand (down to bedrock)	10YR 4/6 (dark yellowish brown)
23	0-60	Glass	Sandy clay	10YR 5/4 (yellowish brown)
	60-120	Wood	Loamy sand	N 2.5 (black)
	120-206	Nail	Sandy clay	N 4 (dark gray)

All of the auger bores encountered a concrete slab between two and five feet below the surface. The slab extended over the entire southeastern half of the project area, the area depicted on the 1950 Sanborn map as being occupied by the Pacific Diamond Bag Company factory and warehouse. The slab was also encountered at similar depths during the subsequent excavations of trenches 1, 2, and 3, as well as in a pothole excavated in the middle of the project area. The slab was not encountered in the northwestern portion of the project area. The fill above the slab was generally characterized by a yellow-to-light brown sand that contained historic materials, including construction debris (brick, wood, sewer and water pipe, etc.), metal, glass, ceramic, leather, and saw-cut faunal bone. Some destruction debris (burned wood, fire-affected brick, etc.) was recovered in auger bores 4, 5, 7, 8, and 9 in the fill above the slab in the eastern corner of the project area.

The results of the auger bores from levels below the concrete slab indicate that areas of the cove that had been filled north and northwest of the original Yerba Buena shoreline can be differentiated from areas filled south and southeast of the original shoreline. In the historic location of the cove, north and northwest of the original shoreline, cultural material was found at depths less than ten feet below the concrete slab. Approximately ten feet below the surface of the parking lot, in the areas that were historically upland of the shoreline, the auger bores encountered gray/green serpentine rock that forms Rincon Hill and its toe. Bores in the project area's east corner encountered the serpentine rock approximately two feet below surface. The location of the original Yerba Buena cove bottom appeared to be approximately 9-10 feet below the surface in the southern part of the project area.

The cove floor is identifiable as a dark gray-to-black, silty, sandy layer approximately a foot thick that contains historic debris. The dark color of this layer indicates a rich organic content consistent with a cove's sedimentary matrix. Rock-and-clay fill material was encountered between the concrete slab and the floor of the cove (i.e., 2-9 feet below surface). The rock-and-clay fill represents the historic filling of Yerba Buena Cove. Although, some historic material was found in this fill layer (i.e., discarded trash), it was relatively sterile, suggesting that the filling of the cove occurred over a short period of time in this location. Had the area not been a rapidly developing urban industrial zone, slower infilling would have provided time for large, widely distributed quantities of debris to have been deposited in the open waters of the cove.

Trench Excavation Results

Subsequent to the discovery of human remains in Auger 10 and 20, two trenches (Trench 1 and 2) were placed within the vicinity of the finds to investigate whether additional human remains were present in the project area (refer to Figure 4).

Trench 1 was ten feet in length, four feet in width, and 4 ½ feet in depth refer to Figure 4). A brown sandy, relatively sterile fill was encountered in the upper layers of the excavation. A 6-inch-thick slab of brick chunks held together by concrete mortar (dubbed "brickment" and designated as P1-Feature 20), was encountered 26 inches below the modern surface (Photo 7). Overlying the slab was a thin surficial layer of concrete (approximately two inches thick). Below the "brickment" was a sandy layer that contained a large amount of burned historic debris. Although this layer contained numerous fragments of glass, metal and ceramic, no diagnostic artifacts were recovered. Below the burn layer was a layer of rock-and-clay fill that contained very little cultural material. No other human remains were encountered in the trench excavation.

Photo 7: Brick Pavement in Trench 1. View North

Trench 2 was placed immediately west of Auger 10 and south of Auger 23. Trench 2 was ten feet in length, four feet in width, and five feet in depth. As in Trench 1, a brown sandy, relatively sterile fill was encountered in the upper layers of the excavation, immediately below the gravel base of the modern asphalt parking surface. Approximately two feet below the surface, a 5-inch-thick concrete slab was encountered and designated

as P1-Feature 21 (Photo 8). Sand-and-rock fill, two feet thick, containing a large quantity of historic material, primarily construction material such as brick and wood fragments, lay below the concrete slab. No diagnostic artifacts were recovered from this stratum. Below this was a layer of sand and clay with very few historic artifacts. The layer was of indeterminate depth, but probably represents the cove fill. No diagnostic artifacts were recovered from it, and no other human remains were discovered.

Photo 8: Concrete Slab in Trench 2. View North

The discovery of a human humerus in Auger 10 was thought to have occurred at a depth of 9-10 feet below the surface. Since the context of the remains could not be determined from the information available at the time (see discussion below on the discovery of human remains), after consultation with the San Francisco Medical Examiner, TS, and Webcor, a deep probe in the vicinity of Auger 10 was excavated to provide a broader exposure of the subsurface. Designated Trench 3, the excavation was conducted to determine whether a prehistoric or historic cultural layer was present that might contain human burials. MEA approved the deeper excavation.

The 10-x-10 foot trench was excavated on April 1, 2005, at a point just north of Auger 10. Excavation reached a depth approximately 16 feet below the surface of the parking lot. Below the 6-inch-thick asphalt parking surface and 12-inch-thick gravel base, lay a light brown sandy fill that contained historic debris. This fill overlay a 6-inch-thick concrete slab that extended over the entire trench. Below the slab was a layer of rock and clay approximately five feet in depth. The lower two feet of this fill was grayish green in color. Below the rock-and-clay fill was a 12-inch-thick black sandy silt layer. Within this layer several historic artifacts were recovered, including a leather shoe and a ship's wood knee. The latter was either a hanging or lodging knee that was used as a framing support for a ship's deck. It had been shaped out of a single piece of compass timber,[3] probably from oak. The layer from which these artifacts were recovered was the deepest cultural level encountered and was 9-10 feet below surface. This depth is that of the original cove floor at the time it was filled in with rock, clay and sand. Below this level were sterile

[3] Compass timber is wood cut from the area of a tree where a limb branches from the trunk. It is used for ship parts that require a sharp bend. Compass timber provides this bend naturally and is far stronger than straight grained pieces that are cut and shaped for the same purpose.

layers of sand and silt down to a depth of approximately 16 feet. No other evidence of human remains was discovered.

*Perimeter Trench Monitoring Resul*ts

A perimeter trench was excavated around three sides of the project area – along Main, Folsom, and Spear Streets (refer to Figure 4). The trench was four feet in width and reached a depth five feet below grade. Several features were encountered during the perimeter trench excavation:

P1-Feature 6

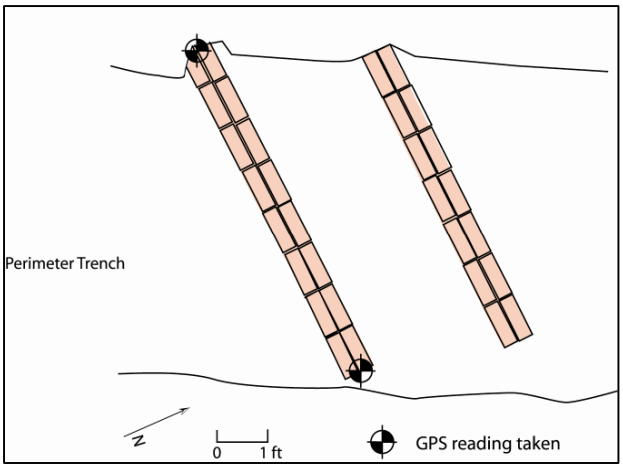
P1-Feature 6 was a brick foundation wall paralleling Folsom Street. The wall was 13 inches in width and approximately three feet in depth. Bricks measured 8-x-4-x-4 inches in size and were mortared together in random patterns of headers and stretchers.

P1-Feature 7

P1-Feature 7 was another concrete footing for an 8-x-8-inch post, similar to P1-Features 3 and 4. It was found in the perimeter trench along Folsom Street, about 40 feet north of Main Street, and five feet below the surface.

P1-Feature 8

P1-Feature 8, located one foot below the surface, consisted of two parallel brick walls running east to west at a 65 degree angle to P1-Feature 6. The relationship of these two features is unclear, as P1-Feature 8 ended before it reached P1-Feature 6. Each wall of P1-Feature 8 consisted of two rows of parallel "stretcher" bricks (i.e. laid lengthways). Each wall was 8 ¼ inches in width, the width of two bricks and the mortar joining them. The two walls were 30 inches apart. The segments of the walls that were exposed in the perimeter trench were 90 inches in length and they continued west under the sidewalk toward Folsom Street.



P1-Feature 8: Plan View

P1-Feature 9

P1-Feature 9 was a pile of brick rubble that might have been a wall fragment. It was found approximately two feet below the surface.

P1-Feature 12

P1-Feature 12 was a concrete foundation wall with a brick superstructure that was approximately 15 inches in width. It was encountered in the perimeter trench along Main Street. The foundation wall reached a depth of about 11 feet below grade.

P1-Feature 14

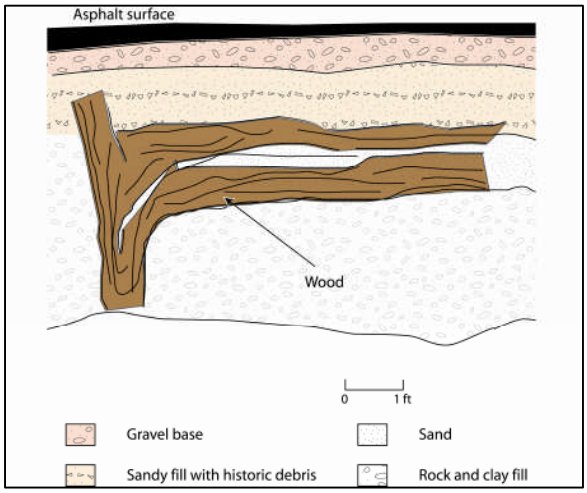
P1-Feature 14 was a brick wall fragment encountered in the perimeter trench along Folsom Street at its intersection with Spear Street. It measured seven feet in length, 13 inches in width, and 30 inches in height. It was encountered approximately one foot below the ground surface.

P1-Feature 16

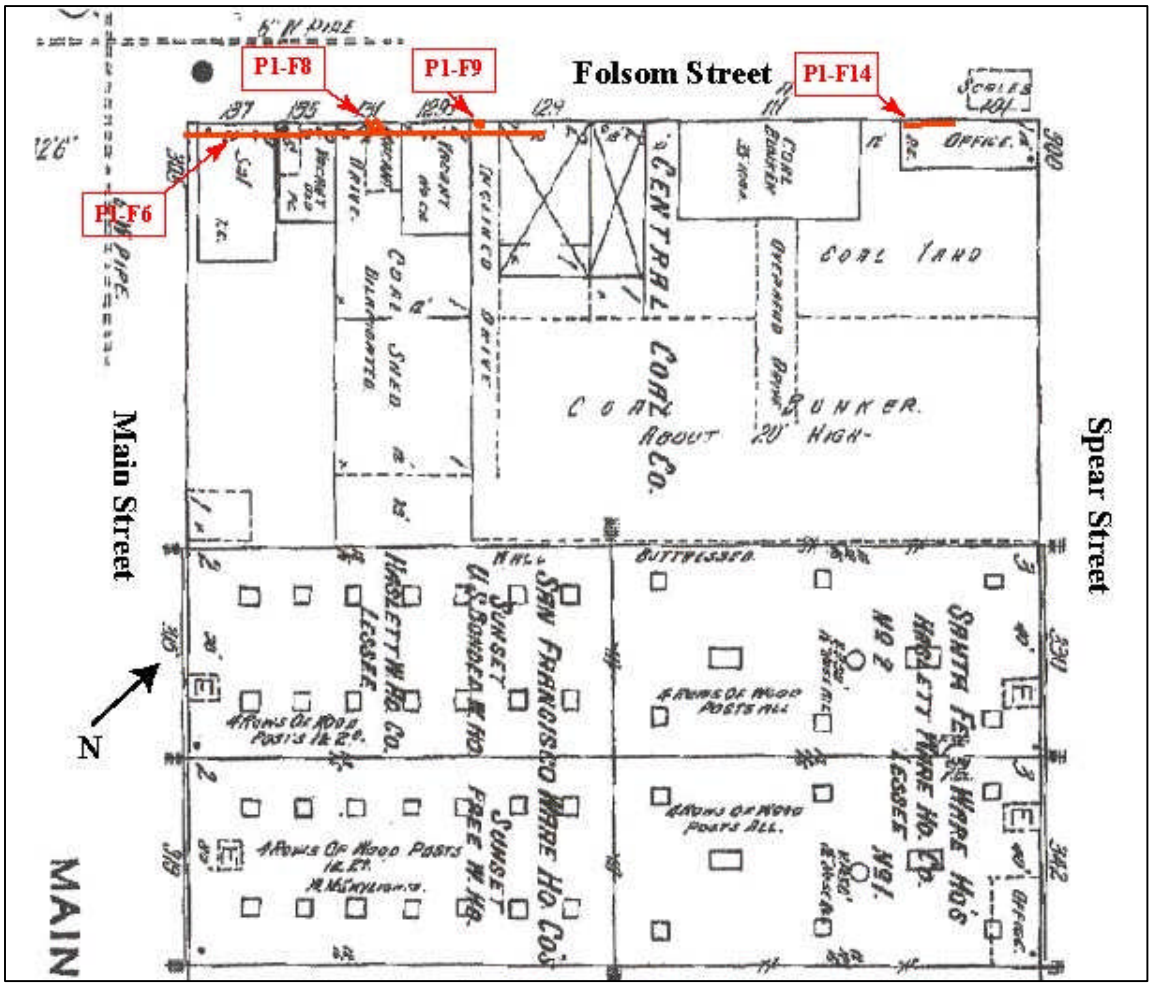
P1-Feature 16 was a concrete foundation that probably represented the eastern limit of P1-Feature 2, as it shared the same dimensions and construction methods as that feature. If they are not the same feature, they are at least contemporary. They were both encountered within one foot of the ground surface.

P1-Feature 17

P1-Feature 17, located two feet below the surface, appeared to be wood structural remains embedded in the western sidewall of the perimeter trench along Spear Street, just south of P1-Feature 16. The configuration suggested it was the remains of a corner post and floor that extended out from the post.



Profile of P1-Feature 17 in the perimeter trench sidewall. View southwest



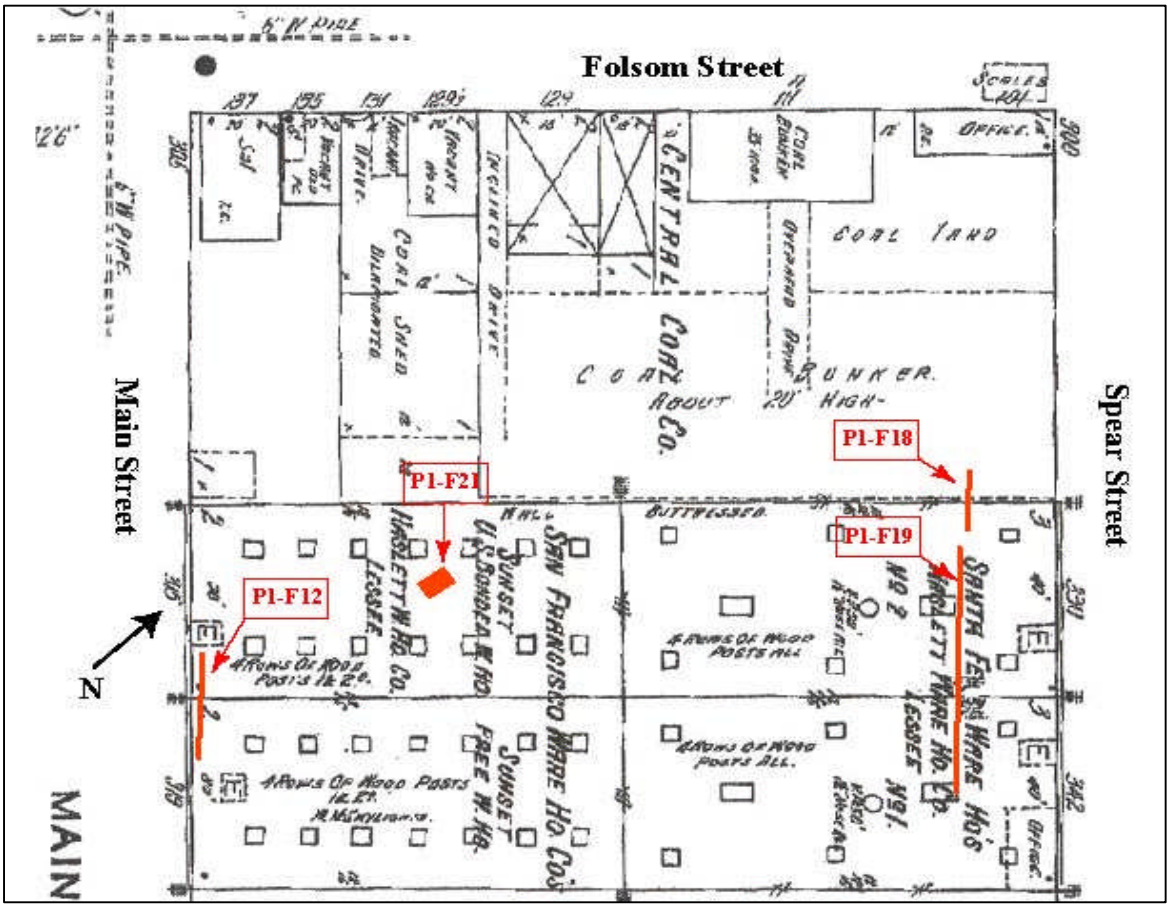
Location of P1 F-6, 14, 8 and 9, shown on the 1889 Sanborn Fire Insurance Map.

P1-Feature 18

P1-Feature 18 was a concrete foundation with brick superstructure, located one foot below the surface. The wall was approximately five feet high, 18-20 inches wide at the top and three feet wide at the bottom. It abutted P1-Feature 19.

P1-Feature 19

P1-Feature 19 was a 98-foot long brick wall built on serpentine bedrock. The wall was about two feet in height and one foot in width. It was encountered one foot below the ground surface. P1-Feature 18 abutted it on its north end. P1-Feature 18 was probably the continuation of P1-Feature 19.



Location of P1 F-12, 18, 19 and 21, shown on the 1913 Sanborn Fire Insurance Map.

P1-Feature 21

P1-Feature 21 was a portion of a concrete slab, two feet below the ground surface.

The alignment and location of brick foundation P1-Feature 6 and 14 can be superimposed onto wall lines from the late 19th century buildings that fronted Folsom and Spear Streets and were associated with the period of the coal yard. Brick features – P1-Feature 8 and 9 – were probably associated with those buildings.

The locations and alignments of P1-Feature 12, 18 and 19, a combination of brick superstructure on concrete foundations or, in the case of P1-Feature 19, serpentine bedrock, can be superimposed onto the wall lines of a warehouse that occupied the southeastern half of the project area beginning in 1913 (refer to Figure 11). P1-Feature 21 is most likely the concrete slab associated with the warehouse.

Pothole Excavation Monitoring Results

Pothole 1 was excavated along Spear Street within the line of the perimeter trench to check for utilities that might be in the way of the excavation of the perimeter trench. The pothole was approximately ten feet in length and four feet in width, and reached a depth of approximately five feet below grade. No intact features were observed, but there was a large quantity of brick rubble in the pothole.

Pothole 2 was excavated in the center of the project area, just south of the northwest excavation area. The pothole was approximately ten feet in length and four feet in width, and it was excavated to approximately ten feet in depth. The stratified layers observed in the exposed sidewalls were very similar to those observed in Trench 3, which was approximately 20-25 feet to the south.

4.4 Discovery of Human Remains

Photo 9: Left human humerus found in Auger 10

On March 29, 2005 a human humerus fragment was recovered from Auger 10, at a depth of 10-14 feet below grade (Photo 9). All of the dirt from the Auger 10 boring was screened to check for other human remains, but none were found. The Medical Examiner was notified of the find, and two representatives from that office came to the site and took possession of the humerus fragment. Mr. Chuck Cecil of the Medical Examiner's office visited the project site March 31, 2005 and provided the following information: (1) the humerus was human; (2) the break of the bone was not fresh (indicating that it was probably not removed from an intact skeleton during the boring operation, but was an isolate); (3) it was discolored with the typical green color of bay mud; (4) its age was indeterminate (either prehistoric or historic); and (5) the Native American Heritage Commission had been notified regarding the discovery of the humerus. Subsequently, auger bores 22 and 23 were placed in the vicinity of Auger 10 to probe the area in which the humerus was discovered to determine if other human remains might be present. The results of both bores were negative. As discussed above, Trench 3 was excavated next to Auger 10 to a depth of 16 feet, also with negative results.

Subsequent analysis of the bone determined that it was the distal third of a left human humerus. Based on the complete union of the distal epiphysis and medial epicondyle, the individual at the time of death was older than the age of 19 (Bass 1995:154). The sex of the individual could not be determined due to the absence of any sexually dimorphic features.

The recovered bone appeared to be in good condition, consisting of the distal third of the shaft, distal metaphysis, and distal epiphysis. The middle and proximal portions of the shaft, including the humeral head, were absent. A jagged transverse fracture characterized the proximal terminus of the distal third of the shaft. The cross-section of the bone (the fractured surface) shared a similar coloration with the periosteal surface of the element, suggesting that the break was not caused by the auger disturbance. It is likely that the break occurred historically. Soil encrusted longitudinal fractures that radiated from the transverse fractured surface down into the metaphysis also indicate the break was not recent. Additional postmortem damage included erosion on the posterior portion of the medial epicondyle and slight erosion and cortical flaking on the anterior shaft.

There were two noteworthy anomalies observed on this bone. The first anomaly was the absence of the middle eminence between the trochlea and capitulum. On a "normal" human humerus there is a small eminence that is located between these two features. The eminence was completely absent in this specimen and no indication of trauma or arthritis was observed, suggesting that degeneration of the feature had occurred during the life of this individual. Likewise, no indication of postmortem damage was observed on the distal epiphysis. It is likely that the middle eminence was congenitally absent. The biepicondylar width was 53.20 mm.

The second anomaly, also appearing to be a congenital condition, was the presence of a perforation and displaced bone located on the medial supracondylar ridge. The ridge which normally characterizes this portion of the bone was flattened and slightly rounded. A sclerotic "bar of bone" attached proximally to the medial metaphysis and distally to the superior portion of the medial epicondyle. The "bar of bone" was situated anterior-proximal and posterior-lateral, creating a smooth sclerotic perforation. The perforation measured 15 mm proximal / distal by 5 mm medial / lateral.

The human left humerus recovered from Auger 10 was placed in the custody of the San Francisco Medical Examiner at 10:00 a.m. on March 30, 2005.

4.5 Summary of Artifact Analysis

A total of 214 artifacts were catalogued in association with the Phase 1 testing program. Over 500 additional items were collected and later culled because they were either non-

diagnostic or highly fragmentary portions of artifacts. Table 5 summarizes the provenience and distribution of Phase 1 artifacts determined suitable for cataloging. As is evident, P1-Feature 10 (the coal yard floor) yielded a far greater number of diagnostic artifacts than the remainder of Phase 1 features.

Table 5. Provenience and Distribution of Selected Phase 1 Artifacts

Feature / Provenience	No. of Artifacts	Type of Artifacts	Date Range
Monitoring (no feature association)	59	Beverage bottles, condiment bottles, Chinese ceramic, ceramic tableware, grooming and medicinal bottles, ink bottles, lamp globe, buttons	1848-post 1934
Augers 1, 10, 13, 15, 17, 20, 22	44	Beverage bottle, condiment bottles, grooming and medicinal bottles, Ceramic tableware, Chinese ceramic, pipe fragments, buttons, pick head, lock case, marble, insulator	----
Perimeter Trench	8	Beverage bottles, ceramic tableware	1860-1883
Trench 2	1	Marble	----
Trench 3	1	Tea Cup	----
Pothole	1	Beverage bottle	1867-1897
P1-F 1	2	Beverage bottle, grooming bottle	1870-1915
P1-F 10	89	Beverage bottles, medicinal bottles, ink bottle, stoneware crocks, Chinese ceramic, ceramic tableware, silverware, hair comb, safety pin, clay pipes, children's toy	1843-1918
P1-F 2 (found below feature)	4	Beverage bottles, medicinal bottles	1875-1920
P1-F 4	3	Chinese ceramic, decorated ceramic, shot glass	----
P1-F 5	2	Buttons	----

Ceramics

Ceramic artifacts recovered from within the project area include tableware, household items such as candlesticks and wash basins, stoneware food storage containers, jars, building materials such as insulators, and bottles that contained items such as ale and ink. Ironstone tableware was largely fragmentary, although samples clearly representative of plates, saucers, bowls, and cups were identified. Larger serving pieces, such as platters, pitchers, and lids were also represented. Makers' marks were present in sufficient quantities to establish a preliminary range of manufacturing dates for the Ironstone tableware recovered from the northern half of the site (Table 6).

Table 6. Sample of Makers' Marks Collected during Phase 1

No.	Feature	Circa	Description
1	P1-F 10	1843-55	T.J. & J. Mayer's Improved Ironstone China; printed garter style mark with floral embellishment
2	P1-F 10	1846-1918	R. Cochran & Co., Glasgow; printed Royal Arms mark
3	P1-F 10	1865-77	Edward Clarke, Phoenix Works, Tunstall; printed Royal Arms mark
4	P1-F 10	1862-91	E. & C. Challinor, Fenton Pottery; printed Royal Arms mark
5	P1-F 10	1853-71	Elsmore & Forster, Clayhills Pottery, Tunstall; printed Royal Arms mark
6	P1-F 10	1853-61	John Alcock, Cobridge Pottery; printed Royal Arms mark

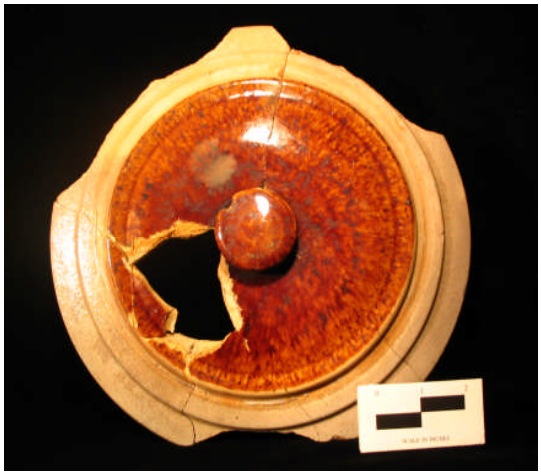


Photo 10: Stoneware lid with Rockingham glaze.

The majority of the Ironstone objects recovered are whiteware pieces with little or no decoration. However, some examples of molded relief, transfer printed, and 'flow' blue decoration were recovered.

Several examples of large coarse stoneware crocks, likely used for food storage, were collected (Photo 10). Portions of at least five vessels were present, and all were similar in appearance. The body of the crocks was made from buff stoneware that had been salt glazed and decorated with stylized blue floral decoration on the exterior. In general, the interior of each piece was finished with a dark brown Albany slip, although lighter finishes are also apparent. A buff stoneware lid with a combination of Rockingham and salt glazes was discovered with the crocks.

Although items related to food storage, preparation, and consumption dominate the 300 Spear Street ceramic collections, other types of household items round out the ceramic assemblage. These include artifacts such as ceramic candlesticks and large fragments of vessels likely to be either chamber pots or wash basins, both standard elements of a 19th - century toilet set.

Small ceramic apothecary jars, as well as small ointment jars are present in the collection, as are ceramic bottles used to hold both ale and ink. Several ceramic ale bottles were recovered from the site. They range from large stoneware bottles glazed in the two-tone Bristol style, to smaller bottles with a simple cream colored glaze. The only sample with an impressed maker's mark was manufactured by J. & C. Price and Brothers of Bristol, England (date of manufacture unknown). Although writers typically used smaller glass ink bottles on their desk tops, bulk ink was often packaged in ceramic bottles.

Ceramic knob-and-tube style insulators were found in several locations, and are compatible with the many historic structures known to have existed within the project area.

Glass

Although glass artifacts collected from within the 300 Spear Street Project area include items such as tableware and flat glass, the most common glass artifacts were bottles. The collection includes bottles that once contained soda water, beer, champagne, liquor, milk, ink, medicine, condiments, and cosmetics. A sample of diagnostic bottles collected from within the project area is summarized below in Table 7.

Table 7. Sample of Diagnostic Bottles Collected during Phase 1

No.	Location	Bottle Type	Color	Circa	Description
8	P1-Feature 10	Soda Water	Sapphire/Cobalt Blue	1852-1856	'B & G / SAN FRANCISCO' with reverse embossed 'SUPERIOR / MINERAL WATER'
9	P1-Feature 10	Soda Water	Greenish Aqua	1863-1868	'PACIFIC / SODA / WORKS' with reverse embossed 'CLASSEN & CO. / SAN FRANCISCO.'
10	P1-Feature 10	Soda Water	Lt. Grass Green	1861-1871	'EMPIRE SODA WORKS / SAN FRANCISCO'
52	P1-Feature 1	Soda Water	Aqua	1899-1915	'AMERICAN / (AMERICAN FLAG) / SODA WORKS / S.F.'
55	P1-Feature 2	Soda Water	Clear Greenish Aqua	1897-1906	'PIONEER / (BEAR) / SODA WATER CO. / S.F.'
60	NW Corner	Soda Water	Aqua	1873-1885	'JACKSON'S / NAPA / SODA / SPRINGS' with reverse embossed 'NATURAL MINERAL WATER'
63	NW Corner	Soda Water	Aqua	1875-1882	'C.A. REINERS & Co / 723 / TURK st / S.F.' with reverse embossed 'IMPROVED / TRADEMARK / (MOON AND STARS) / MINERAL WATER'
56	P1-Feature 2	Mineral Water	Dark Olive	1879-1918	'SAXLEHNERS / BITTERQUELLE /

No.	Location	Bottle Type	Color	Circa	Description
		(medicinal)			HUNYADI / JANOS'
62	Along Folsom	Prescription	Aqua	1848-1900	'AYER'S / COMPOUND EXT / LOWELL / MASS U.S.A. / SARSAPARILLA'
53	Perimeter Trench	Beer	Aqua	1876-1882	'C CONRAD & CO'S / ORIGINAL / BUDWEISER / US PATENT NO. 6376'
50	Perimeter Trench	Sparkling Cider	Cobalt	1864-1868	'CLASSEN & CO. / (ANCHORS) / SPARKLING'

Like the dates obtained from the ceramic collection, the diagnostic samples within the bottle collection indicate that the majority of the bottles recovered from the project area were manufactured during the last half of the 19th century and date prior to the use of the semi- or fully-automatic bottle machines that came to dominate 20th-century production. The primary exceptions to this are the many milk bottles that were recovered from the northern portion of the site. Nearly all of them had applied color labeling (ACL), and date no earlier than 1934.

In addition to the bottles that contain identifying marks, such as product names or makers' marks, the method of manufacture (observable through mold seams, finish types, and physical characteristics) on the majority of bottles is consistent with the mouth-blown and hand-finishing techniques used by 19th-century bottle makers (Photo 11). The following describes the types of bottles collected during the Phase 1 testing.

Photo 11: Bottles with identifying marks.

Soda Water

On the whole, beverage bottles, and in particular soda water bottles, constitute the bulk of the 300 Spear Street bottle collection. Samples range from a very early (1852-1856) B & G Superior Mineral Water bottle to a Pioneer Soda Water bottle that was sold at the turn

of the century. The cobalt/sapphire blue B & G bottle has a ten-sided base, an iron pontil mark, and a true applied finish.

Bache & Grotjan (B&G) were wholesale and retail druggists and apothecaries listed on Washington Street and Plaza, 213 Washington, and 112 California. Interestingly, it appears that fellow druggists Crowell, Crane & Bingham used the same mold for their bottles as B & G, simply slugging out and replacing the initials (Markota and Markota 1971:16).

In contrast to the early B & G bottle is a later example of the Pioneer Soda Water bottle, produced between 1897 and 1906. It is made of clear greenish aqua glass with a tooled finish. Prior to 1897, the company was known as the Pioneer Soda Water Works, with proprietors Martin Walsh and Charles Welch. In 1897, the company changed its name to the Pioneer Soda Water Co. It was located at 1555 Mission, with William Welch and George W. Collins proprietors (Markota and Markota 1971:80). Additional local soda water companies were also represented in the collection, including Classen & Co.'s Pacific Soda Works, Classen & Co.'s Sparkling Cider, Empire Soda Works, American Soda Works, Jackson's Napa Soda Springs, and C.A. Reiners & Co. Along with the local distributors, East Coast companies such as Seitz and Bros. are also represented in the collection.

Beer

Numerous examples of black glass beer or ale bottles are present in the 300 Spear Street collection. Many are similar to Artifact 11, a black glass beer bottle that exhibits many of the features of an early mouth-blown bottle. Found in association with P1-Feature 10, the bottle has an applied finish, with a horizontal mold seam below the shoulder with two vertical mold seams from the shoulder to the base of the neck. The mold seams were likely left by a dip mold with two shoulder mold sections added. The irregular neck has tool marks and was likely reheated or free-blown. There is an open pontil mark on the base and a large quantity of small bubbles throughout the glass. Remnants of a seal are still evident at the top of the neck and finish, and the base has been pushed up. In general, these features are indicative of early bottle production, although it is important to take into consideration the following:

> As late as 1880 the San Francisco glass houses were turning out (black glass) bottles as crude as those made in the east many years earlier, mainly because of unskilled labor and the inability to retain the workers" (Wilson and Wilson 1968). In mid-19th century frontier California, where transportation costs from the east coast were prohibitive, the local glass makers enjoyed somewhat of a geographic monopoly. This protective situation provided little incentive for glass makers to quickly adapt new methods for the production of cheap utilitarian wares such as

> black glass liquor and ale bottles. This was not the situation on the east coast where glass makers had to fend off cheap imports from Europe, the amount of which flowing into the country was dependent on the level of tariffs and duties at any given time (Davis 1949 in the Bureau of Land Management's Key to Bottle Dating).[4]

Not all beer bottles within the collection resembled the crude black glass sample described above. A Budweiser bottle produced between 1876 and 1882 was made from light aqua glass with three stylized 'C's embossed on the base. The body is embossed with C CONRAD & CO'S / ORIGINAL / BUDWEISER / US PATENT NO. 6376. C. Conrad & Co. was located in St. Louis, Missouri, and although the neck and finish are missing, mold seams are indicative of post mold production (Toulouse 1971).

Champagne

Several examples of champagne style bottles were recovered within the project area. The single bottle analyzed during Phase 1 testing was a small (13 oz.) olive green bottle with a high kick-up and sloping shoulders. A great deal of patination is evident and no mold seams are visible. It was likely mold-blown and a flat tooled ring has been hand applied to the finish (WSA 1996a:42-43).

Liquor

Liquor bottles were not as numerous as the beer and soda water bottles found during Phase 1 testing, though they were present within the collection. A large amber bottle recovered from the northwest corner of the project area shows extreme patination and is embossed IOH VON PEIN / ALTONA on the base with IOH VON PEIN repeated at the shoulder. The seams at the heel and shoulder are indicative of an early three-piece mold and the finish has been hand applied. Large bubbles are evident throughout the bottle. Although a written source was not found, a website dedicated to Danish bottles contained a photo of a nearly identical bottle and indicated that Altona is located near Hamburg, Germany, although until 1864 Altona belonged to Denmark (Vagn Peterson's Danish Bottles online). This early import may have contained any of the types of spirits popular with 19th-century California consumers.

[4] The Bureau of Land Management has created an extensive web site dedicated to dating and identifying historic bottles. Their discussion of mold seams, finishes, bases, and mold varieties is extremely thorough. It has been used as background material for the discussion of physical characteristics and production techniques related to the 300 Spear Street bottle collection.

Ink

Unlike bulk ink containers, which were often made of ceramic, smaller ink bottles and ink wells were commonly made of glass. Two small conical ink bottles made of aqua glass were recovered within the project area. Likely produced between 1865 and the turn of the century, the first sample has a thick shoulder ring and a mold seam around the heel with side mold seams running from the heel to the bottom of the finish. Additional glass was applied somewhat crudely at the finish (WSA 1996a:72). The second sample has a shoulder ring/collar and the side mold seams end mid-neck. The finish appears to be simply ground.

Medicine

The world of 19th-century medicines was a mixture of legitimate cures and dubious (often intoxicating) remedies. The result today is a sometimes amusing mixture of products that promised far more than they could deliver. Of the artifacts recovered from the project area during Phase 1 testing, two medicinal bottles were catalogued as representative samples. The first is a large aqua paneled bottle embossed AYER'S / COMPOUND EXT / LOWELL / MASS U.S.A. / SARSAPARILLA which had been post mold produced with an applied finish. James Cook Ayer established his drug and medicine business in 1841 and Sarsaparilla was introduced in 1848 (Fike 1987:94). Because it was a "blood purifier of the highest efficacy," Ayer's recommended it for dyspepsia, liver and kidney diseases, jaundice, and dropsy, among many other things.

The second medicinal bottle is a dark olive, round bottle with strong shoulders and a short narrow straight neck. Its finish has been applied and two very faint body seams stop above the heel. The base is embossed SAXLEHNERS / BITTERQUELLE / HUNYADI / JANOS. Several similar bottles were found during archaeological excavations in Old Sacramento, and according to the authors of the project report, the bottles contained mineral water (bitter aperient water) that was collected and bottled by Andreas Sexlehner at a spring in Ofen, Hungary. The product itself was named after a Hungarian national hero (Hunyadi Janos) of the 14th or 15th century and the medicinal mineral water was being shipped to California by 1879 (Schulz et al. 1980:142-143). Not only was the product advertised as the "most certain and comfortable cathartic in cases of constipation and sluggish liver or piles," but the label also claimed effectiveness in fighting "chronic affections of the organs of respiration and circulation," "haemorrhoids [sic]," "many female diseases," and "the evil consequences of indiscretion of diet." (Schulz et al. 1980:142-143).

Condiments

Condiment jars recovered during Phase 1 testing were relatively rare within the bottle collection. The sample chosen for analysis was a large aqua gothic/cathedral style bottle likely used for pepper sauce or cooking oil (Ketchum 1975:140). It has a tapered narrow neck and an applied finish. Crazing is evident where the neck was sheared off.

Overseas Chinese

Photo 12. Traditional-shaped wheel-thrown ceramic Chinese beverage bottle

The presence of a 19th-century Chinese community on Rincon Point has been discussed in WSA 2005a. The presence of traditional Chinese artifacts within the project area may be related to this community of fishermen, many of whom were also employed as ship breakers, although it is more likely that they are related to the coal yard and other business that were constructed on the property after the cove was filled in. The items of Chinese origin were found between P1-Feature 2 (a large concrete foundation) and P1-Feature 10 (a wood plank floor associated with the coal yard). The most complete artifact was a traditionally-shaped wheel thrown ceramic beverage bottle with a bulbous body, narrow neck, and flared lip (Photo 12). These bottles are known as wine, tiger whiskey, or tiger jugs (Pastron, Prichett, and Ziebarth 1981:389). This sample is missing only a portion of the lip. A maker's mark is impressed into the indented base. The buff colored, coarse stoneware has been finished with both green and brown glazes.

In addition, two fragments of Chinese stoneware (likely from a rice bowl) with blue/gray decoration in the 'Three Circles and Longevity' pattern were collected (Photo 13). A single sherd from a larger vessel was also recovered. Its blue vine decoration was applied over a blue/green glaze

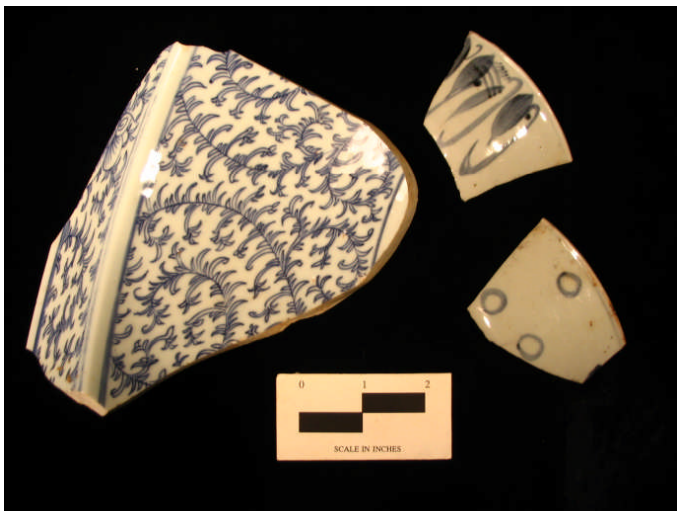


Photo 13: Chinese ceramic sherds

Personal Items and Clothing

Photo 14: Clay pipes found during Phase 1 testing.

Personal items and clothing evident within the project area during Phase 1 testing include buttons, leather goods such as boots, shoes, and a belt, clay pipes (Photo 14), and a comb. The buttons were recovered from Auger 10. The first was a small shirt-size two-hole button made of shell. A larger five-hole wood button was also recovered. It was likely used on a man's shirt or jacket. Leather goods are abundant within the collection. They consist primarily of boots and shoes. Only a portion of the footwear observed within the site was collected. Although women's boots were evident, the majority of the footwear samples were utilitarian men's boots. Additional leather goods, such as a belt, were also collected.

A sample of the clay pipes recovered from the project area is summarized below in Table 8. The collection of pipes is largely fragmentary, although several samples contain identifying marks and decoration. Samples from England, Scotland, and France are evident, and makers like McDougall and Murray are represented. Although the majority of pipe stems and bowls were undecorated, examples of vertical ribs, vine and maritime designs, and several types of heels are present (Pastron and Prichett 1981, Humphrey 1969, Walker 1969).

Table 8. Sample of Clay Pipes Collected during Phase 1

No.	Location	Qty	Part	Circa	Description
21	P1-Feature 10	1	Stem	Post 1846	Embossed stem made by the McDougall Co. of Glasgow.
22	P1-Feature 10	1	Stem		No identifying marks
23	P1-Feature 10	1	Bowl/stem	1823-1876	'TD' impressed on bowl, partial impression on stem may indicate maker: Thomas White & Co. of Edinburgh
24	P1-Feature 10	1	Whole		Clay pipe, no impressions on stem or bowl, bowl is conical with spur and decorated with vertical ribs
25	P1-Feature 10	1	Stem		Impressed with 'Hugot a Paris / A (second initial unknown).'
29	Auger 15 Level 3	1	Stem		No identifying marks
33	Auger 20 Level 5	4	Stem		No identifying marks

No.	Location	Qty	Part	Circa	Description
38	Auger 20 backdirt	2	Bowl/stem		Fragment of pipe stem and portion of heeled pipe bowl, no marks evident
42	Auger 20 Level 4	1	Bowl		Bowl with spur, no marks
43	Auger 20 Level 4	1	Bowl		Clay pipe bowl broken at stem, no marks, portion of molded 'patriotic' decoration evident, includes shield and maritime design
44	Auger 20 Level 4	1	Bowl		Heeled pipe bowl with '96(?)' impressed on right side of heel
45	Auger 20 Level 4	13	Stem		Stem fragments with no identifying marks
46	Auger 20 Level 4	6	Stem		6 clay pipe stems with various marks or decoration, including vines and the Murray Co.'s impressed mark from Glasgow.

The hair comb recovered is a man's black India Rubber comb with a stamp reading, 'I.R. Comb Co. Goodyear 1851.' The comb was fashioned after Goodyear's 1851 patent and was a common component of most men's toiletry sets.

Photo 15. Tea cup, likely part of a children's tea set

Children's Items

Only two children's items are present in the Phase 1 collection. They include a small irregular ceramic marble with a white pitted glaze and a small teacup (Photo 15).

Commercial and Miscellaneous

Photo 16. Wood knee

A small assortment of items that were likely associated with the historic businesses that once operated within the project area, as well as miscellaneous items likely used by the people working in those establishments, was recovered. These include structural items such as bricks and nails, tools such as the head of a pick and notched wooden handles likely used as ax handles. Artifacts

such as a lock case and a circular stove lid were also recovered. In addition, a wood ship's knee (Photo 16) and a pulley mechanism were collected.

The ship's knee was discovered in Trench 3 at a depth of 9 ½ to 10 feet below grade in a stratum of black sand. The role of Rincon Point in the ship breaking industry has been discussed in WSA 2005a, and, as discussed below, the Phase 2 work within the project area yielded much additional information regarding the extent of the archaeological deposit relating to post-Gold Rush ship breaking activities along the historic shoreline.

5.0 ARCHAEOLOGICAL MONITORING AND DATA RECOVERY (PHASE 2)

WSA completed the preconstruction archaeological testing program on April 7, 2005. The results of the testing program indicated that the entire project area was potentially culturally sensitive. Consequently, beginning on July 7, 2005 and continuing through October 21, 2005, WSA archaeologists monitored project excavations throughout the project area until it was determined that the excavations had reached culturally sterile sediments.

5.1 Methodology

When archaeological features were encountered during the monitoring phase of the project, they were fenced off with yellow caution tape, and construction excavation was redirected. All features were exposed by hand (with some mechanical assistance), mapped, and photographed before they were removed. WSA used a Topcon total station to map the location and depth of the features. Additionally, features were mapped using a Trimble Geo XT utilizing TerraSynch GIS software. To-scale field sketches of all features were drawn. Portions of some features were recovered and removed from the field for further documentation and analysis.

Diagnostic artifacts were recovered, bagged, labeled with provenience data, and later cleaned and culled on site, prior to being transferred to the WSA conservation lab. Recovered artifacts were analyzed and then cataloged using a FileMaker Pro 5 database.

5.2 Results: *Summary of Features Discovered*

In addition to the 21 historic features recorded during the preconstruction archaeological testing program, 19 historic features were discovered during the construction monitoring phase of the 300 Spear Street Project. The features, which are tabulated below, ranged in age from the Gold Rush settlement period to the early 20th century (Table 9).

Table 9. Features Discovered During Phase 2 Construction Monitoring and Data Recovery

Feature #	Description	Location	Depth	Date Range	Comments
P2-F 1*	Brick wall and floor	NE portion of the parcel	2.00 feet**	1886-1893	Associated with the Hobbs Wall & Co. Box Factory
P2-F 2	Historic sheet refuse deposit	SW wall along Folsom and Main St.	2.00 feet	1886-1900	Associated with shops and residences along Main and Folsom St.
P2-F 3	Brick foundation	SW/central portion of parcel	8.53 feet	1913-1950	Abuts P2-F 7. Component of the SF Warehouse Company's Sunset U.S. Bonded Warehouse
P2-F 4	Coal Structure Floor	NE corner of parcel	18.17 feet	1886-1950	Associated with coal yards
P2-F 5	Brick wall and concrete floor	SE corner of parcel	2.00 feet	1886-1893	Associated with the Hobbs Wall & Co. Box Factory (SW extension of P2-F 1)
P2-F 6	Redwood Drain	N/NE portion of parcel	18.76 feet	1886-1950	Associated with coal yards
P2-F 7	Brick wall	South-central/SE portion of parcel	9.35 feet	1913-1950	Articulates with P2-F 3. Component of the SF Warehouse Company's Sunset U.S. Bonded Warehouse
P2-F 8	Wood house foundation	South-central portion of parcel	14.69 feet	1859-1868	Footprint of this structure can be seen on the 1859 U.S. Coast and Geodetic Survey Map
P2-F 9	Wood structures	SW portion of parcel	18.54 feet	circa 1872	May be associated with houses and businesses (including lumber yard) along Main and Folsom Street
P2-F 10	Coal Structure Floor	Central portion of parcel	13.69 feet	1886-1950	Associated with coal yards
P2-F 11	Redwood Drain	NE portion of parcel, ~40' east of P2-F 6	18.98 feet	1886-1950	Associated with coal yards
P2-F 12	Large brick footing	SE portion of parcel	13.81 feet	1913-1950	Likely associated with the Haslett Warehouse (seen on the 1913 Sanborn map)

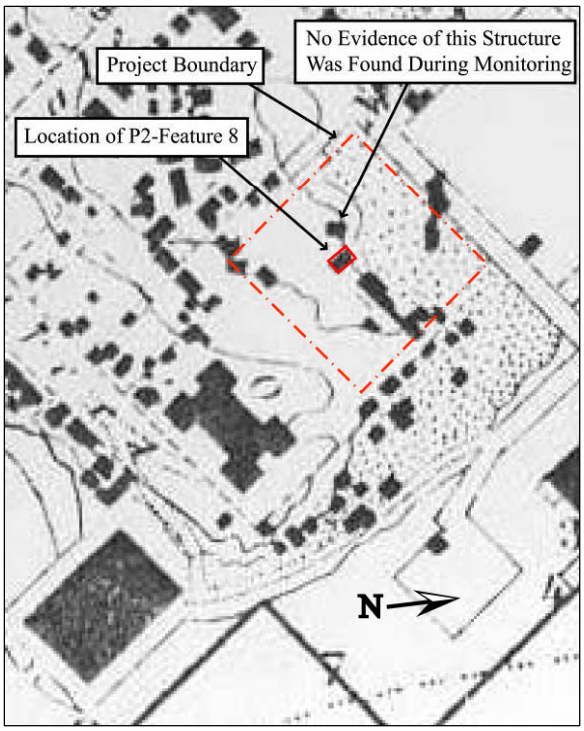
Feature #	Description	Location	Depth	Date Range	Comments
P2-F 13	Wood walkway/fallen fence and associated wood-lined privy	Southern portion of the parcel	15.05 feet	1872-1886	May be associated with houses and businesses (including lumber yard) along Main and Folsom Street
P2-F 14	Brick and wood footing for steam boiler	NE portion of the parcel	6.22 feet	1886-1893	Associated with west corner of the Hobbs Wall and Co. Box Factory (seen on the 1886 Sanborn map)
P2-F 15	Ship breaking yard	South-central portion of parcel	21.03 feet	1851-1857	Thirty two individual ship timbers likely associated with Charles Hare's ship breaking operations.
P2-F 16	Wood sailing ship and horizontally placed wood frame	NW portion of parcel	22.57 feet	1818-1855	Stern section of a partially dismantled ex-whaling ship (*Candace*). Associated wood frame used as work platform for dismantling ship
P2-F 17	Coal Structure Floor	NW portion of parcel	18.83 feet	1886-1950	Associated with coal yards. Located on approx. five feet of fill covering P2-F 16
P2-F 18	Portion of ship breaking yard	NE portion of parcel	28.36 feet	1851-1857	Ten individual ship timbers likely associated with Charles Hare's ship breaking operations.
P2-F 19	Wood structures and associated historic debris	SW portion of parcel	20.25 feet	1872-1886	May be associated with houses and businesses (including lumber yard) along Main and Folsom Street

*P2 (Phase 2)-F1 (Feature 1) refers to the first feature discovered by WSA during Phase 2: the Archaeological Monitoring and Data Recovery at 300 Spear Street.
** Feature depths reflect the measurement to the top of the feature from the site datum.

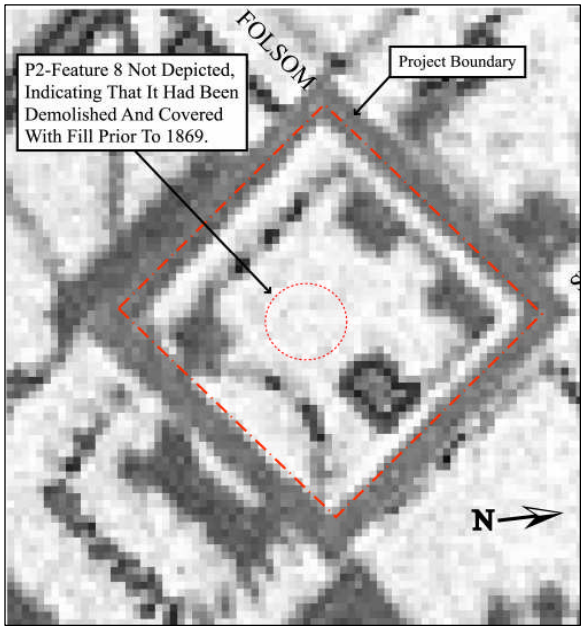
Sixteen of the features (84%) discovered during monitoring and data recovery represent the fill or post-fill era: brick building foundations, a brick and wood footing for a boiler, coal structure floors and associated wood drains, a sheet refuse deposit, wood structures, and a privy. Three discrete locations representing ship breaking activities, and the remains of a partially dismantled wood sailing ship were found, representing the pre-fill era. These features are described briefly below and in detail in the section following.

Earliest historic occupation and use of the project area was indicated by evidence of Charles Hare's ship breaking operations, which took place during the 1850s. Two locations in the central and northern portions of the project parcel contained numerous ship timbers, along what was originally the tidal boundary of the Yerba Buena Cove shoreline (P2-Feature 15 and 18) (refer to Figure 5). Additionally, the remains of a ship's hull (P2-Feature 16) were located just off the original shoreline in the northwestern portion of the project area, deeply embedded in the bay mud. Approximately 15 feet of fill had been placed over the vessel. The wood ship knee recovered in Trench 3 during Phase 1 testing was found approximately 10 feet below the original ground surface just south of the location of P2-Feature 15 and should be considered as a component of the scatter of dismantled ship parts that comprised that feature.

The foundation for a wood structure (P2-Feature 8), built between 1853 and 1859, is associated with the period prior to the completion of the filling of Yerba Buena Cove. The footprint of P2-Feature 8, located in the south-central portion of the project area, can be seen on the 1859 U.S. Coast and Geodetic Survey Map. A structural footprint of similar size is depicted on the same map, approximately 26 feet to the west of P2-Feature 8. No evidence of this structure was found during monitoring. The structure represented by P2-Feature 8 is not visible on the 1869 U.S. Coast Geodetic Survey map, indicating that it had been demolished and buried under fill by the end of the 1860s.



Location of P2-Feature 8, as seen on the 1859 U.S. Coast and Geodetic Survey Map.



1869 U.S. Coast and Geodetic Survey Map showing vicinity of P2-Feature 8 (indicated by dotted circle).

P2-Feature 2 appears to be a dump site associated with the residential structures along Main Street that were constructed after the cove was mostly filled, most likely in the early 1860s (i.e., between 1859 U.S. Coast Map and 1872 Muybridge photos). Since these structures stood until some time before 1913 (maybe torn down as a result of earthquake damage), artifact dates could span the entire last half of the 19th century.

Three separate coal bin floor features (P2-Feature 4, 10 and 17), representing components of the coal yard that was present on the property between 1860 and 1920 were found in the central and northern portions of the project area. Two redwood drains (P2-Features 6 and 11) were found within the vicinity and at the approximate same level as P2-Feature 4, indicating that the two were likely associated. These wood drains were probably placed under the coal storage structures in order to keep their contents dry.

Six coal yard features found during the testing and preliminary data recovery phase of the project date to this era: P1-Features 1, 5, 10, 11, 13 and 15 (WSA 2005b).

P2-Feature 13, a wood walkway and associated wood-lined privy that dates between 1872 and 1886, represented a portion of the lumber yard that was located in the southern portion of the project area.

Components of this feature can be seen adjacent to a large wood stack near Main Street in the 1872 Muybridge Panorama (View #1) (Photo 17).

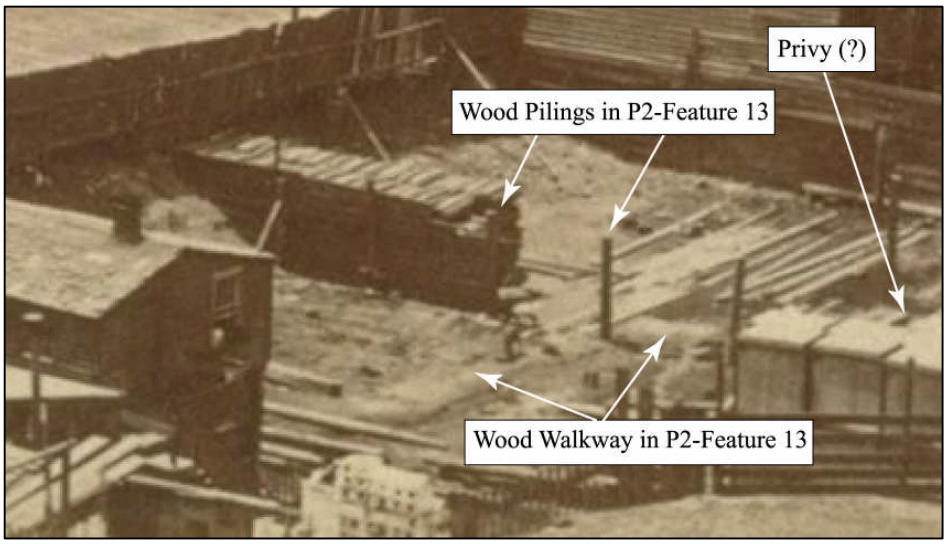


Photo 17. Components of P2-Feature 13 as seen in the 1872 Muybridge Panorama (View 1). The wood-lined privy recorded in this feature is presumed to be located in the right portion of this photo, behind the white wood structure.

Two additional wood structures (P2-Features 9 and 19) encountered during excavations in the southwest portion of the project area were also likely associated with the lumberyard (Photo 18).

Photo 18. Approximate location of P2-Feature 9 (inset), seen in the 1872 Muybridge Panorama.

Three brick wall features (P2-Feature 1, 5 and 12) and one brick footing for a boiler (P2-Feature 14), located in the east and northeast portion of the project area, are likely associated with the Hobbs Wall and Company Box Factory that is depicted on the 1886-1893 Sanborn map.

A large brick buttress (P2-Feature 3) conjoined with a brick foundation (P2-Feature 7), creating a 90 degree angle in the south-central portion of the project area. The depiction of these articulating brick features on the 1913-1915 Sanborn map indicates that they made up the northern portion of the San Francisco Warehouse Company's Sunset U.S. Bonded Warehouse.

5.3 Feature Descriptions

The features discovered during the Phase 2 monitoring and data recovery program are described below according to the era in which they were created: the pre-fill era (c. 1851-1857), fill era (late 1850s-1860s), and the post-fill era (1860s-1950s). Approximate dates from the features were derived from historic maps of the project area and analysis of the artifacts associated with the features.

5.31 Pre-fill Era Features (c. 1851-1857)

P2-Feature 15

P2-Feature 15, located in the south-central portion of the project area, consisted of structural remnants and scattered ship timbers and ship-related materials associated with Charles Hare's ship breaking operations (Photo 19; Figure 22). It is likely that

Photo 19. P2-Feature 15, view to the south.

components of this feature were deposited between 1851 and 1857, the period in which Hare operated his yard.

The entire area of P2-Feature 15 measured approximately 90 feet northwest to southeast by 125 feet southwest to northeast. The feature consisted of 32 complete or partial wood ship timbers and ship-related materials (Figures 22a-x). The average depth of the feature was 21 feet below the site datum (i.e. below surface grade). Feature components included a wood barrel, one breast hook, two pieces of dead wood, one cant frame set, three floors, two double frame sets, nine futtocks, three futtock fragments, one keel fragment, one keelson fragment, one windlass, one windlass bitt, two pieces of sacrificial planking and five wood remnants that could not be identified (refer to Figure 22).

A natural rocky outcrop that would have been exposed along the tidal boundary before the cove was filled in was located in the southeastern portion of the feature. A temporary datum for P2-Feature 15 was established on the approximate center of the top of the outcrop for the purposes of recording provenience of artifacts within the feature (refer to Figure 22). Barnacles were visible on the rock surface, particularly near the base of the rock outcrop.

The feature's southern boundary was delineated by a 15-inch tall, 48-foot long wood wall that was oriented northwest (305 degrees) to southeast (120 degrees) (Photo 20). The southwest portion of the short wood wall was well preserved, and intact support stakes were visible along the north side of the wall. The northwest portion of the wall, along with its support stakes, was folded over and cracked. The northwest terminus of the wall

formed a right-angle and an additional section of wall extended to the southwest (216 degrees) approximately 18 feet, where the remainder of the wall had rotted away. However, a line of support stakes was still visible, extending to the southwest a distance of five or six feet, indicating that the short board wall had continued in that direction.

Photo 20. Short board wall located in P2-Feature 15.

Numerous timber pilings of various sizes had been driven within P2-Feature 15, with at least eight pilings nearly outlining the natural rock outcrop in the southern portion of the feature (refer to Figure 22). Three of these pilings and uprights had rope wound around their bases. The northern most of these uprights had a rope around its base that had been tied in a clove hitch.

Through careful removal of the historic fill in this area, the original tidal shoreline in this portion of the project area was effectively delineated. The ship timbers rested on the original sandy cove shoreline which would have been submerged and exposed with the rise and fall of the tides. Exposure to bay water was indicated by the presence of barnacle (*Balanus*) and mussel (*Mytilus*) attachment residues located on the ship timbers, short wall, and rocky outcrop.

Associated Artifacts

The 110 artifacts catalogued in association with P2-Feature 15 reflect both the refuse left behind by the ship breaking yard's laborers as well as the debris introduced during the fill episode that followed the ship breaking era. The items in the collection are described by category below. Although the artifacts recovered from the feature generally reflect the date range attributed to P2-Feature 15, very few artifacts provided independent dates of manufacture. Reference to photos in the artifact tables refer to the photos in the Artifact Photos section at the end of this report.

Beverage

Table 10. Beverage Containers from P2-Feature 15

Object	Material	Color	Circa	Description
Bottle	Glass	Olive		Height 9 1/4". Diam. 2 3/4". Small champagne style bottle with crude laid on ring. Unclear if it is blown in mold or free blown. Irregular base. High kick up. Patination evident. Fairly deep grooves in neck from tooling. Large quantity of bubbles in glass (Photo A1).
Bottle	Glass/Cork	Black/ Dark Amber	Pre 1895	Brandy style neck/finish with cork and wire closure still in place. Finish appears applied. Portion of foil wrapper still present. According to the BLM (2005), cork in combination with wire, string, twine, wax, or a metal retainer was the most common closure method on beverage bottles used during the 1870s and before. It continued to be used well into the automatic bottle machine era, however.
Bottle	Glass	Olive		Small champagne bottle with kick up and laid on ring, turn mold. Height 10 1/4" (Photo A1).
Bottle	Glass	Olive		Diam. 3 1/2". Height 11 5/8". Large champagne bottle with laid on ring. Iridescence. High kick up.
Bottle	Glass	Dark Olive	1833-1923	3" Diam. Base from round beer/liquor bottle. Post mold. Base embossed 'PHILA DYOTTVILLE GLASS WORKS' in a circle. Thomas W. Dyott purchased the Philadelphia Glass Works in 1833. As the existing owner of Kensington Glass Works, he merged both companies to create the Dyottville Glass Works.
Bottle	Stoneware	Cream/ Caramel	1850-1900	Bristol-style glazed ceramic bottle made of coarse stoneware; style developed in Bristol, England but spread to many locations; buff fabric with two-tone glaze, upper portion dipped in iron oxide glaze to produce caramel color, lower portion of bottle buff colored glaze, no mark. Height 8 1/4". Double bead finish (unlike most ale bottles in this collection, which consist of a wide collar and bead).
Bottle	Glass	Black / Dark Olive	Pre 1895	Large round beer/liquor style bottle with true applied finish (brandy style). Diam. 3 1/2". Height 10 1/4". Seed and blister sized bubbles in glass. Body has rough orange peel texture. Seam encircles shoulder. No vertical seams above shoulder. Bottom is pushed up. Portion of seal/foil remains on neck/finish.
Bottle	Glass	Black	Pre 1895	Round liquor bottle with applied brandy style finish. Height 11 1/4", base diam. 3 1/4". Whittle marks on body. Possible 3-pc./dip mold. Side seams from shoulder to base of neck. No seams on neck (deep vertical marks evident). Date based on applied finish and black glass.

Object	Material	Color	Circa	Description
Bottle	Glass	Dark Olive	Pre 1895	Diam. 3". Height 11 5/8". Liquor bottle, portion of cork remains inside. True applied finish (brandy style). Seed and blister sized bubbles throughout glass. Seam encircles shoulder and 2 faint side seams run from shoulder to base of neck. Body has rough, orange peel texture.
Bottle Closure	Foil	Silver		Stamped foil bottle closure for wine/champagne, no i.d. (Photo A2).

Although black glass bottles with applied finishes are often attributed earlier dates than those above, they have been dated somewhat conservatively during this project. This was done with this important observation in mind, "As late as 1880 the San Francisco Glass houses were turning out (black glass) bottles as crude as those made in the east many years earlier, mainly because of unskilled labor and the inability to retain the workers (Wilson and Wilson 1968 in USDI BLM Bottle Colors)." Operating on a relatively isolated frontier, San Francisco glass houses did not face the pressure from European imports that pushed east coast glass makers to improve their products. With a somewhat transient population, and a bit of a monopoly, crude black glass bottles may have been produced throughout the 19th-century.

Clothing

A single metal buckle (Photo A3) and 31 buttons were recovered within the feature. The buttons include:

Table 11. Clothing Items Recovered from P2-Feature 15 (Photo A4)

Material	Color	Qty	Description
Ceramic	White	1	Prosser dish style button, 4-hole, broken in half, 1/2" diam.
Ceramic	White	1	Prosser dish style button, 4-hole, diam. 5/16", women's/children's.
Ceramic	White	1	Prosser dish style button, 4-hole, diam. 3/8", poss. shirt size/women's.
Ceramic	White	2	Prosser dish style buttons, 3-hole, diam. 5/16", women's/children's.
Ceramic	White	7	Prosser dish style buttons, 4-hole, shirt size, diam. 3/8".
Ceramic	White	7	Prosser dish style buttons, 4-hole, shirt size, diam. 7/16".
Metal	Gold	1	Half of a yellow-metal riveted button, shank missing, diam. 13/16", coat size.
Shell	Varied	1	2-hole shell button, diam. 13/16", coat size, front is concave with narrow rounded borders, back is flat with sides beveled .
Shell	Varied	1	Large shell button, 4-hole, front is flat, back worn unevenly, diam. 1 1/8", coat size?, decorated with two concentric circles.
Metal	Dk. Brown	1	Small decorative metal button, separate metal shank plate and metal shank, front convex with stamped floral design, diam. 7/16", likely women's clothing
Shell	Varied	1	Small shell button, 4-hole, diam. 3/8", likely women's children's clothing, flat with small concave depression in center
Bone	Brown	1	Diam. 9/16". 4-hole sunken panel style button.
Ceramic	White	1	Diam. 5/16". Very small Prosser dish style 4-hole button.

Material	Color	Qty	Description
Shell	Varied	1	Diam. 3/8". Small shell button with 3 holes in central depression, opposite side flat.
Bone	Lt. Brown	1	Diam. 1/2". Small round button, 4-hole, central depression on one side with indentation left by turning tool. Reverse is flat and edges slightly rounded.
Ceramic	White	3	Prosser knob style buttons, 4-hole, 1/2" diam., central depression on one side, reverse is flat with beveled edges.

The relatively high percentage of buttons that can be attributed to women and children's clothing make it likely that these items reflect an episode of fill and not the refuse related to the ship breaking yard while it was active.

Food & Food Storage

A portion of a crock and several condiment bottles recovered from within the feature had been used for food storage. The bottles include a wide mouth, American square pickle style bottle made in a pattern mold. In addition, there is an octagonal pepper sauce bottle with its finish "folded" inward and an open pontil mark on the base (Photo A5). Two additional bottles are very similar. Both are eight-sided with a scalloped design and were likely used for pepper sauce (one is shown in Photo A5). They have a true hand applied double ring finish and a glass tipped pontil scar is evident on each bottle base. The three condiment bottles with pontil scars on the base were likely produced prior to 1865, and may date to the period when the ship breaking yard was active (USDI BLM Bottle Bases, Pontil Marks and Scars).

A single sherd from a large grey/buff stoneware crock was also collected (Photo A6). The exterior has been salt glazed and has blue stylized decoration, with a reddish brown Albany slip on the interior.

Food Preparation & Consumption

Two partial bowls and a portion of a plate were recovered from the feature. Of particular interest is a nearly whole, shallow bowl of Chinese manufacture (Photo A7). A grey/blue glaze is decorated on the exterior with two simple bands and the interior contains more elaborate decoration, although the pattern was not identified.

Grooming & Health

The five artifacts recovered in this category were likely introduced with fill. They include:

Table 12. Grooming and Health Items Recovered from P2-Feature 15

Object	Material	Circa	Description
Apothecary Jar	Ceramic		Portion of small apothecary jar. Black printed label under glaze 'SOLD / ... Pots 1&1 1/2d-2/9 4/6-11-22&33... / BY THE PROPRIETOR / 244 STRAND / LONDON / And All Medicine / Venders throughout the Kingdom'. Approx. diam. 1 1/2" (Photo A8).
Apothecary Jar	Ceramic		Small apothecary jar, base diam. 2", base embossed '1/2 OZ',
Bottle	Glass	Pre 1865	6-sided cologne bottle, fire polished finish, combination pontil on base, embossed 'JEAN MARIE FARINA / ALAPLACE JULIERS No 4/ COLOGNE' (Photo A9).
Bottle	Glass		Small round perfume bottle with flared finish. Bore appears rough (as if used with ground glass stopper). Embossed 'LUBIN / PARFUMEUR / A PARIS'. Likely combination pontil on base. Height 3 1/8", base diam. 1 3/8" (Photo A9).
Toothbrush	Bone		Toothbrush handle, no bristles, length 6 3/8". Polished handle slightly curved (Photo A10).

Heating & Lighting

A single lantern collar, likely from a kerosene burner, was collected. The collar (diam. 2 inches) consists of a metal ring with small prongs to hold a lamp and would have surrounded the ventilator plate.

Maritime & Tools

Tool parts, including a 3-sided tapered file with no handle, and a rounded wood handle were recovered (Photo A11). Several items directly related to ship breaking activities were also collected. The first, a chisel, was likely used as ship breaker's tool (Photo A12). A 10 inch drift bolt, and a small "V" shaped piece of compass timber were recovered (Photo A13).

Miscellaneous

Several items which may have had various uses include a round horse hair brush with a tapered wood handle (Photo A14), a partial metal bucket, a round shallow pan made of thin metal (Photo A15), a small tin watering can (Photo A16), a ceramic pitcher (Photo A17), and pieces of indeterminate textile (Photo A18). Of particular interest is what appears to be a portion of a wood clarinet with flat, square key covers (Photo A19). The maker’s name is on the body, although it cannot be read. It is clear, however, that the piece was made in Littlefield, Connecticut.

Smoking

Thirty-one pipe fragments (Photo A20) and 3 tobacco wrappers (Photo A21) were collected from the feature. The pipes are discussed below.

Table 13. Smoking Pipes Recovered from P2-Feature 15

Material	Color	Qty	Description
Clay	White	1	Small pipe bowl, "keeled" with thick ridge along lower portion of front mold line, large leaf design on bowl with band of stars around rim.
Clay	White	1	Small pipe bowl, "keeled" with thick ridge along lower portion of front mold line, large leaf design on bowl with band of stars around rim. Heel is molded as decorative scroll. Very little stem remains, although it is evident that decoration continues onto stem.
Clay	White	1	Bowl with no stem. Bottom half of bowl is fluted and top half is not decorated. Very small heel.
Clay	White	1	Bowl and partial stem. Molded leaf decoration covers nearly entire bowl, repeating pattern around rim difficult to id (possible sunbursts/stars), "heeled" with decorative scroll (Photo A20).
Clay	White	1	Bowl and partial stem. Oak leaves on bowl's front and back mold seams, small heel with 'R' embossed on either side of heel.
Clay	White	1	Bowl and partial stem. 'TD' in a circle of stars on rear of bowl. Oak leaves front and rear mold seams, small heel.
Clay	White	1	Partial bowl and stem, lower half of bowl fluted, top half not decorated, fluting on bottom half of bowl continues onto stem. Stem also contains 3 parallel lines near bowl. Very small heel. Front and back mold seams on bowl have been stamped/decorated with horizontal lines.
Clay	White	1	Partial pipe stem, 3 parallel circles and 2 rows of stars encircle stem, no mark.
Clay	Brown/Metallic	1	Small sherd, detachable clay pipe bowl, fully glazed in brown, metallic finish. Stem attachment only.
Clay	White	1	Bowl covered with cross-hatched lines and stars around rim. 'TD' on rear of bowl surrounded by stars. Oak leaves along front mold line. Very small heel, no stem.
Clay	White	1	Bowl, no stem. Bowl covered with cross-hatched lines and stars around rim. Oak leaves along front mold seam. 'TD' in a circle of stars on rear of bowl.
Clay	White	1	Bowl, no stem. Finished with vertical stroke burnishing. Very small heel. Bowl has rouletted decoration around rim and initials 'RT' surmounted by a crown found on the rear of the bowl in a depressed circle. Possibly Dutch. See Humphrey (1969).
Clay	White	1	Partial bowl and no stem, bottom half of bowl fluted, very small heel
Clay	White	1	Partial bowl, no stem. Bottom half of bowl fluted, top half no decoration, very small heel. Front and back mold seams have been stamped with horizontal line pattern. Extruding clay at mold seam near heel.
Clay	White	1	Partial bowl, no stem. Bowl has patriotic design, likely eagles with shield on either side, oak leaves on front and rear mold seams, heeled with decorative scroll.
Clay	White	1	Pipe bowl with rouletted decoration around rim and molded leaf at heel location. Stem broken, but partial embossment on bottom of stem visible '...iel / ris'. Possibly French (Photo A20).
Clay	White	1	Pipe stem, 6 small leaves encircle smoking end

Material	Color	Qty	Description
Clay	White	1	Small bowl with patriotic design covering bowl, eagle and shield on each side of bowl surrounded by stars, oak leaves on front and back mold seam, no stem.
Clay	White/Black	1	Bowl, no stem. Bowl is decorated with black molded swan (facing smoker) and black band around rim (Photo A20).
Clay	White/Grey	1	Pipe bowl, heeled, no stem. Burnished exterior with rouletted decoration around rim. 6 dots on right side of heel, base of heel embossed 'CS.' Possibly Dutch. See Humphrey (1969): lg. portion of that collection consisted of burnished Dutch pipes with rouletted decoration.
Clay	White	1	Bowl and partial stem. 'TD' with circle of stars on rear of bowl, small heel.
Clay	White	1	Small bowl and partial stem. Molded leaves cover bowl with row of stars around rim. Heeled with decorative scroll (Photo A20)
Clay	White	1	Fluted pipe bowl, no stem, oak leaves on front and back mold seams (Photo A20).
Clay	White	1	"Patriotic" pipe bowl, heeled, cross-hatched network of lines covers the bowl, letters TD are molded on the bowl rear surrounded by a ring of stars, and a circle of stars ornaments the bowl rim. A leaf decoration conceals the front mold line (Photo A20).
Clay	White	1	Pipe bowl, 'TD' on rear of bowl inside a circle of stars, leaf pattern along front mold line
Clay	White	1	"Patriotic" pipe bowl, heeled, cross-hatched network of lines covers the bowl, letters TD are molded on the bowl rear surrounded by a ring of stars, and a circle of stars ornaments the bowl rim. A leaf decoration conceals the front mold line.
Clay	White	1	Bowl and partial stem, heeled, 'TD' on rear of bowl in circle of stars, appears to be leaf design on front mold line, design is difficult to see (either heavily worn or poorly executed) (Photo A20).
Clay	White	1	Pipe bowl and small portion of stem, bowl is heeled, bottom half is fluted, top half has no decoration except leaf design that runs along front and rear mold lines. Stem appears to have parallel circles around it (only approx. 3/4" remains) (Photo A20).
Clay	White	1	Pipe bowl and very small portion of stem. Bottom half of bowl is fluted (alternates large and small) and top half without decoration, except both front and rear mold seams have a small stripe as a design element. Very small heel. Stem appears to have parallel rings, although it is very worn/difficult to see.
Clay	White	1	Pipe bowl, heeled, lower third cross hatched with dots inside diamonds, middle third has no decoration, and top third has vertical ribs/fluting (Photo A20).
Clay	White	1	Pipe stem, no bowl, no maker, 6 small leaves embossed around smoking end

Portions of three stamped gold foil tobacco wrappers were recovered. At least two were labeled 'WATSON'S / CELEBRATED / PARAGON / CHEWING / TOBACCO' (Photo A21).

Toys

A very small pot-metal teacup from a child's tea set (Photo A22) was recovered. Both sides of the cup are decorated with the letters 'PIA' surrounded by vine/scroll work.

Writing

The lower portion of a black wood pencil was collected. It is broken in half so the lead is visible and the exterior is painted black and impressed 'E.F. SOLE AGENT' (Photo A11).

Culled Artifacts

Due to the large quantity of highly fragmentary and/or non-diagnostic artifacts recovered from P2-Feature 15, a substantial number of artifacts were culled from this feature. Because of the large quantity, they are simply summarized below:

- Bottle Glass (primarily fragments): 107
- Ceramic (fragmentary tableware, apothecary jar): 39
- Cork: 1
- Food Refuse (egg shell and peach pits): 4
- Glass (flat glass, glassware): 19
- Leather (primarily shoe pieces): 25
- Metal (copper sheathing, gold foil, spikes, cut nails, barrel hoops, bolt, bucket handle): 48
- Pipe fragments (clay): 90
- Rope/Twine: 8
- Rubber (rubberized cord and thin rubber with fabric on one side): 2
- Slate (poss. writing tablet fragment): 1
- Textiles (indeterminate cloth): 22
- Wood (poss. treenail, small barrel, wood with copper attached): 3

P2-Feature 16

P2-Feature 16 consisted of the stern section and bare keel of an early ca. 1800s wood sailing ship that was located in the northwest portion of the project area (Photo 21; Figures 23-31). The ship extended from the project excavation sidewall along Folsom Street 55 feet to the southeast, and was oriented to the east (104 degrees). The alignment of the keel extended west beyond the project boundary and continued under Folsom Street. The entire length of the vessel was estimated to have been 100 feet. The average depth of the hull was 24 feet below the site datum. The location, orientation, and configuration of the hull remains suggested the ship was associated with the activities of Charles Hares' mid-19th century ship breaking operations.

The stern portion of the ship was relatively well preserved, aside from recent damage caused to the upper timbers and stern post by the excavator. The rudder was complete and mounted on the sternpost. Thin copper sheathing (0.08-inch thick) covered most of the outer hull and rudder; it was fastened with copper sheathing nails (Figure 29). The sheets of sheathing were 13-x-19 inch rectangles, which were fastened so that the trailing edge of each sheet overlapped the leading edge of the next. Patch-work repairs were observed on the port side of the stern near the rudder's lower gudgeon and pintle (refer to Figure 29). The copper sheathing was torn and largely absent on the upper portions of the outer hull, suggesting that it had been salvaged after the ship was abandoned. During excavation of the ship's hull, a soil column of sediment on the port side of the stern was kept intact in order to provide a profile of the surrounding bay mud and historic fill (Photo 22). This profile indicated that the ship's hull was embedded in at least four feet of bay mud (Figure 30).

Photo 21. P2-Feature 16. View East

The rudder was intact and measured 73 inches in length (from top to bottom), 25 inches in width at its narrowest (at the top), 38 inches at its widest (at the bottom where it flared out), and seven inches in thickness (refer to Figure 29). Wood sacrificial planking[5], three quarters of an inch thick, encased the entire rudder. This was covered with copper sheathing. The sacrificial planking and copper sheathing had peeled away from the rear edge of the rudder, revealing a 2-inch diameter bronze bolt head, suggesting that the rudder was constructed of two or more timbers bolted together. Black pitch, used to discourage the activities of teredo worms, was observed between the sacrificial planking and the underlying hull planking (refer to Figure 29).

Seventeen wood core samples were taken from various locations within the stern section of the ship for dendrochronological and wood species identification analysis (refer to Figure 24 for core sample locations). Results of this analysis indicated that the following

[5] See Glossary of Naval Architectural Terms in Appendix B

tree species were present: Red Oak group, Live Oak group, Yellow Pine group, and White Oak group, all of which are native to the American East Coast. Chronological analysis was not possible due to the length of the tree ring sequences (Daniel Miles, Oxford Dendrochronology Lab, 2006 pers. comm.).

Photo 22. Soil profile observed in sediment block along port side of stern. Yellow tags indicate differing soil layers.

A temporary bulkhead had been erected within the hull at a point aft of the last frame that had been removed from the keel (refer to figures 25 and 28). The improvised bulkhead was apparently intended to keep water and mud out of the area where the Hare salvage crew was working, suggesting that the hull was subject to tidal inundation while it was being dismantled. The bulkhead was built of approximately 1-inch thick wood planks that were 1-foot wide and as long as 11 feet. The wood planks were oriented horizontally and stacked edge to edge. The bulkhead was supported on the interior face by vertical strips of wood that had been driven into the sand and muck in the bottom of the hull.

A 30-x-34-foot horizontally constructed wood grid was identified a few feet southeast of the stern of the ship (Figure 31). The grid was the remnant of a platform used by workers on the soft bay shoreline. The grid was situated on top of the bay mud layer and at approximately the same level as the top of the rudder. Milled beams of various widths and lengths were used to construct the frame. None of the beams showed any evidence of fasteners.

Associated Artifacts

Twenty-five artifacts were collected in association with P2-Feature 16 (Table 14). The majority were recovered within the ship or are directly associated with the ship breaking process and are summarized below.

Table 14. Artifacts Recovered in Association with P2-Feature 16

Object	Location	Material	Description
U-shaped Strap	Bilge: P2-F-16	Iron	Flat, U-shaped strap. Flat arms of strap transition into round extensions
Capped Drift Bolt	Bilge: P2-F-16	Iron	Iron drift bolt with mushroom cap. 1” diameter x 12”
Bar Chain Plate	Southern portion of P2-F 16, near work platform	Iron	Length 38.5”
Belaying Pin		Wood	Broken, length 12.5” (Photo A23)
Mast Ring	Southern portion of P2-F 16, near work platform	Iron	Slightly oval shape (interior dimension 10.5" x 9.25")
Rope	Outside starboard side	Rope	Rope fragments (Photo A23)
Shackle	11’4” / 202° / 55” from datum	Iron	Length 5”, Interior width 1” (Photo A24).
Sheave		Wood	3" diam., 7/8" hole in center (Photo A25)
Sheave	Forward portion of stern	Wood	3” diam., ¾” hole in center (Photo A25)
Sheave	Stern	Wood	4” diam., 7/8” hole in center (Photo A25)
Ship Breaking Tool		Iron	Ship breaking tool, similar to iron bolt with several small perforations,10", broken (Photo A23)
Single Block Pulley	Inside hull, stern end	Wood	Single block pulley, oval shaped (approx. 6 1/4" x 4"), all wood construction. Approximate thickness 3 1/2" (Photo A26).
Spike		Iron	5 3/4" spike, flat head and tapered end
Spike	Below starboard	Metal	Yellow metal spike, curved, flat head with tapered end, length approx. 5" (Photo A27)
Textile	Forward portion of stern	Textile	
Metal Sheathing	Forward portion of stern	Copper	Small pc. metal sheathing recovered while cleaning ship
Teeth	Stern	Teeth	2 sperm whale teeth (Photo A28)
SmokingPipe	Forward portion of stern	Clay	Stem fragment, no maker’s mark.
Smoking Pipe	Stern	Clay	Pipe bowl attached to 6.5" stem, bowl heeled, all over patriotic decoration, embossed TD in a shield (stem end) with stars on either side of bowl. Oak leaves along mold seam on front of bowl with 3 lines on either side. Rouletted decoration around bowl rim. No maker’s mark (Photo A29).
Walnut Shell	Forward portion of stern	Walnut Shell	Half walnut shell

Object	Location	Material	Description
Button	Stern	Metal	Stamped metal button, 4-hole, holes are tear-drop shaped, front is slightly concave, coat size, diam. 11/16" (Photo A30).

Two additional artifacts were recovered, and may be associated with the ship breaking yard or the episodes of fill that followed the ship breaking era. The first is half of a white earthenware saucer (diameter 5 7/8") with half of a blue printed maker's mark evident on the base. The mark reads ...AL VITRIFIED CHINA in a circle / KERR & CO.... The second is a round, short (diam. 2", height 2 7/8") bottle with a wide mouth patent/extract style finish (Photo A31). The body is embossed X. BAZIN / PHLADA. The Xavier Bazin Perfumery of Philadelphia, PA, was established in the 1850s and Bazin's products were awarded metals at the London's Worlds Fair in 1851. Sons Felix and Charles joined the firm in the 1870s and the business was liquidated in 1887 (Fike 1965 and Wilson and Wilson 1971 in Fike 1987:154).

Culled Artifacts

Several other items were collected and culled from P2-Feature 16. They included 11 fragmentary pieces of shoe leather collected from both the fill above the feature and the starboard side of the ship. In addition, whiteware sherds were collected from the fill above the feature. A pepper sauce bottle with an iron pontil mark was collected from the fill within the ship, while a second fragmentary pepper sauce bottle, also with a pontil scar, was collected 36 inches below the feature's datum. A wine bottle with a shallow push up and a hand applied finish was also recovered within the feature.

5.31a Delgado Report on P2-Feature 16

Dr. James P. Delgado, of the Vancouver Maritime Museum, prepared the following report on the stern section of P2-Feature 16. Bibliographic references are incorporated into the *References* section of this report.

Introduction

The remains of a Gold Rush-era vessel exposed during construction at 300 Spear Street in San Francisco were tentatively identified as a vessel undergoing ship breaking at the nearby ship breaking yard of Charles Hare, in or around 1852-1857. WSA documented the site and the vessel remains.

The author was retained in a collaborative effort to assist in the documentation of the vessel remains, to assist in ascertaining features specific to identifying the age, provenience and possible identity of the vessel; to review artifacts and vessel parts recovered from the 300 Spear Street project, to provide historical research on Hare and

his activities, as well as historical context for the potential identification of the vessel, and to assist in drafting the final report on the vessel remains and the 300 Spear Street site.

The Crowded Anchorage of Gold Rush San Francisco

In response to the discovery of gold in January 1848, a "rush" of emigrants by sea and land converged on California between late 1848 and 1851. The number of vessels involved ranged into the thousands (Delgado 1991). In 1849, for example, 762 vessels arrived in San Francisco from North American ports (Goodman 1987). The majority of these vessels remained off San Francisco's waterfront for the next few years. Some remained in port because they had sailed on what essentially was a one-way voyage with emigrants and their baggage, others because there were no cargoes to load for trade with other ports, and yet others because their crews had run off to the mines.

Some vessels entered into coastal trade, ranging from Chile and Peru in the south to British Columbia in the north, carrying supplies such as produce, livestock and lumber to the Gold Rush market. Others entered into transpacific trade to Hawaii or other islands. However, the vast majority of Gold Rush arrivals remained at anchor, "an immense fleet" that contemporary observer William Heath Davis likened to "an immense forest stripped of its foliage" (Davis 1967:333-334).

The heart of the city's commercial district in January1849 was Portsmouth Square, a block from the water. By the end of the year, the heart had shifted to the waterfront, to the shoreline along the eastern alignment of Montgomery Street. By mid-1849, long wharves were commenced to reach out into the anchorage off the mudflats of the waterfront. Along those wharves, and in the anchorage, a selective process of acquisition and physical renovation converted dozens and then hundreds of idled ships into storeships or floating warehouses. Others were converted to offices, lodgings, and the town jail.

By the Fall of 1849, on what had been a mudflat at low tide, a mercantile core comprising wharves, storeships pulled onto the mud, and buildings elevated above the water on pilings, stretched five blocks south to north from what had been the foot of California, Sacramento, Clay, Jackson and Pacific streets. It reached out into the shallows of the bay for another block to the alignment of Sansome Street. The wharves, starting with the Commercial or "Long Wharf," stretched farther out into the bay, and by mid-1850, the commercial district had extended another block east into the water along the wharves to establish what one perceptive observer called "a Venice built of pine" (as cited in Beilharz and Lopez 1976:194).

It was the construction of the "Venice built of pine" that made San Francisco work as a port, giving the merchants a commercial advantage and laying the foundations for the larger metropolis and port that would follow. The readily available supply of ships that lay idle, having outstripped demand for their usual services by sheer numbers and by the lack of a labour force to man them, were commodities immediately available for relatively inexpensive and rapid conversion to floating storage and other uses. By 1851, nearly two hundred ships were employed in this fashion.

The need for storeships began to decline in 1851 as the ongoing process of urbanization provided more permanent infrastructure. Several major fires, the filling burnt-over shallows, and reconstruction in more modern, less fire-prone multi-storied brick buildings relegated storeships to a low-rent alternative. The evolution of the port and its waterfront also brought about the construction of deepwater wharves that fronted the warehouses. These wharves required unrestricted access, and storeships moored alongside the docks were obstructions to a growing regular maritime trade once the initial phase of the Gold Rush ended.

Complaints about the crowded harbor dated to 1850. In August of that year, an editorial in the San Francisco *Daily Alta California* commented that "our harbor is now literally crowded with ships" and that steamers could not approach their berths "without the danger of staving themselves or carrying away any portion of the ship's rigging:"

> This could be easily remedied, and it is the duty of the Harbor Master to see that those ships which are in the way be hauled so as not to interfere with the daily movements of the steamers. The ships remain stationary for weeks and months in their berths, while the steamers are perpetually passing and repassing (San Francisco *Daily Alta California*, August 13, 1850).

Despite the efforts of the Harbor Master, the problem persisted. There were simply too many ships in port. In January 1852, for example, the Harbor Master listed the vessels

> . . . not moored in accordance with the regulations of the port . . . thereby endangering themselves and others, near them, besides risking the loss or damage of their cargoes:
>
> Brig *Gilbert* Jamison; Storeship *Ocean Hero*; Schooner *Piedmonte*; Storeship *Cyrus*; Storeship *Anne*; Barque *Rowland*; Brig *Othello*; Storeship *Canton*; Barque *Marie*; Brig *Ocean*; Schooner *Capacity*; Ship *George Thatcher*; Storeship *Galileo*; Barque *Burnham*; Brig *Challenge*; Storeship *Regulus*; Barque *San Francisco*; Storeship *Rob Roy*; Barque *Martha*; Barque *Russell*; Barque *Evelina*; Barque *Powhatan*; Barque *J.J. Cobb*; Brig *Mary Helen*; Storeship *Siroc*; Brig *Charlotte*; Storeship *Wm. & James*; Barque *Juno*; Brig *Palermo*; Ship *Bazaar*; Barque *Backus*; Steamer *El Dorado*; Storeship *Elizabeth*; Ship *Nile*; Storeship

> *John Adams*; Steamer *Washington*; Barque *Canada*; Ship *Ontaro*; Barque *Edward*; Brig *Tepic*; Ship *Seini*; Barque *John Farnworth*; Brig *E.P. Wolf*; Storeship *Damariscott*; Ship *Elizabeth* (San Francisco *Daily Alta California*, January 9, 1852).

The solution was to clear the harbour, and this began not too long after the Harbor Master's warning. In the summer of 1852, the *Daily Alta California's* editors noted:

> We are glad to see the movement commenced of hauling away hulks that are being surrounded by buildings. Many…will be great annoyances in a few months. One was hauled away yesterday, and we notice the places of several others vacant (San Francisco *Daily Alta California*, July 17, 1852).

Many storeships and other idled vessels were shifted south of Market Street, away from the active business core, to lie off Rincon Point, which was the waterfront's industrial area. A daguerreotype panorama of the city taken in late 1852 or early 1853 shows a number of vessels lying at haphazard abandonment, including one hulk with the legend "storage" painted on her bulwarks next to another vessel with a housed-over "barn" on her deck. A list of vessels in the harbor in July 1852 included 32 that lay "off Rincon Point" (San Francisco *Prices Current and Shipping List*, July 7, 1852).

Those ships that could not be shifted because they were blocked in by landfill or construction were broken up where they lay. On February 9, 1853, an article in the San Francisco *Prices Current and Shipping List* remarked on the dismantling of the storeship *Thomas Bennett*:

> In March 1850, the *Thomas Bennett* was hauled on the flats near what is now the corner of Sacramento and Front streets, but which at that time was in the harbor, beyond the end of Long Wharf. A pier was built to the ship, and she was covered and built around with stores, the whole being known as the *Thomas Bennett* Dock and Warehouse. Since then great changes have taken place…and a block of brick buildings has been put up below and on each side of the *Thomas Bennett*. In these circumstances, the ship, after a careful survey, being considered no longer land worthy, was sold, and is now being broken up. The *Thomas Bennett* was substantially built of live oak and cedar, well fastened throughout, and every part of her appears as sound and perfect as when first put together. The breast hooks, transoms, and lower deck frames, were extra heavy, and most of the deck stanchions butted the floor timbers. It is to be regretted that such a ship should have to be broken up, as she would have been a good vessel for many years, and worth at home at least $20,000.

Clearing the Waterfront

The presence of literally hundreds of near-derelict vessels at San Francisco provided an ideal business opportunity to an entrepreneur seeking to make at least a living from recycling what he could from the ships. This began in 1851 in the aftermath of the May 4th fire and continued through 1852. The majority of this work took place at Rincon

"Abandoned ships" off Rincon Point, as seen from Happy Valley, from a panorama of San Francisco, 1851. San Francisco Maritime National Historical Park, J. Porter Shaw Library, A11.16541 n.

Point. As noted previously, by early July 1852, 32 vessels had been moored, and another two hundred vessels waited "clearing" and mooring "off Rincon Point" (San Francisco *Prices Current and Shipping List* July 7, 1852).

Initially, the clearance of the old ships involved burning. On July 10, 1852, the *Alta*'s editors commented that a number of ships that had been hauled away "before they were hopelessly aground" and "burned" at Rincon Point, but "we notice that there are several so completely surrounded by houses it is impossible to draw them away" (San Francisco *Daily Alta California*, July 10, 1852). On July 19, 1852, the *Alta* noted that a removed hulk was about to be burned off Rincon Point. "She will be placed that no danger be apprehended from fire, and we mention the fact that an alarm not be raised." Another

vessel was burned in late August "Off Rincon Point" at "such a place as not to endanger property…or shipping…" (San Francisco *Daily Alta California*, August 25, 1852).

Burning, however, while a quick solution to the problem proved wasteful, particularly when there was money to be made from salvage. While ship breaking was a labor-intensive and unpleasant job with a low margin of return, the proximity of a nearby, cheap labor force provided the means to an end. That labor force was a group of approximately 150 Chinese who lived in a fishing village at the southern end of Rincon Point (Anonymous 1854:48). While engaged in fishing with a fleet of some 25 vessels, some of the inhabitants of the settlement, according to one reminiscent account, "were employed in breaking up old ships" (San Francisco *Morning Call*, April 6, 1884).

The Ship Breakers

The Chinese settlement at Rincon Point, established in either 1850 or early 1851 as one of California's first Chinese fishing villages, was a traditionally constructed group of piling supported buildings perched atop the rocks abutting the beach of Yerba Buena Cove. The Rincon Point fishing village represented a return to a traditional source of income for its inhabitants. Immigration from China in response to the gold discovery introduced a growing number of Chinese to California, although not in great numbers. In 1849, 325 Chinese immigrated to California, followed by another 450 in 1850. In 1851, the flow of immigration increased with 2,716 arrivals (Zhu 1999:43). While not a large group, the Chinese were a visible and hated minority.

White miners focused considerable antipathy toward all minorities in the mines, be they native Californians, Hispanics, blacks, or Asians. The fact that these minorities spoke a different language, had different customs and attire, and were physically distinguishable exacerbated the differences. The success of a hard-working group, united by a common language and custom as well as social and family bonds, as was the case for many of the Chinese, antagonized jealous white miners, who seized upon differences of custom or the "foreigner's" inability to speak English to deprive them of mining claims, property, and their lives (Rohrbaugh 1997:220-229).

In the face of this discrimination and violence, the settlers of the Rincon Point fishing village had either abandoned the gold mines or never went there in the first place. Since many of the Chinese immigrants had come from China's coastal Guangdong province, where harvesting the sea was the principal livelihood, building a village and boats to fish the waters of San Francisco Bay was a logical choice, especially since no whites were (as yet) competitively engaged in fishing. This somewhat isolated (on the outskirts of San Francisco) group and primarily self-sufficient population formed a relatively inexpensive labor force when the opportunity arose to make money by scrapping ships.

Historians have noted that the Chinese in California, "having been simple peasants or laborers accustomed to a limited standard of living in their overcrowded native land, were willing to work for much smaller returns than white miners" (Paul 1963:28-29). Another view notes that the Chinese had a long tradition of working in groups, a practice that played out with good returns in the gold fields with organized companies of Chinese engaged in placer mining to extract all the available gold from scattered and minimal deposits that white miners either disdained or lacked a large enough cooperative labour force of their own to successfully work. For the Chinese, cooperation, not "individualism, was the key to success" (Zhu 1999:47).

This collective approach to work made the Chinese ideal ship breakers. The earliest written account of their work dates to 1856, although it was not published until 1889. Prentice Mulford, a recent arrival to San Francisco in 1856, noted that

> Rows of old hulks were moored off Market Street Wharf, maritime relics of "49." That was "Rotten Row." One by one, they fell victim to Hare. Hare purchased them, set Chinamen to picking their bones, broke them up, put the shattered timbers in one pile, the iron bolts in another, the copper in another, the cordage in another, and so in a short time all that remained of these bluff-bowed, old fashioned ships and brigs…was so many ghastly piles of marine debris (Mulford 1889:46).

A contemporary story published in the San Francisco *Daily Evening Bulletin* in February 1857, corroborates and augments Mulford's account:

> The beach at the Rincon exhibits a scene which recalls the past in a most affecting manner. In almost every portion are to be seen the relics of old ships, that once braved the storms and dangers of a hundred seas, being broken up for their old iron and fire wood. This work is carried on chiefly by Chinamen, who hammer and saw and chop, day after day and week after week with the most exemplary patience and perseverance. Under their continued blows, the old vessels fall to pieces, one after the other. For a few days the yawning wrecks and then the bare skeletons of keel and ribs are seen; but in a short time the skeletons themselves fall to pieces; the iron and copper are stored, the wood piled up and carried away, and not a vestige of the once mighty masters of the deep remains (San Francisco *Daily Evening Bulletin*, February 11, 1857).

This is the only contemporary account of ship breaking that offers any detail, and it focuses on the activities of Charles Hare.

Charles Hare was one of San Francisco's most active and longest employed ship breakers. Born in Wingrave, Buckinghamshire, England in 1819, Hare immigrated to Baltimore with his wife Amelia and their son Charles, Jr. around 1840, where he entered

the ship breaking trade (Hare 1851-1877). Listed in the 1850 Federal Census in Baltimore as a "speculator" in the midst of that city's industrial and shipbuilding district with his family (which now included a two-year old daughter, Amelia), Hare made the decision to go to California around that time.

In 1857, an article noted that

> Hare, who had been engaged in the same business, before his advent in this country, in Baltimore…came hither in 1850 and shortly afterwards commenced buying and breaking up old ships and hulks. He, by degrees, increased his business, employed numerous hands, chiefly Chinamen, and many have been the vessels that have yielded up to him their metals and timbers" (San Francisco *Daily Evening Bulletin*, February 11, 1857).

According to his testimony in a legal case, Hare had "lived and resided continuously since September 1851" in San Francisco (Hare 1874:2).

Contemporary accounts of Hare and his work do not appear until 1856, when he was listed in the San Francisco City Directory as a "dealer in ship gear, Rincon Point" (Harris *et al.* 1856:59). However, reminiscent accounts of the Gold Rush suggest that Hare began to work in the ship breaking trade on the San Francisco waterfront in 1851, because he is specifically identified as the breaker who worked on the salvage of the storeship *General Harrison* after the May 4, 1851 fire (San Francisco *Daily Alta California*, May 29, 1882).

Another reminiscent account of the Gold Rush waterfront also placed Hare in San Francisco as a ship breaker in 1851. Captain Fred Lawson, an 1849 arrival who worked on waterfront construction and ship clearances for years, remembered that the ship *Globe* "was bought and cut up for wood and copper by Charley Hare in '51." According to Lawson, Hare "hired several Chinamen to do it, and he made a pretty good thing of it. Wood was scarce in those days" (San Francisco *Examiner*, August 31, 1890).

There were other ship breakers. George Howgate, listed in the 1856 city directory as a "laborer, Rincon Point," was one. Another was Nicholas Bichard, a pioneer dealer in coal, lumber and junk who became a ship-owning millionaire during the Civil War and a prominent resident of Marin County (Teather 1969:27, 43). The *Alta* reminiscences also mention a Captain Batchelder, who broke up two ships, and J. Atkinson, who broke up one ship (San Francisco *Daily Alta California*, May 22, 1882). There were also Hare's erstwhile employees. According to the *Daily Evening Bulletin*'s February 1857 account, "in various instances…the Chinamen themselves have purchased old vessels, and demolished them at their own venture."

Among the ranks of the ship breakers, however, Hare reigned supreme. In 1874, testifying in a legal case, Hare explained that he bought ships, scrapping some, repairing others with materials on hand in his yard and sending them back to sea. How many had he owned, asked the lawyers? "About a hundred I have owned altogether of wrecks of some kind" (Hare 1874:5). A reminiscent account of the fate of the Gold Rush fleet, published in 1882, tallied up 77 vessels that had been Hare's "victims." Howgate was credited with twelve, Bichard with five, and another 17 were broken up by individual wreckers, including the Chinese (San Francisco *Daily Alta California*, May 22, May 29, and June 5, 1882).

In February 1857, when Hare was interviewed, he said that "the business must soon all but stop, for want of material, as the old stock of vessels is almost used up, and the decreased… shipping will not afford old tubs enough to keep any great number of workmen busy" (San Francisco *Daily Evening Bulletin*, February 11, 1857). In April 1857, Hare's Chinese work crew broke up the storeship *Arkansas*, an 1849 arrival that had been hauled in and finally surrounded by buildings. A reminiscent account noted that "the old hulk was cut to pieces and sold for firewood, leaving only a portion of the stern" (San Francisco *Morning Call*, January 1, 1889). The *Arkansas* scrapping supports the contention that Hare and his labor force had completed clearing the hulks around Rincon Point, and after this, all of their jobs were either on ships trapped by urban development and landfill or development in the urban core. The Gold Rush ship *Cadmus*, broken up in the 1860s, may have been another Hare salvage.

While Hare no longer broke up ships at Rincon Point, he maintained a home and his store there. In 1856, he was listed in the city directory as a "dealer in anchors, chains, etc. Spear near Folsom" (Colville 1856:93). Hare's store was most probably a rectangular structure shown near the beach along the Spear Street alignment on the 1853 U.S. Coast Survey map of San Francisco. This is probably the structure whose foundation was excavated by WSA in 2005 (refer to discussion of P2-Feature 8 in Section 6.2 above.) In February 1857, the article on Hare's ship breaking noted that "shortly after his arrival [Hare] established a house for the sale of old iron and copper, cordage and other ship materials, at the Rincon, where he still remains" (San Francisco *Daily Evening Bulletin*, February 11, 1857). The article implies a presence at the Spear and Folsom site since late 1851 or early 1852, and the foundation excavated in 2005, made of recycled ship parts and pilings, and surrounded by ship parts and sheathing, would fit with Hare's store. Who else would build such a structure surrounded by these items?

In February 1857, the reporter from the *Daily Evening Bulletin* who wrote about the ship breaking at the Rincon visited the store, where he was shown items salvaged from broken up ships, including the figurehead of the British ship *Plover* and some of her sheathing, "which is preserved as a curiosity at Hare's store" (San Francisco *Daily Evening Bulletin*,

February 11, 1857). The reporter's account and the remains excavated in 2005 suggests that the store was a remarkable structure filled with all sorts of items, facing a beach where immediately offshore, Chinese workers hammered and chopped at yawning hulks and hauled the remains up the shore to Hare's front yard.

Hare's store was also a ship chandlery where he sold new items as well as merchandise salvaged through ship breaking. His letterhead lists items for sale:

> Tanner's Oil, Cocoanut Oil, Polar Oil, Cumberland and Lehigh Coal, Brazier's Copper, Yellow Metal, Nails, Anchors and Chains all sizes, Hemp and Manila Rope, Galvanized Wire, Rope in Bond or Duty Paid, Pitch, Tar, Oakum, White Lead, Eastern Oak Ship Timber, Spanish Cedar, Lignumvitae, Rosewood Oil Casks, Water Tanks, Cannon Brass and Iron all sizes (Hare 1851-1877).

Some of the items listed on Hare's letterhead (specifically the pitch, tar, oakum, white lead, Eastern Oak ship timber, Spanish Cedar, Lignum vitae, anchors and chains and the yellow metal) suggest recycling into San Francisco's burgeoning shipbuilding industry, also conveniently located near the store at South Beach. As well, Hare's Rincon Point ship breaking location was not only conveniently located near the shipbuilding yards, it was also close to numerous small foundries that sprang up in the south of Market area in the 1850s (Lotchin 1974:65). Both of these industries could make ample use of the salvaged components of the Gold Rush fleet.

After 1857, Hare turned to buying and selling scrap, noting "Old Iron, Copper and Metals Bought at the Highest Market Price" (Hare 1851-1877). The 1858 San Francisco city directory lists Hare as a "junk dealer." (Langley 1858:146) Hare is listed in the 1859 city directory with the notation "ship tackling" at the "south side of Folsom nr. Spear" (Langley 1859:141). After 1859, Hare moved from his original site, which was then under development presumably, as the 1860 city directory lists him again as a "junk dealer" this time at the "W side Stewart op[posite] Pier 3" (Langley 1860:155). This placed him away from Rincon Point, on the west side of Steuart between Market and Mission streets. Through the 1860s, the city directories list Hare as a junk dealer at this Steuart Street location as a "junk dealer," "importer anchors, etc." "anchors, chains, junk, etc." and "anchors chains, blocks, ships-stories, etc."

During his career Hare bought into a number of vessels, either as a sole or part owner. These included a Tahiti packet, the "A 1 Clipper Schooner *Eliza*," which he advertised as available for freight or passage in December 1863 (San Francisco *Daily Alta California*, December 2, 1863) and a variety of whalers and other ships which he listed in court testimony in 1874:

> I have owned the bark "Eliza Thornton," New Bedford, one-half; the bark "Golden Fleece," three-fourths; the schooner "Emma," the whole; the schooner

> "Henry," one-quarter; the schooner "Juventa," three-quarters; the brig "Advance," the whole; the whaleship "Massachusetts," the whole; the whaleship "William C. Nye," one-eighth; the schooner "Fannie," one-half; the schooner "Caroline E. Foote," two-thirds; the schooner "Umpqua," and others I don't remember now" (Hare 1874:5).

Hare maintained a waterfront yard where he kept vessels and refitted ships. His purchase of the whaler *Edward Carey*, which had been damaged at sea, in December 1864, is a case in point. Hare bought the ship at auction at the Mission Street Wharf, stripped her "bare," hauled her to his own facility and repaired and refitted her there. "I repaired her from my own yard, with my own men…I had everything, pretty much, that could be used. I was buying and selling ships at that time…I had in my own yard a good deal of timber, and everything necessary for repairing her, spars and everything" (Hare 1874:7).

Hare also salvaged sunken vessels on the waterfront and shipwrecks along the coast, like the Russian steam corvette *Novick* in 1863, pulling out the brass cannon, engines, copper powder chests, and the sails, all of which he displayed in his store at Nos. 34 and 36 Steuart Street "which, by the way, is a real curiosity shop" (San Francisco *Daily Alta California*, November 27, 1863. Hare's other post-Gold Rush vessel salvages, according to the 1882 reminiscences of the Gold Rush ships (drawn in part from an interview with Hare) included a note that "in later years he performed like service for the steamers *Sonora, Washington* and many others" (San Francisco *Daily Alta California*, June 5, 1882).

Hare's personal life included a large family which his business supported. As listed in the 1870 Federal census they included Charles, a "shipping merchant," wife Amelia, "keeping house," son Charles, age 21, a "clerk" living at home, daughter Amelia, now called Emma, age 18, and five California-born siblings ranging from Fanny, age 15 to May, age 7. The loss of his uninsured ship *Edward Carey* during the Civil War, the loss of another whaler he owned an interest in, *William C. Nye*, and a prolonged lawsuit against the government for relief since his ship was burned by the Confederate raider *Shenandoah* (the government was paying compensation it had received from Great Britain, which had built and outfitted the raider for the Confederacy) apparently exhausted his resources even though he won his case. An indication of his financial woes is found in an 1867 inclusion of Hare and his schooners *Advance* and *Fannie Hare*, which were listed in the City and County of San Francisco's delinquent tax list for the year. He owed $473 (San Francisco *Daily Morning Call*, (September 21, 1867).

Relief did not come until the United States Government awarded Hare $67,616.52 with interest, which was paid out at $70,000 in May 1876, but in March 1877 he filed for bankruptcy. By 1880, the census listed Hare, aged 60, as a "junk merchant," with wife Amelia and daughters Emma, Lucy, Nelly and May still living at home. That year he was

sued by his former attorney for moneys owing, the lawyer alleging that Hare had falsely declared bankruptcy, hiding assets with friends and his son George (Hare 1877). The outcome of the case is not known, but the old ship breaker briefly surfaced again in the historical record before fading into obscurity.

In May 1882, Charles Hare joined ship breakers George Howgate and Nicholas Bichard in interviews for the series of reminiscences about the Gold Rush fleet's demise published in the *Daily Alta California*. Hare continued to be listed in the San Francisco city directories through 1886, but was not listed in the 1887-1888 editions, suggesting that this is around the time he died. In 1898, his old business location on Steuart Street was occupied by the Pacific Coast Dredging and Reclamation Company, a fitting ongoing maritime use for the building of a pioneer whose early work had paved the way for the reclamation of San Francisco's harbour by removing the Gold Rush hulks that crowded it.

Comparing Hills Plaza with 300 Spear as Part of the Same Site and Identifying the Hulk Excavated at 300 Spear

The basic premises:

- The vessel whose remains were excavated at 300 Spear was a vessel which prior to its burial in landfill had been undergoing systematic disassembly, ostensibly for scrapping, i.e. "ship breaking;"

- The morphology of the breaking fits the parameters of breaking patterns observed at a nearby site attributed to the activities of Charles Hare and his Chinese labor force, and the patterns observed on the partially "broken" hulk of the storeship *General Harrison*, also attributed to Hare and his Chinese collaborators;

- The vessel was located directly in front of Charles Hare's business at "Spear near Folsom" and in association with the foundation of a structure which most likely is Hare's store;

- The vessel, along with associated disassembled ship timbers, most probably represents a *terminus post quem* of February 1857, when contemporary accounts quote Hare as saying the business was about to stop for want of ships to break at that location. There are no other accounts of ships broken up at this site after February 1857;

- The vessel was deposited at the site prior to landfilling at the site, which occurred between 1859-1869. The vessel was exposed in open water for some period, as

evidenced by teredo worm activity in some of its timbers. This activity was halted by the burial of the vessel;

- The vessel most likely is one of the final five vessels Hare and the Chinese were breaking up in February 1857. According to that account, "the names of those which are now undergoing the dissection by the Chinamen and vanishing piecemeal" were listed as the ships *Regulus* and *Panama*, the brig *Fortune*, and the barques *Candace* and *Harvest*;

- The vessel was an American-built vessel constructed around 1820-1830, perhaps slightly earlier, but not before the War of 1812, and was approximately 100 by 25 feet, with a registered tonnage of approximately 300 tons. It was a three-masted vessel.

- It is therefore most probably either the Massachusetts built, 1826 barque Harvest, an 1849 arrival later used as a storeship off Long Wharf (Commercial Street), hauled to Rincon Point by 1852 and broken up in 1857, or *Candace*, a 309-ton ship built in Massachusetts in 1818 which arrived in San Francisco in 1855 after a long career. Damaged and condemned, the vessel was sold at auction and broken up off Rincon Point in 1857. I believe the vessel excavated in 2005 to be *Candace*.

- On a final note, the Shew panorama of San Francisco, taken from the bluff along the alignment of Spear Street, approximately at the intersection of Spear and Harrison and looking directly across the water past Folsom Street toward Telegraph Hill, most likely shows a vessel later broken up – and one of the approximate size of both *Candace* and *Harvest*. The other portions of the panorama show other ships; including one being broken up off the tip of Rincon Point, and what is most likely Hare's store, again most likely represented by the foundations excavated at 300 Spear in association with the vessel remains.

General Observations on the Site

The site at 300 Spear is a square block bounded by Harrison, Main, Folsom and Spear. which is directly adjacent and east of a site known as Hills Plaza, bounded by Harrison, Spear, Folsom and Steuart. The latter site, archaeologically monitored and documented by Archeo-Tec between March and July 1988 under the direction of Allen Pastron, Ph.D., with me participating as the consulting maritime archaeologist, was interpreted at that time as the location of the ship breaking yard of Charles Hare and his Chinese laborers/collaborators (Archeo-Tec 1989, Pastron and Delgado 1991).

What is now apparent with the excavation of 300 Spear is that the Hills Plaza site represents only a portion of the Hare ship breaking yard, perhaps as little as 25 to 50 percent of it if additional ships were broken by Hare and his workers east of Steuart (i.e. the former intertidal and tidal waters now filled and beneath the present-day Embarcadero), and east of Main on now filled intertidal waters and beach fronts. This is a possibility, as the Shew panorama shows a vessel in the process of breaking along the modern Embarcadero alignment, and one of the last ships reported as broken by Hare and the Chinese in 1857, the ship *Panama*, was, according to a contemporary observer, Captain Fred Lawson, "taken to Beale and Mission and cut up" (San Francisco *Daily Alta California*, August 31, 1890). That location is two blocks west and three blocks north of the 300 Spear site.

If the premise that the foundation of the building excavated at 300 Spear represents the store of Charles Hare is correct, then 300 Spear is presumably then the center of his yard and ship breaking activity. The surrounding intertidal areas would represent where Hare and the Chinese hauled vessels close in to shore, and then dismantled them at successive tide levels. The vessels would not be hauled completely ashore. This would be exceedingly difficult if not impossible without a substantial marine railway, and the water surrounding each hulk would facilitate easy movement around it by boat and assist the movement of large timbers cut from the hulk which would be easier to float than haul. The two-dimensional structure excavated directly inshore of the vessel remains, and directly off the stern, is interpreted as a raft that floated on the muddy shoreline to provide a stage or platform for secondary dismantling.

The process of breaking, as described in 1857 by the *Daily Evening Bulletin* article was the use of "hammer and saw and chop," implying the use of axes, sledges and saws. The work continued "day after day and week after week...under their continued blows, the old vessels fall to pieces….For a few days the yawning wrecks and then the bare skeletons of keel and ribs are seen; but in a short time the skeletons themselves fall to pieces." This implies a progressive dismantling (the article terms it "dissection"). The process was also selective; "the iron and copper are stored, the wood piled up and carried away…" (San Francisco *Daily Evening Bulletin*, February 11, 1857).

The material record of Hills Plaza, 300 Spear, and the 2001 excavation of the storeship *General Harrison* provides material evidence and augments the archival record. Planking was sawn into short sections and pried free; larger timbers were split on the grain to partially expose bolts and drifts which were then pried or hammered free, axes were employed to chop around bolt heads and ends to facilitate hammering and prying, and copper sheathing was pulled from outer hull planks. Long structural members such as keels and keelsons were cut and chopped into manageable sizes, double-frames were separated, and frames were broken down into their constituent floors and futtocks. Tools

to assist in this process and not mentioned archivally, but recovered archaeologically included large breaking or pry bars (two from Hills Plaza and two from the *General Harrison* site) and a handle-mounted punch from the *General Harrison* site which I have interpreted as a tool to drive free bolts.

The Archeo-Tec monitoring of the Hills Plaza site adjacent to 300 Spear in 1988 documented ten clusters of ship parts which represented the original high tide line of 1853-1859 (Archeo-Tec 1989:21). The majority of these ship parts were floors, futtocks and frames, as well as cant frames, fragments of outer hull planking including one section of a garboard strake, keel fragments (two from the same keel), a section of keelson with a partial mast-step, a portion of a knee, three forefeet, a stempost, a possible crutch or breasthook, a chainplate, fragments of copper sheathing, and tools presumably employed in the ship breaking process (*ibid*.:25-47 *passim*.) [for a definition and illustration of various naval architectural terms, refer to Glossary of Naval Architectural Terms in Appendix B].

At the time I noted that all of the parts except the knee came from an area below the waterline of a vessel. The lower hull would be the last area of a ship to be broken up in a logical progression of dismantling. I reconstruct the dismantling process as:

- an initial removal of smaller, valuable and reusable items such as anchors, chain, blocks, tackle, and other hardware;

- the removal of superstructure and masts. One mast may have been left to serve as a crane to facilitate the removal of larger timbers in the hull, and this would mean that one end of the vessel would remain more or less intact until the final phase of the dismantling;

- the removal of decks, the peeling away of ceiling and outer hull planking, and the dismantling of frames;
- timbers with large numbers of valuable (i.e. copper or bronze) fastenings would be piled up on shore for secondary processing to remove the fasteners. I interpret the clusters as the pile allotted to a worker or workers for processing. After the fasteners were removed, either through extraction (pulling) or splitting the timber, the timber could be cut up further for reuse as firewood;

- the stripping off of copper sheathing from the lower hull and the continued breaking of the hull to the keel;

- the cutting up of the keel into short, manageable sections for removal of fasteners and sheathing ashore;

- the removal of the last mast and the breaking, either completely or partially, of the bow or stern (depending on which end the breaking had started at) to complete the job. It is interesting to note that the stern, with its mizzen-mast step, remained at 300 Spear, showing that this vessel was dismantled bow to stern. Another example of a Hare salvage mentioned in the archival record records a similar circumstance, that of the ship *Arkansas*. Broken up in April 1857, *Arkansas* was not completely dismantled "if we mistake not, the quarter deck and other portions of her are still there" buried on the site of the ship's dismantling (San Francisco *Daily Alta California*, May 22, 1882). Also instructive is a series of photographs taken in 1912 of the dismantling of the whaling bark *California* on Oakland Estuary (J. Porter Shaw Library, San Francisco Maritime NHP, catalogue numbers B8.28100, B8.9009). Hauled in close to shore, the bark is being torn apart from bow to stern. The lower mizzen has been retained to serve as a crane, a small temporary staging or platform has been erected off the starboard bow to assist in the work, and *California* is being "dissected" in a reverse construction approach. If a photograph had been taken of Hare's crew at work in 1857, I believe it would have been identical.

The clusters of ship parts at Hills Plaza represented vessels ranging in size from 100 tons, 200 tons, 200-300 tons, and 350-400 tons (*ibid*.:47-48). Four vessels with approximate dates of construction (as determined by patterns of copper used to resheath the outer hull) were also discerned (*ibid*.:50, Pastron and Delgado 1990). Additional evidence for at least four vessels came from the three different forefeet, (a unique and individual structural member), two different keels, three different styles of inscribed numbering on recovered floors, and outer hull planks which represented four different sequences of resheathing (e.g. four different vessels), and two different styles of treenail fasteners (Archeo-Tec 1989:52).

At the time of the original excavation, it was assumed that the process of dismantling was incomplete and some of the timbers, which were not completely salvaged (e.g. chopped and hacked for all of their copper or sawn up for firewood) probably represented "an abandonment of the yard with the dismantling of one or more vessels not completed" (ibid.:53) This assumption was proved with the 2005 excavation of the adjacent lot, which disclosed additional clusters of ship parts and the partially dismantled stern section. The majority of the clusters recovered in 1988 were in close proximity to some of those encountered in 2005, i.e. along the alignment of Spear Street (*ibid*.:55, Fig. 19).

The Archeo-Tec evaluation of 1988-1989 concluded that while vessel specific identification was impossible, the morphology of the recovered timbers was indicative of Gold Rush era vessels (*ibid*.: 72 and Pastron and Delgado 1991). The vessels were

selectively dismantled in a fashion suggested by the archival record, specifically Mulford's description:

> Hare purchased them, set Chinamen to picking their bones, broke them up, put the shattered timbers in one pile, the iron bolts in another, the copper in another, the cordage in another, and so in a short time all that remained of these bluff-bowed, old fashioned ships and brigs…was so many ghastly piles of marine debris (Mulford 1889:46).

This also fit with the *Bulletin*'s description in February 1857 of vessels undergoing "dissection" by Chinese laborers and piles of wood and metal.

It is possible to potentially link some of the timbers recovered in 1988 to the stern section recovered at 300 Spear. As previously noted, timbers from Hills Plaza recovered in 1988 came from a 250-300 ton vessel, the range of tonnage for the vessel represented by the stern section at 300 Spear. This suggests that those timbers could have come from the same vessel whose stern was discovered in 2005. WSA excavated timbers adjacent to the stern and along the Spear Street alignment. These would have been in close proximity to clusters excavated and recovered by Archeo-Tec in 1988. The closest clusters found in 1988 (#s 1-5) included specimens 1-12, 15-17, 22-33, 34-41, and 42-45, all of which lay adjacent to the eastern boundary of Spear on the former high tide line. Based on my field notes at the time, these were:

CLUSTER 1

#15 Futtock fragment
#16 Futtock fragment
#17 Floor fragment

CLUSTER 2

#34 Futtock or floor fragment
#35 Futtock
#36 Futtock fragment or floor
#37 unidentified timber
#38 Outer hull planking
#39 Floor fragment (extensively hacked)
#40 Futtock from cant frame, with number 2
#41 Rising floor

CLUSTER 3

#22 Full floor, with number 15 carved upside down in it
#23 cut, split Futtock
#24 Half floor, with number 19 carved in it, but in a different style from #22's number
#25 Half floor
#26 Half floor
#27 Half floor fragment
#28 chopped fragment of half floor
#29 Futtock fragment
#30 Outer hull plank with copper sheathing fragments attached (12 x 2 ½ inch)
#31 Futtock
#32 Outer hull plank with copper sheathing fragments attached over an outer layer of wood sheathing. The thin outer wood sheathing was identified by the University of California's Forest Products Laboratory as most likely being Eastern White Pine, a treenail from it, and the plank itself as being White Oak.
#33 Futtock or floor

CLUSTER 4

#1 Floor (the only double-framed section found that was not separated by the breakers, with the number 0 carved into it, indicating it was the first frame, i.e. closest to the bow of the vessel it came from)
#2 Unidentified
#3 Metal stake?
#4 Outer hull plank with copper sheathing fragments attached
#5 Unidentified metal
#6 metal breaking bar
#7 Unidentified metal
#8 cant frame, split and cut
#9 cut, chopped floor section (10 x 7 ¾ inch molded and sided)
#10 cant floor
#11 outer hull plank with copper sheathing fragments attached
#12 futtock fragment

CLUSTER 5

#42 Futtock fragment
#43 Futtock
#44 Cant frame, chopped and hacked
#45 Futtock from cant frame

There are a few points of similarity. In 1988, floors were recovered that were inscribed with their frame numbers – frames 0, 2, 5, 15. The 2005 excavation by WSA recovered one complete and four partial floors that also bore inscribed frame numbers for frames 2, 10, 12 22, 25. The style of numbering appears close to identical for frames 15, 22 and 25 – similarly shaped twos, fives and all of them carved upside down. Unfortunately, there are no photographs available from Archeo-Tec or drawings for the other frame sections recovered in 1988, namely those numbered 0, 2 (the 1988 sample), or 5, but there were three different styles of numbering noted with those samples.

It was suggested from the numbering then that at least three vessels were present, a fact corroborated now by the fact that two frames numbered 2 have now been recovered from the site (1988 and 2005). A different numbering style for floors numbered 2 and 10 (recovered in 2005) which is similar (in style and "right side up") and the floor numbered 12 (a potentially different style of numbering and upside down) supports the 1988 contention based on numbering styles observed then that there were three separate vessels represented at the site.

The 2005 excavation recovered a section of "deadwood" (DW-2) that is actually a stempost based on its curvature. In 1988, three forefeet and a section of stempost were recovered and documented, again suggesting three separate vessels. The stempost recovered in 2005 could either be associated with the forefeet recovered in 1988, or represent a fourth vessel. The presence of these sections of bow is of particular interest inasmuch as the frame numbers discovered at the site in 1988 and 2005 are all from the forward area of a vessel, i.e. 0 being the first frame at the bow, and proceeding aft to frame 25, which in a double-framed vessel with floors 10-12 inches molded with a 1-inch gap between frames, the standard for the mid-nineteenth century, would place frame 25 somewhere between 43.75 and 52 feet aft of the stem, or roughly midships.

The other means of comparison between the 1988 and 2005 samples are wood species identification and estimates of original vessel size (tonnage) based on timber dimensions. Only five specimens were submitted for wood analysis in 1988. The analysis, conducted by the University of California, Berkeley's Forest Products Laboratory, determined that the specimens – an outer hull plank with an outer layer of softwood sheathing overlaid with fragments of copper – was White Oak over laid with Yellow or Southern Pine, while a knee was White Oak and a futtock was Red Oak (Archeo-Tec 1989:51).

Not every original construction dimension could be ascertained from fragments. In 1988, I analyzed the recovered timbers to determine an approximate tonnage. My reference was the American Shipmasters' Association's (ASA) rules (1876) for wooden shipbuilding, which provided rules for acceptable timber dimensions for vessels of a specific size in order to obtain insurance. My reasoning was that the rules represented the industry

standard of the preceding decades' experience. The rule of thumb employed in the past (e.g. during the early nineteenth century), however, may have been to either under or over-build a vessel depending on the shipyard.

Using the ASA rules, I determined that frames represented by specimens 18, 25, and 40 were from a vessel of 350-400 tons. Specimen #82, a garboard strake, was from a 200-ton vessel, while another garboard strake, specimen #4, was from a 100-ton vessel, while other planks fit the rules for 100-ton and 200-300 ton vessels (Archeo-Tec 1989:47-48).

I have consulted my field notes to provide the following tabulation, which was not published in the Archeo-Tec report (1989) or the *Historical Archaeology* article I co-authored with Pastron (1991). In this instance, I have used the Lloyd's (1869: Table B) rules for wooden shipbuilding as they are earlier by nearly a decade than those of the American Shipmasters' Association's:

Specimen #18, floor, 8 x 12 ½ inches…….300 tons
Specimen # 22, floor with inscribed "15"….8 x 14 inches…….300 tons
Specimen # 25, half floor, 8 x 13 inches…….300 tons
Specimen # 29, futtock, 7 x 11 ½ inches……..150-200 tons
Specimen # 60, keel fragment 10 ½ x 10 ½ inches molded and sided…..200 tons
Specimen # 61, keel fragment, 10 ½ x 12 inches molded and sided……..250-300 tons
Specimen # 62, keel fragment, 10 x 12 ½ inches molded and sided……..300-350 tons
Specimen # 79, floor, 7 x 6 inches……100-150 tons

By way of comparison, these are measurements and estimated tonnages for the timbers provided by WSA:

Specimen FL-1, floor, 7 ½ x 14 inches…….150-200 tons
Specimen FL-2, floor, 7 ½ x 13 ½ inches…….150-200 tons
Specimen FL-3, floor, 7 ½ x 13 inches…….150-200 tons
K-1, keel fragment, 10 x 19 ½ inches……500 + tons
FT-1, futtock, 7 x 14 inches……150 tons
FT-2, futtock, 8 x 14 inches…….250-300 tons
FT-4, futtock, 8 x 13 inches…….250-300 tons
FT-5, futtock, 6 x 13 inches……100 tons
FT-6, futtock, 8 x 14 inches……250-300 tons
FT-7, futtock, 8 x 14 inches……250-300 tons
FT-8, futtock, 8 x 13 inches……250-300 tons
FT-9, futtock, 4 x 10 inches…….less than 100 tons
FT-10, futtock, 8 x 10 ½ inches……. 250 tons

It is important to remember that these are estimates and approximations. Based on them, I believe that timbers from the same vessel(s) may have been encountered in 1988 and 2005, and that some of the timbers, such as specimen #18, 22, 25 and 61 came from a vessel of approximately the same size as the stern section recovered in 2005. Further analysis might be able to determine if any of these timbers are associated with the stern section.

The Stern Section

The stern section excavated and recovered by WSA in 2005 is a vessel that was positioned stern to shore for ship breaking. It was an approximately 100-foot long vessel with an estimated 25-foot beam based on the remains. The surviving form of the stern suggests a broad, full-formed vessel of the "boxy" or "apple-cheeked" style of the first part of the nineteenth century. The remains of the keelson included the step for the mizzen mast. The step was cut at an angle, indicating that the mizzen was slightly raked. The vessel was in the process of breaking when abandoned. Most yellow metal fasteners had been extracted, leaving only iron fasteners and two examples of yellow metal that the breakers either missed or could not or did not otherwise extract. The copper sheathing at the stern was in place, as was the rudder; this was presumably because this portion of the stern was both embedded in the bay bottom and submerged. Other indications of the breaking process noted included saw cut ceiling planks, hacking at frame ends, and futtocks split to free fasteners.

The vessel was well built. Indications of this were cleanly shaped structural members, evenly spaced fasteners, and no evidence of covered-up builder's mistakes such as shims or other filler pieces. However, the vessel's remains also evidenced a lifetime of repairs, most if not all made in an inferior fashion. This included futtocks of a smaller size than the original, poorly shaped timbers, some with bark, and badly driven fasteners. As well, the ceiling planking was irregular in size. There was also clear evidence of a major repair to the stern and rudder. The gudgeon and pintle assembly had been strained, apparently from the stern and the rudder striking a large object or the bottom or from some other strain on the rudder that had bodily lifted it. This had strained or loosened the fasteners for the pintle and gudgeon. Rather than remove all the copper and properly repair the damage, only a small amount of copper was pulled free to tighten the fasteners, and copper patches where applied to replace the sheathing removed for the repairs.

As discussed earlier, there are four potential candidates for the vessel's identity. As previously discussed, while Charles Hare broke up or "finished" 77 Gold Rush vessels, according to the *Alta*'s series of reminiscences, not all of these were at Rincon Point. The *San Francisco Prices Current and Shipping List* for July 7, 1852 listed the storeships that lay off San Francisco. The list included 164 vessels, including 32 "off Rincon Point:"

Acasta, Audley Clark, Burmah, Bazaar, Bremen, Callao, Cadmus Caroline Augusta, Cariolanus, Charlotte, Cyrus, Delia Walker, Diadem, Dutchess of Clarence, Franklin, Friendship, Flavius, Gallatea, Galileo, Golconda, Gilbert Jameson, Gold Hunter, Hamilton, Inez, John Calvin, Lady Adams, Mentor, Monsoon, Neptune, Rhode Island, Thracian, and Zuid Pool, said to be "in stream."

Eventually these vessels were broken up along with others brought to Rincon Point or broken up elsewhere on the waterfront where they lay.

Drawing from the lists of vessels at the Rincon, those said to be broken by Hare and listed in the *Alta* reminiscences, and the *Daily Evening Bulletin*'s account of Hare's ship breaking, I have tabulated vessels said to have been broken up at Rincon Point. I have subtracted some vessels from the *Bulletin*'s list; *Niantic, General Harrison, Thomas Bennett*, and *William Gray* because the list is of "vessels which are now fast disappearing" and as such it includes ships trapped in the downtown core by landfilling (*Thomas Bennett*), ships burned in the May 4, 1851 fire (*Niantic* and *General Harrison*) and *William Gray*, which had been scuttled to form a wharf at Telegraph Hill. The list of all vessels presumably "broken" by Hare and the Chinese at Rincon Point forms Appendix C.

As previously discussed, the last five vessels cited as "undergoing dissection" in the *Bulletin* article of February 11, 1857 are the most likely candidates because they were the last taken on by Hare at his Rincon Point location:

- *Panama* – a 508-ton ship built in 1834 at Chatham, Massachusetts. An 1849 arrival, *Panama* was converted into a floating seamen's church.
- *Regulus* – a 387-ton ship built in 1832 at Medford, Massachusetts and an 1849 arrival.

- *Fortune* – possibly the 212-ton brig *Fortunio*, built in 1849 in Cape Elizabeth, New Jersey and an early 1850 arrival. *Fortunio* worked in the coastal trade after arriving and was reported wrecked, according to Goodman. This may be another vessel entirely, named *Fortuna* which "was used was used for a period as a storeship on the block bounded by Battery and Front, Vallejo and Green Streets. She was finally broken up by Hare, as was the *Ginate de Gola*" (San Francisco *Daily Alta California*, May 29, 1882). In that case we do not know the tonnage, but the *Fortune* mentioned in 1857 was also a brig, which would probably place it within this tonnage range.

- *Harvest* – a ship of 294 tons, built in 1826 at Plymouth, Massachusetts and employed in the Pacific whale fishery. She was re-rigged as a barque in 1845.

Returning to Warren, Rhode Island, in mid-1849, the vessel was refitted for a voyage to California, arriving at San Francisco on May 29, 1850.

- *Candace* – the 309-ton ex-whaling ship *Candace*, built in 1818 in Boston (Holdcamper 1968:103), re-rigged as a barque in 1849 and employed in the whale fishery through 1855. Arriving damaged and leaking in San Francisco on July 4, 1855, *Candace* was surveyed and condemned. Sold at auction, the hulk was then apparently taken to Rincon Point for breaking. She was NOT a Gold Rush ship.

In 1988-1989, I suggested, and Archeo-Tec agreed that the vessels whose pieces were encountered were probably the last five ships known to have been dismantled, the before-mentioned *Panama, Regulus, Fortune, Harvest* and *Candace* (*ibid*.: 73). Only four vessels could be discerned in the archaeological record, as previously noted.

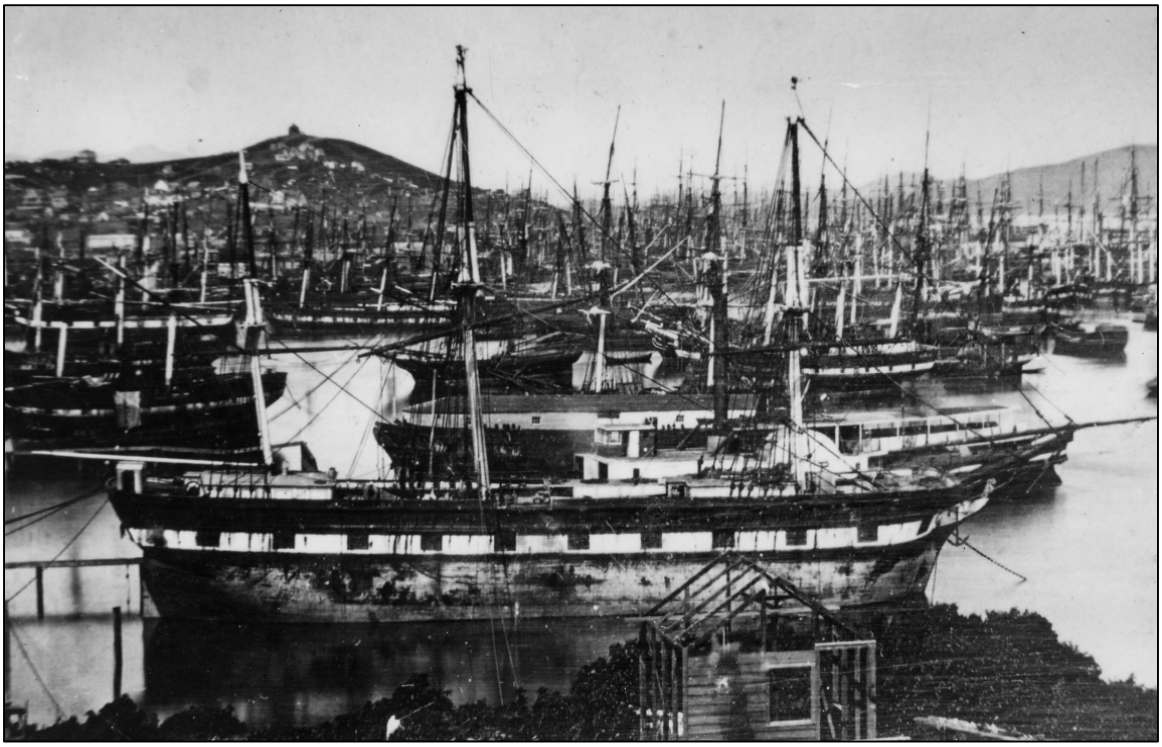
The clusters of ship parts recovered at Hills Plaza in 1988 represented vessels ranging in size from 100 tons, 200 tons, 250-300 tons and 350-400 tons (*ibid*.:47-48). The timbers excavated by WSA were from a vessel under 100 tons, 150-200 tons, 250-300 tons, and one timber from a vessel larger than 500 tons. That large timber could come from *Panama* or another large ship. However, according to Lawson's reminiscence, *Panama* was "taken to Beale and Mission and cut up" (San Francisco *Daily Alta California*, August 31, 1890).

The timbers from a vessel of 350-400 tons could have come from *Regulus*. The 150-200 ton and the 200 ton timbers could have come from *Fortunio* or *Fortune(a)*. The majority of the timbers in the 250-300 ton range, which would be a close fit for *Harvest* at 294 tons and within the range for *Candace*. It must be stressed, as it was in 1989, that there is no definitive evidence to link any of the timbers to a specific vessel (Archeo-Tec 1989:72-73).

The timbering for the stern section also fits the 250-300 ton range. I have averaged the floor dimensions, which as previously noted are not uniform due to the poor conducted nature of the ship's repairs and replacements over what seems to have been a long and probably difficult career. The argument that the scattered timbers at the site represent the final vessels broken up by Hare is even stronger for the stern, which would have blocked access to the beach and Hare's store/headquarters. It obviously dates to the end of the yard's working life, which we know to be in early 1857 thanks to the *Bulletin* article, and it remained in the water, covered by tidal flow for a period of several years as evidenced by the teredo infestation in some of the timbers and the minimal fill level around it directly above the bay/mud sand level it was pulled up onto, this level probably representing silting. It was then filled over in what appears to be a single event.

With the apparent *terminus post quem* and the tonnage range, the stern most probably comes from *Harvest* or *Candace*. The other factors in this identification are the timbers employed in the stern's construction, which suggest an American Eastern Seaboard construction, the style of the hull and its construction, which to me appear to be from the 1825-1830 period, but perhaps earlier given the framing style, the placement of the mast step which indicates a three-masted vessel, and the bar-style chainplate, a type employed in the 1830-1860 period.

As for which of the two, I believe the vessel excavated in 2005 is most probably *Candace*. Built in Boston, Massachusetts in 1818, *Candace* was a 99 ft 8 in. long ship with a 26 ft 6 in beam, a 13 ft 3 in depth of hold, two decks, square stern, billethead and was registered at 309 51/95 tons. There is a fascinating mention of *Candace* nearly being wrecked in the Gulf Stream on a return voyage home from Peru in November 1823 by Captain Joseph Bates (Bates 1868). In 1836 *Candace* was re-registered in New York (Holdcamper 1968) and then in the whaling port of New London, Connecticut. The ship made regular voyages the South Atlantic, Indian Ocean, the Pacific, including the North



This ca. 300 ton barque is moored at or adjacent to Hare's breaking yard, near today's intersection of Spear and Folsom streets. The barque lies off the Folsom Street alignment; the line of capped pilings visible behind its stern is the property line of the waterlot. They outline the southern boundary of Folsom while the vessel lies across the Spear street alignment. Although this 1853 photo predates the arrival of the *Candace*, the barque pictured is of similar size and appearance. (San Francisco Maritime National Historical Park, J. Porter Shaw Library, A11.4528-c.)

Pacific Coast, and the Arctic to whale in 1838-1855. Mystic Seaport holds nearly all the logs for the ship's voyages in the 1840s with one exception (1845-1847) which is at the New Bedford Whaling Museum. In that period, *Candace* suffered from a near-mutiny on a North Pacific voyage. She was re-rigged as a barque in 1849 according to her registries.

The crew lists for *Candace*'s whaling voyages of 1838-1853 are on-line resources at Mystic Seaport. On the 1853-1855 voyage to the Arctic, *Candace* shipped home 8,000 lbs. of whale bone and "500 whale" but did not return to New London. The vessel put in to San Francisco on July 4, 1855. The Boston Shipping List of August 18, 1855 reported that the barque, "badly leaking" had been "condemned after being surveyed." Sold at auction, the hulk was apparently bought by Charles Hare, who presumably could not repair her but instead broke *Candace* up in February 1857.

The closest other archaeological example of a vessel for comparison with the vessel at 300 Spear is the 295-ton ship *William Gray*. *William Gray*'s substantially intact remains were discovered beneath Battery and Filbert streets in 1979. After test excavation, the hulk was reburied. It is listed on the National Register of Historic Places. *William Gray* was built at Medford, Massachusetts by Sprague and James, Master Carpenters, in 1827. As built and registered, *William Gray* was a 109 foot long ship with a 24 foot, 5-inch beam and a 12-foot, 2 ½ inch depth of hold.

Archaeological investigation of *William Gray* revealed the presence of rolled iron bar chainplates identical to those shown on the barque in prominent view at the foot of Spear Street in the Shew panorama, and the same style of chainplate recovered at Hills Plaza, and another found in close proximity to the stern section at 300 Spear. This style of chainplate came into use around the time of the Gold Rush, gradually replacing an earlier style of large links of chain employed through the early 1840s (Biddlecombe 1848:30-31, Plate IV). The bar style's presence on the older (1827) *William Gray* would indicate a re-rigging of the vessel, which was common as vessels were constantly maintained and their upper works renewed in the course of their career.

The bar style of chainplate remained in use until the1880s, when it was gradually replaced by flat strap iron chainplates. Other archaeologically documented examples of this type of chainplate from a Gold Rush context include one recovered from Hills Plaza, and the chainplates attached to the bow of the Gold Rush hulk *Sterling*, which is sunk at the foot of J Street in Sacramento. This style of chainplate is also found on the hulk of the Liverpool built, 1849 ship *Jhelum* in the Falkland Islands (Stammers and Kearon 1992:93, 96-97). The presence of this type of chainplate in close association with the stern suggests that if was from this vessel, which appears to be a circa 1820s vessel, that it was also probably re-rigged, such as when an older ship is down-rigged to a barque.

Ironically, *William Gray* is often cited by as being broken up (or more accurately, listed as mistakenly being broken up) by Charles Hare. This is based on the 1882 reminiscences of Gold Rush ships which mention that Hare "finally finished the *Gray*" (San Francisco *Daily Alta California*, June 5, 1882). What has been overlooked is the semantics. The reminiscences specifically use phrases such as "broken up" or "cut up" for other vessels that came into Hare's possession. I believe "finished" was specific to scuttling, especially since *William Gray* was deliberately scuttled, filled with rock and mud to hold the hulk fast, and planked over to form a wharf for Frederick Griffing's nearby warehouse. On July 10, 1852, the *Alta* noted that "a large portion of Griffing's wharf is most ingeniously constructed by planking over a sunken hulk." If my supposition is correct, then *William Gray* joins *General Harrison*, the vessel at 300 Spear, and the other breaking yard remains as archaeological evidence of the career of the prolific Charles Hare.

P2-Feature 18

P2-Feature 18 encompasses a portion of Hare's ship breaking yard that was located in the northeast corner of the project area near Spear Street (Figure 32, Photo 23). Ten ship timbers were found in an area that measured 28 feet north-south by 27 feet east-west (refer to Figure 32). The feature was located 28 feet below the site datum.

Photo 23. P2-Feature 18, view to the northeast.

Associated Artifacts

In addition to ship timbers (Figure 32a-c), this portion of Hare's ship breaking yard yielded two artifacts: a man's large rubber boot (refer to Figure 32 and Photo A32) and a partial oar. Both were recovered adjacent to Spear Street. The portion of the oar's round wooden shaft and handle is 49 ½-inches long. Of that, the handle comprises 9 ½-inches. The diameter of the shaft is approximately 2.5-inches, while the thinner handle has a diameter of approximately 1 ¼-inch.

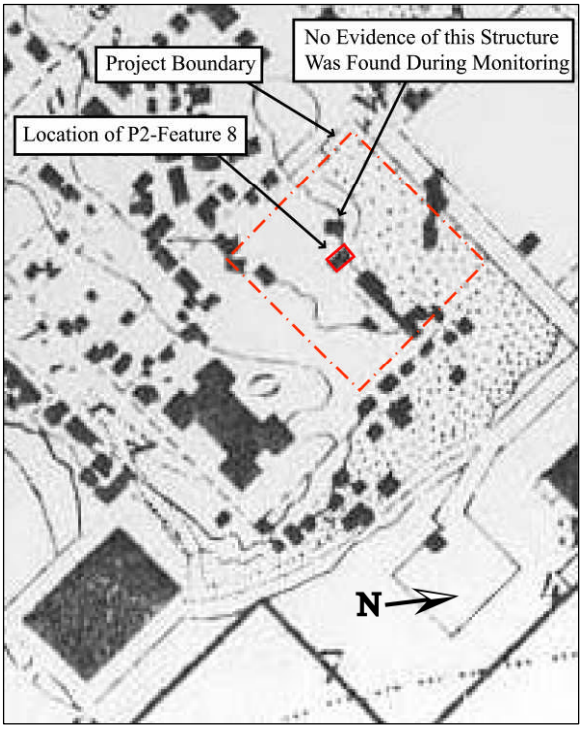
5.32 Fill Era Features (late-1850s-1860s)

P2-Feature 8

P2-Feature 8 consisted of a rectangular wood foundation, measuring 20-x-25 feet, and associated historic debris (Figure 33, Photo 24). The feature was located in the south-central portion of the parcel. The GIS plot for P2-Feature 8 overlies the footprint of a rectangular-shaped structure depicted on the 1859 U.S. Coast and Geodetic Survey Map. If P2-Feature 8 represents the foundation of this structure, it was likely constructed some time before 1859, shortly after the filling of Yerba Buena Cove.

Photo 24. P2-Feature 8, view to the north.

A temporary feature datum was established in the southeastern portion of P2-Feature 8 (refer to Figure 33). P2-Feature 8 was located 14 feet below the site datum.



Location of P2-Feature 8, as seen on the 1859 U.S. Coast and Geodetic Survey Map.

The foundation of P2-Feature 8 was constructed of heavy, hewn fir timbers that exhibited braced frame construction with half-lap joints at the corners. The four corners of the foundation rested on top of large timber pilings that had been sunk deep into the native sandy soil. The timbers were fastened to the pilings with wood treenails. Diagonal cross beams had been placed under the foundation on the northern side of the structure for additional support (Photo 25). These support beams were toe-nailed into the bottom of the foundation and angled approximately 45 degrees, and had been set deep into the underlying native sand.

Square cut-outs on the interior portion of both the north and south foundation timbers indicated that the structure originally had

been built with a large floor joist running northeast to southwest through the middle of the structure. Two pilings had supported the floor joist. These were placed six feet apart and were found in alignment with the cut-outs. Cut-outs for floor joists were also observed on the inside of the western and eastern foundation timbers. Although the joists had been removed historically, their linear imprints were still visible in the underlying sand (Photo 26). Postholes had been mortised at 32-inch intervals along the top of the foundation timbers. These held 4-x-4-inch posts, upon which the frame of the superstructure would have been constructed. Angled cross braces were found in the east and north corners of the structure, but were not present in the western and southern corners. A 3-foot-wide threshold step was found along the southeast edge of the foundation, indicating that the entrance to the structure was oriented toward dry land and away from the disappearing shoreline. The threshold was fastened to the top of the foundation with two iron spikes. Roman numerals carved on the ends of the foundation beams are carpenter's marks used during construction to mark the timbers for the assembly (or re-assembly) of the structure (Photo 27).

Photo 25. P2-Feature 8: Diagonal support beams located under foundation.

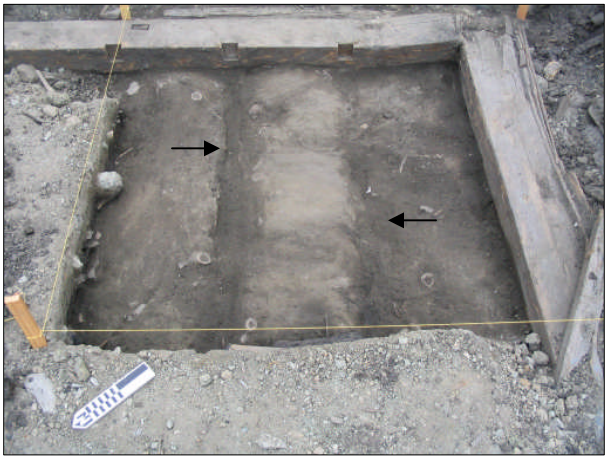


Photo 26. Linear imprints from floor joists under P2-Feature 8.

Photo 27. Carpenters' marks on end of foundation beam.

The foundation rested on dark, native, sandy soil; historic cove fill overlaid the structure. The cove fill consisted of greenish-gray, gravelly clay with a large quantity of historic debris that included

glass, leather, saw-cut faunal bone, metal, ceramics, and wood. The underlying native soils consisted of dark clayey sand, likely representing the original tidal shoreline. Historic debris was observed under the foundation, which indicated that P2-Feature 8 was constructed on a thin layer of fill, which overlaid the original tidal shoreline. This interpretation is supported by the plotted location of the feature on the 1859 U.S. Coast and Geodetic Survey map in relation to the original shoreline depicted on the 1853 U.S. Coast and Geodetic Survey map.

A large quantity of carefully placed wood and metal debris was observed adjacent to the east side of the wood foundation (Photo 28). This consisted mostly of salvaged materials, including hull planking, a ship's cabin door, Muntz metal sheathing, a portion of a hatch cover, and roof shingles. The placement of these materials suggests that they may have been used as a work area or porch, given that the location of P2-Feature 8 originally stood on shallow fill that was likely subject to tidal activity during the late 1850s. Workers most likely avoided sinking into the mud by stepping around on the strategically placed wood and Muntz metal. Approximately 12 horizontally placed boards, forming a ramp, were placed against the east side of the foundation between the work area and the foundation. A perpendicular support beam was located underneath the boards adjacent to the wood foundation. It is possible that P2-Feature 8 was used as a storage surface prior to its demolition.

Photo 28. Wood and metal debris located adjacent to the east side of the wood foundation in P2-Feature 8. View south.

To expedite the recordation and recovery of artifacts contained in the fill within the boundaries of the foundation, four 5-x-5-foot test units were excavated at three locations along the inner walls and at the approximate center of the structure. These were designated: Units A1, B1, C1, and D1 (refer to Figure 33 and 33a-d). Unit A1 was later extended 1 meter (3 feet 28 inches) to the east. The extension was designated Unit A2. A

unit datum was established in a corner of each of the units. The provenience for each unit datum was recorded from the temporary datum established for P2-Feature 8 (refer to Figure 33, Table 15).

Table 15. Location of Unit Datums from Temporary P2-Feature 8 Datum

Unit	Location of Datum	Distance from P2 F#8 Datum (ft. in.)	Bearing from P2 F#8 Datum
A1*	East corner	28’ 4”	262 degrees West
B1	North corner	20’ 10”	234 degrees Southwest
C1	South corner	18’ 0”	243 degrees Southwest
D1	South corner	23” 1’	278 degrees West

* Unit A1 and Unit A2 utilized the same unit datum.

Unit A1

Unit A1 was located inside of the west corner of the foundation (refer to Figure 33 and 33a). The layer of fill in this unit was 13 inches thick. It was composed of a dense compact rocky clay that was dark greenish-gray in color (Munsell: 5GY 4/1). Sandy lenses were interspersed in the clay fill. Cultural materials were observed in this layer, including wood and metal strapping, brick fragments, a wire ring, metal paneling, a ceramic pipe fragment, and saw-cut bone. A second layer, approximately five inches thick, was located under the rocky, clay cove fill. It consisted of dark gritty clay (Munsell: 10 YR 2/1) containing a rich decomposing woody mulch. Native sand was observed under the dark cultural layer.

Unit A2

Unit A2, a 1 meter (3.28–x-3.28-foot) unit extending north from Unit A1, was excavated to horizontally expose a lens of compacted wood debris originally observed in the north wall of Unit A1 (refer to Figure 33a). A layer of black cultural soil with burned wood and charcoal was observed approximately 14 inches below the unit datum. A piece of basketry or reed matting constructed from dried reeds was located in the south corner of the unit. No other cultural materials were observed.

Unit B1

This test unit was inside the south corner of the foundation (Figure 33d and 33b). The approximately 5-inch thick upper layer of fill was thinner in this unit than in Unit A1. The fill layer in this unit was culturally sterile and consisted of heavily compacted rocky clay that was grayish-green in color (Munsell: 5G 4/2). A dark charcoal-rich cultural layer (Munsell: 10YR 3/1), composed of moderately compact clayey silt, was observed underlying the fill layer. A large quantity of historic debris was observed in this second

layer, including wood fragments, metal, faunal bone, cloth pieces, flat boot rubber, pencils, nails, leather, glass, one barrel stave, sheet metal, and rubber bands.

The sediments of this second layer transitioned quickly to a culturally sterile, moderately compact native sand (Munsell: 25Y 4/3), which was located under the cultural layer, approximately 12 inches below the unit datum. Linear indentations indicating the presence (and removal) of floor joists were observed on top of the sandy substratum (refer to Photo 26). Staining from the floor joists was still visible at the bottom of the sandy indentations, indicating the wood had been in direct contact with the sand (Munsell: 25Y 3/1).

Unit C1

Unit C1 was located within the central-northeastern portion of the foundation area (refer to Figure 33 and 33c). Artifacts found within this unit consisted of wood boards and shingles, metal barrel hoops, small metal rings, shoe leather, a leather horse bridle, metal spikes, bottle glass, a champagne bottle, faunal bone. The overlying layer of fill in this unit was composed of grayish-green, compact, gravelly clay (Munsell: 5G 4/2), and it was approximately 11 inches thick. The artifacts were recovered from below the layer of fill and were resting on the surface of the underlying sand stratum. A 5 ½ -inch thick piling used to support the north end of the structure's central beam, was located in the northwest wall of unit C1, approximately 3 ½ inches below the unit datum.

Unit D1

This unit was located inside the north corner of the foundation (refer to Figure 33 and 33d). The overlying grayish-green cove fill layer (Munsell: 5G 4/2) was only 3-5 inches thick in the northern portions of the unit, but 10-15 inches thick in the southern portions of the unit. A black cultural layer underlay the fill layer; it was approximately 1 foot thick and contained a large quantity of historic debris. The artifacts recovered included a metal hook, wood shingles and boards, faunal bone, unidentified rusted metal, ceramic pipe stems, and bottle glass. The stratum of native sand underlying the lower cultural layer in this unit was located 26 inches below the unit datum.

Associated Artifacts

Two hundred and sixty seven items were catalogued in association with P2-Feature 8.

<u>Beverage Containers</u>

A portion of an oval-shaped metal cup with a handle (Photo A33) and a 'hood' style white earthenware stopper with a glazed finial and unglazed shank was recovered. The

stopper appears to have belonged to a large decorative bottle, although its exact use is unknown. In addition, five glass bottles were collected (Table 16). Three of the bottles yielded conclusive dates of manufacture.

Table 16. Beverage Bottles Recovered from P2-Feature 8

Location	Color	Circa	Description
Unit D1	Aqua	1863-1868	Blob top soda water bottle, patination, embossed 'CLASSEN & CO / SAN / FRANCISCO' on one side and 'PACIFIC SODA WORKS' on reverse. John F. Rohe and Milton J. Classen owned Pacific Soda Works from 1863-1868. Together they operated their business at 115 Jessie Street. Rohe continued to run the business without Classen until 1871, when he joined the Bay City Soda Water Co. By 1871, Classen had entered the real estate business and worked in it for many years (Photo A34).
Unit C1, west corner	Olive		Large champagne style bottle (height 12", base diam. 3 1/2"). Kick up. Hand laid-on ring with foil present on neck. Top of mouth may be ground. Glass is fairly thick.
Unit D1	Aqua	1872-1875	Greenish aqua Hutchinson style mineral water bottle. Base embossed with 'H'. Body embossed 'EUREKA / SODA WORKS / S.F.' C.A. Reiners, a native of Germany, took passage for California from NY in May 1863. He first engaged in butchering and the restaurant businesses. He then entered into the soda water business. He was first listed in the soda water business in 1872, in partnership with John Breig as proprietors of the Eureka Soda Works, located at 541 and 543 Bryant Street. This partnership lasted until 1875, at which time Reiners moved the business to 723 Turk (Photo A34).
Trash deposit along SE wall	Light Olive	Pre 1895	Round bottle, base diam. 2 1/4", height 9 1/4", with cork inside. High kick up. Base is somewhat irregular in thickness and shape. Body below shoulder has orange peel texture. Vertical grooves in neck. Finish is crude ring style, hand applied. May have been used as a beverage bottle or possible foodstuffs, such as oil. Date based on finish.
Near F8	Aqua	1863-1870	10-sided blob top soda water bottle. Embossed 'McEWIN / SAN FRANCISCO.' Poss. pontil on base, difficult to tell since texture is generally rough. According to Markota and Markota: James McEwin started in the soda water business around 1856 in partnership with George C. Thompson as owners of the Union Mineral Water Works. This partnership lasted until 1860, when he partnered with S. Grellier at the Italian Soda Works. In 1862 he was listed as being in the job wagon business. McEwin was listed as the proprietor of California Soda Works at 192 Stevenson in 1863-69. In 1869-70 the address was listed as 190 Stevenson. In 1871 James McEwin became the proprietor of the Bay City Soda Water Co. He remained the president of Bay City Soda until 1895 (Photo A34).

Clothing

Twenty-six buttons (Photo A35) and a small fastener, the 'hook' half of a hook and eye closure used in ladies' clothing (Photo A36), were recovered. Nearly all of the buttons

were collected along the southeast wall of the structure, the majority from the trash concentration in that location. Ten of the buttons are white Prosser dish or saucer style, the remainder of the collection is described below (Table 17).

Table 17. Buttons Recovered from P2-Feature 8

Location	Material	Qty	Description
E corner of structure	Glass?/Metal	1	Partial button, diam. 1/2", white glassy inset with metal shank, likely had metal loop fastener. 3 decorative stars embossed in center of white inset.
E corner of structure	Wood	4	4 wooden, 4-hole sunken panel style buttons, coat size, Diam. 5/8".
SE wall	Metal	1	Metal 4-hole button (poss. stamped), corroded. 1/2" Diam. Shirt size.
SE wall	Shell	1	Very small shell button, 4 holes (broken) in concave center, Diam. 5/16". Women's/children's size.
Trash deposit SE wall	Ceramic	4	4 calico buttons, white with purple design, 4-hole, dish style, shirt/dress size, diam. 7/16"
Trash deposit SE wall	Shell?	1	4-hole button, poss. shell, sunken panel, shirt size, diam. 1/2"
Trash deposit SE wall	Shell	1	Very small (diam. 5/16") sunken panel button, 4-hole, likely women's/children's clothing
Trash deposit SE wall	Ceramic	1	White Prosser dish style button with purple calico pattern, 4 holes. Diam. 7/8".
Trash deposit SE wall	Shell	1	Small shell button, flat back with 4 holes in central depression, diam. 6/16". Women's/children's size.
Unit A1	Shell	1	Very small (diam. 1/4") sunken panel shell button, 4-hole, likely children's clothing

Food & Food Storage

Only two artifacts related to food storage were recovered within the foundation. The first is an aqua, octagonal pepper sauce bottle with a crude hand applied wide-mouth finish, and the second is a large, fragmentary stoneware jar (height 14 ½", base diam. 9") with a wide mouth, a dark brown slip on the interior, and a mottled glaze on the exterior (Photo A37).

Food Preparation & Consumption

Artifacts related to food preparation and consumption comprised a small part of the P2-Feature 8 assemblage. These included three pieces of silverware and five fragmentary pieces of tableware. The silverware consisted of a small 3-tined fork with a wood handle, a butter style knife with a long flat blade and a wood handle, and three teaspoons (Photo A38). Two of the spoons have ovate-shaped bowls, upturned spatulate stems, and are decorated front and back with a simple leaf design. The third teaspoon is silverplated with an ovate shaped bowl and an upturned spatulate stem. The silverplate has worn off in several locations and it is stamped on back in the narrow portion of the stem with three

characters (appear to be flowers) followed by 'BM.' It is decorated front and back along the length of the stem with a modified fleur-de-lis pattern.

Four of the five tableware sherds within the feature provided some information regarding date of manufacture. The first is the base from a possible serving dish or bowl. The printed maker's mark (crown over garter style) reads MAYER'S REAL IRONSTONE / OFFICE / 80 / PEARL STREET / NEW YORK / PRIZE MEDAL 1851. This American-made piece was not conclusively identified, but the prize medal reference within the mark ensures that it was manufactured after 1851. The second piece, a sherd from a small saucer, contains an impressed T. & R. BOOTE mark. Though Godden notes that T. & R. Boote operated in Staffordshire beginning in 1842, it is unclear when they stopped using impressed marks (Godden 1964:84). The third piece, a portion of a plate with a grain pattern in molded relief around the rim, contains a fragment of a printed maker's mark as well as a second impressed mark with a Registration Mark. The impressed mark is not entirely readable, although it appears to have been made by Elmsmore & Forster of Tunstall, whose dates of manufacture fall between 1853 and 1871. Registration Marks were used over a broader period of time, between 1843 and 1883 (Godden 1964:235,527). The final sherd (a possible plate) is impressed with a mark from Thomas Hughes. Hughes operated in Staffordshire from 1860-1894 before the firm began operating under the name Thomas Hughes & Son (Godden 1964:339).

Footwear

Several examples of men's boots and shoes, including the leather upper from a brogan, as well as two partial children's shoes (Photo A39) were recovered within the feature. One sample of boot leather with an identifying mark was recovered (Photo A40). The small piece contains a partial gold maker's stamp that reads METRO... / CUSTOM MADE. It was associated with a boot constructed with small wooden pegs, indicating it was probably manufactured prior to 1860.

Grooming & Health

A variety of men's and women's grooming and health-related items were recovered within the feature. These include a toothbrush, a man's dressing comb (Photo A41), women's hair pins, a lice comb, a ground glass bottle stopper and several bottled products. The small toothbrush is incomplete and made of bone. The fragmentary man's rubber dressing comb is missing many teeth, but the remaining portion of the mark reads ...CO GOODYEARS PATENT MAY 6 1... Goodyear's patent for the vulcanization of rubber was granted in 1844 (www.goodyear.com). Two crimped metal women's hair pins were recovered, as well as a broken, wood, 2-sided lice comb. The cosmetic and medicinal bottles found within the feature are summarized below (Table 18).

Table 18. Cosmetic and Medicinal Bottles Recovered from P2-Feature 8

Object	Location	Color	Circa	Description
Bottle	East corner of structure	Aqua	1862	Very sm. (height 2"), rectangular (15/16" x 3/4") aqua panel bottle. Cork collected with bottle. Patination. Embossed 'AYER'S // LOWELL / MASS // PILLS'. Patination. Finish has been "folded" in. Per Wilson: Ayer's Cathartic Pills were widely used for stomach ailments, headaches, blood purification, skin diseases, worms, and many other illnesses. The pills were sold in both bottles and boxes (Photo A42).
Bottle	East corner of structure	Aqua	Pre 1865	12-sided bottle, diam. 1 3/8", height 4 1/4". Light aqua with patination. Open pontil mark on base. Finish appears to be "folded" in. Date based on presence of pontil (Photo A42).
Bottle	Outside foundation	Aqua	1860-1875	Rectangular (1" x 1 5/8") aqua paneled bottle with applied double ring finish. Height 5". Embossed 'DAVIS' // VEGETABLE // PAIN KILLER'. According to Fike, Davis developed his formula in Massachusetts ca. 1840. Bottles were first embossed ca. 1854. In 1862, his son Edmund took over and expanded the business. Edmund died in 1880 and the co. was sold ca. 1895 to Davis & Lawrence Co., Montreal and New York. The opium-based cure-all was distributed in California by Park & White of San Francisco as early as 1860 (Photo A42) (Pastron 1981:326-327).
Bottle	Outside foundation to S/SW	Clear		Round prescription style (diam. 1 7/8"), clear glass bottle with irregular patent/flat finish. Seed/blister sized bubbles in glass. Mold seam glass extrusion at base of neck (Photo A43).
Bottle	Trash concentration near barrel	Clear	1850-1887	Round bottle (height 3", base diam. 1 11/16"); wide neck (similar to Bromo-Seltzer shape). Iridescence. Body embossed 'X BAZIN / PHILADA'. According to Fike, the Xavier Bazin Perfumery of Philadelphia was established in the 1850s and sons Charles and Felix joined the firm in the early 1870s. The business was liquidated in 1887 (Wilson and Wilson 1971 in Fike). May have contained a number of cosmetic/health products, including perfume or smelling salts (Photo A43).
Bottle	Unit A1	Clear	Pre 1865	Clear glass oval packing style bottle with applied patent/flat style finish. Patination. Height 5 1/4". Large open pontil on base. Body covered with whittle marks. Date based on presence of pontil (Photo A43).
Bottle Stopper	Trash deposit along SE wall	Black		Ground glass stopper, shank portion only, finial broken, type of bottle unknown

Heating & Lighting

Two lantern parts, as well as a likely lamp oil label were recovered within the feature. Both lantern pieces were collected within Unit A2 and consisted of a 6-inch round tinplate lantern base with a wire-rolled edge that was formed by stamping. It likely belonged to a hand held lantern, and the row of holes around the perimeter of the base

would have allowed air to flow to the candle/lamp. A rectangular (6-x-5-inch) lantern door (open frame with single cross piece) was also collected (Photo A44).

A diamond-shaped gold foil label was also recovered (Photo A45). It is stamped 519½ & 521 FRONT ST / DIETZ / DIAMOND / OIL / SAN FRANCISCO. Research conducted in early San Francisco City directories revealed that the oil was produced between 1863 and 1870. George Dietz & Co. was established in July 1852 at 187 Montgomery and was listed as a merchant in chemical oil, camphene, and lamps. By 1859 the company was known as A.C. Dietz & Co. with an office at 132 Washington and a factory on Natoma between First and Second. Samuel Dietz, the Superintendent, and A.C. Dietz lived at 48 Front Street. Although the company had several locations over the years, it was located at 519 & 521 Front St (the address on the label) between 1863 and 1868 (possibly 1870). While the company remained in San Francisco, A.C. (Alfred) Dietz moved his residence to Oakland and took on a partner, Charles G. Clinch. By 1900, Alfred Dietz was president of Ferndale Petroleum Oil & Development Co. and Charles L. Dietz was a clerk at C.G. Clinch & Co. Perhaps Clinch had taken over Dietz's interests in the company.

Miscellaneous

Miscellaneous artifacts included several household items, such as a square metal stove door embossed '1848 / 2' (Photo A46), four used matches, a wood clothespin (Photo A47), and a small (2 ½-inch) white ceramic figurine (Photo A48). The molded, hollow ceramic figurine is missing its head and feet, but appears to be a boy leaning on a piling. The boy is wearing pants and a jacket and is holding the end of a thick rope that is wrapped around the piling. The maritime theme appears appropriate considering the context of its discovery.

Several artifacts illustrate the use of horses within the project area, including a possible bit (Photo A49), an 8 ¾-inch whip/riding crop handle made of wood and wrapped in leather (Photo A50), a partial leather bridle (Photo A51), and an oval-shaped horse brush, backed in leather with its bristles missing (Photo A52). The leather brush strap is stamped 110 / WARRANTED / ALL BRISTLE / LONDON.

A sample of interesting personal items was recovered as well. These include a small pocket watch key (length 1 ¼-inch) (Photo A53). The key would have been worn on a watch chain and allowed the user to wind the watch without removing the key from the chain. A stamped brass, simulated embroidery, Union officer's infantry hat horn insignia was also collected (Photo A54). Metallic insignia came into use when it became evident that the insignia embroidered onto caps were expensive and did not hold up well in the field. Although the insignia may have been intended for officers, photos show enlisted men wearing them as well. Metallic insignia appear to be very common in images of

troops from New England. This sample dates to the period before 1875, when the horn was dropped as the insignia of the infantry, and crossed rifles were adopted.

Additional miscellaneous items include a possible rat trap (Photo A55), small pieces of textile, rope, a tin can, a decorative metal piece (Photo A56), a carved bone handle with a threaded metal rod in the center (Photo A57), and a handmade wood implement that may be a knife or cutting tool (Photo A58).

Sewing

Although the quantity was relatively small, the fact that sewing-related items were recovered within P2-Feature 8 is unique within the project area. Six straight pins and a thimble were collected (Photo A59). All were located in a concentration of trash along the southeast wall of the structure.

Smoking

P2-Feature 8 yielded fourteen pipe fragments (Photo A60) and a cigar box lid (Photo A61). The rectangular (7 7/8-x-5 1/8-inch) wood lid bears the name *La Intimidad de Antonino Caruncho*. A well-established Cuban brand, *La Intimidad de Antonino Caruncho* was acquired by Henry Clay & Bock and Co. Ltd. during the cigar conflict of 1887 and was produced until the time of the Cuban Revolution (1959). After the Cuban revolution this brand vanished. Today, *La Intimidad de Antonino Caruncho* has been reactivated by Cuban-in-exile Carlos Torano, who works out of a small fabrication plant in Honduras (www.cigar-pipe.com).

Of the fourteen clay pipe fragments, two yielded dates of manufacture. Both were produced between 1826-1862 by the Murray Company of Glasgow. According to Humphrey (1969), the Murray Company was founded in 1826 and became the Davidson company in 1862. Davidson aparently managed the Murray pipe making operation just before he acquired the company (Humphrey 1969).

Structural

Samples of structural items were collected from the feature, including two sections of a door frame lying outside the foundation, the lock plate associated with the door, several wood shingles, a mineral finish doorknob with a stem, and several pieces of gold picture frame molding (Photo A62).

Tools / Maritime

Of the many tools and indeterminate metal objects recovered from within the feature, several are very likely related to the ship breaking activities that took place along the shoreline. These include two iron drift bolts (Photo A63), an iron pry bar (Photo A64), an iron wedge (Photo A64), two iron thimbles, and a possible treenail. The pry bar, likely used as a ship breaker's tool, is a 14 ½-inch rod that is flat on one end. Similar pry bars

determined to be associated with ship breaking activities were found at the Hills-Plaza and *General Harrison* sites (Dr. James Delgado, 2006, pers. comm..). The wedge is 13-inches long and has a wide flat head and a tapered end.

Due to the nature of the deposit, many of the tools and industrial items likely represent the everyday activities that characterized post-gold rush life in San Francisco. Additional tools within the feature include a blade for a wood plane, an auger bit (Photo A65), an axe head (Photo A66), a 3-sided file (Photo A67), two likely punches (Photo A67), a possible saw of expedient construction (Photo A68), and several indeterminate tools.

Although not tools themselves, a large quantity of metal objects was recovered within the feature. They include a large number of small tacks, square cut spikes (several "L" shaped) (Photo A69), a slide bolt (Photo A70), several iron rings of various diameters (Photo A71), both wire and square cut nails, metal strapping (possibly used as barrel hoops), and a wide variety of metal hooks (Photos A69, A71 and A72). Hooks included flat and round metal bent into traditional hook and "U" shapes (see Culled Artifacts below).

Toys

The toys collected from P2-Feature 8 included a rubber ball, a tea pot (Photo A73), a china doll head (Photo A74), and four marbles (Photo A75). The white ceramic tea pot from a child's tea set is painted with a pink and green floral design. Two of the ceramic marbles are white and undecorated. One shows the characteristic pitting of the salt glazing process. The other two marbles are also white and both were decorated with three sets of intersecting circles (red, green, and black and red, green, and brown/gold).

Writing

In addition to three pieces of slate styli, a wood pencil was recovered from the feature (Photo A76). Like the others found within the project area, the styli were formed from pressed slate powder and used on slate writing tablets. The pencil (lower portion only), is broken in half along its entire length so that the lead is visible. A mark is present but not readable.

Culled Artifacts

A very large quantity of artifacts was culled from P2-F 8. The following summarizes those artifacts by type, but does not describe individual items.

The nature of the artifacts culled from P2-Feature 8 varied from the pattern seen in the majority of the other features. Typically within the project area, culled artifacts consisted of non-diagnostic glass and ceramic sherds, along with a smaller amount of structural,

domestic, or personal items, such as nails, clay pipes, and shoe leather. In P2-Feature 8, the broad categories of culled items consisted of the following:

- Bottle Glass (primarily fragments): 121
- Brick (fragments): 2
- Ceramic (primarily tableware sherds): 190
- Corks: 6
- Food Refuse (peach pits and coconut shells): 15
- Glass (primarily flat glass): 126
- Leather (primarily shoe pieces): 61
- Metal (primarily cut nails, screws, tacks, spikes, barrel hoops, hinges, hooks): 820
- Pipe fragments (clay): 60
- Rope: 1
- Rubber (rubber boot and additional indeterminate items): 5
- Silverware: 1
- Slate Pencil: 11
- Textiles (indeterminate cloth, burlap): 15
- Toys (marble): 1
- Wood (barrel bungs, handles, indeterminate objects): 27

P2-Feature 9

Three associated wooden structures (Structures A, B, and C) that were closely grouped in the southwestern portion of the parcel comprised P2-Feature 9 (Figure 34; Photo 29) This feature was located 18.5 feet below the site datum. It is likely that these structures were associated with the houses and storefronts depicted in the 1872 Muybridge Panorama (refer to Figure 9: Views 1 and 2). Located just over 100 feet northwest of the original 1853 shoreline, they were constructed on and were surrounded by yellow sterile sand, which had been used to fill Yerba Buena Cove. Only the bases of each

Photo 29. P2 Feature 9, view to the west.

structure were still visible, as the upper portions of each were sheared off or destroyed during subsequent filling in this portion of the property.

Structure A: Wood Structure

Structure A was the most northern structure in Feature 9 (refer to Figure 34). The 40-x-49-x-5-inch rectangular redwood structure was constructed with vertically placed wood planks and was irregularly shaped, with its long sides measuring 47 and 51 inches, respectively, and its shorter ends measuring 39 and 40 inches respectively. The planks ranged from 9-16 inches in width and were ¾ inch thick. The base was deeply embedded in the sand, suggesting that sand had been originally built up around the sides of the structure. Because the top of the structure had been destroyed, the original height of the structure could not be determined; the excavated remains of the structure were approximately 2 ½ feet in height. A variety of historic debris was recovered from within the structure, including faunal bone, coffee beans, fruit pits and seeds, bottles, buttons, ceramic, children's shoes, a metal wheel, and a hair comb.

Structure B: Storage Container

This 5-x-6 ½-foot redwood structure was located between Structure A and Structure C (refer to Figure 34). The existing walls varied in height from 17 ¼ inches to 10 inches. The walls were constructed with horizontally placed boards that were attached to a rectangular wood frame, which was constructed of boards. A horizontal cross brace oriented east-west supported the inside of the structure. Soils within the structure were blue-gray pebbly clay that was mottled with dark gray pebbly clay.

Structure C: Storage Container

This was the most southerly of the three structures, located approximately 2 feet from the south corner of Structure B (refer to Figure 34). Its construction was similar to that of Structure B. Remnants of the posts that formed the wood frame were visible inside the corners. Only the base of the structure remained. The walls and upper portions had been destroyed previously, probably during subsequent filling in the area.

Associated Artifacts

The 146 artifacts recovered from P2-Feature 9 represent a largely domestic collection of cultural material dominated by buttons, tableware, cosmetic, and medicinal bottles. A substantial number of children's toys and pipes were also collected. Virtually all of the artifacts were recovered from within the wood structures that comprise the feature, making this large discrete deposit somewhat unique within the project area. The artifact

catalog (Tables 19-22, Appendix D) provides specific information about the location of each artifact within the feature. The assemblage is discussed by category below.

Beverage

The eight beverage bottles associated with the feature yielded a relatively consistent date of manufacture (Table 19).

Table 19. Beverage Bottles Recovered from P2-Feature 9

Material	Color	Circa	Qty	Description
Glass	Greenish Aqua	1863-1868	2	Soda water bottle with blob top finish, embossed 'PACIFIC / SODA / WORKS' with reverse embossed 'CLASSEN & CO. / SAN / FRANCISCO.' J. Milton Classen and John F. Rohe were proprietors of the Pacific Soda Works and importers of soda stock at 115 Jessie. After 1868, Rohe continued as the proprietor of the Pacific Soda Works without Classen until 1871. In 1871 Classen entered into real estate and made his living there for many years (Photo A77).
Glass	Black		1	Black glass beer bottle, export style, base diam. 2.5", height 9". Applied brandy style finish. 3-pc. mold. Orange peel texture.
Glass	Greenish Aqua	Pre 1865	1	Greenish aqua soda water bottle with applied blob top finish. Patination. Iron pontil on base. Embossed 'MILLVILLE GLASS WORKS'. Date based on presence of pontil. Exact date of manufacture unknown, although Millville, New Jersey, was a center of early American glass making. A restored glass-making town, known as Wheaton Village, operates for visitors there today. According to the Wheaton Village Museum of American Glass, the abundant silica sand and fuel, as well as proximity to water transportation, made southern New Jersey a natural glass producing location. More then 200 glass factories were established in New Jersey in the 18th and 19th centuries. Bottles and window glass were their primary products. Millville likely began producing larger quantities of glass once a railroad was established in southern New Jersey in 1854. It ran from Camden to Atlantic City (Photo A77).

Material	Color	Circa	Qty	Description
Glass	Greenish Aqua	1860-1880	1	Aqua blob top soda water bottle, embossed 'EL DORADO' Markota and Markota (1971) acknowledge that there is no information on this particular bottle, but attribute its manufacture to 1860-1880. In addition, they noted that they found an El Dorado brewery in nearly every town they researched, leading them to believe that a bottle with these markings may have been used as a beer bottle or may have been bottled by a brewery for use with soda or mineral water (Markota and Markota 1971:35). These types of side businesses would not have been uncommon at the time. "Some of the first beer bottlers used the heavy blob top soda type in cobalt, blue, greens and aqua and even amber. Some breweries in San Francisco bottled in the soda type as well as the very heavy "Macintyre" stoneware bottles for porter and ale" (Wilson 1968 in Markota and Markota 1971:35) (Photo A78).
Glass	Greenish Aqua	1850-1875	1	Greenish aqua blob top soda water bottle, embossed 'PHILAD[A] GLASSWORKS / BURGIN & SONS' (Photo A78).
Glass	Black		1	Tall (height 10"), squat (diam. 3.5") round beer/liquor bottle with applied brandy finish. Base pushed up. No mold seams, slight ridge at shoulder. Orange peel texture on body.
Glass	Sapphire Blue		1	Sapphire blue soda water bottle with applied blob top finish. Embossed 'J.C. PARKER & SON / NEW YORK'. No identification on maker (Photo A77).

Although San Francisco-based bottlers are represented in the bottle collection recovered from P2-Feature 9, bottles from several east coast producers are also evident within the assemblage, as indicated in Table 19 above. This is unique among features within the project.

Clothing

Thirty-seven buttons were recovered from the wood structures within the feature (Photo A79). Nearly all of them are white ceramic Prosser dish style buttons in various sizes. Those that varied somewhat include a calico button with gold decoration, a calico button with black flowers, a pie crust style button, and three shell buttons, two of which likely belonged to women or children's clothing.

Food Preparation & Consumption

The 17 artifacts related to food preparation and consumption also yielded relatively consistent dates of manufacture. These are itemized in Table 20:

Table 20. P2-Feature 9: Artifacts Related to Food Preparation and Consumption

Object	Circa	Description
Bowl	1860-1894	Portion of a shallow tableware bowl, impressed mark 'T. HUGHES / IRONSTONE CHINA in a rectangle.' Thomas Hughes operated in several Staffordshire potteries from 1860-1894. Subsequently Thomas Hughes & Son.
Bowl		Small footed bowl, height 3", base diam. 2.5", rim diam. 5.5". No mark. White glaze with 4 thin brown bands and one wide light blue band on exterior (Photo A80).
Egg Cup		Small (1 3/8" diam.) round base, possibly part of an egg cup
Indeterminate		Base/body sherd from a footed vessel, possible bowl/serving piece. No mark. Blue and white decoration on exterior and interior, appears to be Willow or similar landscape pattern (Photo A81).
Indeterminate	1862-1882	Base sherd from round footed vessel, base diam. 4", poss. tableware. Partial black printed mark 'IMPE in a banner... / standing eagle with shield / WHITE GRANITE in a banner / P.B. & Co [two dots below the raised O]'. The initials indicate that the maker may have been Pinder, Bourne, & Co. of Nile St., Burslem. Formerly Pinder, Bourne & Hope. The firm was eventually purchased and became part of Doulton & Co. Ltd. Although the date range for P.B. & Co. is consistent with other artifacts within P2 F9, the company's marks illustrated in Godden (1964) and Kovel (1953), do not include any with an eagle design.
Pitcher	1861-1910	Seventeen sherds from small pitcher, printed Royal Arms style mark on base 'IMPERIAL / IRONSTONE CHINA / HENRY ALCOCK & CO'. Henry Alcock & Co. operated at the Elder Pottery in Cobridge from 1861-1910 (Godden 1964). Formerly John Alcock. Subsequently The Henry Alcock Pottery.
Plate		Rim sherd with blue on white decoration, possible landscape scene (Photo A81)
Plate		Plate fragment with impressed mark 'TAYLOR BROS. / HANLEY' on base. Godden (1964) lists several manufacturers with similar marks, but none that are a conclusive match.
Plate		Plate rim sherd, blue on white decoration, likely Willow or similar landscape pattern (Photo A81)
Plate		Two rim sherds from possible plate, both decorated with molded relief in a grapevine pattern. Relief is glazed blue, in contrast to white background (Photo A81).
Plate/Saucer	1853-1862	Base sherd from possible plate, saucer. Impressed cartouche style mark on base 'IRONSTONE / CHINA / E. CHALLINOR & CO.' E. Challinor & Co. operated at the Fenton Potteries from 1853-1862. Subsequently known as E. & C. Challinor. Godden (1964) notes that a firm with this same name is also recorded at Tunstall in 1851 and 1853-4.
Salad Plate	1846-1918	Two large salad plate sherds, bluish clear glaze, impressed garter style mark on base 'R. COCHRAN & CO. / standing figure inside garter / ROYAL'. Manufactured by R. Cochran & Co. of the Vereville Pottery (also Brittania Pottery to 1896) of Glasgow, Scotland.

Object	Circa	Description
Saucer	1851-1882	Saucer base/rim sherd with impressed mark on base '[JAS. EDWARDS, & SON / DALEHALL'. According to Godden (1964), James Edwards & Son operated at Dale Hall, Burslem from 1851-1882. Formerly James Edwards and subsequently Knapper & Blackhurst.
Saucer	1851-1882	Saucer broken into three pieces, impressed mark on base '[JAS. EDWARDS, & SON / DALEHALL'. See above.
Saucer	1842-1851	Half saucer, impressed mark on base 'FELSPAR / J. EDWARDS / DALE HALL / [Illegible] CHINA in an oval'. James Edwards, of Dale Hall, operated ca. 1842-51. Subsequently James Edwards & Son.
Saucer	1843-1883	Small rim/base sherd from saucer with molded relief decoration around rim. Partial impressed Registration Mark is visible on base.
Saucer		Saucer sherd, partial impressed mark on base '...DGWOOD & CLARKE', no identification available for maker.

Grooming & Health

P2-Feature 9 yielded 25 artifacts related to grooming and health. The 17 bottles that provided dates of manufacture are included in Table 21 below (Photos A82, A83 and A84; Photo A84 also includes examples of undated bottles).

Table 21. P2-Feature 9: Artifacts Related to Grooming and Health

Object	Color	Circa	Description
Bottle	Aqua	Pre 1880	Small aqua rectangular paneled bottle with applied ring style finish. Base 1 1/8" x 1 3/4". Height 5 1/2". No mark. Whittle marks on body. Date based on finish (Photo A82).
Bottle	Aqua	1850-1875	Paneled prescription style bottle with double bead applied finish. Rectangular base 1 7/8" x 1 1/4". Height 6 1/2". Post mold. Embossed 'H.T. HELMBOLD // GENUINE / FLUID EXTRACTS // PHILADELPHIA'. According to Fike (1982), this product was developed by Henry T. Helmbold in 1850. After his death in 1892, A.L. Helmbold took over operations. Helmbold claimed the drug cured numerous symptoms, including "confused ideas" and "female complaints." Date based on development of product and bottle finish (Photo A82).
Bottle	Aqua	1860-1875	Rectangular (1" x 1 5/8") aqua paneled bottle with applied double ring finish. Height 5". Embossed 'DAVIS' // VEGETABLE // PAIN KILLER'. According to Fike (1982), Davis developed his formula in Massachusetts ca. 1840. Bottles were first embossed ca. 1854. In 1862, his son Edmund took over and expanded the business. Edmund died in 1880 and the company was sold ca. 1895 to Davis & Lawrence Co., Montreal and New York. The opium-based cure-all was distributed in California by Park & White of San Francisco as early as 1860 (Pastron et al. 1981 Vol. 2:326-327). See also Wilson 1981:40 for advertisement (Photo A83).
Bottle	Aqua	1860-1875	Rectangular (1" x 1 5/8") aqua paneled bottle with applied double ring finish. Height 5". Open pontil on base. Embossed 'DAVIS' // VEGETABLE // PAIN KILLER'. See above.

Object	Color	Circa	Description
Bottle	Aqua	1851-1857	Aqua "Philadelphia Oval" style prescription bottle with applied ring finish and open pontil on base. Front panel embossed 'DR D. JAYNE'S / ALTERATIVE / 84 CHEST ST PHILA'. Fike (1982): Dr. David Jayne began distributing his medicines in 1830. This product was introduced in 1851. He was located at the Chestnut Street address until 1857, when it became 242 Chestnut Street (Photo A82).
Bottle	Dark Blue	1867-1871	Small round bottle, prescription style finish. Inside bore rough, possibly used with ground glass stopper. Height 3", base diam. 1.5". Possible iron pontil on base. 'G S' embossed near heel. Possibly made by Gillinder & Sons of Philadelphia. Per Toulouse (1971): Gillinder & Sons operated under William T. Gillinder, after his sons purchased the portion of the business owned by Edwin Bennett. The co. was renamed Gillinder Bros. in 1871 when William died. The name was brought back into use from 1912-1930 (Photo A84).
Bottle	Aqua	1844-1865	Oval bottle (height 5 3/4") with applied ring finish. Whittle marks on body. Embossed 'TURNER'S / ESS OF / JAMAICA GINGER / NEW YORK'. According to Fike (1982), the company was owned by the Turner brothers (Archibald, George, James, Malcolm, Robert and Thomas), who manufactured ginger wine, syrups, cordials, bitters, etc. Their offices were located in Buffalo, NY (1844-1863); New York, NY (1840s or early 1850s-1865); and San Francisco (1852-1864). They were succeeded by McMillan & Kester (Photo A82).
Bottle	Aqua	1844-1865	Oval bottle (height 5 3/4") with crudely applied ring finish. Numerous seed and blister bubbles throughout. Orange peel texture on body. Embossed 'TURNER'S / ESS OF / JAMAICA GINGER / NEW YORK' See above.
Bottle	Amethyst	Pre 1865	Small round amethyst bottle (base diam. 1 3/8", height 4 3/8") with applied prescription style finish. Open pontil on base. Shoulder embossed 'LYONS / POWDER // B & P / NY'. Per Fike (1982): B&P were the initials for Demas Barnes and John D. Park, general agents. This product was advertised in 1853 in the "New York Daily Times." Date based on presence of pontil (Photo A83).
Bottle	Mustard/Gold	Pre 1865	Small round mustard/gold colored bottle (base diam. 1 3/8", height 4 3/8") with prescription style finish that has been "folded in". Pontil scar on base. Shoulder embossed 'LYONS / POWDER // B & P / NY'. See description above. Date based on presence of pontil (Photo A84).

Object	Color	Circa	Description
Bottle	Aqua	Pre 1865	Round aqua bottle, portion of body and entire neck/finish missing. Base diam. 1 1/8." Open pontil on base. Partial embossment reads '...ETABLE / ...MONARY / ...ALSAM'. The product, Vegetable Pulmonary Balsam, may have been introduced as early as 1826. Per Fike (1982), Abraham Lowe discovered the formula. He and partner Sampson Reed were Boston druggists from 1826-1837. Lowe sold his right to Reed, who subsequently joined with William J. Cutler (Wilson and Wilson 1971 in Fike 1982). Reed and Cutler were partners by 1844. Reed left the business in the 1860s and Cutler Bros. was established by 1870. The last directory listing for the firm was 1899. Because of the presence of a pontil, the bottle likely dates to the period before 1865.
Bottle	Aqua	Pre 1865	12-sided bottle, diam. 1 1/4", height 4 1/4". Glass tipped pontil on base. Finish "folded" in. Date based on pontil (Photo A83).
Bottle	Aqua	Pre 1865	Round aqua bottle with long neck and applied ring/oil style finish. No mark. Open pontil on base. Date based on presence of pontil. Contents unknown.
Bottle	Clear	Pre 1865	Small (height 3") round (base diam. 1 1/4") bottle with applied prescription style finish and glass tipped pontil on base. No mark. Date based on presence of pontil (Photo A84).
Bottle	Clear	Pre 1865	Small (height 3") round bottle (base diam. 1 3/16") with prescription style finish and open pontil on base. Date based on pontil. No mark. Contents unknown, poss. medicinal/perfume.
Bottle	Cobalt Blue	Pre 1880	8-sided bottle with applied patent/flat style finish. Height 6". Embossed 'GRANULAR CITRATE / OF MAGNESIA'. Exact maker unknown, although Fike (1982) notes that Bishop's Granular Citrate of Magnesia, a product of the Bishop Remedy Co. of San Francisco, was advertised in 1876. It is likely that makers of bottles of this size/type made the switch to tooled finishes by the mid 1870s (Photo A82).
Bottle	Olive	Pre 1865	Small round olive bottle, neck and finish missing. Base diam. 7/8", height to shoulder 2 3/4". Glass tipped pontil on base. Date based on presence of pontil. Body is nearly covered with a spiral of lettering (Photo A83).

In addition to a wide variety of bottles, two ceramic apothecary jars were collected. The first, a 1 oz. jar, was impressed 'MAW / 1' on the base (Photo A85). Pastron (1981:490) indicates that the MAW mark refers to the English factories of S. Maw, Sons of London, a company well-known for producing apothecary jars and related items. The second jar was slightly larger (base diam. 3 1/4") and was impressed 'R.B. EDE & Co.' on the base. A glass fragment, likely from a light green medicinal vial, and a ladies side comb were also collected (Photo A86).

Miscellaneous

Although all items within this category do not warrant discussion, of particular interest within P2-Feature 9 was a small barrel head (8 3/4" diam.) (Photo A87), a small metal bell, possibly part of a harness (Photo A88), leather straps that may have been part of a bridle, a 3 ½-inch pocket knife in very poor condition (Photo A89), and a likely door or gate-sized key that is highly corroded. In addition, a safety pin (Photo A86), a cobalt blue glass bead, a clasp from a women's coin purse (Photo A86), and a small ceramic cup (Photo A90) were collected.

Smoking & Tobacco

Ten fragmentary pipes were collected from the feature (Photo A91). Although the feature primarily yielded white clay pipes with various forms of decoration, the artifact assemblage from the wood structures of P2-Feature 9 included three red/brown detachable pipe bowls (Table 22).

Table 22. Smoking Pipes Recovered from P2-Feature 9

Material	Color	Circa	Qty	Description
Clay	White		1	Pipe bowl and partial stem, heeled. Bowl is separated into 3 zones of decoration. Bottom third is fluted. Middle third has vertical ribs/fluting, and top third is not decorated. Portion of stem remains. Embossed 'W. WH...' on one side and '...OW' on the other. William White and Sons was one of the largest and best known pipe manufacturers in Glasgow in the 19th century. White produced pipes over a broad period during the 19th and 20th century.
Clay	White		2	Pipe stem frag, impressed 'W. WHITE // GLASGOW'. See above.
Clay	White		1	Bowl and partial stem, bowl is not decorated but has been keeled, decoration (parallel rings and fluting) where the bowl and stem meet. No mark.
Clay	White		1	Pipe bowl, heeled, stem broken, bowl is keeled and has an allover design repeated on both sides (name of design unknown, appears to be a tree with abstract lines)
Clay	White	1857-1950	1	Bowl and partial stem, heeled. Bowl impressed 'TD' facing smoker with a 'G' on the right side of the heel. Stem impressed '71 CHRISTIE' on one side and 'GLASGOW' on the other. Walker notes that Glasgow reached the peak of its pipe production in the years 1875-1885.
Clay	White	Post 1862	1	Pipe stem fragment, impressed 'DAVIDSON' on one side and 'GLASGOW' on the other. Humphrey notes that a Davidson marked pipe could not date to earlier than 1862, since Davidson took over the Murray company in that year. Prior to taking over, Davidson was a Murray employee.
Clay	Red		1	Large red clay detachable pipe bowl, discolored black, only decoration (parallel diagonal lines) stamped on ridge of clay at stem socket. Likely used with a wooden stem. Mark 'A. MONHEIT' in a rectangle on right side of stem socket. No i.d. on maker.

Material	Color	Circa	Qty	Description
Clay	Brown		1	Detachable pipe bowl, heeled, decorated with raised knobs, body of clay brown, exterior glazed dark brown, glaze is damaged and/or heavily pitted.
Clay	Reddish Brown		1	Detachable pipe bowl, heeled, decorated with raised knobs, body of clay red, exterior glazed reddish brown.

In addition to pipes, an olive colored, rectangular snuff jar (base 2.5" x 1.5", height 4") with chamfered corners and a ground finish was collected from the feature (Photo A92).

Tools

Tools such as a hammer head (Photo A93), a sharpening stone, a wood handle (Photo A94), a wood sheave (Photo A95), a metal hook (Photo A96), and a metal wheel with six spokes (Photo A97) were recovered from the feature.

Toys

Although they were largely fragmentary, eight children's toys were recovered within the feature. These include a small bowl, saucer, and tea cup (Photo A98), all likely belonging to a tea set. A doll leg (knee to ankle) (Photo A98) was also collected. Although the foot is missing, black paint is evident where the shoe or boot began, and red paint just below the knee may represent a sock or stocking. Like jointed china dolls of the period, the leg would have been attached to the rest of the doll with string or similar material. Three white ceramic marbles, as well as a clear glass marble with green, pink, and blue swirls were recovered (Photo A99).

Writing

Two fragments of writing slate were collected. Writing slates or tablets were commonly used in classrooms after the first quarter of the 19th-century (Elsbree 1939:22).

Culled Artifacts

A substantial number of artifacts were culled from the P2-Feature 9 artifact assemblage. Because of the large quantity, they are summarized below by broad category. Please see Appendix E for descriptive details relating to the individual culled artifacts. Culled items include:

- Bottle Glass (primarily fragments): 82
- Ceramic (fragmentary tableware, earthenware, doorknobs, apothecary jars): 188
- Cork: 1
- Food Refuse (peanut shell, egg shells, peach pits and coconut shells): 50
  (An indeterminate amount of coffee beans and small nuts and seeds was also culled.)
- Glass (flat glass, lamp chimney glass, glassware): 106

- Leather (primarily shoe pieces): 27
- Metal (cut nails, spikes, hooks, lantern collar, bucket handle): 52
- Pipe fragments (clay): 10
- Slate Pencil: 2
- Textiles (indeterminate cloth, burlap): 7
- Toys (child's tea set fragment): 1
- Wood (handles, wood block, wood debris): 23

The artifact assemblage culled from the wood structures that comprised P2-Feature 9 differed from surrounding features in one important way: it contained a substantial amount of food refuse, including a peanut shell, egg shells, peach pits, coconut shells, coffee beans, and many small nuts and seeds. Although P2-Feature 8 and P2-Feature 15 also contained similar food refuse, the quantities were much higher in the P2-Feature 9 deposit.

P2 Feature 13

Feature P2 Feature 13, seen intact in the 1872 Muybridge Panorama (refer to Figure 9: View 1), consisted of a complex of wood structures that included portions of a toppled fence, a plank walkway, and an associated wood structure that tentatively is interpreted as a wood-lined privy. These structures were situated in the southern portion of the project area (Figure 35; Photo 30), and located 15 feet below the site datum. The feature components were concentrated in an area that measured approximately 28 feet northeast to southwest by 27 feet northwest to southeast. Just outside this area, to the south, a few randomly placed boards were also found; the relationship of these boards to the main feature components was not clear. Three large coils of rubber fire hose (2 inches in diameter) were located at the southeast edge of the feature (Photo 31). It is likely that the hoses were associated with the lumber yard or the coal yard that once stood in the area, since such enterprises were susceptible to combustion. The toppled fence was constructed of vertically placed boards nailed to two horizontal boards that served as stringers. It was difficult to judge whether the fenced enclosure once stood around the privy or not.

Photo 30. P2-Feature 13, view to the northeast.

A wood walkway was found that led to the privy. It consisted of short planks laid edge-to-edge. A shallow wood-lined privy was located at the northeast end of this walkway. Two large pilings and at least three smaller upright posts were located in the southern portions of the feature.

Photo 31. Coiled fire hose in P2-Feature 13.

The wood-lined privy, when originally encountered within the feature, was covered with several large wood timbers. After fully exposing and recording the location of the timbers, they were removed so the privy could be excavated. The privy was lined with redwood that had bowed inward due to the pressure of the surrounding soil. The portion of the privy still remaining was approximately 3 ½ feet deep and measured 38 inches square. The side walls of the privy were constructed with horizontally placed boards, which ranged from 9-11 inches in width, were 38 inches in length, and averaged ¾-inch to 1 inch in thickness.

Photo 32. Wood-lined privy, view to the northwest.

The privy was originally constructed within a hard gravelly clay fill, and the bottom rested on native sand (Photo 32). Approximately 10 historic artifacts, observed in situ, were located at the bottom of the privy (Photo 33). The artifacts within the privy, which included glass bottles and bottle fragments, a round wood barrel head, ceramic vessels, a child's glass tea cup and a rubber ball, a spoon, and a pipe bowl were found 22-to-32 inches below the upper edge of the privy.

Photo 33. Privy contents in situ.

Associated Artifacts

Seventy-three artifacts were recovered from P2-Feature 13. Fourteen were found within the wood-lined privy associated

with the feature. The remaining 59 were collected on and around the wood planks (walkway/fence) that comprised the remainder of the feature.

Artifacts within the P2-Feature 13 Privy

The 14 artifacts associated with the privy are summarized in Table 23.

Table 23. Artifacts Associated with the Privy in P2-Feature 13

Class	Object	Circa	Description
Clothing	Button		Small white Prosser dish style button with 4 holes in concave center (Photo A100).
Clothing	Button		Very small white Prosser dish style button with 4 holes (Photo A100).
Food & Food Storage	Bottle	Pre 1865	6-sided condiment style jar with applied ring finish. Embossed 'R.J.C.' Open pontil evident on base. Fair amount of seed bubbles within glass. Whittle marks evident. Date based on presence of pontil (Photo A101).
Food Prep & Consumption	Indt	1859	Round base (diam. 4 3/4") from ironstone vessel/bowl. Use unknown. Impressed Registration Mark: date of manufacture is 1859. Difficult to read since crack runs through registration mark. Bottom half of impressed maker's mark also present. All that is visible is '12 / IRONSTONE in a circle'.
Food Prep & Consumption	Spoon		Teaspoon with shallow ovate bowl and an upturned spatulate stem end with dognose. Decorated with simple lines that encircle perimeter of stem on both front and back. Maker's mark stamped on back in narrow portion of stem 'E M Co' (Photo A102).
Grooming & Health	Bottle	Pre 1885	Paneled bottle. Applied patent/flat style finish. Patination. Height 7 1/4". Date based on changeover period from applied to tooled finishes for larger, narrow-necked medicinals.
Grooming & Health	Bottle	1849-1890	Square (Base 2 7/8" x 2 7/8"; Height 10") bottle with chamfered corners and ring/oil style applied finish. Post mold. Orange peel texture on body. Embossed 'AROMATIC / SCHNAPPS // UDOLPHOWOLFE'S // SCHIEDAM'. Holland Gin. Udolpho and Joel Wolfe (father) were merchants in New York City in 1837 and importers 3 years later. This "medicinal" gin was introduced prior to 1849. Although it had a high alcohol content, it was described as having herbs and other medicinal qualities. Wolfe claimed that it was made at his factory in Schiedam, Holland (Photo A103).
Grooming & Health	Bottle	Pre 1885	Round (Diam. 2 1/4; Height 5 3/4") bottle with short neck and wide patent/flat style finish. Bottle is empty but cork closure remains. Patination. 2 pc. mold. Finish is applied over seam. Whittle marks in glass. Likely medicinal. Date based on applied finish (Photo A101).

Class	Object	Circa	Description
Grooming & Health	Bottle	1849-1890	Square (Base 2 1/4" x 2 1/4"; Height 7 3/4") bottle with chamfered corners and ring/oil style applied finish. Post mold. Orange peel texture on parts of body. Patination. Embossed 'AROMATIC / SCHNAPPS // UDOLPHOWOLFE'S // SCHIEDAM'. See above (Photo A103).
Misc.	Ball		Appears to be child's rubber ball (2" diam.). Hole runs through center of ball. Embossed on either side. 'GOODYEAR 18(49?) PATENTS' and other side 'EXCLUSIVE RUBBER MANUFACTOR'.
Misc.	Indt	1860-1890	10-sided white glazed earthenware bowl/vessel. Exterior diam. 7 3/4". One side is broken, although opposite side largely intact (handle missing). Molded relief design around base of handle. Possibly part of a toilet set, or tableware. Printed maker's mark on base contains an eagle with arrows and banner perched on a shield (all inside a circle). No words associated with image. A somewhat similar mark can be seen in Kovel and Kovel (1953) and is attributed to John Moses and Sons of Trenton, New Jersey (1863-1890) (Photo A104).
Misc.	Lid/ Barrel Head		Diam. 9 1/8". Thickness 3/8". Thin wood disc. Possible barrel head. Edges somewhat beveled. 3 holes in top, although they do not appear intentional (likely due to wear/damage) (Photo A105).
Smoking	Pipe		Pipe bowl broken at stem, heel also broken. Bottom third fluted, middle third has raised vertical ribs/fluting, and top third is without decoration.
Toy	Tea Cup		Clear glass tea cup from child's tea set, handle broken (Photo A106).

Artifacts Associated with the P2-Feature 13 Walkway/Fence

The 59 artifacts collected from the walkway/fence within the feature represent a wide variety of domestic items. They are described by broad category below.

Beverage

A 9-inch long wood tap was collected (Photo A107).

Clothing

Nine buttons were recovered from this portion of the feature (Photo A100, Table 24).

Table 24. Buttons Found in P2-Feature 13

Object	Material	Qty	Description
Button/Rivet	Metal	1	Small metal rivet, likely part of a button. Diam. 11/16". Stamped 'IMPROVED WIRE BAR'. Shank missing.
Button	Shell	1	Small shell button (Diam 1/2") with four holes in central depression (front slightly convex). Back is flat and edges slightly rounded. Irregular drilling and manufacture. Shirt size.
Button	Ceramic	3	Three small white Prosser dish style buttons with four holes in concave center. Diam. 7/16". Shirt size.
Button	Shell	1	Large shell button. Diam. 7/8". Back is slightly rounded and worn. Central depression in front center with two holes. Holes slightly irregular. Coat size.
Button	Shell	2	Two shell buttons, each 7/8" diam. with four holes in central depression, although size of holes and detailing slightly different. First is flat with a decorative circle surrounding the central depression. The second is upturned at the edges and more irregular, with larger holes. Both coat size.
Button	Shell	1	Shell button (diam. 3/8") with four holes in small central depression (front slightly convex). Back is flat. Shirt size, possibly women's/children's.

Food Preparation & Consumption

Several pieces of intact, as well as fragmentary tableware were recovered (Photo A102). The tableware within the feature included a highly corroded knife with a partial metal blade and a wood handle, a teaspoon with a shallow ovate bowl, ears, and a fiddle pattern stem, as well as a narrow fork with three tines and a rat-tail tang (handle missing).

The ceramic pieces included a plate base fragment with a printed registration mark, indicating a date of manufacture of December 1856 (Godden 1964:527). An impressed registration mark was also evident on a round base (diam. 4 3/4") from an ironstone vessel (possible bowl). Although the mark is difficult to read due to a crack, it appears that the date of manufacture is 1859 (Godden 1964:527). The bottom half of an impressed maker's mark is also present. All that is visible is '12 / IRONSTONE in a circle.'

A small oval dish, possibly a butter dish or similar piece of tableware, was also collected. The mark on the base is very difficult to read, although it is likely impressed 'IRONSTONE / WEDGWOOD / CHINA.' Several Staffordshire potteries aside from Josiah Wedgwood, used an impressed Wedgwood mark, including Wedgwood & Co. of Tunstall, and John Wedgwood during the 19th-century. The exact date of manufacture is unknown (Godden 1964:655). Finally, a fragmentary ironstone bowl was recovered. No identification was possible.

Footwear

A single child's shoe was recovered (Photo A108).

Grooming & Health

Two bottles, a bottle stopper (Photo A109), and several woman's hair combs were collected (Photo A110). The first bottle, a small (height 3 3/4") thick glass bottle with a flat front panel, fluting, and other decorative elements, was made in a pattern mold. The finish on its fairly wide mouth (exterior diam. 1 1/4") has the appearance of being "folded" or "rolled" outward. It likely held perfume or a similar cosmetic product. This method of finish manipulation is most common on early figured flasks, medicinal, and food bottles dating from or before the 1870's (USDI BLM). This type of finish was formed when the blowpipe was removed from the bottle and the glass at the removal point was reheated and either rolled or folded in or out to smooth out the lip.

A round perfume bottle with a bead finish was also recovered. It is embossed 'PHALON AND SON / PERFUMERS / NEW YORK'. Fike (1982) notes a similar bottle that was labeled as "Cocin for the Hair," prepared from highly purified coconut oil. The bottle was produced sometime after 1859, the year the firm was established (Devner 1970 in Fike 1987:176).

The P2-Feature 13 glass bottle stopper has a pointed finial and a ground shank, ensuring an airtight seal. This stopper is likely from a perfume bottle, although glass stoppers were used in a variety of bottles, including those that were intended to be re-used or those that contained a product meant to be used over a long period of time.

Portions of two woman's side combs, as well as a straight hair pin, were collected. All were made of black rubber and one comb contained a partial mark. The impression reads 'NEW ... CO. VULCAN...' Charles Goodyear received the patent (#3,633) for vulcanized rubber on June 24, 1844. The process involved removing the sulphur from rubber and then heating it, so that it would retain its elasticity. The process made rubber waterproof and winter-proof, creating a new market of goods available to consumers (www.goodyear.com). These hair accessories were one of a long list of rubberized consumer goods that became popular in the last half of the 19th-century.

Miscellaneous

Not all of the items in this category warrant discussion, although several are of particular interest. These include a tortoise shell lid (Photo A111), a 4 ½" cannon ball (Photo A112), a small diamond-shaped *Haliotis* ornament with no perforations (Photo A113), a 3 ½" long door or gate key (Photo A114), and two pennies. Both pennies were found in the green clay directly above the wooden planks within the feature. The first penny is a Coronet type (young head), oversized penny (Photo A115). It is in poor condition. The

reverse side reads ONE CENT surrounded by a laurel wreath surrounded by the words UNITED STATES OF AMERICA. The obverse side has a female figural head (facing left) with the word LIBERTY at her hairline surrounded by a circle of stars. Although the year is worn off, oversized pennies were not made after 1857, and the figural head depicted falls within the 1835-1857 date range (Yeoman 2003:89). The second penny was minted in 1859, the first year that the "Indian cent" design was used (Photo A116). The reverse side shows the words ONE CENT surrounded by a garland, and on the obverse side is the image of an Indian princess along with the year and the words UNITED STATES OF AMERICA. This sample is also in poor condition. The Lincoln penny was not introduced until 1909 (www.pennies.org/history).

Structural

Structural items included two mineral-finish doorknobs, a nail, decorative picture frame molding (Photo A117), and a brass number plate (Photo A118). The small rectangular (2 1/2"-x-1 1/2") plate is engraved '368,' possibly reflecting a home or business address within or near the project area. Because of its relatively small size, however, it may have been mounted on machinery, or used as identification in another application.

Toys

The toys found within this portion of the feature are summarized in Table 25.

Table 25. Toys Found in P2-Feature 13

Object	Material	Color	Description
Doll	Ceramic	White	Frozen Charlotte; head, arms, and portion of body missing, Height 3" to shoulder (Photo A119).
Doll	Ceramic	White	Small Frozen Charlotte doll; head and lower arms missing, Height 2 1/4" to shoulder (Photo A119).
Doll	Ceramic	Various	Ceramic doll head (Photo A120).
Marble	Ceramic		Bennington style marble (Photo A121).
Marble	Ceramic	White	Ceramic marble with white pitted glaze (Photo A121).
Marble	Ceramic	White	White glazed marble decorated with two parallel circles at widest point and a flower on either side. Small amount of turquoise paint evident on one flower (Photo A121).
Marble	Ceramic	White/grey	Ceramic marble, appears unglazed. Possibly heat affected (Photo A121).
Marble	Glass	Blue/White	Glass marble, solid swirls of blue with bits of white (Photo A121).
Marble	Glass	Clear with Pink/Blue	Clear glass marble with blue and pink swirl in center (Photo A121).
Marble	Glass	Clear with Yellow/Orange	Glass marble with yellow and pink/orange swirls inside (Photo A121).
Plate	Ceramic	White	Half of a plate from a child's tea set.
Tea Cup	Ceramic	White	Small pc. of tea cup from children's tea set

Writing

A single fragment of a slate writing tablet was collected. Writing slates or tablets were commonly used in classrooms after the first quarter of the 19th-century (Elsbree 1939:22).

Culled Artifacts

A significant number of artifacts were culled from P2-Feature 13. These included one bottle and 49 bottle glass fragments. The culled bottle was an irregular greenish clear bottle with a high kick up, likely used for oil or foodstuffs. The bottle glass fragments included black, olive, clear, aqua, and cobalt samples. A single clear bottle base had a crude iron pontil scar and a shallow push up. Two bottle corks and a decorative glass bottle stopper were also culled. The only glassware represented included fragments from a small clear glass tumbler. An additional seven glass fragments, representing flat glass, lamp glass, milk glass, and a possible serving dish were also culled.

Ceramic whiteware sherds were more numerous than bottle fragments. Seventy four sherds were culled and represented portions of pitchers, plates, bowls, and many indeterminate vessels. Additional ceramic items included two earthenware sherds, portions of two apothecary jar lids, and a drawer pull.

Personal items included a portion of a men's comb made from India Rubber and five pipe stem fragments. Twenty nine pieces of shoe leather were culled. They included portions of heels, soles, and uppers from both adult and children's shoes. A single wood matchstick, a partial slate pencil, a piece of gold painted decorative molding, two small wooden handles, and a thin metal collar (likely from an oil lamp) was also culled from the collection.

Metal objects represented a significant portion of the artifacts culled from P2-Feature 13. They included 49 cut nails, ranging in length from 1 3/8 to 4-inches. Eleven metal spikes, ranging in length from 3 ½ to 12-inches were also culled. Two of the 11 spikes were bent at a 90-degree angle. Additional fasteners included a brass tack, a screw, a washer, a 2 ½-inch metal ring, and thin coiled wire. Sheet metal with rivet holes, as well as pieces of 1 3/8-inch and ¾-inch metal strapping were also present. Two possible drift bolts were also culled from the collection.

P2 Feature 19

This feature, dating to the early 1870s, was located in the southwest portion of the parcel (Figure 36). It was located 20.3 feet below the site datum. Like P2-Feature 9, it was probably associated with the houses and storefronts observed in the 1872 Muybridge Panorama (View 1). P2-Feature 19 was composed of the damaged, remaining 3-feet of a

small, 5-x-5 foot square wood structure, possibly a privy, and a barrel located 18-to-20 feet below the original ground surface. A sparse amount of glass, ceramic, and rusted metal fragments were located within the immediate vicinity of the feature.

Associated Artifacts

The historic debris associated with the wood structures that comprise P2-Feature 19 was found in two small concentrations. The first was located around the barrel found within the feature. An ironstone plate sherd and a partial bowl were recovered from this location. The large plate sherd has a bluish glaze and a partial impressed mark, 'B... / J.W.P...,' is evident on the base. The 'J' is unclear and difficult to identify with certainty. If these are the initials, however, the plate may have been made by J.W. Pankhurst & Company. Pankhurst operated in Hanley (Staffordshire) from 1850-1882 (Godden 1964:481). The stoneware bowl found at this location is of Chinese manufacture. Just the base (diam. 5 1/4") was recovered. Although the overall pattern is not evident, it is clear that the characteristic grey/blue glaze contains dark blue decoration on the exterior of the vessel.

The second concentration contained just five artifacts and was located around the small wood structure. The first item, a rim sherd from a stoneware vessel (possibly a bowl), is of Chinese manufacture and is decorated with the blue on blue glazes seen in many utilitarian Chinese vessels. The second, also likely used for food/beverage consumption, is approximately half of a small tea cup decorated in the flow blue style. The dark blue "flowing" decoration has largely obscured the pattern, although it appears to be a landscape scene, possibly the Willow pattern popular with early California consumers (Photo A122). The third item, a wood dowel with a rounded head can be seen in Photo A123. The remaining artifacts within the concentration included a 5 ½-inch cut metal spike and a small length of rope.

In addition to the two small artifact concentrations directly associated with elements of the feature, an olive champagne style bottle was recovered at the same depth of P2-Feature 19, although it was found approximately 30 feet southeast of the feature itself.

Culled Artifacts

Just three olive champagne style bottle bases and an aqua bottle neck with an applied oil style finish were culled from the P2-Feature 19 artifact assemblage.

5.33 Post-fill Era Features (1860s-1950s)

P2-Feature 1

P2-Feature 1 (Figure 37) located two feet below the site datum and in the northeast portion of the project area, consisted of a large section of brick wall and an associated concrete floor that was orientated perpendicular to Spear Street. The east corner of P2-Feature 1 was 15 feet southwest of the edge of the Spear Street sidewalk and 70 feet southeast of the 365 Main Street building (southeastern project boundary). The brick wall was 2 feet wide and varied from 2-3 feet in height, and was composed of 12 to 20 courses of mortared brick. The base of the wall rested directly on bedrock. This feature can be seen on the 1913 Sanborn map, as a component of the Haslett Warehouse (refer to Figure 11).

A large cast-iron pipe with a metal elbow ran through the brick wall. The pipe was oriented parallel with Spear Street and was approximately 30 feet from the edge of the sidewalk.

The concrete floor extended northwest from the brick wall. It was 3-to-4 inches thick and was composed of large to small brick fragments mixed into mortar. A burnt layer of soil with charcoal and sporadically placed planks was located directly beneath the concrete floor. The brick-and-mortar slab was covered by a 1-1 ½ inch thick homogenous concrete plaster. No associated artifacts were observed with P2-Feature 1. This appears to be a portion of the slab comprising P1-Feature 20.

P2 Feature 2

P2-Feature 2 (refer to Figure 38), discovered only a few inches below the paved parking lot, was composed of an extensive historic trash deposit that measured 46 feet northwest to southeast and at least 10 feet northeast to southwest. At its thickest vertical profile, the depth of the feature measured approximately 8 feet. It was located along the southwest project boundary and likely continued for an unknown distance in a southwesterly direction under Main Street. A variety of historic artifacts, dating from the late 1850s to the turn of the century were associated with this feature, including complete and fragmentary bottles, ceramics, faunal bone, flat glass shards, rusted metal fragments, bricks, and shell fragments.

The distinct stratigraphy of P2-Feature 2 could be observed in the northern wall of the southwestern project boundary along Main Street (refer to Figure 38; Photo 34). Although the strata undulated across the width of the feature, generally the top of the feature was characterized by a dark organic fill containing large redwood beams

approximately 10 inches below the modern ground surface. This layer was overlain with a 7-inch layer of yellow fill, which was capped by modern asphalt. An undulating layer of yellow sterile sand was observed directly below the redwood beams. This sterile sand layer was situated directly above a thick deposit of historic debris – that measured roughly 12 ½ inches in thickness. It was contained within a dark loamy soil matrix. It is likely that this refuse deposit is associated with the 1899 residences at 309 and 311 Main Street, since it was found at approximately the same level as P2 Feature 9 and P2-Feature 19.

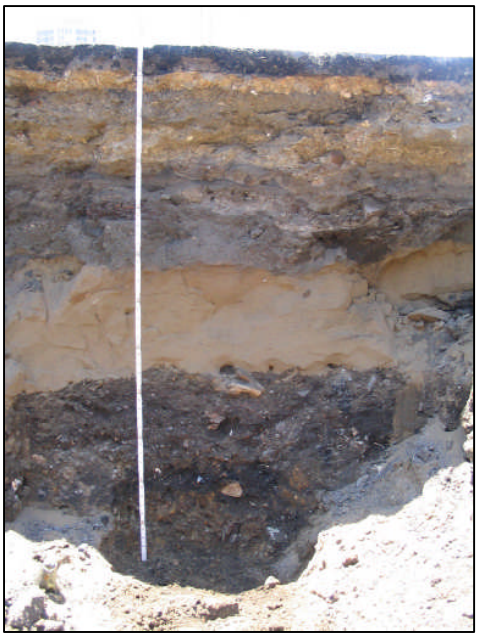


Photo 34. Profile view of P2-Feature 2, looking to the southwest.

Associated Artifacts

Forty-two artifacts associated with P2-Feature 2 were collected. They include a wide variety of domestic items and are described by broad category below. Because P2-Feature 2 is a large linear feature, several items collected during Phase 2 monitoring were described as being recovered "near Feature 2." See Artifact Catalog (Appendix D) for a description of those items collected during monitoring.

Beverage

Beverage bottles collected from P2-Feature 2 are summarized below in Table 26:

Table 26. Beverage Bottles Recovered from P2-Feature 2

Item	Material	Circa	Description
Bottle	Glass	1879-1890	Aqua blob top mineral water bottle with portion of closure inside. Embossed 'fish / BREIG & SCHAFER / S.F.' John Breig and George Schafer were the originators of Pacific Soda Works, first established in July 1879. The company's first location was at 38 Hayes Street, but later moved to 1710-1712 Folsom Street (Markota and Markota 1971: 18).
Bottle	Stoneware	1850-1900	Height 8 1/2". Pint size stoneware ale bottle, no maker's mark. Body is buff with buff colored glaze. Orange peel texture covers salt glazed surface. Finish consists of a collar with a ring below (Photo A124).

Item	Material	Circa	Description
Bottle	Glass	1885-1906	Round clear beer bottle with neck and finish missing. Lettering appears etched into glass. Front reads 'WIELAND'S / W under crown / "LITTLE POP." Back reads 'CAL. BOTTLING CO.' An online source ("Old San Francisco Breweries" online at www.greenspun.com) states that John Wieland came to California during the gold rush and then bought into the Philadelphia Brewery, located in San Francisco. He soon became the sole owner, but died in the mid-1880s in a house fire. The Wieland sons disposed of their interest in the brewery and started the California Bottling Co. which bottled Wieland's beer. The 1906 earthquake destroyed the brewery. After the quake, Cal. Bottling Co. bottled Weinhards Beer from Portland, but this was unsuccessful and the company was disbanded. Note: Schulz et al. (1980) reports that Theobald Blauth was the agent for the John Wieland Brewing Co. as well as a saloon proprietor. His bottling operation, known as the California Bottling Works appeared in 1891. In 1892, the Sacramento Directory listed Blauth as "proprietor California Bottling Works and sole agent John Wieland's Lager Beer."
Bottle	Glass	1840-1895	Dark olive beer style bottle (diam. 2 7/8", height 9 1/8") with strong shoulders. 3-pc. mold. Finish is applied. Base is embossed with a '12' (possibly an additional letter or number, although it is not clear). Date is based on shift from applied to tooled finishes.
Bottle/Flask	Glass	Pre 1885	Likely flask, although may have different purpose. Aqua, oval base embossed 'AYER' with three dots underneath. True applied double ring finish. Side mold seams can still be felt but are very difficult to see. Ayer's was a producer of medicinal products, although it is unclear if this is the same manufacturer. Date based on finish.

Clothing

A single button was the only item of clothing recovered from the feature. It is a 4-hole Prosser style with a concave center (diam. 5/8-inch).

Food & Food Storage

Two condiment bottles were collected from the feature (Photo A125). The first, an aqua, octagonal peppersauce style bottle, has a wide mouth and the finish appears to be "folded out." The second is a small aqua 'French square' style condiment bottle (square with chamfered corners). It is embossed 'FRANK / MILLER'S / CROWN / crown / DRESSING / NEW YORK / U.S.A.' on the front panel and the base is embossed simply 19.' No identification was made on the maker.

Food Preparation & Consumption

Six pieces of tableware, three of which yielded consistent dates of manufacture, were recovered from P2-Feature 2. Those that did not provide a date of manufacture included a

rim sherd from a small vessel (diam. 2 ½ inches), likely a cup or a small decorative piece. It is made of vitreous earthenware and decorated with a black design, likely a transfer print, that depicts a group of people (possibly children) playing hide and seek inside a home. Color appears to have been added to the black design by hand. A second piece, a ceramic gravy boat is attached to an oval base with a handle on either side (Photo A126). Molded relief leaves have been incorporated at the handle attachments. An impressed mark on the base reads 'W.G. & C' on one side with a large impressed 'D' on the other. No information on the maker was found. The third piece is likely a lid from a vessel such as a soup tureen (diam. 9 ¾-inch). The handle is missing, but an ivy pattern in molded relief has been incorporated around the area where the handle was once attached.

Those items that provided a date of manufacture include a portion of a dinner plate with a maker's mark evident on the base. The printed mark reads IMPERIAL in a banner / eagle with shield / FRENCH PORCELAIN in a banner / THOS. HUGHES. Thomas Hughes operated on Waterloo Road, Burslem, and Top Bridge Works, Longport, Burslem from 1860-1894 (Godden 1964:339). The company subsequently operated under the name Thomas Hughes & Son (Ltd.). The second piece is a half saucer with a partial printed mark on the base belonging to Powell & Bishop. It was produced between 1876-1878 (Godden 1964:509). Similarly, the third piece is a base fragment from a plate. The brown printed maker's mark is fragmentary and reads IMPER... / Stylized logo / COCKSON. CHETWYN...(in banner) / COBRIDGE. According to Godden, Cockson Chetwynd & Co. operated the Globe Works in Cobridge, Staffordshire from 1867-1875 (Godden 1964:159). The company subsequently operated under the name Cockson & Seddon.

Although it is unclear what type of vessels they belong to, a series of base sherds with makers' marks were recovered from P2-Feature 2 (Table 27).

Table 27. P2-Feature 2: Makers' Marks from Base Sherds

Material	Color	Circa	Description
Ironstone	White	1858-1890	Base fragment with portion of printed maker's mark. PRINCE OF WALES / Royal Arms / ROYAL / PATENT IRONSTONE / BURGESS & GODDARD. This company traded under the name of Burgess & Goddard in the U.S. and under the name of Goddard & Burgess in Longton, Staffordshire, England. The Burgess side of the partnership managed the U.S. portion of the business. Burgess & Goddard traded as importers of earthenwares and represented firms such as John Edwards, Wedgwood & Co., and S. Bridgwood & Son.
Ironstone	White	1865-1877	Base fragment from indeterminate vessel, portion of maker's mark EDWARD CLARK... / TUNSTALL... Edward Clarke operated the Phoenix Works in Tunstall from c. 1865-1877.

Material	Color	Circa	Description
Ironstone	White	1868	Base (7.5-inch diam) from possible chamber pot, soup tureen, or other large vessel. Printed Maker's mark 'ROYAL ARMS / IRONSTONE / Davenport'. No match with other printed Davenport marks. Impressed Registration Mark. Appears to have been made in 1868 per registration mark (Godden 1991:572). In addition, two more impressed marks. One appears to be a series of numbers and the other is an impressed anchor with wording that cannot be read. Impressed anchor mark similar to mark seen in Kovel and Kovel (1975:149). Kovel and Kovel identify it as "Longport, Great Britain. John Davenport, potter. Earthenware, porcelain. Impressed. 1793-1882."
Ironstone	White	1851-1890	Small base fragment from unknown vessel with printed maker's mark. ROYAL ARMS / IRONSTONE CHINA / J. & G. MEAKIN. J & G Meakin operated the Eagle Pottery and Eastwood Works, Hanley, Staffordshire, producing earthenwares and ironstone. Later versions of this same mark (post 1890) include the word 'ENGLAND'.
Ironstone	White	1876-1878	Base fragment with a partial maker's mark. Vessel was likely chamber pot, large bowl, soup tureen. Printed mark IRONSTO... / royal arms / POWELL & BISHOP inside banner. Powell & Bishop operated out of the Stafford Street Works and other addresses, Hanley.

Grooming & Health

With one exception, the nine cosmetic and medicinal bottles recovered from the feature date to the last half of the 19th-century. They are summarized below in Table 28.

Table 28. Cosmetic and Medicinal Bottles from P2-Feature 2

Object	Color	Circa	Description
Bottle	Clear		Height 4 ¼-inch, Diam. 1 ¾-inch. Round cologne bottle. Embossed ED. PINAUD / circle / PARIS. Patination. Tooled finish. Pinaud products were extremely popular throughout the 19th-century in the United States. Specialties included: Eau de Quinine for the hair, Violette Reine, Brise embaumee Violette, Bouquet de Foscarina, Genet d'Or, and a perfume called Marie Louise (Photo A127).
Bottle	Aqua	1875-1920	Diam. 1 ¼-inch. Height 3 ¼-inch. Small round prescription style bottle. Base embossed 'LB'. No i.d. on maker/company. Finish appears tooled and top may be ground. Patination evident. Date based on finish.
Bottle	Clear	Post 1899	Height 9 ¼-inch. Base 2 x 2 7/8-inch. Large paneled bottle with chamfered corners. Front panel embossed SCOTT'S EMULSION and side panels embossed COD LIVER OIL and WITH LIME AND SODA. Scott's Emulsion is a well-known cod liver oil manufactured by Alfred Scott and Samuel Brown. Scott and Brown began the business in 1871 in New York and in 1876 introduced cod liver oil. In 1899 WITH LIME & SODA was added to the label.
Bottle	Clear	1875-1920	Height 4 ¼-inch. Small 'ball neck paneled' medicinal style bottle. Finish likely tooled. Appears to be a moon shaped embossment on base. Date based on transition from applied to tooled finishes in this bottle category.

Object	Color	Circa	Description
Bottle	Dark Olive	1857-1874	Bottom half of body and base from square bitters bottle with chamfered corners. Post mold. Embossed DR RENZ'S / HERB BITTERS. J. Renz owned the company and produced the product from 1857-1874. Located at 222 J Street, Sacramento. Product was intended for use against diseases related to the stomach or "impure state of blood."
Bottle	Aqua	1857-1885	Height 8 3/8-inch, Base 1 5/8 x 2 5/8-inch. Tall aqua paneled bottle with true applied finish. Post mold. Body embossed AYER'S // COMPOUND EXT // LOWELL / MASS USA // SARSAPARILLA. Base embossed with the number '3.' James Cook Ayer manufactured and sold a variety of drugs from his drugstore in Lowell, Mass. Sarsaparilla was first bottled in 1857. After he died, his brother Frederick took over the business.
Bottle	Aqua		Height 7 3/8-inch. Rectangular paneled bottle. Slightly rounded shoulders with chamfered corners. One side panel embossed CAL. VOLCANIC and other side panel embossed MINERAL WATER CO. True applied finish and crazing evident at top of neck. No i.d. on company.
Bottle	Aqua	1875-1920	Height 3 ¼-inch, Base Diam. 1 ¼-inch. Small round prescription style bottle. Base embossed 'LB'. Tooled finish. Date based on finish.
Bottle	Aqua	1860-1890	Height 8 ¾-inch. Paneled medicinal bottle. True applied finish and crazing evident at top of neck beneath finish. Front panel embossed J.A. BAUER / S.F. CAL. Finish is a simple laid on ring. John Bauer established his business in San Francisco in 1860 and retired in 1890.

Additional artifacts include half of a small chamber pot, as well as sherds from a second chamber pot (Photo A128). Two 9-inch round lids, likely used with chamber pots, were also recovered. They are made of white ironstone and are undecorated. The final item is a bowl (diam. 10 ½-inch), likely made of galvanized tin, and possibly used as a small wash basin. Although it certainly may have had other uses, it is similar in size and style to bowls sold in the 1897 Sears Roebuck catalog for that purpose.

Smoking & Tobacco

One McDougall pipe and a pipe stem fragment were recovered from the feature. The first includes both stem and bowl. The stem is embossed GLASGOW on one side and 5 McDOUGALL 5 on the reverse. Wording on both sides is embossed within a decorative border. The bowl is heeled and at a right angle to the stem. The stem side of the bowl appears to be embossed TD, although it is difficult to read. The pipe stem fragment is similarly embossed McDOUGALL on one side and GLASGOW on the reverse.

In addition, a nearly whole spittoon (diam. 11-inch) was collected (Photo A129). The yellow ware body has a Rockingham glaze on the exterior as well as a molded decorative relief on both sides depicting a figural head inside a medallion.

Toys

Just two children's items were recovered within the feature. The first is a white, hollow, glazed china doll leg with a brown painted boot (Photo A130). The low-heeled boot has red painted laces. The leg was once part of jointed doll, and an indentation around the leg, near the knee, indicates where the leg would have been attached to the remainder of the doll with string or other material. The second item is a clear glass marble with pink, blue, and white swirls (Photo A130).

Writing

A single writing-related item was recovered. It is a teal green, quart size, master ink bottle with a pour spout (diam. 3 5/8-inch, height 9 ¾-inch) (Photo A131). It is embossed STAFFORD'S INK and has a true applied finish. Stafford is a well-known ink manufacturer, although no reliable dates were found to correspond to the manufacture of the bottle. Because of the style of manufacture, however, this bottle was likely produced before 1880 (USDI BLM 2005).

Culled Artifacts

Several items were culled from P2-Feature 2. Culled items consist of monitoring finds that were recovered in the area surrounding the feature, as well as non-diagnostic items recovered within the feature itself. These include nine whole glass bottles. Of these, there was a paneled aqua medicinal bottle, three aqua mineral water bottles (including samples from the Eagle Soda Water Co. and C.A. Reiners of San Francisco), a light green soda bottle with a tooled crown style finish, a dark green beer style bottle with an applied finish, two indeterminate bottles made before the mechanization of bottle manufacture, and a Victory Soda bottle, the only sample made with an automatic bottle machine. In addition to the whole bottles, 14 partial bottles or bottle fragments were culled. These consisted of fragments of several medicinal bottles, black glass beer or ale style bottles, prescription, oil, and condiment style finishes, and olive and amber fragments (likely from liquor bottles).

Eleven ceramic sherds were also culled. These represented tea cups, a saucer, a plate, a bowl, an egg cup, a possible mixing bowl, a large vessel such as a soup tureen, and a likely apothecary jar. A portion of a clear glass beer mug, as well as a wine goblet with no stem were also present. Aside from the frequently recovered glass and ceramic objects, P2-Feature 2 also included a scalloped fragment from a lamp chimney, a portion of a rectangular metal hinge, a TD style clay pipe bowl, and a slate pencil.

P2-Feature 3

P2-Feature 3 was a brick wall with vertical buttresses and a concrete foundation that ran 96 feet northeast to southwest through the center of the project area (Figure 39). This feature is depicted on the 1913 Sanborn map as the western wall of the San Francisco Warehouse Company (refer to Figure 11). The wall measured 22-25-inches in thickness and stood approximately 66 ½-inches high. The top of the feature was located 8.5 feet below the site datum. The brick wall had been fabricated using a Common Bond (also referred to as an American Bond) brick pattern, as indicated by a course of headers replacing every sixth course of stretchers. No wall cladding materials or cladding residues were present on P2-Feature 3. The concrete foundation on which the brick wall rested was approximately 40-inches in height (Photo 35). The west side of the brick wall was flat and showed no relief. The brick wall was flush with its concrete foundation on that side. The east side of the feature, however, showed projected and recessed units that appear to have served to strengthen the structure (refer to Figure 39). Additionally, the concrete foundation on this side extended five inches out from the face of overlying brick wall.

Photo 35. P2-Feature 3, view to the southeast.

Although there was slight variation in the size of the bricks used in P2-Feature 3, the average dimensions were 8 ¼-x-4-x-2 ½ inches. The mortar used to bond the bricks was whitish-buff in color (Munsell: 10YR 8/1) and was primarily tempered with sand. P2-Feature 3 created a right angle at the northeastern end and conjoined P2-Feature 7. P2-Feature 7 extended 42 ½-feet to the southeast (see discussion of P2-Feature 7 below).

Associated Artifacts

Thirteen artifacts were collected in association with P2-Feature 3. Because the feature is a large structural element, these artifacts may be associated with the feature itself, or with a fill episode within the project area, or with activities that took place around the feature. Despite these several possibilities, the diagnostic artifacts associated with the feature consistently date to the mid to late-19th century.

Beverage

The 10 beverage bottles associated with P2-Feature 3 are summarized below in Table 29. Unless otherwise noted, dates are based on manufacturing technique.

Table 29. Beverage Bottles Recovered from P2-Feature 3

Material	Color	Circa	Description
Glass	Black	Pre 1885	Height 8 ½-inch. Diam. 2 ¾-inch. Beer bottle with simple hand applied collar finish. Stretch/tooling marks on neck. 3-pc. mold. Irregular texture on glass.
Glass	Green	Pre 1895	Height 9 ½-inch. Diam. 2 ½-inch. Beer bottle with grooved ring applied finish. 3-pc. mold. Stretch/tooling marks on neck. Seed bubbles throughout glass. Base embossed with a 6 and possibly another character (unable to read).
Stoneware	Red/Brown		Height 11 ¼-inc. Diam. 3 ¾-inch. Nearly whole, tall, cylindrical stoneware bottle. Portion of handle and neck/finish missing. Buff body glazed with reddish brown high gloss glaze. Contents may have included gin or mineral waters. No mark. Likely imported from Europe. These bottles were likely reused once they were emptied of their original contents (Photo A132).
Glass	Black	Pre 1885	Height 10-inch. Diam. 2 ½-inch. Round beer bottle with true applied finish. Stretch/tooling marks on neck. Uneven texture on body. 3-pc. mold. Base embossed C W & Co inside a circle. This mark has been found on Guinness beer bottles. However, these initials don't correspond to any glass manufacturers in Great Britain, but may be initials from any one of many Guinness bottlers.
Glass	Black	Pre 1895	Height 9 5/8-inch. Diam. 2 ¾-inch. Black (very dark amber) champagne style bottle. Hand applied laid on ring with stretch/tooling marks on neck. Push up. 3-pc. mold. Date based on finish.
Stoneware	Cream		Stoneware ale bottle with cream glaze, orange peel texture, finish is a collar with a ring below. No maker's mark. Height 8 ½-inch, Diam. 2 7/8-inch. Body cream colored.
Stoneware	Cream/Caramel	1850-1900	Height 8 ¼-inch. Pint size Bristol-style glazed ceramic bottle made of coarse stoneware; style developed in Bristol, England but spread to many locations; cream fabric with two-tone glaze, upper portion dipped in iron oxide glaze to produce caramel color, lower portion of bottle cream colored glaze, no mark. Finish consists of a collar with ring below (Photo A133).
Glass	Green	Pre 1895	Height 9-inch. Diam. 2 ½-inch. Beer bottle with grooved ring applied finish. 3-pc. mold. Stretch/tooling marks on neck. Seed bubbles throughout glass. Base embossed with a 3.
Glass	Black/ Dk. Amber	Pre 1865	Diam. 2 5/8-inch. Height 8 ¼-inch. Round beer bottle with sloping shoulders and true applied finish. Base is pushed up with open pontil mark. Date based on presence of pontil.

Material	Color	Circa	Description
Glass	Black/ Dk. Amber	Pre 1895	Diam. 3-inch. Height 9 ¼-inch. Beer/ale style bottle with single ring applied finish, sloping shoulders. Base is pushed up. 2 pc. mold. Tooling evident on neck. Orange peel texture on body. Date based on applied finish.

Food Preparation & Consumption

P3-Feature 3 yielded a single ceramic sherd and a teaspoon. The ceramic sherd is a portion of an eight-sided base, likely used as tableware or a serving piece. It contains a black printed maker's mark that reads IMPERIAL in a banner / eagle with shield / FRENCH PORCELAIN in a banner / W. ADAMS. William Adams began production in 1769 in Tunstall and Stoke. The specific mark seen on this sample was not found in available sources, although the 'A-Z of Stoke-on-Trent Potters' online indicates that the initials 'W. ADAMS' were being used by the company in the mid-19th-century. Based on this information, it has been attributed a date of 1850-1870.

In addition, a teaspoon with a shallow ovate bowl, ears, and a fiddle pattern stem end was recovered. Likely a composite metal, it is corroded and no decoration is evident.

Grooming & Health

A single medicinal style bottle was collected. It has a paneled body with chamfered corners and a double ring applied finish. There are extensive whittle marks on the body. A pebbly (textured) area on the base resembles a pontil mark, but because of its size it may be a remnant of a poor or worn mold. Because of its applied finish, the bottle has been attributed a date prior to 1880.

P2 Feature 4

This feature included a portion of a well preserved redwood plank floor (this is probably a coal shed floor) that was located in the northeast portion of the project area, 18 feet below the site datum (Figure 40). The portion of floor that was present measured 102-inches northeast/southwest by 320-inches northwest/ southeast. Floorboards ranged from 5-inches to 12-inches in width and all appeared to be ¾-inch thick. Intact floor boards were covered with a finely granulated, concreted coal dust (Photo 36).

Photo 36. P2-Feature 4, looking to the southeast.

Floorboards were oriented northwest (304 degrees) to southeast (125 degrees), and were aligned seven across and one board deep. Although the floor that was present was in relatively good condition, the south end of the feature was badly decomposed and fragmentary. The only hardware associated with the floor was a square nail that was observed in the northern portion of the floor. Two redwood posts, set approximately 5 feet apart, were visible toward the center of the floor. The northerly post (Post 1 in Figure 40) was 3-x-5 inches in dimension, but was damaged at the top, so its length could not be determined; Post 2 (the southerly post in Figure 40) was also damaged at the top and measured 3-x-4 inches.

Several artifacts that were associated with P2-Feature 4 included fragmentary clay pipe bowls and stems, ceramic plate fragments, bottle glass shards, and faunal bone. All of these artifacts were located within a six-inch-thick layer of dirt that covered the floor surface. A doorknob and ceramic teacup handle were recorded in situ on the floor surface (refer to Figure 40).

Associated Artifacts

P2-Feature 4 yielded seven artifacts, two of which provide known dates of manufacture. The items fall into several categories:

Clothing

A single shirt/coat size four-hole button was recovered. Made of shell, it has a flat back with a slightly rounded front side and a concave depression in the center.

Food Prep & Consumption

A large sherd from a salad-size plate was collected. Its printed Royal Arms style mark reads [lion and unicorn with shield] / STONE CHINA / JAMES EDWARDS & SON / DALEHALL. In addition to the printed mark, there is a partial impressed mark from the same maker and a small Registration Mark. James Edwards and Son operated in Dale Hall, Burslem, from 1851-1882 (Godden 1964:230). The company was formerly known simply as James Edwards.

Grooming & Health

Two medicinal bottles were collected from P2-Feature 4. Only the lower half of a very small rectangular (1-inch x ¾-inch), aqua pill bottle was recovered. The embossed label on the partial bottle reads ...ORAS / ...ISTOL // ... YORK // ...STOL'S / LLS. Fike notes a similar bottle, that when complete is embossed BRISTOL'S / PILLS // PILDORAS / DE / BRISTOL // NEW YORK // NEW YORK. The product was advertised as early as 1876 and as late as 1923 (Fike 1987:201).

The second bottle is an aqua, oval bottle (height 5 ¾-inches) with an applied ring finish. It contains numerous seed bubbles throughout and is embossed TURNER'S / ESS OF / JAMAICA GINGER / NEW YORK. According to Fike, the company was owned by the Turner brothers (Archibald, George, James, Malcolm, Robert and Thomas), who manufactured ginger wine, syrups, cordials, bitters, etc. Their offices were located in Buffalo, NY (1844-1863); New York, NY (1840s or early 1850s-1865); and San Francisco (1852-1864). It appears this bottle was produced between 1844 and 1865 (Fike 1987:130). The Turner brothers were succeeded by McMillan & Kester.

Smoking

Two partial clay pipe stems were recovered from the feature. The first is embossed W. WHITE on one side and GLASGOW on the reverse. The exact date of production is unknown, although Humphrey (1969) states that William White and Sons was one of the largest and best known pipe manufacturers in Glasgow in the 19th-century. White produced pipes over several decades during the 19th and 20th century. The second stem is impressed GAMBIER / PARIS. Clearly French, its date of production is also unknown (Humphrey 1969).

Miscellaneous

A single ceramic bead with turquoise and white swirled decoration was recovered from the feature.

Culled Artifacts

Only a handful of items were culled from P2-Feature 4. They consisted of a prescription style bottle neck with a hand applied finish, a clear glass finish likely from a decanter, a ceramic handle possibly from a small pitcher, a mineral finish doorknob, and 10 clay pipe bowl and stem fragments.

P2-Feature 5

P2-Feature 5 is the southwestern extension of P2-Feature 1 – a brick wall and associated concrete floor that was orientated perpendicular to Spear Street. It was not evident, until several days after discovering this feature, that P2-Feature 1 and P2-Feature 5 were the same structure. P2-Feature 5 was 1 foot, 5-inches in width and 3 feet, 5-inches in height. It was overlain by a concrete floor that was 3 inches thick. The floor appeared to extend to the north, west, and east. The concrete floor was covered with a 1-foot-thick layer of yellow sandy fill. Modern asphalt was observed above the sandy layer. This feature is depicted on the 1913 Sanborn map, as the west wall of the Haslett Warehouse (refer to Figure 11). It was located two feet below the site datum.

P2-Feature 6

Photo 37. P2-Feature 6, looking to the south.

P2-Feature 6 was a drain that was constructed out of redwood boards (Photo 37) (Figure 41). It was located 18.8 feet below the site datum and in the north and northeastern portion of the project area. It was located approximately 26 feet west of P2 Feature 4 (a redwood coal shed floor). The redwood drain was oriented in a north-south direction and appeared to slope slightly downward and away from the project area as it approached the northern corner of the project area (the corner of Spear and Folsom streets). The north end of the drain appeared to continue beyond the project boundary. To the southeast, the drain boards had decomposed, leaving only traces of wood in the surrounding soil and making it impossible to determine its terminus. The portion of the drain that was exposed measured 98-feet in length. The southern portion of the drain was oriented to the northwest (336 degrees), while the northern half of the feature turned slightly to the north (2 degrees).

The drain was constructed as an elongated, 13 ½-inch-wide wood box, with a bottom that was fastened to two right angle walls. The boards used to construct the body of the drain were 2-x-9 inches in size. A redwood lid covered most of the length of the drain, but had rotted away in several areas exposing the drain's inside construction. Two-by-four cross braces, averaging 14 inches in length and spaced at 66-inch intervals, were set in rabbeted slots on the top of the drain, just below the lid (refer to Figure 41, Photo 38). The braces added support to the drain without interrupting the flow of water. At the time of exposure, the drain contained standing water in several areas. It was very well preserved in the southern portion of the feature and less so in the northern portions.

Photo 38. Cross brace seen in P2-Feature 6.

P2-Feature 4 (the floor remains) and P2-Feature 6 appear to have been associated with each other, since they were at approximately the same level below the original ground surface and were located close to one another. At the elevations in which the features

were encountered, P2-Feature 6 would have been slightly lower than the coal bin floor of P2-Feature 4, and would have run beneath it.

Associated Artifacts

Artifacts collected from P2-Feature 6 were found in the side wall, just above the level of the drain itself. Because 8 of the 11 artifacts recovered are bottles with diagnostic characteristics, a reliable date of manufacture has been established for the majority of the collection. The artifacts fall into several categories:

Beverage

Two soda water bottles were recovered from the feature. The first, a 10-sided aqua bottle, was embossed McEWIN // SAN FRANCISCO. According to Markota and Markota (1971), James McEwin and his partner, George C. Thompson, got their start in the soda water business ca. 1856 as owners of the Union Mineral Water Works. This partnership lasted until 1860, when McEwin partnered with S. Grellier at the Italian Soda Works. In 1862 McEwin was listed as being in the job wagon business. McEwin was listed as the proprietor of California Soda Works at 192 Stevenson in 1863-69. In 1869-70 the address was listed as 190 Stevenson. In 1871, James McEwin became the proprietor of the Bay City Soda Water Co. He remained the president of Bay City Soda until 1895. It is likely that the 10-sided bottle dates to the 1863-1870 period, when McEwin ran California Soda Works (Markota and Markota 1971:62).

The second soda water bottle, a Hutchinson style bottle, was embossed SAN FRANCISCO / SODA WORKS (Photo A134). John N. Gerdes began as a driver for the California Soda Works in the 1860s, and by 1873 he was listed as the proprietor of the San Francisco Soda Works at 22 Hinckley. By 1876 both his factory and residence were listed at 733 Union. Henry Gerdes, possibly John's son, and William Bruning took over the business in 1877. This partnership lasted until 1880, when Bruning bought out Gerdes. This bottle likely dates to the period after 1873 when San Francisco Soda Works was known to be in operation (Markota and Markota 1971:41).

The third artifact recovered is a partial decanter. The clear glass neck and finish appears hand decorated with red paint.

Grooming & Health

The 6 medicinal bottles associated with P2-Feature 6 are summarized below in Table 30.

Table 30. Medicinal Bottles Found in P2-Feature 6

Material	Color	Circa	Description
Glass	Aqua	1844-1865	Oval bottle (height 5 ¾-inch) with applied ring finish. Numerous seed bubbles throughout. Embossed TURNER'S / ESS OF / JAMAICA GINGER / NEW YORK.
Glass	Aqua	1860-1875	Rectangular (3/4-inch x 1 3/8") aqua paneled bottle with applied double ring finish. Height 4 3/4". Embossed 'DAVIS' // VEGETABLE // PAIN KILLER' (Photo A134).
Glass	Aqua	1865-1881	Oval bottle (height 5 7/8-inch) with applied ring finish. Embossed MCMILLAN / & / KESTER'S / ESS=OF / JAMAICA / GINGER / S.F. (Photo A134).
Glass	Aqua	1865-1895	Aqua proprietary druggist bottle, oval, height 5 7/8-inch. Applied finish. Embossed on body E.G. LYONS & CO. / ESS. / JAMAICA GINGER / S.F.
Glass	Aqua	1875-1920	Aqua bromo seltzer style bottle, no marks, tooled finish, base diam. 1 5/8-inch, height 3 ¼-inch (Photo A134).
Glass	Aqua	Pre 1875	Paneled prescription style bottle with applied ring/oil style finish. Height 5.5-inch. Portion of neck and finish missing.

Heating & Lighting

The single artifact in this category is a milk glass candlestick with a six-sided base (Photo A135). The column gradually tapers to a broken point (at approximately 7 inches).

Miscellaneous

A single, nearly whole, small stoneware lid (diam. 3-inches) was collected (Photo A136). It is decorated with leaves in molded relief and a Rockingham glaze.

Culled Artifacts

Very few artifacts were culled from P2-Feature 6. The culled artifacts comprised a portion of a light green bottle as well as a portion of a 12-sided aqua bottle, a partial silverware handle, a clay TD pipe bowl and a large diameter clay pipe stem fragment.

P2-Feature 7

This feature consisted of a 24-foot-long section of brick wall that was located in the south-central, southeastern portion, of the project area (Figure 42). P2-Feature 7 conjoined P2-Feature 3 at the northwestern end and created a right angle (refer to Figure 42). P2-Feature 7 was oriented northwest (312 degrees) and ran parallel to Spear Street (Photo 39). The feature was

Photo 39. Profile view of P2-Feature 7, looking to the north.

located 9.4 feet below the site datum. It probably also would have intersected P2-Feature 5, which ran perpendicular to P2-Feature 7. An imprint of the southeasterly terminus of P2-Feature 7 was observed on the side of the 365 Main Street building that marks the southeast project area boundary. This suggests that P2-Feature 7 was at least 94 feet long. Therefore, the brick wall, along with P2-Features 1, 2, and 5, is part of the foundation of the San Francisco Warehouse that once stood on the southern half of the project area, as depicted on the 1913 Sanborn map (refer to Figure 11).

P2-Feature 7 consisted of 21 courses of brick and stood five feet high. In cross-section, the wall was 1-½ feet wide, and consisted of four stretchers, laid side by side. Two metal insets were observed at the top of the wall (refer to Figure 42). The feature was situated directly on a blue-green muddy gravel fill. A dark organic layer, representing the upper extent of the original cove bottom (pre-filling), underlies the blue-green fill. Additionally, wood and metal from P2-Feature 8 (the wood structural foundation) was seen directly below P2-Feature 7, indicating that P2-Feature 7 was built on top of a portion of P2-Feature 8. No artifacts were found in association with P2-Feature 7.

P2-Feature 10

P2-Feature 10, located 13.7 feet below the site datum, was another large redwood floor section belonging to a coal bin that was once located in the central portion of the project area, adjacent to the west side of P2-Feature 3 (a brick wall) (Figure 43). The portion exposed measured 28-x-30 feet. This feature was associated with the coal yard and was probably the floor of a storage bin, as indicated by the several inches of coal residue that covered most of the floor (Photo 40).

Photo 40. Portion of P2-Feature 10, view to the southwest.

Excavation of the feature revealed that the floor had been laid using a laminate construction, indicated by two layers of redwood planks running in opposite directions for strength. Planks were generally 1-½ inches in thickness and between 6-12 inches in width. There were several pieces of wood lying on the floor that appeared to have come from other parts of the structure, probably from a perimeter wall like those that surround the coal yard bin on the 1872 Muybridge panorama of the project area (refer to Figure 9). They were then either

torn down or had collapsed onto the floor after the structure was abandoned, and then were buried. Very few artifacts were observed on the surface of the floor.

Associated Artifacts

P2-Feature 10 yielded two beverage bottles and two ceramic sherds. One bottle is an amber liquor bottle with a tooled brandy style finish. The base is embossed '587.' A date of manufacture between 1885 and 1915 is consistent with the tooling evident on the finish. The second bottle was a "round [or torpedo] bottom soda" bottle with an applied deep lip finish (Photo A137). It was manufactured in a two-piece hinge mold and likely held carbonated soda, mineral water, or ginger ale. The rounded bottom ensured that the bottle remained on its side, keeping the cork moist. The majority of round bottom soda bottles found in the U.S. originated in England or Ireland and were likely produced between 1870 and 1910.

The two ceramic sherds recovered likely represent the body of a stoneware vessel. The sherds are heavily decorated on the exterior with a floral design in vivid colors (black, blue, orange, green, and white).

P2-Feature 11

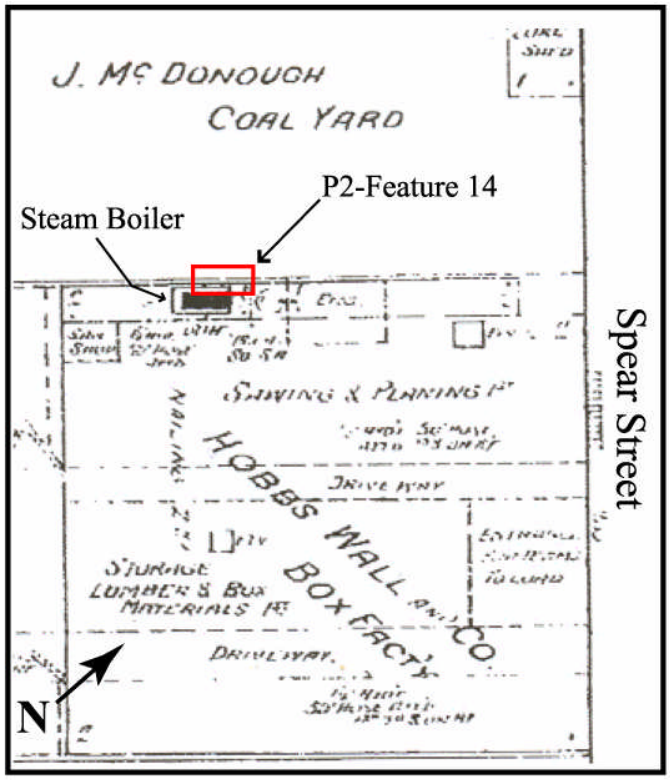
P2-Feature 11 consisted of a highly deteriorated wood drain that was located in the north portion of the project area, approximately 40 feet east of P2-Feature 6 (the other wood drain structure) and aligned roughly parallel to it (Figure 44). It was located 19 feet below the site datum. The drain was constructed in the same fashion as P2-Feature 6 and, therefore, appears to have been associated with the coal storage bins, either as an earlier or additional drain. It was approximately 18-inches in width and was oriented in a north-south direction. Although only a 13-foot section of this feature was intact, it appeared to have once continued to the north and south.

P2-Feature 12

Located in the southeast portion of the parcel, P2-Feature 12 was a recently disturbed, large brick footing that was located 13.8 feet below the site datum. It ran roughly parallel with Folsom Street. Although difficult to determine due to the degree of disturbance caused by the heavy equipment, it appeared that the footing was at least 18 courses high and was built wider at the bottom for structural stability (Figure 45). Most likely, it was associated with the northern portion of the SF Warehouse Company (seen on the 1913-1915 Sanborn map (refer to Figure 11) that was located in this part of the project area.

P2-Feature 14

This feature, located in the northeast portion of the parcel and 6.2 feet below the site datum, consisted of a brick-on-wood footing (Figure 46). The footing was oriented northeast to southwest and measured 9 feet wide; the total length of the footing was indeterminate because of recent disturbance. The portion of footing present was seven courses high and was constructed with the Common Bond brick pattern. The brick footing structure was built on four parallel 1-x-1-foot redwood beams. The redwood beams ran northeast to southwest. The redwood beams were constructed on top of smaller, 3-x-12-inch boards, approximately 9 ½ feet in length that were arranged perpendicular to the beams.



The red rectangle represents the plotted location of P2-Feature 14 in relation to a steam boiler depicted on the 1886-1893 Sanborn Map.

A rusted metal pipe was observed projecting from the northwestern wall of the footing. Only a portion of the pipe was visible. It measured 15 inches in length and 6 inches in diameter, and the wall of the rusted pipe was 0.5-inch in thickness. There were patches of burned areas on top of the footing, which were characterized by charcoal concentrations. Since the footing is most likely associated with a steam boiler used in the Hobbs Wall and Company Box Factory, the burned areas may have been associated with the boiler functions. A symbol for the boiler is depicted in the west corner of the factory on the 1886-1893 Sanborn map (refer to Figure 10).

Associated Artifacts

P2-Feature 14 yielded two glass bottles and a small piece of woven basketry (Photo A138). The first bottle was an aqua blob top style soda water bottle, embossed EL DORADO. Markota and Markota (1971) note that there is no information on this particular bottle, but attribute its manufacture to 1860-1880. In addition, they noted that they found an El Dorado brewery in nearly every town they researched, leading them to believe that a bottle with these markings may have been used as a beer bottle or may have

been bottled by a brewery for use with soda or mineral water (Markota and Markota 1971:35). Those types of side businesses would not have been uncommon at the time. The second bottle is 4 ½-inches tall with a flared lip finish. The clear glass has been discolored black. Its use is unknown, although it may have been used for ink or similar products.

Culled Artifacts

Three ceramic fragments, likely from tableware, and a 7-inch high olive green champagne style bottle were culled from the P2-Feature 14 collection.

P2-Feature 17

P2-Feature 17 consisted of a portion of a redwood plank coal storage bin floor that was located in the northwest portion of the parcel (Figure 47). It was located 18.8 feet below the site datum. The floor was located on fill, approximately 5 feet above P2-Feature 16 (the ship hull). The entire area that was exposed measured 15-x-18 feet. Coal dust residue and historic debris were observed on the floor. The planks were tightly grouped and ran parallel to one another. They were oriented in a northeast to southwest direction.

6.0 SUMMARY AND CONCLUSIONS

The 300 Spear Street Project's archaeological work was carried out in two separate phases. Phase 1 (P1) occurred from March 28 to April 7, 2005, when WSA archaeologists conducted a diversified pre-construction archaeological testing program that included controlled, area-wide excavations in the northwest corner of the project area, auger test bores in the southern half of the project area, and initial construction monitoring (WSA 2005b). Phase 2 (P2) encompassed the archaeological construction monitoring of project excavations in the entire project area that occurred between July 7 and October 21, 2005, when WSA determined project excavations had reached culturally sterile sediments.

As stated in the project's Archaeological Research Design (WSA 2005a), WSA developed a number of research questions to guide both the data recovery and analysis of the potentially significant historic or prehistoric cultural resources that were anticipated to be encountered during project excavations. No prehistoric cultural resources or evidence of prehistoric occupation or utilization of the site was encountered during the project. Consequently, none of the research themes or specific research questions pertaining to prehistoric cultural resources that were raised in the Research Design can be addressed. In contrast, the documentation of 40 historic features and the recovery of over 4,200 individual historic artifacts (Figures 48 to 54) provide sufficient data to address many of the research

questions pertaining to historic cultural resources. These are discussed below as they relate to the six broad themes developed in the Research Design.

Theme: Pre-Gold Rush American Settlers

Although accounts of Americans visiting Rincon Beach prior to the Gold Rush survive in the historical literature, no material evidence of these visits or any material evidence datable to a pre-Gold Rush American settlement or other activities was observed within the project area. Consequently, the data required to address the specific research questions relating to the theme of early visitors' foodways or activities, including potential contact with local Native American people, are not available.

Theme: Gold Rush Economics and Settlement

Settlement Patterns

No evidence directly related to the initial Gold Rush settlers was present. Also, no evidence of the type of temporary structures that characterized the Happy Valley settlement was observed within the project area. Minimal human remains (a humerus fragment and a tooth) were recovered from two auger bores at depths between 6-14 feet below the surface. Given the depths of the historic deposits in the project area, and the absence of any prehistoric materials, it is probable that the remains were deposited during the historic period. However, the context of these remains could not be determined, and it is not clear whether they belong to the Gold Rush era or later. No *in situ* grave sites were encountered in the project area.

The earliest dateable evidence recovered during data recovery and monitoring in the project area belonged to the intensive use of the project area in the decade following the Gold Rush. During this time period, the project area was the site of activity dedicated to maritime industries, specifically ship breaking and salvaging. Because of the site's location and topography, it was well suited for this short-lived but important component of the post-Gold Rush economy.

In the years just after the Gold Rush, Rincon Point was still a narrow peninsula forming the southern edge of Yerba Buena Cove, and was partially submerged in the shallow waters of the cove itself. At that time, the difference in elevation from the eastern corner of the project area (located on Rincon Point) and the western corner (located in Yerba Buena Cove) was over 40 feet. It was along this edge of the cove that Charles Hare, in 1851 or 1852, began one of San Francisco's earliest waterfront businesses.

Several significant maritime resources, all of which were associated with Hare's ship breaking activities, were recorded within the project area. These include two

concentrations of ship timbers and ship parts, left behind as part of the larger ship breaking yard. Both of these concentrations were found along the original alignment of the cove shoreline, as it is depicted on the 1853 U.S. Coast Survey Map (Figure 49). P2-Feature 18 (a concentration of 10 timbers) was in close proximity to and similar to the discrete piles of ship timbers found at the Hills Plaza site across and beneath Spear Street. Both features were found at depths consistent with the bottom of the cove; they were also found in the dark, sandy sediments consistent with the rich organic content that would have been present on the cove bottom.

Two additional features, likely dating to the final years of Hare's business, were recovered. A rectangular wood foundation (P2-Feature 8) was found partially overlying a deposit of breaking yard debris (P2-Feature 15). The two features were separated by a layer of dark sandy sediment that contained historic material (found below the foundation timbers of P2-Feature 8). At its thickest, the sand was approximately 1 ½ feet deep, and it probably represents the initial filling of the cove. The wood foundation was constructed with ship timbers and with ship-building techniques, and ship parts were found in association with the foundation. The materials and construction technique suggest that dismantled ships and the dismantling crews were exploited for materials and labor to construct the structure, indicating that it was likely associated with Charles Hare's yard and may have had yard-related uses, such as a bunk house for laborers, a storehouse for tools and materials, a commercial store, or perhaps Hare's residence. Materials found immediately east of the structure suggest that the area next to the foundation was used as a work space. The dimensions and location of P2-Feature 8 match the dimensions and location of a building footprint that appears on the 1859 U.S. Coast and Geodetic Survey Map (Figure 50). On the earlier 1853 U.S. Coast Survey Map, two buildings of a size similar to that of P2-Feature 8 are depicted in this area of the cove, but in a slightly different location (refer to Figure 49). On the 1853 map, the building nearest to the 1859 location of P2-Feature 8 lies approximately 26 feet to the west. Neither of these buildings is subsequently depicted on the 1859 map, leading to the supposition that perhaps one of them was dismantled and re-assembled on higher ground to the east, in the location of P2-Feature 8. This would also explain the presence of the "witness marks" that were inscribed on each corner of the wood foundation beams of P2-Feature 8 (refer to Photo 27), which would have made re-assembly of the structure easier and more accurate. The structure does not appear on the 1869 U.S. Coast Geodetic Survey map, indicating that by that time it had been demolished and covered by fill.

The remains of a partially dismantled wood sailing ship and an associated work platform (P2-Feature 16), was the final feature recovered in association with the project area's early Gold Rush-era economic activity. The intact lower stern portion, rudder, and keel of the wood ship were found in the northeastern portion of the project area. The hull was fully embedded in layers of bay mud and dark sandy sediments (refer to Figure 30) and

the ship was oriented with its stern to the shoreline and bow to the cove. South of the ship, just aft of the stern and rudder, was a horizontal wood grid. This grid appeared to be contemporary with the ship, and was probably used to provide a solid work surface while the ship was being dismantled.

The refuse associated with these features adds to an understanding of the formation processes of the project area, which on the surface appears to have been dedicated solely to maritime industries during the decade following the Gold Rush. Of particular interest are those artifacts associated with the rectangular wood foundation comprising P2-Feature 8. These consist primarily of a large quantity of intentionally placed wood and metal debris along the east side of the wood foundation. The materials are salvaged ship parts that included ship hull planking, a cabin door, Muntz metal sheathing, and a portion of a hatch cover. Although a large quantity of wood fragments, metal, cloth remnants, boot rubber, pencils, nails, leather, glass, one barrel stave, sheet metal, and rubber bands was found in the fill around the foundation, and some of it may be materials associated with the use of the structure, most of the artifacts found in the fill around the foundation are dateable to the 1860s or later, after it went out of use, and are associated with the filling of the cove. For example, the datable bottles recovered in Unit D1, which was excavated inside the north corner of the foundation, are from the 1860s and 1870s. Although the artifact assemblages associated with the dismantled ship and the concentrations of ship timbers were also substantial, they also contain an ambiguous mixture of items, some of which might be in primary context, but most appear to be artifacts that were introduced with fill after the features were abandoned.

The features directly associated with the ship breaking yard suggest that in the first decade after the Gold Rush, the project area was dominated by the ship breaking industry, as Charles Hare's crew worked hard to clear Yerba Buena Cove of salvageable materials for sale or reuse. The explosive growth associated with the Gold Rush is reflected in the project area by how quickly it was transformed from a sandy shoreline to a bustling ship breaking yard, then to a landfill covered with a coal yard.

By the end of Hare's ship breaking operations in late 1857, the shoreline had been dramatically modified. Between 1853 and 1859, according to U.S. Coast Survey maps, filling of the cove had moved the southern shoreline of Yerba Buena Cove northward approximately 100 feet. Observations made during data recovery confirm that the fill was primarily sand from the dunes on the northern and western sides, and rock and clay from Rincon Point on the southern and eastern sides. These discrete fills correspond to what is known about the filling operations from historic sources dating to the period. The filling of Yerba Buena Cove was part of the establishment of the City's waterfront and created developable land for the City's burgeoning population and industrialization.

Trade and Distribution of Goods

Prior to the discovery of the evidence pertaining to the ship breaking operations, no data relating to Gold Rush-era commercial activities within the project area were recovered during project excavations. All of the Gold Rush-era features recovered in the project area relate to the ship breaking yard. The existence of the ship breaking industry illustrates the demand for salvageable, saleable raw materials in the nascent city of San Francisco. The ship timbers, metal fasteners, and other material were salvaged for reuse or sale. Metal, for example, could be melted down and used in the production of other goods; timbers could be sawn and milled into boards for building construction, the yellow metal fasteners, rigging, and timbers could be sold to the emerging shipbuilding industry that was developing at nearby South Beach. There is no evidence that direct modification of these recycled materials took place on the site, suggesting that the material was distributed as raw material. Unfortunately, the project area is too small to address question of how and where these materials were redistributed. Although some of the artifacts associated with P2-Feature 8 (such as the large quantity of metal) could point to the use of this building as a distribution point (i.e., a commercial store), there is no way to confirm this from the available data.

The U.S. Marine Hospital

The U.S. Marine Hospital was built directly south of the project area in 1853, and although a cemetery was rumored to exist on the hospital's grounds, its location (or existence) has not been confirmed. No features or artifacts directly associated with the hospital were encountered within the 300 Spear Street project area, although human remains were recovered from two auger bores: a human humerus fragment was recovered from Auger 10, 10-14 feet below the surface, and a human canine was recovered from Auger 20, 6-8 feet below the surface. The context of these remains could not be determined. Given the depths of the historic deposits in the project area and the lack of any prehistoric materials, it is likely that the remains were deposited during the historic period and may be associated with surgical removal and discard by the hospital staff.

Theme: Ethnicity and Boundary Maintenance

Primary documents confirm that Charles Hare's labor force consisted largely of Chinese immigrants. Surviving descriptions of the ship breaking process paint a vivid picture of both the process and the men in Hare's employ. As Prentice Mulford described in 1856, rows of old hulks were taken from "rotten row" where they fell victim to Hare, who "set Chinamen to picking their bones" (Mulford 1889:46). *The Daily Evening Bulletin*, though somewhat more reserved in its description, described the scene similarly: "This work is carried on chiefly by Chinamen, who hammer and saw and chop, day after day and week after week with the most exemplary patience and perseverance" (*Daily Evening Bulletin* February 11, 1857).

Significant elements of Charles Hare's ship breaking operation, including a partially dismantled hulk, concentrations of ship timbers, and a wood foundation were recovered within the project area. This workplace had the potential to provide important information about the daily lives of this segment of Charles Hare's work force in the decade after the Gold Rush. However, very few artifacts of overseas Chinese origin were recovered within the project area. The single item recovered in association with a feature related to the ship breaking operation (P2-Feature 15) was a nearly whole, shallow bowl with blue-on-blue decoration on both the interior and exterior of the vessel (Artifact No. 295). Because the ship timbers that comprised the majority of the feature were subject to tidal inundation and were overlain by several feet of fill, it is unclear if the bowl was found in its primary context or deposited within the feature after the ship breaking operations had come to an end.

The Chinese laborers documented in the historic record are not well-represented within the 300 Spear Street archaeological record. Although they were clearly an important part of Charles Hare's workforce, it does not appear that they utilized many traditional Chinese consumer goods within the project area.

The absence of Chinese household items in the project area supports contemporary observations that many of Hare's employees lived at a Chinese fishing village established on Rincon Point and not within the project area itself. The village was referred to as "Little Chinatown, a collection of huts and shanties that were occupied by Chinese fishermen and Chinamen who were employed in breaking up old ships" (*San Francisco Morning Call*, April 6, 1884). According to one reminiscent account of early San Francisco, some of the Chinese villagers at Rincon Point made their living entirely by ship breaking. The village was illustrated in an 1859 painting by Fredrick A. Butman as a collection of unpainted redwood shanties on pilings nestled against the rocks close to the southern shoreline of Rincon Point.

Frederick Butman, *Chinese Fishing Village* , 1859.
Oil on canvas, 23½ × 36 in., California Historical Society, San Francisco, Gift of Albert M. Bender

Establishing a fishing village at Rincon Point was a reaction to the intolerance experienced by many recently-arrived Chinese, who found themselves barred from

preferred employment and, in some cases, forcibly removed from the gold fields by a combination of taxation, threats, and sometimes physical violence.

The village was a reflection of both the economic and physical boundaries that Chinese immigrants were forced to negotiate in the decade after the Gold Rush. Charles Hare's ship breaking yard, although not likely considered preferred employment, allowed a number of these men to make a living in the growing city.

Only 9 of the 1,006 catalogued artifacts are believed to be of Chinese manufacture. Those found in contexts not associated with the ship breaking yard include portions of ceramic bowls, a shouldered jar, and a beverage bottle collected within P1-Feature 10, a large layer of concreted coal dust associated with the coal yard. P2-Feature 19, wood structures possibly associated with the homes and businesses along Main Street and Folsom Street between 1872 and 1886, yielded additional sherds of Chinese ceramics. This small and highly scattered assemblage indicates that Chinese consumer goods had been introduced to the area, and raises the possibility that Chinese immigrants continued to work within the project area after the ship breaking era had come to a close. However, the small number of Chinese artifacts, and their presence within features subject to episodes of fill, does not provide a firm basis for further generalization.

Theme: Gold Rush Maritime Industry

Four features documented during Phase 2 of the 300 Spear Street project can be directly linked to Charles Hare's ship breaking business during the early to mid-1800s: P2-Feature 8 (a wood foundation constructed with recycled ship parts, using ship-building techniques), P2-Feature 15 and 18 (the discarded debris of Charles Hare's ship breaking yard work), and P2-Feature 16 (the stern section of a partially dismantled wood sailing ship and a wood platform). No evidence of ship building or repair was noted during the project. Therefore, it is not possible to discuss ship building techniques that may have been employed in San Francisco based on data from the project area. On the other hand, ample evidence of ship breaking was found throughout the project area.

The remains of a wood sailing ship were found at the 300 Spear Street project site. The ship, identified as the *Candace*, was built in Boston in 1818 and arrived in San Francisco on July 4, 1855, after a long career as a whaling ship. *Candace* was surveyed and condemned, sold at auction, and taken to Rincon Point for breaking in 1855. During excavation of the ship's remains, numerous artifacts were found within the hull that directly relate to ship breaking activities, including rope, iron spikes, an iron shackle, and several wood sheaves. The hull of the ship had been reduced to the stern and the keel. This was a common way to break ships; beginning at the bow and working towards the stern.

A large platform raft had been constructed near the stern of the ship to provide a stable work area. Evidence of stripping and sawing was noted on the outside of the ship, confirming that it was in the process of being disassembled before Hare abandoned his operation.

Among the large ship timbers left behind in the central and northern portion of the ship breaking yard, several artifacts were recovered. These included a three-sided tapered file, a chisel, a 10-inch drift bolt, a small "V"-shaped piece of compass timber, and a rubber boot. In keeping with the salvage techniques employed in the breaking yard, a number of the wood timbers showed evidence of splitting and splintering, indicating that they had been harvested for their metal fasteners.

By 1857, ship breaking operations were ending, and the project area was dramatically altered over the next decade with the filling of Yerba Buena Cove. There is no evidence of maritime activities in the project area after this time. The City's waterfront was moved to the east with the construction of the seawall, and most maritime activities followed in that direction. As the foundries, forages, iron shops, and other industries quickly grew up in the surrounding area, a coal storage yard was established in the project area on the developable land created by the filling of the cove.

Theme: Dumping, Filling and Cutting Practices

Evidence from data recovery and archaeological monitoring in the project area confirm what is know from historical sources about the filling of Yerba Buena Cove. Initial filling was probably haphazardly carried out, as individuals sought to reclaim the muddy tidal areas around the edge of the cove for their own purposes. This appears to have happened to some extent within the project area. As the water of the cove was replaced by fill, the cove soon became unusable for the shipping industry. Artifacts found in and below the earliest features encountered on the site are probably associated with this initial phase of filling. This includes the dumping of unwanted ship parts dismantled during the breaking up of abandoned ships in the cove.

In the 1850s and 1860s, a concerted municipal effort was undertaken to establish the City's waterfront at the edge of the deeper waters of the San Francisco Bay with the construction of a sea wall, long piers and the subsequent filling of Yerba Buena Cove itself. At the same time, the City's grade was brought up to a prescribed level. These efforts necessitated extensive filling and the leveling of the sand dunes that then covered much of the area to the west of the project area. Much of the material cut down to reach the City grade found its way into the cove. In some cases, it appears that the process was completed rapidly. This could account for the sparse quantities of historic material recovered from the sandy cove fill found in the project area.

The thick sand fill observed in the northern and western portion of the project area most likely was brought in when the sand hills along Market Street were leveled from 1858 to 1873, using David Hewe's "Steam Paddy," which combined a steam shovel with movable tramways for hauling the sand. The rock and clay fill observed in the project area was most likely brought in from Rincon Hill and Rincon Point, both of which were heavily modified between 1850 and 1870 – the northern edge of Rincon Point during the 1860s and 1870s, and Rincon Hill in 1869, as a result of the Second Street cut. In a relatively short time, the cove was filled, and new land was provided for the burgeoning industrialization of San Francisco. By 1870 most of the filling work had been completed.

The main fill stratum in the project area overlies the earliest features associated with the ship breaking yard. The latter are covered by a 4-to-5 foot thick layer of fill, which exhibited a dearth of historic artifacts. The low density of historic artifacts in the fill material suggests that much of the process of filling in the cove occurred over a relatively short period of time. This layer contrasts markedly from the sediments comprising the cove floor, which is a very distinctive, dark-gray-to-black, sandy silt layer about a foot in depth, containing a rich deposit of historic material. The cove fill observed at the project site included a sandy and rocky clay material, ranging in color from dark yellowish brown to reddish brown to brown. Most of the rock appears to be gray and green serpentine, whose source was Rincon Point or the adjacent Rincon Hill. A natural outcrop of the same gray rock was encountered at approximately 4 feet below the surface in the southeastern portion of the project area, which in historic times would have formed the northern rim of Rincon Point above the cove. There was a well-defined historic stratum, represented by architectural and infrastructure property types, overlying the layer of cove fill. That stratum was dominated by the remains of the coal yard in the northwest, and warehouse foundations in the southeast.

The artifacts recovered from the pre-fill and post-fill layers places the filling of the cove within the project area from the late 1850s to the early 1870s, which correlates with information derived from historical documents. Certainly by the time of Muybridge's 1872 panorama of the project area, most of the project area was at present grade.

Evidence initially derived from the auger bores and then confirmed during construction monitoring indicated that the shoreline as depicted in historic maps is fairly accurate (refer to Figure 4). All of the bores placed west and north of the projected shoreline hit cultural material 10-12 feet below the surface; whereas the bores placed to the south and east of this line hit sterile strata 4-6 feet below surface.

Prior to the filling of Yerba Buena Cove, the rock outcrop that was Rincon Point was higher in elevation than it is today. Eventually it was cut down to level the area around the cove and that material was used as cove fill (WSA 2005a).

P2-Feature 2, an extensive historic trash deposit, was located along the southwest project boundary and likely continues for an unknown distance in a southwesterly direction under Main Street. The artifacts recovered from the deposit date to after the turn of the century. It may be associated with the refuse from the structures along the east side of Main Street, since almost all of the artifacts were household items, or with their demolition at the time of the 1906 earthquake and fire. Since the deposit contained remnant building material (fragments of redwood beams, for example), the latter seems more likely. The fact that burning was not noted on any of the structural debris in the deposit correlates with the fact that the project area was outside the 1906 burn zone. The buildings were probably demolished as a result of structural damage, although this is conjectural.

Theme: Rincon Point during the Later 19th Century

After the filling of the cove, land use in the project area took on a decidedly different character: a coal yard, lumber company, box factory, shops and homes were established within the project area. By the turn-of-the-century, the coal yard and several of the homes and small shops/saloons in the northern portion of the project area were still standing and in operation. The southern half of the project area that had housed the lumber company and box factory was vacant.

Industrialization and Technology
By 1872, much of the northern half of the project area was occupied by a large coal yard, represented in the archaeological record as coal deposits and wood and brick features that can be associated with the coal yard structures depicted on historic maps and in historic photos. These remains account for most of the 4-to-5-foot-deep historic deposits that overlay the cove fill in this portion of the project area.

The coal yard served as a transit point, distributing coal that arrived in San Francisco via ship. While some coal came down the coast from Washington and British Columbia, shipments also arrived from Australia, Japan, and the British Isles. In addition, the discovery of rich coal sources just across the bay from San Francisco – near Antioch in 1858 and Clayton in 1859 – provided a cheap, readily available source of energy needed to fuel the foundries, mills, ferries, steamers and developing industries of the city. In 1860, San Francisco foundries burned 77,635 tons of coal, most of it coming from the East Bay.

The closure of nearby mines, such as the Clayton coal mines in 1902, and the conversion of industry to petroleum gas and electricity for energy doomed the coal industry in San Francisco, which no longer existed by the 1920s.

Later 19th Century Commercial and Domestic Life

Artifactual evidence associated with the coal yard features consisted primarily of clothing (buttons), food containers, medicine containers, clay smoking pipes, and other household items. The artifacts may indicate that the coal yard was used as a place to discard refuse, either by those that worked there or the surrounding inhabitants, as many of the artifacts date to the time that the coal yard was in use.

The lumber yard that occupied the southwestern corner of the project area along Main Street appears in the 1872 Muybridge panorama and on the 1886 Sanborn map (Figure 51). The lumber yard consisted of two main buildings, fenced yards with wood sheds, and stacks of lumber. Remnants of the wood sheds, containers, fences, and walkways associated with the lumber yard were recorded in association with construction monitoring and revealed a great deal about the proximity of commercial and domestic life within the project area. By 1899, however, the whole southern half of the project area was vacant (refer to Figure 18 and Figure 52) and by 1913, this portion of the project area was occupied by the Haslett Warehouses (Figure 53).

P2-Feature 9 represents three small structures possibly associated with the residential units along Main Street at the end of the 19th century. A variety of historic debris was recovered from within the structures. The 146 artifacts recovered from P2-Feature 9 represent a largely domestic collection of cultural material dominated by buttons, tableware, cosmetic, and medicinal bottles. A substantial number of children's toys and pipes were also collected. Virtually all of the artifacts were recovered from within the wood structures, suggesting that at some time they were used for refuse disposal.

The various structures that make up P2-Feature13 belong to the lumber yard. Nearly all of the artifacts found in association with the complex of structures that make up P2-Feature 13 appear to derive from the same domestic source as those in P2-Feature 9. Both P2-Feature 9 and P2-Feature13 contained a substantial amount of domestic refuse that once belonged to women and children. Unlike the industrial, and largely male-oriented cultural material that was recovered from other sections of the project area, this age and gender-specific cultural material is an important reminder that many families made their homes in the midst of a somewhat environmentally unpleasant and rough-hewn section of the city.

Both features were situated near the rear of a three-story dwelling clearly visible on the 1872 Muybridge Panorama. The large home fronted Main Street and was one of several residential and retail structures that were clustered in the west corner of the project area. At the time, the remainder of the project area was occupied by a lumber yard and a coal yard. Although the building had been demolished by the time the 1886 Sanborn Map was created, it would have been located directly adjacent to 311 Main Street (on the southeast

side of 311 Main). By 1886, the former location of the building was designated 'Lumber.' Because of its location southeast of 311 Main, it is likely that prior to demolition the building's address would have been 313 Main Street.

The date of manufacture for the cultural material found in both P2-Feature 9 and P2-Feature13 indicates that it was likely discarded prior to 1880. This fact reinforces the visual evidence that 313 Main Street was constructed and occupied after the cove had been filled, but that the structure was demolished prior to 1886. As a result, it is likely that both features contain refuse associated with the men and women who occupied the building between approximately 1870 and 1880.

The 1880 Federal Census documents seventeen people living at 313 Main Street. They include five families and two individuals. The largest family residing at that address was the only family headed by someone born within the United States. Frank Peira was relatively young, just 27, and was born in Massachusetts. His wife, Agniss, 28, was born in Ireland. Frank worked as an engineer and Agniss stayed home with their three children, who ranged in age from one to three years old. Their oldest had been born in Illinois, but both of their younger children had been born since Frank and Agniss's arrival in California. In addition to being the only head of household born within the United States, Frank is the only resident at 313 Main who had a white-collar job.

The Develin family, which consisted of Thomas, 60, and his 48-year-old wife, Mary, was typical of the foreign-born families at 313 Main. Despite his age, Thomas, who was born in England, worked as a laborer and Mary, who was Irish by birth, worked as a ladies nurse. Their 17-year-old son, John, had been born in California and was 'at sea' at the time of the census. The Kennedy family was like the Develins in many respects. John, 46, and Hannah, 37, were married with one child. Both John and Hannah were born in Ireland, and their son, William, who was 11 years old, was born in California and was attending school. Although he had been unemployed for four months of the previous year, John worked as a laborer and Hannah worked as a washer. Unlike Agniss Peira, who stayed home with her small children, Mary Develin and Hannah Kennedy both worked to bring in additional income.

Both the Hayes family and the O'Keeff family were headed by women named Catherine. Both Catherine Hayes, 62, and Catherine O'Keeff, 40, were born in Ireland and had been widowed. Similarly, both were living with one of their children at the time of the census. Catherine Hayes, who did not work, lived with her 26-year-old son, James, who worked as a laborer. James had been born in Ireland. Catherine O'Keeff worked at a pickle factory, while her 15-year-old daughter, Agniss, who was born in Massachusetts, worked at a cigar factory. The remaining two individuals at 313 Main, John McMillin, a widower, and Catherine Kerigan, a widow, were each living alone. John, who was 48-

years-old, was born in Scotland and worked as a dry goods peddler. Catherine, Irish by birth, was 69-years-old and worked at a pickle factory like her neighbor Catherine O'Keeff.

It is a bit more difficult to determine accurately who was occupying the structure ten years earlier, in 1870. Unlike the 1880 census, the 1870 census did not record individual's addresses. In addition, addresses in the area were in flux as the neighborhood was developing and changing. As a result, sources such as city directories, which did record address information, often used somewhat vague descriptions, such as "east side of Main between Folsom and Harrison" (Appendix F). Despite this, it is clear that the Develin family, who were enumerated at 313 Main in 1880, lived in the same location in 1870. Their daughter, Sarah, who was eight-years-old at the time of the 1870 census, was no longer living with the family in 1880. She may have been settled in her own home by that time, or simply away from home for a number of reasons. It is likely that the Develin family shared the large dwelling with at least one additional family in 1870. The Borchers, who were enumerated just after the Develin family, were likely living at 313 Main as well. The head of the Borcher household, William, was 39-years-old and was born in Prussia. He worked as a boatman, and although he owned no real estate, he reported having $3,000 worth of personal property. His wife Mary was 43, and was also born in Prussia. Mary stayed home with two children, Louisa and William. Both Louisa, 14, and William, 11, were attending school. A young single man, John Palmer, lived with the family, likely paying a portion of the rent. John was 19 and was born in Louisiana. He was working as an apprentice to a coppersmith. Although there may have been additional families within the dwelling, it is difficult to say with certainty.

The residents at 313 Main Street are representative of the neighborhood that had grown up along the former shoreline of Yerba Buena Cove during the decade between 1870 and 1880. The neighborhood consisted largely of working-class families headed by men and women who had made their way to San Francisco from Prussia, England, Scotland, and increasingly, Ireland. Laborers, washers, nurses, factory workers, and an occasional engineer, shared tight quarters within close proximity to their places of work. The cultural material left behind in P2-Feature 9 and P2-Feature 13 is representative of the type of consumer goods that these families worked to obtain. It is easy to imagine the young Peira children, George, Frank, and Georgonia, playing behind their home, and it is likely that at least a portion of the toys recovered from the features, including marbles, dolls, and a tea set, belonged to them. Similarly, the women who occupied the project area left their mark on the type of cultural material that was left behind. The hair combs, perfume, coin purse, and medication formulated to cure all manner of "female complaints" are both simple reminders of everyday life and important reminders of the way in which the region, and the project area in particular, was shaped by successive waves of immigrants who settled in San Francisco to work and raise their children.

Structural remnants from the houses and storefronts that occupied this portion of the project area were not identified. They were likely demolished shortly after the 1906 disaster, which may be linked to the presence of sheet refuse found along Main Street (P2-Feature 2). This interpretation is supported by the analysis of the artifact assemblage recovered from the feature, which yielded household items such as beverage bottles, condiment bottles, tableware and serving pieces, medicinal bottles, chamber pots and lids, clay pipes, a spittoon, and children's toys, along with structural debris.

Conclusion

The Research Design prepared for the 300 Spear Street Project presented an ambitious and optimistic set of research themes and questions that were based on acquiring data from a variety of temporal and spatial sources. As mentioned above, themes relating to chronology, cultural history, subsistence, settlement, trade, and transportation of the prehistoric era, and several research questions pertinent to themes of the historic era could not be addressed due to a lack of data. However, a wealth of data and cultural material was recovered during the archaeological investigations of the site that will continue to inform research into historic period social and economic activities, organization, and infrastructure for a considerable time to come.

Chief among these is the stern section of the *Candace*. Through the good efforts of Tishman Speyer, the remains of the early 19th century whaler were recovered intact and donated to the San Francisco Museum and Historical Society, which will make them available for scholarly investigation and public interpretation when the new San Francisco Museum opens in the Old Mint Building.

In addition to this invaluable, tangible fragment of California's early history, data gathered through the documentation of 40 historic features encountered on the project parcel speak to the variety of economic and social uses to which this small portion of San Francisco's landscape was put. The features and the over 1,000 associated artifacts recovered from the site that were, documented, analyzed, and catalogued form an important assemblage of cultural material that reflects the lifeways of mid-19th century California, and the variety of needs that were met as the local population grew and the region expanded. The information available in this seemingly disparate collection of broken ceramics, discarded bottles, worn out boots, salvaged timbers and fragmentary toys serves as testament to the energy, creativity, and resourcefulness of California's early pioneers, who in an incredibly short period of time, transformed the sleepy backwater once known as Yerba Buena into the vibrant, sophisticated city that became San Francisco. That these resources are available for future study will only serve to enhance our understanding of this important era in California's history.

Disposition of the Artifacts

The San Francisco Museum and Historical Society (SFMHS) accepted Tishman Speyer's donation of the remains of the *Candace*. The hull is presently undergoing moderate conservation and will remain in storage until approximately 2009, when it will be transferred to the refurbished Old Mint, which will become the permanent home of the Society and the Museum of the City of San Francisco. In addition, a number of additional artifacts related to Charles Hare's shipbreaking operation are undergoing conservation and will be offered to the SFMHS once the conservation process is complete.

The San Francisco Maritime National Historical Park accepted the donation of the two large pieces of deadwood recovered from Hare's breaking yard (Figures 22b, 22c, 22d, and 22e, as well as a rudderhead (Figure 55). At the time this report was prepared, a suitable repository for the remaining artifacts had not been identified.

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