

2. Raw Salt Storage and Processing
Buildings, (American Trona Corporation)
1. Fort MacArthur,
Pacific Avenue
San Pedro, Los Angeles
Los Angeles County
California

HAER No. CA-21

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

Historic American Engineering Record
National Park Service
Western Region
Department of the Interior
San Francisco, CA 94102

HISTORIC AMERICAN ENGINEERING RECORD

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Fort MacArthur, Raw Salt Storage and Processing Building
(American Trona Corporation)

HAER No. CA-21

Location: Pacific Avenue, Fort MacArthur
San Pedro, Los Angeles County, California

UTM: 11.380840.3731381
Quad: San Pedro

Date of Construction: 1916-17. Altered: 1943, 1950, 1952, 1958 and 1960

Builder: Unknown

Engineer: Engineering Office
American Trona Corporation

Present Owner: Headquarters Space Division
Department of the Air Force
Los Angeles, California

Present Use: Consolidated Office Supply

Significance: The Trona Plant (Building 425) at Fort MacArthur is one of the largest remaining wood timber buildings in southern California. As such, it represents an impressive example of an early west coast industrial building.

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Consultants to Beland/Associates, Pasadena, California,
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Transmitted by: Jean P. Yearby, HAER, 1985

Description

The American Trona Corporation Raw Storage Building is a rectangular industrial building, measuring 301' 10" in length, 87' 6" in width and 48' 6" in height. The building is sited with its long axis running north/south. Externally, it is sheathed in heavy cement stucco which is terminated at the parapet by three overlapping bands of galvanized metal. The south, west and north walls are punctured by a row of metal window units above, and by occasional wooden double-hung windows below. At the base of the south side are three large openings, and numerous openings and exterior wooden staircases occur in the east wall which faces onto the adjoining sheltered railroad tracks. A double-ramped delivery entrance, with a counterbalanced loading platform, exists on the west side of the building, and on the north elevation, external stairs now lead to the second or main level. The built-up roof of the building is hidden on all sides behind low parapets.

The interior of the building is divided into two floors, a ground level which is 14' 6" high, and the upper level which is 25' 6" high. The lower level consists of three long spaces (each 28' 6" wide), separated by a floor to ceiling reinforced concrete wall. Internal ramps and stairways now lead to the upper level. Currently, the upper level has been divided into two long spaces, supplemented by a small office, hallway and storage spaces.

The foundation and the exterior and interior walls of the building's first floor are of reinforced concrete. The entire upper section of the building, including walls and roof, is of heavy timbered wood. The long walls are divided into 20 bays, each separated by 10" x 16" built-up wooden piers. The framing between the piers is composed of horizontally placed 2" x 6"s which was further strengthened by criss-cross bracing. The structural culmination of the interior is that of the elaborate structural system of wood trusses and supports which not only supported the roof, but the lower catwalks and the conveyor system (no longer in place). Where the timbers join, connecting steel plates and belts emphasize the exposed nature of the jointery.

The modular structural system of the building is open and dramatically apparent within, but the suggestion of modularism, which was once apparent externally, is now difficult to make out. As originally built, the metal factory sash windows (with center horizontal operational units) were arranged so that three window units (composed of two 9-light units to each side and a central 12-light unit) composed and declared the separation of each bay (with the exception of the bays at each end, which in a Classical fashion remained solid). In addition, a projecting horizontal band stated the division between the lower concrete wall and the wood framed, stucco sheathed wall above.

As originally designed, there were no doors provided on either the long east or west walls. On the south elevation, the three large doors still in existence are original, while in the north wall only one small ground level door was provided. Delivery to and from the interior was made to the adjoining railroad tracks to the east via two underground conveyor shafts (measuring 8' 0" high by 7' 6" in width). The records currently available do not indicate at what date the space over the railroad track was covered (along with its elaborate system of catwalks). The building to the east was in existence at the time the Trona plant was built. The structural system used for the section over the railroad tracks is similar to the interior of the Trona Plant, so it seems likely that it was built at the same time, or immediately after the plant itself.

The numerous remodelings of the interior space are only partially documented. The interior ramps date from July 1943, and probably other alterations were carried out at that time. Some of the present divisions of space were accomplished in 1950, 1952, 1958, and in 1960. None of those later alterations has appreciably compromised the strong impressive structuralism of the high second level space.

Significance

Abstract: The American Trona Corporation plant in San Pedro represents an impressive example of an early West Coast industrial building in its use of exposed timber construction. The interior of the principal floor of this 1916-1917 industrial building openly exhibits a complexed modular structure of heavy wood timbers. The upper portions of the interior consisted of a "Piranesian" composition of suspended catwalks and open wood trusses. The Trona Building is an industrial example of the open exposure of a wood structural frame which characterizes one of the dominate architectural traditions on the West Coast of the United States.

A. The Building

1. Original Condition/Present Condition of Building:

As indicated in the description of the building, the interior and exterior of the building has been modified over the years in response to different needs. Nonetheless, the splendid exposed structure of the interior still remains basically intact. The timbered walls, truss ceiling, and hunt catwalks are all in place. On the ground level, the three long bays formed by the 14' 0" walls of the reinforced concrete testify to the original use of this space. Externally, the building was always simple (and even bland). The removal of the original pattern of windows and substitution of other windows has compromised the exterior, but its basic configuration, with its three banded galvanized metal parapet is in place. To the

east, the open roofed railroad delivery area, with its wood trusses and catwalks, extends the interior structure system outside of the building.

2. The Building's Original Use:

The building was constructed by the American Trona Corporation of California as one of a group of structures which were to be used for the process (and storage) of salt potash to produce soda and potash fertilizer. The salt was mined at Searles Lake in eastern San Bernardino County and was then shipped by rail (Southern Pacific) to the plant facility constructed on the west side of San Pedro Bay. The Trona plant building contained crushers, separators, and an elaborate network of above and below ground conveyor belts. The processing of the salt (or brine) separated the potash from the borax so that it could be used as agricultural fertilizer.

According to several individuals associated with the original American Trona Corporation, the facility at San Pedro never went into full operation because a new method was developed to process the brine at Searles Lake (communication dated March 1980 from Eugene L. Bark, San Pedro, California, and from William Gale, Whittier, California). According to Mr. Bark, only a few loads of brine were shipped from Searles Lake by train for experimental purposes to try out the machinery. In 1919, the machinery within the building was dismantled and shipped back to Trona. At the time the San Pedro plant was built, on down to the present, it has been claimed that the plant was built for the purpose of providing chemicals for the manufacture of munitions gun powder. There is no concrete evidence that indicate this was the case. The plant's production of potash (nitrogen) and its location next to the World War I-activated Fort MacArthur could of course give rise to such assertions. While it is all together possible that the Trona plant may have been built with an eye towards the production of chemicals for gun powder, there is no evidence that it actually took place.

3. The Buildings' Later Use

It would appear that at the conclusion of World War I (in late 1919) the American Trona Corporation gave up the lease on the land upon which the plant and other buildings were built and the buildings were reverted back to the Southern Pacific Railroad Co. (The Pacific Electric). During the 1920s and 1930s, the plant building was used as a saw mill and warehouse.¹ In 1942, the Trona plant, along with a number of other structures, were acquired by the U. S. Army and added to adjacent Fort MacArthur.

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4. Comparison with Similar Resources within the State, Region or Locality

The interior space of the Trona plant (measuring 301' 10" x 87' 6") represents one of the largest, existing, wooden structural spaces found in industrial buildings on the West Coast.

B. Site

The site of the Trona plant on the west side of San Pedro Bay has been an important location from the late 18th century to the present.

- 1784: Rancho San Pedro (75,000+ acres) was awarded to Juan Jose Dominguez by Pedro Fages, the military governor of Alta, California.
- 1810: Jose Dolores Sepulveda obtained permission from Manuel Gutierrez, who had gained control of Rancho San Pedro, to run cattle on that part of the ranch that later became Rancho De Los Palos Verdes.
- 1817: Cristobal Dominguez, heir of Juan Jose Dominguez, objected to the presence of Sepulveda; petitioned for the re-grant of Rancho San Pedro.
- 1822: Rancho San Pedro formally re-granted to Cristobal Dominguez by Governor Pablo Vicente Sola (The Republic of Mexico).
- 1834: Jose Loreto Sepulveda and Juan Sepulveda, heirs of Jose Dolores Sepulveda, awarded Palos Verdes area of Rancho San Pedro by Governor Jose Figueroa.
- 1853: Rancho Los Palos Verdes confirmed by the United States Board of Land Commissioners. Entire Rancho San Pedro surveyed by Henry Hancock.
- 1880: "Town of San Pedro Harbor: Property of San Pedro Harbor, Dock and Land Association and the Southern Pacific Railroad Reservation" filed.
- 1888: San Pedro Harbor, Dock and Land Association sells 70 acres (including Trona site) to the Southern Pacific Railroad Extension Company.
- 1915?: Site of the plant leased by Pacific Electric (?) to the American Trona Corporation.
- 1942: U. S. Government acquired 45.07 acres, including site of the Trona plant for use in connection with Fort MacArthur.

The industrial nature of the site of the Trona plant has remained basically the same since the Southern Pacific Railroad completed its line into the area (1888). The addition of U. S. Army buildings after 1942 has not apparently changed the site, except that parts of it are now landscaped with grass, trees and curbs.

C. Industrial History

The American Trona Corporation was owned by (Baron) Alfred de Ropp, who in 1908 discovered a method of separating potash and soda from the brine of Searles Lake. From 1908 through 1913, the company was named the California Trona Company; from 1913 through 1926, it was the American Trona Corporation; and in 1926, it was acquired by the American Potash and Chemical Corporation. The mining and manufacturing of potash and soda represents one of the highly significant industrial activities of California.

Fort MacArthur, San Pedro

Los Angeles, California

The Trona Plant: Land Ownership Transactions

- 1784 Military Governor of Alta, California, Pedro Fages issues provisional land concession to Juan Jose Dominguez; Rancho San Pedro (over 75,000 acres) established. No evidence that original permission was filed in public records. "...Juan Jose explored the tract, and determined to occupy it after receiving no objections from Mission or Pueblo authorities."
- 1810 Jose Dolores Sepulveda obtains permission from Manuel Gutierrez, who had gained control of Rancho San Pedro, to run cattle on that part of the ranch that later became Rancho de Los Palos Verdes.
- 1817 August - Cristobal Dominguez, heir of Juan Jose Dominguez, objects to Sepulveda's presence; petitions for re-grant of Rancho San Pedro.
- 1822 December 8 - Cristobal Dominguez petitions a second time for re-grant of Rancho San Pedro.
- 1822 December 31 - Rancho San Pedro formally re-granted to Cristobal Dominguez by Governor Pablo Vicente Sola.
- 1826 May 16 - Manuel Dominguez, heir of Cristobal Dominguez, files petition demanding removal of Sepulveda family from Palo Verdes area of Ranch San Pedro.

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- 1826 May 20 - Governor Jose Maria de Echeandia issues confirmation of title by Mexican government to Rancho San Pedro to heirs of Cristobal Dominguez.
- 1827 Jose Loreto Sepulveda and Juan Sepulveda, heirs of Jose Dolores Sepulveda, provisionally granted Rancho Los Palos Verdes by the Governor of California, Jose Maria de Echeandia. The area was part of Rancho San Pedro.
- 1834 March 11 - Jose Loreto Sepulveda and Juan Sepulveda awarded Palos Verdes area of Rancho San Pedro by judicial decree and compromise partition given by Governor Jose Figueroa.
- 1841 April 22 - Governor Alvarado upholds judicial decree of March 11, 1834.
- 1846 June 3 - Rancho Los Palos Verdes granted to Jose Loreto Sepulveda and Juan Sepulveda by Governor Pio Pico. "...leaving a reserve of five hundred varas on each of the four cardinal points..."
- 1853 October - Entire Rancho San Pedro surveyed by Henry Hancock for first definite measurement.
- December 20 - Rancho Los Palos Verdes confirmed by United States Board of Land Commissioners
- 1855 March - Second survey of Rancho San Pedro by George Hansen.
- 1857 Augustus Timms acquires interest in Rancho Los Palos Verdes.
- 1859 September - "Plat of Rancho Los Palos Verdes" confirmed to Jose Loreto Sepulveda, et al. Henry Hancock, Deputy Surveyor; 31629.43 acres
- 1865-1880 Period of extensive litigation concerning Rancho Los Palos Verdes. "The commissioner in one of the partition suits platted the town of San Pedro, composed of ninety-eight blocks..." partially as a means of dividing the property among the partitioners.
- 1880 April 23 - "Town of San Pedro Harbor: Property of the San Pedro Harbor, Dock & Land Association and the Southern Pacific R.R. Reservation" filed.
- June 23 - Formal patent for Rancho Los Palos Verdes issued.
- 1882 September 25 - Partition of Rancho Los Palos Verdes, Jotham Bixby, et al versus H. K. W. Bent, et al.
- Augustus W. Timms receives 704.92 acres.

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- 1887 July 9 - Augustus W. Timms sells portion of partition to Rancho Los Palos Verdes (704.92 acres) to Harvey (sic) Victor Burner.
- 1887 July 9 - Harry V. Burner sells portion of partition of Rancho Los Palos Verdes (704.92 acres) to John W. Pearson.
- 1887 October 20 - John W. Pearson, A. E. Davis and E. M. Lafferty sell portion of partition of Rancho Los Palos Verdes (704.92 acres) to San Pedro Harbor, Dock and Land Association.
- 1888 April 23 - San Pedro Harbor, Dock and Land Association sells 70 acres of portion of partition of Rancho Los Palos Verdes to Southern Pacific Railroad Extension Company.
- 1942 May 26 - United States Government issues decree on declaration of taking 45.07 acres owned by Southern Pacific Railroad Company. Claimed by United States Government as eminent domain for use in connection with Camp MacArthur, California; \$150,750.00 compensation offered. U. S. District Court, Southern District, Central Division - No. 2247-Y civil.

Trona Plant: Notes

- 1784 Robert Cameron Gillingham, The Rancho San Pedro, Los Angeles: The Dominguez Estate Company, 1961, pp. 43-44; 49; 78.
- 1810 Ibid., p. 111.
- 1817 Ibid., p. 378.
- 1822 Ibid., p. 98; 378.
- 1826 Ibid., p. 378.
- 1826 loc. cit.
- 1827 Los Angeles County Office of Recorder Deed Book No. 2, pp. 376-378.
- 1834 Gillingham, op. cit., p. 165; 378.
- 1841 Ibid., p. 166.
- 1846 Los Angeles County Office of Recorder Patent Book No. 2, pp. 522-548.
- 1853 Gillingham, op. cit., p. 100.
- 1853 Los Angeles County Office of Recorder Patent Book No. 2, pp. 522-548.

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- 1855 Gillingham, loc. cit.
- 1857 Los Angeles County Office of Recorder Deed Book No. 4, p. 9 (as noted in Hallock F. Raup, Rancho Los Palos Verdes, Los Angeles: Historical Society of Southern California, 1937, p. 9).
- 1859 Los Angeles County Office of Recorder Maps of Patent Books No. 2, pp. 554-545.
- 1865-1880 E. Palmer Conner, The Romance of the Ranchos, Los Angeles: Title Insurance and Trust Co., 1929, p. 31.
- 1880 Los Angeles County Office of Recorder Miscellaneous Records, No. 34, pp. 55-61.
- 1880 Gillingham, op. cit., p. 166.
- 1882 United States District Court case no. 2373, Clerk's Field Map No. 41, Palos Verdes Ranch - surveyed by Charles T. Healey. Augusta Fink, Time and Terraced Land, Berkeley: Howell-North Books, 1966, p. 88.
- 1887 Los Angeles County Office of Recorder Deed Book No. 260, pp. 44-47.
- 1887 Los Angeles County Office of Recorder Deed Book No. 253, pp. 186-189.
- 1887 Los Angeles County Office of Recorder Deed Book No. 345, pp. 137-140.
- 1888 Los Angeles County Office of Recorder Deed Book No. 422, pp. 223-225. Miscellaneous Records No. 54, pp. 95-96. E. T. Wright, County Surveyor (recorded March 23, 1895).
- 1942 Los Angeles County Office of Recorder Official Records No. 19547, pp. 391-393.

Notes:

1. Edward B. Weil, Cultural Resources Investigation of Fort MacArthur, Middle Reservation, San Pedro, California, Los Angeles: Beland Associates, Inc., 1979, p. 49.

5. Major Bibliographic References:

- Anon. "Los Angeles - Past and Present," Outwest, (N.S.) Vol. 11, January 1916, pp. 53-54; February 1916, pp. 97-105.
- Anon. A Brief History of Fort MacArthur, unpublished, typed manuscript, Fort MacArthur, California, 1976.
- Barnsness, Richard W. The Maritime Development of San Pedro Bay, California, 1821-1921, unpublished Ph.D. thesis, University of Minnesota, Minneapolis, 1963.
- Fink, Augusta. Time and Terraced Land, Berkeley, 1977.
- Fogelson, Robert M. The Fragmented Metropolis: Los Angeles 1850-1930, Cambridge, 1967.
- Gillingham, Robert Cameron. The Rancho San Pedro, Los Angeles, 1961.
- Gleason, Duncan. The Islands and Ports of California, New York, 1958.
- Hager, Anna M., and Hager, E. G. San Pedro Harbor Highlights, Glendale, 1968.
- Los Angeles Chamber of Commerce. The Port of Los Angeles: Its History, Development and Commerce, Los Angeles, 1922.
- Ludwig, Ella A. History of the Harbor District of Los Angeles... Los Angeles, 1928.
- Raup, Hallock F. "The History and Development of Rancho Los Palos Verdes," Historical Society of Southern California Quarterly, Vol. 19, 1937, pp. 7-21.
- Thompson and West. History of Los Angeles County, (1880), Berkeley, reprint, 1959.
- United States Senate. "United States Military Reservation at or near San Pedro, Los Angeles County, California," Document No. 144, Congress Series Set 3600, February 18, 1898, pp. 1-12.
- Weil, Edward B. Cultural Resources Investigation of Fort MacArthur, Middle Reservation, San Pedro, California, unpublished, typed manuscript prepared for Beland Associates, Inc., Los Angeles, 1979.