

3757

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: *California,*

11-5013

DESCRIPTIVE REPORT.

Topo. Sheet No. *3757*

LOCALITY:

Los Angeles Harbor.

1919

CHIEF OF PARTY:

Westdahl, H.

3757

Descriptive Report to accompany Topographic Sheet, entitled

U. S. COAST AND GEODETIC SURVEY

E. LESTER JONES, SUPERINTENDENT

Revisionary Survey of

LOS ANGELES HARBOR

CALIFORNIA

Scale $\frac{1}{10,000}$

Executed from February 27 to March 25, 1919, by

F. Westdahl, H. & G. Engr. C. and G. Survey

This survey was made to carry out the Superintendents instructions of October 25th, 1918, the execution of which was postponed on account of the epidemic of influenza then at its height on the Pacific Coast. The manner and means to be employed in the execution of the instructions being largely left to the discretion of the Chief of Party, I recommended a sextant determination of wharves, etc. which was approved in the Superintendents letter of November 7th, 1918.

Upon receipt from the Office of one copy each of charts 5145 and 5143, with the areas to be revised marked in blue pencil, I found that a projection on scale of $1/10,000$ judiciously laid out would cover the entire area and include a sufficient number of triangulation points already determined to control the sextant work. I prepared such a projection in pencil, which was subsequently inked by Mr. Ballard.

Capt. H. W. Rhodes, Supdt. of the 18th Lt. Ho. district, who, while still in the C. and G. Survey, made a previous revision for these charts advised me to communicate with Mr. D. E. Hughes, the resident Assistant U. S. Engineer in charge of the improvement and care of Los Angeles Harbor jointly with the Engineering department of the Harbor Board. I did so and found upon my arrival at San Pedro that he had collected all the blue prints both of the U. S. Engineers and the Harbor Board which he turned over to me. Not only that, but he had prepared a room in the U. S. Engr. office at Fort MacArthur provided with large drawing table and all facilities for plotting my work which he placed at my disposal, and cooperated so heartily with me in the execution of this survey that it relieved me of much preliminary labor.

For a number of years Mr. Hughes has searched for and re-marked for preservation all the recoverable triangulation points in the vicinity of San Pedro and Newport Bay, and, while not strictly relevant to the subject of this report, I wish to quote for the information of the Superintendent from a report he made to his superior officer the following remarks: "I find during the years I have carried on surveys in this vicinity that the closer and better I do my work the nearer I approach the accuracy of the Coast and Geodetic Survey". For the purpose of military

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fire control, where it is necessary to give true bearings at different points from a common meridian, both he and the Los Angeles Harbor Board use a rectangular projection and plot their points by coordinates to a meridian through Deadmans Island triangulation station, (called by them "Reservation Point;") and an East and West line at right angles to the same. He computes however with facility the true position of such points on a polyconic projection, and assisted me greatly by so doing in checking the positions of such of his signals cut in and used by me.

Upon examining the blueprints and partly going over the ground to look into actual conditions I found the latter to differ so much from our published charts, especially 5145, that I concluded to resurvey the entire water front of the harbor. On chart 5143 large areas are shown as marsh but are now filled in and reclaimed, and I therefore determined the dykes forming the boundaries of the same and also the approximate boundary of the marsh covered by the highest tides where there are no dykes near and inside of the ocean shore. In the so called West Basin, the area westward of the railway tracks from San Pedro, are large fills recently made, and some area shown on our present chart as reclaimed, or as being reclaimed, but are not so actually. At Long Beach harbor the excavation of the marsh is not yet completed. The island left in the northern branch is, however, only approximately sketched in by me. The line of dykes around the different arms are determined and shown, and the actual limits of the water front. There are fisheries and canneries at the heads of the easterly arms where it was impossible for me to obtain angles, and too complicated to describe in the record. At the Long Beach shipbuilding plant I could not see objects to angle upon, but obtained a blue print from which the details if required may be reduced for the chart. The same is true of the shipbuilding plants at San Pedro and E. San Pedro, but I succeeded in determining positions enough, also marked on the blueprints, whereby the Office may obtain the details by reduction. At Wilmington are three small wooden shipbuilding plants where I could see no signals nor obtain blueprints.

The U. S. Engineer and Harbor Board signals were too small and not conveniently located for sextant work, but there are numbers of elevated tanks, smokestacks, etc. suitable for hydrographic signals. I devoted the first 3 or 4 days to cut them in by sextant angles from triangulation points and when I found them to plot so well, with 3 or 4 almost perfect intersections, I was greatly encouraged to proceed with the survey of the entire water front. During the progress of the work I cut in many additional points as the need for them developed. While it is possible for me to do my own recording, which I did in the beginning when occupying the triangulation points, the process is very laborious and slow, owing to my physical infirmity of a trembling right hand which I must steady with my left to do any writing at all; and even in measuring angles and holding the sextant in my right hand I am obliged to press the end of the arc hard against my cheek to steady it, and it is impossible for me to use a telescope. Anticipating this difficulty I had estimated for a recorder but it was not easy to find a suitable party. Even boys from 17 to 20 years old work in the shipyards at \$4.00 to \$5.00 per day. I finally engaged a high school boy who wrote figures rapidly, but had acquired the disagreeable habit of wetting the pencil, thereby smearing the record considerably, and it required constant watching to break him of it. I mention it here in order to excuse the condition of the two volumes of the record of angles. In order to keep the recorder busy I completed the actual field work in 9 days, interrupted by 3 days of bad weather, but found afterwards in plotting that I had

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forgotten many of the small details of wharves, etc. which it became necessary for me to reexamine before leaving San Pedro. It would have been better perhaps to have plotted each days work on the following day, or devoted part of the day to plotting, but the distances I had to cover and the laborious work of climbing over lumber piles, rock embankments, etc. proved too tiresome to take up plotting in the evening. The positions are numbered in the record, and pricked through only on the sheet. For reasons stated above I am obliged to forward the sheet unlinked.

The polyconic coordinates for the point marked "Z" on the sheet were furnished me by Mr. Hughes, and he has a signal erected there which I have not used in my work. The pencil lines drawn from it show the directions at that point of the proposed channel to Long Beach, and the so called pierhead line will, according to Mr. Hughes, be 100 feet from them. The dredging of this channel, to be officially known as Cerritos Canal, has progressed from Long Beach harbor almost to the R.R. drawbridge, but at the San Pedro end of it dredging was begun about a week before I left.

To comply with the last paragraph of the Superintendents letter of November 7, 1918, to "Furnish a list and description of prominent objects for the charts" I have to state that the houses in the town of San Pedro now reach all the way to Point Fermin. Immediately after rounding this point in coming from the westward a vast stretch of buildings appears. I can mention only the most conspicuous of them in the order they come in sight, as follows:

Troma Stack is a tall chimney built of concrete and rising above a cluster of buildings of the same material, formerly a factory of some kind but now abandoned and the machinery being removed. I was told that another company would soon occupy these substantial buildings for other manufacturing purposes.

The red-roofed houses of the Fort MacArthur Military Post, all located within the area marked "U. S. Reservation" on our charts, are next in order.

The white painted, 3 story warehouse on Municipal Wharf No. 1, upon the roof of which rises a white tank, named Wharf Tank in my records, is probably the most conspicuous of all. Until April 1st this structure was occupied by the U. S. Naval Training Station.

The red painted hulls of the steel ships, and the numerous cranes and appliances in the yard of the Southwestern Shipbuilding Company at E. San Pedro, next attracts attention. Work is carried on here the entire 24 hours and at night it is brilliantly lighted.

Deadmans Island is not conspicuous: The substantial signal built upon it is painted red. The settlement at E. San Pedro has some newly erected fish canneries of brick, not particularly notable.

Brighton Beach Hotel, (Hotel Flg. Stg. in the record,) is a dark two-story structure with a flagpole rising from the roof. It is now abandoned and rapidly being ruined. I tried to reach the flagpole on the roof to obtain some cuts but failed on account of missing stairs. From the appearance of the neighboring houses along this beach I judge it is no longer a popular resort.

On the west side of the entrance to Long Beach Harbor is located the plant of the Southern California Edison Electric Company, a very conspicuous structure surmounted by 4 concrete chimneys in line east and west. The westernmost are taller than the two others. The westernmost tall stack is the signal "Edison" of my records.

Long Beach has the appearance of a large, compactly built city from seaward. There are several conspicuous towers within the town but I only

cut to and determined one of them distinct from the others by its reddish color and square form. I am informed it is the tower of a Congregational Church. In my records it is named "Square Tower".

In the town of San Pedro are no conspicuous buildings. All the churches formerly determined by triangulation have been moved away.

School Ho. Flg. Stf. is the flagpole on a low, square tower rising above a large, red schoolhouse.

Clarence Hotel Cupola still exists. It is an old, wooden, two-story building, now isolated by the grading of the city streets on a triangular remnant of the former bluff and accessible only by a steep wooden stair from the street.

The public library is a one-story structure surmounted by a dome on the bluff overlooking the harbor; and the city hall is a three-story building, also surmounted by a dome, situated on the slope of the bluff now graded down towards the low, business part of the town. Neither of them is conspicuous and cannot be seen before entering the inner harbor past Deadmans Island.

The following are descriptions of signals used in this revisionary survey of Los Angeles Harbor water front:

Trona Stack, already described, is beyond the limits of the sheet but attached to it on account of being conspicuous.

Old is the signal over the triangulation station near the edge of the bluff just southward of the U. S. Reservation.

Y. C. Flg. Stf. is the flagpole in front of Yacht Club House on the bluff northward of U. S. Reservation.

Slim Pole is the flagpole on a private dwelling near the edge of the bluff southward of Timms Point. It is not conspicuous but the need for a signal there developed during progress of the work.

Wood Mill Stack is the taller of two smokestacks on the E. K. Wood Lumber Co. mill just northward of Timms Point.

Leaning Pole is at the extremity of a rock lined fill in the outer harbor. The name is descriptive, and the base of the pole is the point used.

Outer Beacon is on the east side of the entrance to the inner harbor. The former structure, determined by triangulation, is evidently destroyed and reestablished near the former position.

Wharf Tank is already described.

Shipyard Tank is an elevated tank in the yard of the Southwestern Shipbuilding Company in E. San Pedro.

East Entrance Beacon is the beacon on the east side of the entrance to Fishermans Harbor.

Radio Mast is the taller of the two masts at the U. S. Naval Radio station at E. San Pedro.

Hotel Flg. Stf. is already described.

Terminal is a U. S. Engr. station northward of, and near the track of the L. A. & S. L. R. R. between E. San Pedro and Long Beach.

Tall Stack is the galvanized iron smokestack on the Hammond Lumber Cos. mill at Terminal. It has a ring of electric lights near the top.

School Ho. Flg. Stf. and Clarence Hotel are described above.

Sta. No. 8 and Sta. No. 6 are City survey signals on the bluffs on the south and north sides respectively of the partly filled southern arm of the West Basin.

Dredge Range in West Basin near high water line is a signal for guiding dredging operations.

Stand Pipe is a tall, slim iron pipe on the hill dividing the West Basin into two bays.

Clock Tower is a turret on the S.E. corner of the shed on Municipal Wharf A at Wilmington.

Wilmington Tank is an elevated, conspicuous tank near the angle in Municipal Wharf A at Wilmington.

High Smoke Stack is the higher one of two smokestacks close together at the plant of the Consolidated Lumber Co. in Wilmington.

Gas Stack is the smokestack at the Gas Works near the head of Long Beach harbor.

Dark Tower is the apex of a peculiar looking, dark wooden building at the Salt Works plant near Long Beach harbor.

Edison and Square Tower are described above.

Can. Stack is the smokestack at the tie preserving plant of the L. A. and S. L. R. R. near the ocean beach about midway between Hotel Flg. Stf. and Edison.

White Tank is a conspicuous, elevated white tank near the summit of Los Cerritos and Los Cerritos triangulation station, plotted from Assistant Rhodes' sketch book.

In conclusion I may state that Los Angeles Harbor has unlimited possibilities. With modern methods of dredging through the silt accumulated through ages by the Los Angeles River the water front may be expanded to meet the demands of commerce, even if the ambitious plans of extending the present breakwater to Long Beach are not carried out for half a century. The principal imports at present are lumber and general merchandize, carried in coasting steamers: the exports are crude oil and fishing products. Fishing is carried on both from San Pedro and Long Beach by a great fleet of small, powered boats, and canneries are multiplying for preserving the product.

To preserve the harbor the U. S. Government in conjunction with the City of Los Angeles have made appropriations and begun preliminary surveys for confining the Los Angeles River within safe levees and lead it to the sea at Long Beach eastward of Long Beach harbor, between it and the edge of the meza.

Respectfully submitted

J. Westdahl

H. & G. Engr. U. S. C. and G. Survey

MAIL CLERK
U. S. Coast and Geodetic Survey Sub-Office,

San Francisco, Cal., April 18th, 1919

H. & G. ENGINEER IN CHARGE IS

APR 23 3 15 PM '19

To: The Superintendent
U. S. Coast and Geodetic Survey
Washington, D. C.

From : F. Westdahl
H. & G. Engr. U. S. Coast and Geodetic Survey

Subject: Transmitting Original sheet of revisionary survey of Los Angeles Harbor, with blue prints, etc.

by/

There is forwarded to-day, American Railway Express, collect, a roll containing the original, uninked sheet of the revisionary survey of Los Angeles Harbor, together with charts and blue prints relating to the same, as per enclosed list, copy of which is also in the roll. For greater security the roll is enclosed in a tin tube. The two volumes of original records are retained until the safe arrival of sheet is acknowledged.

2. Attached to the sheet is a Descriptive Report which explains the reasons for forwarding it uninked.

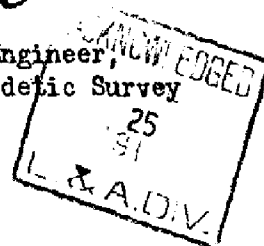
3. A copy of chart 5145, furnished by Mr. D. E. Hughes, Assist. U. S. Engineer, upon which he has marked with a black line what he claims is the correct position of the breakwater at San Pedro, is among the accompanying charts. I had intended to resurvey the breakwater but did not have the time to do so on account of the expiration of the return ticket I had purchased which was limited to 30 days. The difference may be owing to unequal shrinkage or expansion of the published chart upon which it is plotted.

Very respectfully

F. Westdahl

F. Westdahl, H. & G. Engineer,
U. S. Coast and Geodetic Survey

1 Enclosure



List of contents of roll, enclosed in tin tube.

(duplicate of this in roll)

- ✓ 1 Original sheet, Revisionary survey of Los Angeles Harbor, with title sheet and Descriptive Report attached.
- ✓ 1 Chart No. 5143, sent from Office and showing required revision limits.
- ✓ 1 " " 5145 " " " " " " " " " "
- ✓ 1 " " 5145, furnished by Mr. D. E. Hughes, U.S. Assist. Engineer.
- ✓ 1 Blue print of the Los Angeles Shipbuilding Co's yard in West Basin, Positions in pencil determined also on sheet.
- ✓ 1 Blue print of the Southwestern Shipbuilding Co's yard at E. San Pedro, positions in pencil determined also on sheet.
- ✓ 1 Blue print of Long Beach Shipbuilding Co's yard at Long Beach.
- ✓ 1 Blue print of Los Angeles Harbor, Navigation chart.
- ✓ 1 Blue print of Los Angeles Harbor, showing proposed improvements.
- ✓ 1 Blue print of San Pedro Harbor, U. S. Engineers.
- ✓ 2 Blue prints, showing depths before and after dredging channel to the new fill below U. S. Reservation.