
Form 864
U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey: Topographic

T-4825 thru

Field No.: Office No.: T-4832

LOCALITY

State: California

General locality: Pacific Coast

Locality: Point Fermin to Sycamore Canyon

1933

CHIEF OF PARTY

R. W. Knox

LIBRARY & ARCHIVES

DATE
Applied to Chart 520 - May 1936
DESCRIPTIVE REPORT
to accompany
Sheets A to H 1933
Pt. Fermin to Big Sycamore Canyon
March - June 1933
Robert W. Knox Chief of Party
Scale 1:10,000

INSTRUCTIONS:
The Instructions for this project were dated
Feb., 17, 1933.

INTRODUCTION:
This report covers the area of eight topographic
sheets surveyed prior to June 30, 1933. The general characteristics
of the area covered are similar and it is believed that one report
may be submitted more economically.

The number and the limits of the sheets covered in
this report are as follows:

<table>
<thead>
<tr>
<th>Sheet</th>
<th>Description</th>
<th>Map Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Point Fermin to Point Vicente</td>
<td>424</td>
</tr>
<tr>
<td>B</td>
<td>Point Vicente to Redondo Beach</td>
<td>4726</td>
</tr>
<tr>
<td>C</td>
<td>Redondo Beach to Del Ray</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Del Ray to Pacific Palisades</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Pacific Palisades to Malibu Beach</td>
<td>4829</td>
</tr>
<tr>
<td>F</td>
<td>Malibu Beach to Point Dume</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Point Dume to Sequis</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Sequis to Big Sycamore Canyon</td>
<td></td>
</tr>
</tbody>
</table>
GENERAL DESCRIPTION OF COAST:

The section of coast line from Point Fermin to Malaga Cove, a distance of about five miles, is distinguished by high, steep, dirt bluffs immediately over the high water line. These bluffs are broken occasionally by the mouth of canyons and lower topography. The beach in this area ranges from gravel to boulders and is on a base of bed rock which outcrops to form rock ledges around some of the points and elsewhere. Offshore from the beach are found numerous rocks awash and a few sunken rocks. The area inshore of the high water line is grass covered hills and cultivated most of the year.

From Malaga Cove to the Pacific Palisades, a distance of about sixteen miles, the beach is sandy and has no offlying rocks. The terrain inshore of the high water line is sandy and rather low and is thickly populated. In the vicinity of the Ballona Lagoon there are numerous oil derricks.

The coast from the Pacific Palisades westward to Point Dume is mostly sandy with area of boulders and gravel. There are some rock ledges but these are of small extent. The bluffs in the area are of dirt. There are a few offlying rocks awash but none outside the area of kelp. Inshore from the beach are the Santa Monica Mountains. From the base of these to the top of the bluffs over the high water line there is a rather level coastal plane of various widths. This plane becomes quite wide at Point Dume and the knob on which Point Dume is located is very prominent. (See photograph)
The area from Point Dume to the western limit of the work is very similar in character to the above area. The beach is of sand but with some areas of boulders. There are a few offlying rocks awash. Kelp extends offshore of these in most places.

CONTROL:
The control on Sheet A, Point Fermin to Point Vicente, is from the original triangulation scheme in this vicinity and recovered by the party. Most of these stations were previously recovered by the Palos Verdes engineers and re-marked by them.

The control on the rest of the sheets is from 1927 triangulation executed by W. Musseter. Two stations, Δ RMSF 1862 and Δ MALACA 1862 were recovered by running plane table traverse to them. These were used in the control of the topography. The names of the buildings on which two of the triangulation stations are located have been changed. The Breakers Hotel, Hermosa has been changed to the Surf and Sand Club and the New Beach Club, Santa Monica has been changed to Grand Hotel.

on Sheet H

The location of Δ SHALE 1933 is from party of Chas. K. Green.

In the area of Sheet D it was found necessary to establish more triangulation stations for topographic control and to locate landmarks. There were only three triangulation stations on the sheet before this was done and one of these, Δ GAS HOLDER. VENICE, was useless for plane table purposes because of its size. Three new stations were located by occupying stations BALDWIN HILL, SAGUNDO
and PALISADES 2 R. M. The stations located were ALUMINUM TANK, VENICE PIER, CHUTES DOME, OCEAN PARK PIER and the tower of the Bay Cities Building and Loan Association, Santa Monica.

A TRESTLE 1933 was located on Sheet F by a three point theodolite fix on triangulation stations POINT DUME, HAMERA and LATAGO. This was done after a difficulty was experienced in running the traverse between A LATAGO and A POINT DUME.

SURVEY METHODS:

Before the field work was begun the instrument was adjusted. The rods were compassed on a measured base and longer rods were graduated so that longer half interval sights might be taken along the traverse.

Plane table traverses were run between triangulation stations or three-point fixes. On sheets where it was necessary to work three-point fixes, the fixes were made and marked on the beach before the sheet distorted. Later traverses were run between these marked fixes. On Sheet H the control was located poorly for topography as it was difficult to see the stations from the beach and also difficult to occupy them. Except for one place, three-point fixes were impossible but at several places two triangulation stations could be seen. At the mouth of Little Sycamore Canyon it was possible to make a fix. From this fix a rodman was sent ahead to select a point where two stations could be seen and a long azimuth was drawn on the sheet to intersect the rod. The selected station was then occupied and the table was oriented on the fix or previous station and re-section lines were drawn from the two visible stations and thus a position was obtained. This was carried ahead for three positions. Later, when
the traverse was run for beach detail these points tied-in flat. The average length of foresight was about one mile. These fixes were taken while the sheet was new.

A magnetic skip set-up traverse was run to locate the road up Little Sycamore Canyon. This traverse was run from the mouth of the canyon to the chimney of a house whose position and elevation had been previously determined by cuts and angles from positions on top of the ridges. This traverse closed one foot in elevation and thirty meters in distance and azimuth.

The tops of the bluffs as shown on these sheets were determined by rod shots.

**CLOSING ERRORS OF TRAVERSES:**

<table>
<thead>
<tr>
<th>SHEET A</th>
<th>Traverse Dist.</th>
<th>Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(meters)</td>
<td>(meters)</td>
</tr>
<tr>
<td>Pt. Fermin to fix on O Knob</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>Fix on O Knob to fix on O Tri</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>Fix on O Tri to fix on O Pod</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>Fix on O Pod to fix on Fort. Pt.</td>
<td>1550</td>
<td>2</td>
</tr>
<tr>
<td>Fix on Fort. Pt. to A Long Point</td>
<td>3050</td>
<td>5</td>
</tr>
<tr>
<td>A Long Point to Pt. Vicente L. H.</td>
<td>1350</td>
<td>2.5</td>
</tr>
</tbody>
</table>

<p>| SHEET B |</p>
<table>
<thead>
<tr>
<th>---------</th>
<th>---------</th>
<th>---------</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt. Vicente L. H. to A Rocky</td>
<td>4050</td>
<td>5</td>
</tr>
<tr>
<td>A Rocky to A Paseo</td>
<td>1630</td>
<td>2</td>
</tr>
<tr>
<td>A Paseo to A Redondo</td>
<td>5760</td>
<td>12</td>
</tr>
<tr>
<td>A Redondo to A West stack Edison Co.</td>
<td>2925</td>
<td>2.5</td>
</tr>
<tr>
<td>SHEET C</td>
<td>Traverse Dist. (meters)</td>
<td>Closure (meters)</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>A West stack, Edison Plant, to fix on Hermosa Pier</td>
<td>1340</td>
<td>3</td>
</tr>
<tr>
<td>Fix on Hermosa Pier to A Man. Beach Pier B’ld’g</td>
<td>2720</td>
<td>5</td>
</tr>
<tr>
<td>A Man. Beach Pier B’ld’g to fix on S. O. Pier</td>
<td>3600</td>
<td>3</td>
</tr>
<tr>
<td>A Segundo to A Del Rey</td>
<td>3330</td>
<td>5</td>
</tr>
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<table>
<thead>
<tr>
<th>SHEET D</th>
<th>Traverse Dist. (meters)</th>
<th>Closure (meters)</th>
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<tbody>
<tr>
<td>A Del Rey to fix on Venice Pier</td>
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<tr>
<td>Fix on Venice Pier to fix on Ocean Park Pier</td>
<td>1520</td>
<td>3</td>
</tr>
<tr>
<td>Fix on Ocean Park Pier to A Chim. New Beach Club</td>
<td>4670</td>
<td>0</td>
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<tr>
<td>A Chim. New Beach Club to A Palisades 2 R. M.</td>
<td>4870</td>
<td>6</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>SHEET E</th>
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<th>Closure (meters)</th>
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<tbody>
<tr>
<td>A Palisades 2 R. M. to A Topango</td>
<td>5020</td>
<td>2.5</td>
</tr>
<tr>
<td>A Topango to A Big Rock</td>
<td>2225</td>
<td>4</td>
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<tr>
<td>A Big Rock to A Malaga</td>
<td>6295</td>
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<table>
<thead>
<tr>
<th>SHEET F</th>
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<th>Closure (meters)</th>
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<tbody>
<tr>
<td>A Malaga to A Malibu</td>
<td>——</td>
<td>0</td>
</tr>
<tr>
<td>A Malibu to A Reef</td>
<td>2880</td>
<td>6</td>
</tr>
<tr>
<td>A Reef to A Latago</td>
<td>5240</td>
<td>6</td>
</tr>
<tr>
<td>A Latago to A Point Dume</td>
<td>6870</td>
<td>24</td>
</tr>
</tbody>
</table>

(This traverse was rerun from Trestle to Pt. Dume)

<table>
<thead>
<tr>
<th>SHEET G</th>
<th>Traverse Dist. (meters)</th>
<th>Closure (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Trestle to A Pt. Dume</td>
<td>2750</td>
<td>4</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SHEET G</th>
<th>Traverse Dist. (meters)</th>
<th>Closure (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Pt. Dune to A Rindge</td>
<td>2677</td>
<td>5</td>
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</table>
### SHEET G (cont) = 7-4831

<table>
<thead>
<tr>
<th>Traverse</th>
<th>Dist. (meters)</th>
<th>Closure (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Ridge to fix near O Bose</td>
<td>3804</td>
<td>5</td>
</tr>
<tr>
<td>Fix near O Bose to fix near O PoI</td>
<td>4223</td>
<td>3</td>
</tr>
<tr>
<td>Fix near O PoI to A Sequis</td>
<td>2960</td>
<td>5</td>
</tr>
</tbody>
</table>

### SHEET H. = 7-4832

<table>
<thead>
<tr>
<th>Traverse</th>
<th>Dist. (meters)</th>
<th>Closure (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Sequis to fix near O Den</td>
<td>-----</td>
<td>0</td>
</tr>
<tr>
<td>Fix near O Den to fix near O Shak</td>
<td>-----</td>
<td>0</td>
</tr>
<tr>
<td>Fix near O Shak to fix near O Gud</td>
<td>-----</td>
<td>0</td>
</tr>
<tr>
<td>Fix near O Gud to A Shale</td>
<td>-----</td>
<td>0</td>
</tr>
</tbody>
</table>

All of the above traverses that were in error were adjusted by proportion.

### SUPPLEMENTAL SURVEYS:

There is being transmitted with these sheets, ten U. S. Geological Survey quadrangles. These are on the North American datum and are of recent survey. Street intersections have been located on the topographic sheets and are shown in blue thereon and in red on the quadrangles where they can be identified.

### NOTES ON INDIVIDUAL SHEETS:

The following part of this report covers notes on each sheet and deals with specific items that are not of a general nature of the survey. The notes on each sheet have been typed separately.
Panorama from Triangulation Station Point Dume

Point Dune from vicinity of Triangulation
Station Reef 1882

Vicinity Triangulation Station Sequis
1927
PHOTOGRAPHS

Bluff Cove showing character of beach.

Malibu Beach, Malibu Point in background.
Previous surveys in this area were covered by Sheet Registry No. 1153 surveyed in 1870. A comparison with this sheet shows that the high water line in the bights and coves falls some forty or fifty meters inshore of the present survey. These differences have no regularity and considering the fact that the area is rather unchanging, it is hard to explain. The section of shore line in Portuguese Bend is a good example of this difference. The points agree with the present survey in most cases but on the present survey they are slightly broader.

Most of the offlying rocks were verified but in slightly different location. An area of rocks and ledges under ØFYR does not appear on the present survey. These rocks were not found. The rock ledges shown to extend some 100 meters beyond the small dock near ØSTE was not verified.

Three additional sunken rocks were charted. On the previous sheet rocks were shown immediately inshore of the sunken rock 330 meters west of A LONG POINT but this sunken rock was not located. Another additional sunken rock lies a little offshore of the ledges to the west of Portuguese Point. The sunken rock southeast of Ø TRI was not located on the original sheet.

The data referred to the several rocks on the sheet are from field observations and gives the time, date and the amount bare in pencil.

The inshore limit of the kelp shown on this sheet was sketched during the progress of the work.

Affixed to Sheet 5143

K.B. Dec 1934
A comparison of Sheet Registry No. 1231 surveyed in 1871 shows good agreement with this sheet. The delineation of the high water line varies somewhat between points but agrees very well on the points. There is a discrepancy in the high water line around Flat Rock Point. The present survey shows the point slightly further north and east. The agreement between the location of Flat Rock and Bit Rock is good. Almost all of the offlying rocks were verified but in slightly different position. The former survey shows two sunken rocks offshore of the rock ledge reef off O SLO south of resort Point. Also there are sunken rocks shown off of O STRA which were not verified. It is believed that these rocks do not exist.

Several area of rocks were charted on the present survey which are not shown on the survey of 1871. Two groups of rocks, close inshore to the low water line, were found astern of and to the north of the wreck just north of Rocky Point. The topographic representation of Bluff Cove was found to be in error. The rocks shown in the cove on the present sheet were not charted on the former sheet and the high water line is rather erratic from here southeastward to Rocky Point. From Malaga Cove northward to the northern limit there seems to be very little change in the location of the high water line. This being a sandy area, the changes that do occur could be attributed to natural causes.

The street system of Redondo Beach was tied into the traverse by locating street intersections where possible from the beach traverse. These are shown in blue and the names of the streets are indicated.

ALPHABETICAL ORDER 3143
APPLIED TO O.S. 3144, FEB. 1935

K.R. 1934
An attempt was made to reduce the street system of Redondo Beach to the scale of the sheet from the City Engineers Plats. After reduction the system was traced on the sheet and a field inspection was intended to be made but due to the limited time such was impossible. During field work in another area this erratic street system was inked by a civilian draftsman. For this reason it was necessary to erase the entire area inshore of the high water line because of the errors in the street system. The street intersections are shown of the U. S. Geological Survey Quadrangles in red. These quadrangles are being transmitted with the sheet.

The data on the amount the several rocks are bare are shown on the sheet in pencil and give the time, date and amount the rock is bare.
The topography around the Standard Oil Co. pier at El Segundo was executed by Lieut. W. F. Malnate under telegraphic instructions dated February 4, 1933. The limits of this work is shown by dashed lines, approximately one mile on either side of the pier. The remaining detail on the sheet was transferred from Sheet C2 executed under instructions dated February 14, 1933. This irregularity was due to the fact that the street systems of Manhattan Beach and Playa Del Rey were reduced to scale from city maps and the intended field inspection was not made because of the field season being closed on this project before time permitted. A civilian draftsman inked the sheet and missed pertinent detail. Luckily the detail was not erased and the topographer was able to transfer this detail to Sheet C1. Sheet C2 is being transferred with this group of sheets and should be used to verify signals etc. in this area.

It will be noted that signals in the area surveyed by Lieut. W. F. Malnate bear two names in some cases. Those objects whose names are lettered in brick red appear on hydrographic Sheet Reg. #H 5235, surveyed in 1933 by party of Str. Pioneer, and those that appear in carmine are those used on hydrographic Sheet Field No. 13-1933, party of Robert W. Knox. Thus, Bel in brick red is on Sheet Reg. #H 5235 and Bell in carmine is on Sheet Field No. 13 although they are the same signal. Signal Lie is the same as Nu, a hydrographic location, on Sheet Reg. #H 5235.
SHIFT C₁ & C₂ (cont)

The location of the mooring buoys around the end of the submarine pipe line of the Standard Oil Co. off the pier at 31 Segundo are from Hydrographic Sheet Field No. 13. The location of the submarine pipe line is from a reduction of the Standard Oil Co. map and is approximate. There are several signals, tanks etc. shown that were not used for sights. The description of these are in pencil.

The intersections of streets are shown in blue. Where these intersections could be identified they are shown in red on the U. S. Geological Quadrangles being transmitted with these sheets.

The former surveys in this area are shown on Sheets Registry Nos. 1231, surveyed in 1871, and 1432 b, surveyed in 1876. A comparison with these surveys shows excellent agreement in the delineation of the high water line with but one exception. This change is south of the Hermosa Beach pier where the former survey shows a broad sand spit extending about 200 meters offshore from the present high water line.

The small lines extending offshore from the high water line are sheet piling groins intended to retard beach erosion.

Applied to Chit. 3144 - Feb., 1935
The small blue circles on this sheet mark street intersections located along the beach traverse. The names of the streets are also shown in blue. The small black circles and names refer to oil derricks and their names in the Playa del Rey oil field. These are occasional locations and do not represent all of the oil derricks. A map may be procured from the California State Mining Bureau showing the location of these by name.

The low water line in Ballona Lagoon is not a true but only an approximate topographic representation. The topographic party was not in the locality at low tide.

Since the date of the survey, work was started on the Santa Monica Breakwater. The light on the dolphin west of the Santa Monica Pier marks a part of the breakwater.

No attempt was made to locate the many buildings and amusement devices on the Venice and Ocean Park Piers. The building on the Santa Monica Pier is the largest and is very prominent. The small pier about 1100 meters southeast of the Venice Pier is the private property of F. A. Way.

The original survey in this area is contained on Sheets Registry Nos. 1432 b, surveyed in 1876 and 1427, also surveyed in 1876. There is one sheet of revision survey in 1887 on Sheet Registry No. 1791. From a comparison of these sheets, the beach in the sand area has built up an average of 60 meters from the entrance
SHED D (cont)

to Ballona lagoon, where the beach extends about 100 meters further off shore to Santa Monica Canyon. The present tendency is toward erosion as evidenced by the number of sheet pile groins to retard the process. The high water line south of the entrance of Ballona Lagoon shows very little change. The wire fences shown in this area extend across high water and are to fence in private beaches.

Applied to Ch. 5144 - Feb, 1935

K. OR
The road along the beach on this sheet is the main coast highway to San Francisco. This road was located accurately from the beach traverse, locating all beginnings and ends of curves and on large curves a distance was determined to the center. 450 meters east of Castle Rock (O Pin) there is an archway over the road connecting to the Castellammare Inn. During the period of the survey there was extensive road widening operations. In most places this was done by cutting the bluff back and dumping the excess dirt over the high water line. This tends to make a temporary high water line which is subject to change. This is particularly true of the small point about 400 meters west of Castle Rock. The bluff as rodded and shown on this sheet represents the bluff after grading operations were completed. The four groins in the vicinity of O Low are made of heavy planks placed against railroad rails driven into the ground. The two longest groins are quite prominent and high, being bare about 10 or 12 feet at high water. The other groins shown on the sheet are low and constructed of sheet piling.

The previous sheets in this area are Sheets Registry Nos. 1432, surveyed in 1877, and 1427, surveyed in 1876. A comparison with the latter sheets shows excellent agreement between the two surveys considering the changes caused by groins etc. There is a slight difference in the location of the two groups of rocks near Palisades 2 R. M.

It was impossible to get an agreement between the delineation of the high water line on Sheet Registry No. 1432 and the present
survey. By making the triangulation on the two sheets coincide the 1927 datum fits very well and the rounded point under Δ Topanga 1927 agrees but the point under Δ Big Rock is displaced about 150 meters west and the small rounded point in the vicinity of O Pale is likewise displaced with the high water line on the previous sheet cutting back into the bluffs to the east of the point. The points west of here agree very well. There is an apparent discrepancy in traverse and delineation of the shore line on the old survey. Some of the error west of O Cyl might be due to erosion. Most of the offlying rocks were verified and a few additional rocks were charted. The four located rocks lying between O Pale and Δ Big Rock 1927 and one lying off the rock ledges south of O Pale are the most important additions. The amount these rocks are bare at m.l.l.w. was obtained by field observations and reduced to staff at Al Segundo.
The road shown on this sheet is a continuation of the main coast highway. The location is from rod shots along the beach traverse westward to Point, and from here to the western limit the road was located by three point fixes. The scattered elevations are from intersections and vertical angles taken along the traverse and are reduced to the high water line for vertical datum. Malibu Lagoon is fresh water as are the marshes around it. The fences are shown in the vicinity of Malibu Point because space permitted. There are fences on both sides of all roads and many other fences dividing cattle pasture areas. The foot bridge north of the main highway bridge is an abandoned trestle of the railroad that at one time ran from the pier in Keller’s Shelter westward to Ventura. There is another trestle across a canyon just north of Point. This structure does not span the gap as the eastern end has been demolished. This trestle is the one referred to in the Coast Pilot and is shown dotted. There are four water tanks, shown by small black circles, shown on the sheet.

The former surveys in the area of this sheet are shown on Sheets Registry Nos. 1432 a, surveyed in 1877, and 703, surveyed in 1857. A comparison with Sheet 1432 a shows very good agreement in the vicinity of Malibu Point. A group of rocks are shown where the present survey shows a line of breakers. No rocks were seen in the locality. The remainder of the sheet is in fair agreement with the old work with the exception of the point southwest of Point 1927. This point on the sheet agrees very well but the high water
line on the old sheet is charted some 25 meters inshore and over the present line of bluffs. All of the rocks were verified with slightly different locations.

The data on the rocks in this area are reduced from field observation and are reduced to M.L.L.W. on the staff at El Segundo.
The entire area of this sheet is covered by a survey of 1857 on Sheet Registry No. 703. A comparison made with that sheet shows excellent agreement in all detail. There is a slight variation in the location of the high water line along the sand beach northwest of Point Dume but this is probably due to erosion in some places and accretion in others. There is a good agreement on all of the points. Most of the offlying rocks were verified and some additional ones located. Four of these are located offshore from O On and another is south of O Bot.

The road on this sheet is a continuation of the main coast highway. It was located from the beach traverse where possible and in those places where the road was not visible from the beach fixes were made to locate the same. The lagoon at the mouth of Zuma Canyon is fresh water. There is an abandoned railway trestle part way across the lagoon.

The reef just south of O Poi is an area of bed rock. This reef is shown as a rock ledge while the rest of the rocks are shown by symbol as they are only heads. The inshore limit of the kelp shown on the sheet was sketched when the beach traverse was run. The several scattered elevations are the tops and spurs and the vertical datum is H.W.L.
A comparison with Sheet Registry No. 702, surveyed in 1857, shows very little change in the high water line. The slight changes that were noted are in the vicinity of groins and in localities where cuts were made to construct the coast highway. There are several retaining walls along the high water line. These are noted in pencil.

The party under C. K. Green, working from Santa Barbara, found it necessary to locate a Shale to end the beach traverse. That party surveyed the high water line but failed to locate signals for hydrography. Signal Pod, perhaps with a different name, is common to this sheet and the sheet on the eastern limit of the above party.

The area of rocks and breakers just south of O Sla is believed to be a faithful representation. The westernmost breaker was never seen and showed only as a large break. These cuts were taken to this break with but a fair intersection.

The lines of equal elevation on this sheet should be classed as approximate contours. The elevations were obtained by three point fixes made on the tops of the ridges. The contours on Sheet Registry No. 702 with corrections were fitted to these elevations. The road up Little Sycamore Canyon was located by a skip set-up, magnetic traverse with a tie-in to the chimney on the house near the end of the road (elev. 1282). The road in Big Sycamore Canyon was also located by a skip set-up magnetic
traverse but with no tie-in. The county line monuments, shown by
small black circles, were located by stadia. The main coast highway
was located by rod shots along the beach traverse.
LANDMARKS:

See the descriptive reports for Hydrographic Sheets Field Nos. 11 to 18-1933 inclusive for a list of landmarks for charts. (Duplicate attached to H-5390) H-5363

INKING:

Most of the sheets were inked in the office by D. L. Ackland, civilian draftsman. Some inking was done by A. J. Vollmar also a civilian draftsman. The shore line on two of the sheets, F and H were inked by the topographer. Due to other field work being in progress, adequate supervision was not possible at all times. After inking, the sheets were reviewed and carefully checked to see that none of the detail was missed by the draftsman.

John C. Mathisson,
Jr. H. & G. Angr., C. & G. Survey,
Topographer.

Respectfully forwarded;
Robert W. Knox,
H. & G. E., Chief of Party.
**STATISTICS**

<table>
<thead>
<tr>
<th>SHEET A</th>
<th>Point Fermin to Point Vicente</th>
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<tr>
<td></td>
<td>Stat. mi. of shore line 8.64</td>
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<th>SHEET B</th>
<th>Point Vicente to Redondo Beach</th>
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<td>Stat. mi. of shore line 10.32</td>
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<th>SHEET C</th>
<th>Redondo Beach to Del Ray</th>
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<td>Stat. mi. of shore line 7.44</td>
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<th>SHEET D</th>
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<td>&quot; of road 3.24</td>
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<th>SHEET E</th>
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<td>Stat. mi. of shore line 8.48</td>
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<td>&quot; of roads 9.01</td>
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<th>SHEET F</th>
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<td>&quot; of roads 11.68</td>
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<th>SHEET H</th>
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<td></td>
<td>&quot; of roads 8.84</td>
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<td>Area, sq. stat. mi. 7.0</td>
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VARIIFICATION REPORT

I have reviewed the sheets covered by this report and have supervised the field and office work on said sheets insofar as it was possible without interference with the progress of the field work.

These sheets are hereby approved.

Robert W. Knox,
M. & G. E., Chief of Party.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter A.1933

REGISTER NO. 4825

State... California

General locality... San Pedro Channel

Locality... Point Fermin to Point Vicente

Scale... 1:10,000 Date of survey... March 23 - 51, 1933

Vessel... Launch and shore party, California

Chief of Party... Robert W. Knox

Surveyed by... John G. Mathieson

Inked by... D. L. Ackland

Heights in feet above ground to tops of trees

Contour... Approximate contour Form line interval... feet

Instructions dated... April 14, Feb. 17, 1933

Remarks...
The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter ...B 1923...

REGISTER NO. 4826

State........................................... California

General locality...Santa Monica Bay

Locality......Point Vincente to Redondo Beach

Scale...1:10,000...... Date of survey...April 3 to 10, 1933

Vessel.......Launch and shore party, California

Chief of Party......Robert W. Knox

Surveyed by......John C. Mathison

Inked by......A. J. Vollmar

Heights in feet above........to ground to tops of trees

Contour Approximate contour Form line interval........feet

Instructions dated........April 14 Feb. 17, 1933

Remarks:......One Quadrangle (Torrance) Los Angeles County. Filed

with T. 4826.

U. S. COAST & GEODETIC LIBRARY AND AID

LAPR. 20 1934

REG. NO.
The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter C. 1933

REGISTER NO. 4827a

State California

General locality Santa Monica Bay

Locality Redondo Beach to Del Rey Playa del Rey

Scale 1:10,000 Date of survey Feb. & April 10-14, 1933

Vessel Launch and shore party, California

Chief of Party Robert W. Knox

Surveyed by W. R. Malcolm and John C. Mathieson

Inked by A. J. Lellmer, D. L. Ackland and J. C. M

Heights in feet above to ground to tops of trees

Contour Approximate contour Form line interval feet

Instructions dated April 14, Feb. 17, 1933

Remarks This Title Sheet covers two sheets of the same area.

See Descriptive Report for details.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter ... D. 1933...

REGISTER NO. 4828

State.................................................. California

General locality... Santa Monica Bay

Locality........... Vicinity of Santa Monica

Scale.... 1:10,000 Date of survey April 18 to 28, 1933

Vessel...... Launch and shore party, California

Chief of Party.... Robert W. Knox

Surveyed by...... John C. Mathisson

Inked by........ D. L. Ackland

Heights in feet above ........ to ground to tops of trees

Contour Approximate contour Form line interval........ feet

Instructions dated...... April 14, FEB. 17, 1933

Remarks:................................................................

U. S. GOVERNMENT PRINTING OFFICE: 1933
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter 8.1933

REGISTER NO. 4829

State.............................. California

General locality............. Santa Monica Bay

Locality...................... Pacific Palisades to Malibu Beach

Scale..1:10,000........ Date of survey April 21 to May 5, 1933

Vessel........... Launch and shore party, California

Chief of Party................. Robert W. Knox

Surveyed by................. John C. Mathisson

Inked by....................... D. L. Ackland

Heights in feet above M. H. W. to ground taxoplex

Contour Approximate contour Form line interval feet

Instructions dated............. April 14, Feb. 17, 1933

Remarks:...........................................

U. S. DEPARTMENT OF COMMERCE 1933
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Field Letter F.1933

REGISTER NO. 4830

State California

General locality Santa Monica Bay

Locality Malibu Beach to Point Dume

Scale 1:10,000 Date of survey May 5 to 12, 1933

Vessel Launch and shore party California

Chief of Party Robert W. Knox

Surveyed by John C. Mathisson

Inked by J. G. M.

Heights in feet above M.E.W. to ground 2323.85

Contour Approximate contour Form line interval feet

Instructions dated April 14, Feb. 17, 1933

Remarks: 
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter G 1933

REGISTER NO. 4831

State California

General locality Santa Monica Bay

Locality Point Dume to Sepulveda Creek ARROYO SEQUIT

Scale 1:10,000 Date of survey May 15 to 19, 1933

Vessel Launch and shore party, California

Chief of Party Robert W. Knox

Surveyed by John C. Mathisson

Inked by D. L. Ackland

Heights in feet above M. H. W. to ground

Contour Approximate contour Form line interval feet

Instructions dated April 17 Feb. 17, 1933

Remarks

F. W. Smitherman (Signed) April 1933
The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter H 1933

REGISTER NO. 4832

State California

General locality Santa Monica Bay

Arrival Sequit

Locality Sespe Creek to Big Sycamore Canyon

Scale 1:10,000 Date of survey April 21 - June 14, 1935

Vessel Launch and shore party, California

Chief of Party Robert W. Knox

Surveyed by John C. Mathisson

Inked by J. C. M.

Heights in feet above M. H. U. to ground

CONTOUR Approximate contour interval 50 feet

Instructions dated Feb. 17 April 14, 1933

Remarks
### Geographic Names

**Survey No.**: T-4826

**Chart No.**: 5202

**Diagram No.**: 5202-2

**Date**: April 25, 1935

**California**

Approved by the Division of Geographic Names, Department of Interior. *

Referred to the Division of Geographic Names, Department of Interior. R

Under investigation. Q

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GEOGRAPHIC NAMES

Date: April 23, 1936

California

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GEOGRAPHIC NAMES

Date: April 23, 1935

California

Approved by the Division of Geographic Names, Department of Interior. *

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GEOGRAPHIC NAMES

Date: April 20, 1935

California

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Under investigation. Q

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GEOGRAPHIC NAMES

Date: April 19, 1935

California

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### GEOGRAPHIC NAMES

**Date:** April 3, 1935

**California**

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Under investigation. Q

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GEOGRAPHIC NAMES

Approved by the Division of Geographic Names, Department of Interior. X
Referred to the Division of Geographic Names, Department of Interior. R
Under investigation. Q

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<tr>
<th>Status</th>
<th>Name on Survey</th>
<th>Name on Chart</th>
<th>New Names in local use</th>
<th>Names assigned by Field</th>
<th>Location</th>
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<td>Deer Canyon</td>
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<td>Little Sycamore Canyon</td>
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Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 4825 (1933)

Point Fermin to Point Vicente, San Pedro Channel, California
Surveyed March, 1933
Instructions dated: February 17, 1933 (KNOX)

Plane Table Survey  Cloth Mounted

Chief of Party - R. W. Knox.
Surveyed by - J. C. Mathisson.


The records conform to the requirements of the Topographic Manual, with the following exceptions:

a. Scaled one-half meter distances were not laid off for distortion checking.

b. Recovered triangulation stations are shown by a triangle enclosed in a circle. The manual requirement is that triangles alone be used.

c. Descriptions of Recoverable Topographic Stations, Form 524, were not furnished.

d. Pencil notes regarding rocks awash have been reduced to MLLW by the Tide Division and are now so shown on the sheet.

2. Compliance with Instructions for the Project.

The survey complies with the instructions for the project, except that there is no evidence of any effort made to check or tie into the form lines of the prior survey.

3. Junction with Contemporary Surveys.

The junctions with T-4826 (1933) on the west and with T-5034, an air-photo sheet on the west are satisfactory.


a. T-1153 (1870).

A comparison of this survey with the present survey shows a good general agreement in the high water line. The chief discrepancy is in the cove west of Portuguese Point where the high water line is now about 35 meters outside of its former position. The Descriptive Report states that the discrepancy is probably not due to any changes in shoreline. Three breakers which were not located on the former survey are shown on the present survey. A rock in lat. 33°42.8', long. 119°19.0' is not shown on the present survey and is not carried forward. [See Review H-5485 (1933)].
5. **Field Drafting.**

   The field inking of the survey is satisfactory.

6. **Additional Field Work Recommended.**

   No additional field work is required.

7. **Superseding Old Surveys.**

   Insofar as the topography actually included on the present survey is concerned, it supersedes the following survey for charting purposes:

   T-1153 (1870) in part.


Examined and approved:

C. K. Green, Chief, Section of Field Records.

L.O. Robart, Chief, Division of Charts.

Acting Chief, Division of H. & T.

Chief, Section of Field Work.
Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY T-4826 (1933)

Santa Monica Bay, California
Surveyed - April 1933
Instructions dated February 17, 1933


The records are complete except that Form 524, Description of Recoverable Topographic Stations, was not furnished. Form 567 was furnished with the Hydrographic Descriptive Report.

The provision of topographic manual requiring the laying off of 1/2 meter distances along the edges of sheet for distortion measurement, was not complied with. Also it does not appear that any attempt was made to check the elevations of the previous survey.

Rocks which were noted in pencil with time and amount bare, were reduced to M. L. L. W. and are now so indicated.

The old recovered triangulation stations are encircled in red. This is not required by the regulations of topographic manual.

2. Compliance with Instructions for the Project.

The survey complies with Instructions.

3. Junction with Contemporary Surveys.

T-4825 (1933). This junction was made in the field. It is very good.

T-4827b (1933). The survey was not available for comparison and the junction will be checked during the review of that sheet.

4. Comparison with Former Surveys.

T-1153 (1970). A small portion of the present survey in the vicinity of Pt. Vicente was a part of the old survey. The only discrepancy is that the new survey shows 4 additional rocks awash southwest from Pt. Vicente between the bare rocks.

T-1231 (1971). There is in general a good agreement in the new survey. A few new rocks were charted and they are all mentioned in the Descriptive Report. Some sunken rocks were specifically mentioned as non-existent but the sunken rocks at latitude 33° 46.0', longitude 118°25.4' and the Rock Awash at latitude 33° 45.4', longitude 118°25.0' are being carried forward in red.
T-2127 (1893) and T-3086 (1910) are revision surveys which are partly superseded by the present survey. Within its limits the new survey is to be used for charting purposes.

5. Field Drafting.

The field inking of this survey is satisfactory.

6. Additional Work Recommended.

No additional work is necessary.

7. Superseding Old Surveys.

Within its limits the new survey will replace the following for charting purposes:

T-1153 (1870) in part
T-1251 (1871) " "
T-2127 (1893) " "
T-3086 (1910) " "

8. Note to Compiler.

Attention is called to the tie points in blue, to tie into the Geological Survey map which is attached to this survey.


Examined and approved:

C. K. Green,
Chief, Section of Field Records.

Fred. L. Peacock
Chief, Section of Field Work.

L. O. Robb.
Chief, Division of Charts.

Edward
Chief, Division of H. & T.
REVIEW OF TOPOGRAPHIC SURVEY No. 4827a

Title (Par. 56) Santa Monica Bay, California

Chief of Party Surveyed by W.F. Maines Inked by A.J. Lullman

Ship, Shore Party Instructions dated Feb. 1, 1931 Surveyed in Feb. & April 1933

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.)

2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29.)

4. The amount of vertical control that the Manual specifies for contours-formlines was accomplished. (Par. 18, 19, 20, 21, 22, 23.)

5. The delineation of contours-formlines is satisfactory. (Par. 49, 50.)

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) U.S.G.S. Audubon Sheet forwarded with common points to T43E located.

7. High water line on marshy and mangrove areas is clear and adequate for chart compilation. (Par. 18a, 43, 44.)

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

9. Reefs and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) Reefs Pier at 853S539 from T30N is not shown, nor has it ever been shown on Chart 5208. This pier no longer exists. Sheet T44S7A supersedes previous surveys in this locality.

10. The span, draw and clearance of bridges are shown. (Par. 16c.)

11. Locations and elevations of summits are given. (Par. 19, 51.)

12. The tree line was shown on mountains. (Par. 16g.)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) _
   No points for checking distortion shown_

14. The descriptive report also contains additional information—required—in aero-topography relative to type of photographs, method of compi-
   lation and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling
   of DMs and DPs, 68.) _None submitted_

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) _

17. The magnetic meridian was shown and declination was checked. (Par.
   17, 52.) _No record of declinators having been checked_

18. The geographic datum of the sheet is N.A. 1867 (Adjusted) and the reference station is correctly noted. (Par. 34.) _

19. Junctions with contemporary surveys are adequate. _

20. Geographic names are shown on the sheet and are covered by the Des-
   criptive report. (Par. 64, 66k.) _

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38,
   39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) _

22. No additional surveying is recommended. _

23. The Chief of Party inspected and approved the sheet and the descriptive report after review by.

24. Remarks:

Reviewed in office by _Cheo. R. Burns_ Jr. May 19, 1936

Examined and approved:

_C. W. Green_ Chief, Section of Field Records

_Fred. L. Peacock_ Chief, Section of Field Work

_L. O. Doolittle_ Chief, Division of Charts

_F. Hude_ Chief, Division of Hyd. and Top.
REVIEW OF TOPOGRAPHIC SURVEY No. 46276

Title (Par. 56) Santa Monica Bay Cal.

Chief of Party R.W. Knox Surveyed by J.C. Mathison Inked by J. C. Mathison

Ship Store Part, Instructions dated Feb 17, 1933 Surveyed in Feb & April 1933

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.)

2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29.)

4. The amount of vertical control that the Manual specifies for contour-formlines was accomplished. (Par. 18, 19, 20, 31, 22, 23.)

5. The delineation of contour-formlines is satisfactory. (Par. 49, 66.)

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) U.S.G.S. Quad. Sheet furnished with points common to both surveys marked.

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

9. Reeke and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) Reeke Pk.; U333525 as shown on Sheet T 3086 does not exist and is not shown on Chart 8202. Sheet T 4876 supersedes previous surveys in this locality. The beach south of Hemetra Pier seems to have receded about 200 meters in comparison with T 29.

10. The span, draw and clearance of bridges are shown. (Par. 16g.)

11. Locations and elevations of summits are given. (Par. 10, 51.)

12. The tree line was shown on mountains. (Par. 16g.)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.)
   No points for checking distortion shown.

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) None submitted.

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.)

17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.) No record of checking declination.

18. The geographic datum of the sheet is N.A. 1821 (adjusted) and the reference station is correctly noted. (Par. 34.)

19. Junctions with contemporary surveys are adequate.

20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.)

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 29, 40, 41, 42, 45, 46, 47, 48, 49, 50.)

22. No additional surveying is recommended.

23. The Chief of Party inspected and approved the sheet and the descriptive report after review by...

24. Remarks:


Examined and approved:

[Signatures]

Chief, Section of Field Records
Chief, Division of Charts

Chief, Section of Field Work
Chief, Division of Hyd. and Top.
REVIEW OF TOPOGRAPHIC SURVEY No. 4828

Title (Par. 56) Santa Monica Bay, California

Chief of Party R.W. Knox  Surveyed by J.C. Mathisson Inked by D.L. McCloud

Ship Shore Party  Instructions dated Feb. 17, 1932  Surveyed in April 1933

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.)

2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29.)

4. The amount of vertical control that the Manual specifies for contour formlines was accomplished. (Par. 18, 19, 20, 21, 22, 23.)

5. The delineation of contour formlines is satisfactory. (Par. 49, 50.)

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) U.S.G.S. Quad Sheets were marked and corresponding points marked on T4828.

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.)

see reverse side

10. The span, draw and clearance of bridges are shown. (Par. 16c.)

No clearances shown on several bridges over entrance to Ballona Lagoon.

11. Locations and elevations of summits are given. (Par. 19, 51.)

12. The tree line was shown on mountains. (Par. 16g.)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
Paragraph 9

The shore line appears to have receded south of the Sunset Pier whereas north of this pier it apparently has built up from 60 to 100 meters. This is shown by comparison with T1791, T1432E and T1427. South of the entrance to Ballona Lagoon the shore line apparently has not changed much.

Comparison with Chart 5202 indicates new docks since its issue.
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) No points shown for checking distortion.

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) None Submitted.

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.)

17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.) No indication that declinometer was checked.

18. The geographic datum of the sheet is N.A. 1927 (adjust.) and the reference station is correctly noted. (Par. 34.)

19. Junctions with contemporary surveys are adequate.

20. Geographic names are shown on the sheet and are covered by the descriptive report. (Par. 64, 66k.)

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.)

22. No additional surveying is recommended.

23. The Chief of Party inspected and approved the sheet and the descriptive report after review by

24. Remarks:

Reviewed in office by Chas. R. Abell
May 19, 1936.

Examinined and approved:

E. M. Green
Chief, Section of Field Records

Fred. L. Peacock
Chief, Division of Hyd. and Top.
REVIEW OF TOPOGRAPHIC SURVEY NO. 4829

Title (Par. 56) Pacific Palisades to Malibu Beach, Santa Monica Bay, Cal.

Chief of Party R.W. Knox Surveyed by J.C. Mathisson Inked by D.L. Ackland

Ship Launch and Shore Party Instructions dated Feb. 17, 1933 Surveyed in Apr. 21 to May 5, 1933

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 15, 16.) Except that no points for

distortions were established on the chart.

2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29.)

4. The amount of vertical control that the Manual specifies for -contours-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23.)

But few elevations are shown which are near the inner limit of this survey.

5. The delineation of -contours-formlines- is satisfactory. (Par. 49, 50.) No contours are shown on this survey.

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) None submitted.

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) See back of page.

10. The span, draw and clearance of bridges are shown. (Par. 16c.)

11. Locations and elevations of summits are given. (Par. 19, 51.) See Par. 4 above.

12. The tree line was shown on mountains. (Par. 16d.)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
A number of rocks, numbers and offsets originating with topographic sheet no. 3125 (survey of 1873), 1437a (survey of 1877) and 1437 (survey of 1876) were found to be in conflict with the new survey (T-4837). These have been disposed of in accordance with the principles laid down in the "Principles of Marine Surveying." The most important of these rocks, so declared are the charts which are recorded in the new survey (T-4837).
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.)

14. The descriptive report also contains additional information required in connection with topography relative to type of photographs, method of compilation and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.)

16. A list of landmarks for charts was furnished on Form 587 and plotting checked. (Par. 16d, e, 60.) All the points entered on the charts in this vicinity, were those listed in the sheet.

17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.) The statement regarding declination was made.

18. The geographic datum of the sheet is N.A.1927 Datum and the reference station is correctly noted. (Par. 34.) Datum reference was added in the field.

19. Junctions with contemporary surveys are adequate.

20. Geographic names are shown on the sheet and are covered by the descriptive report. (Par. 64, 65k.) Important names marking the limits of the survey were added in the office.

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.)

22. No additional surveying is recommended.

23. The Chief of Party inspected and approved the sheet and the descriptive report after review by R.W. Knox.

24. Remarks: should note the midlake addition, removed all features topographic survey for charting purposes.

Reviewed in office by Harold Cunningham July 7, 1934

Examined and approved:

C. H. Green
Chief, Section of Field Records

L. D. Rabideau
Chief, Division of Charts

Fred. L. Peacock
Chief, Section of Field Work

Fred. L. Peacock
Chief, Division of Hyd. and Top.
REVIEW OF TOPOGRAPHIC SURVEY No. 4830

Title (Par. 56) Malibu Beach to Point Dume, Cal.

Chief of Party R.W. Knox Surveyed by J.C. Mathisson Inked by J.C. Mathisson

Ship Shore Party Instructions dated Feb 17, 1933 Surveyed in May 1933

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.)

2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29.)

4. The amount of vertical control that the Manual specifies for contours-formlines was accomplished. (Par. 18, 19, 20, 21, 22, 23.)

5. The delineation of contours-formlines is satisfactory. (Par. 49, 56.)

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) U.S.G.S. Quod. Sheets sent in for seasons work.

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) See reverse side

10. The span, draw and clearance of bridges are shown. (Par. 16c.) None shown over navigable waters

11. Locations and elevations of summits are given. (Par. 19, 51.)

12. The tree line was shown on mountains. (Par. 16g.)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
Paragraph 9

T1432a (877)

Comparison of T4830 with T1432a shows in general a good agreement. The H.W. line of the point S.W. of a Latigo on T4830 appears to be made out 25 to 30 meters in excess of that shown on T1432a. This may be due to the construction of the Coastal Highway.

Several Rocks, both submerged and awash, were added to T4830 from T1432a between Long. 118°-42' and Long. 118°-43'1. These rocks were rather unimportant, being close to shore. Other details of the two sheets checked very closely.

T703 (857)

A mass of rocks or boulders appear on T703 N.E. of Pt. Dume. These are within the L.W. line on T4830.

Chart 5202

Several rocks close inshore are shown on this chart as discussed above under T703 and should be removed. T4830 supersedes all previous surveys, T703 and T1432a.
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) No points for checking distortion shown.

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DNs and DPs, 68.) 12 cards submitted.

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) None submitted.

17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.) Checking declinators not noted.

18. The geographic datum of the sheet is N.A. 1927 (Adjusted) and the reference station is correctly noted. (Par. 34.)

19. Junctions with contemporary surveys are adequate.

20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.)

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 29, 40, 41, 42, 45, 46, 47, 48, 49, 50.)

22. No additional surveying is recommended.

23. The Chief of Party inspected and approved the sheet and the descriptive report after review by

24. Remarks:

Reviewed in office by Chas. R. Peacock, Jr. May 26, 1936

Examined and approved:

C. R. Peacock
Chief, Section of Field Work

Fred R. Peacock
Chief, Division of Hydrographic and Topographic Work
Title (Par. 56) \textit{Point Dome to Arroyo Sequit}

Chief of Party \textit{R.W. Knox} Surveyed by \textit{J.C. McEachron} Inked by \textit{D.L. Ackland}

Instructions dated \textbf{Feb. 17, 1933} Surveyed in \textbf{May 13-18, 1933}

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.) Except that no work for detachments established on this survey was completed.

2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29.)

4. The amount of vertical control that the Manual specifies for -contours-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23.) The amount of control was sufficient for this survey. Contours are adequately shown on T-703.

5. The delineation of -contours-formlines- is satisfactory. (Par. 49, 50.)

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) (Correct.)

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 18a, 43, 44.)

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) see back of page.

10. The span, draw and clearance of bridges are shown. (Par. 16c.)

11. Locations and elevations of summits are given. (Par. 19, 51.)

12. The tree line was shown on mountains. (Par. 16g.)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
all works shown on T.703(1857) have been disposed
of in accordance with the principle set forth in Instructions
for revision of Hydrographic surveys."

The chief party’s statement regarding work on old surveys
is general only. Local works had to be carried forward from
T.703 and indicated in red on the new survey.
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.)

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) All the received for this sheet in this vicinity were listed on (Form 524) for this survey. (Receive received 6/26/34-HUM)

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) Duplicate field with R.R. P.R. 5390

17. The magnetic meridian was shown and declination was checked (Par. 17, 32.) No statement regarding deviation was made.

18. The geographic datum of the sheet is N.A. (1927) Datum and the reference station is correctly noted. (Par. 34.)

19. Junctions with contemporary surveys are adequate.

20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.)

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 29, 40, 41, 42, 45, 46, 47, 48, 49, 50.)

22. No additional surveying is recommended.


24. Remarks: The shadows and texture on this survey not the large water line should with indicated additional, improved all sheets. Prepare final report for printing purpose.

Reviewed in office by H. D. Murray June 17, 1934

Examined and approved:

C. N. Green
Chief, Section of Field Records

Fred. R. Peacock
Chief, Section of Field Work

Chief, Division of Charts

Chief, Division of Hyd. and Top.
REVIEW OF TOPOGRAPHIC SURVEY No. 4832

Title (Par. 56) Santa Monica Bay, California

Chief of Party R.W. Knorr Surveyed by J.C. Mathison Inked by J.C. Mathison

Ship — Instructions dated Feb. 17, 1933 Surveyed in April-June 1933
1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16)
   no marks for district were established on this sheet.
   7/31/36
2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29)

4. The amount of vertical control that the Manual specifies for -contours-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23)

5. The delineation of -contours-formlines- is satisfactory. (Par. 49, 50)
   - the Chief Party states that lining of equal elevation on this sheet should be closed as approximated shown.
   7/31/36

6. There is sufficient control on the maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28) 10 USGS Quadrangle Sheets were submitted with suitable notations covering the season's work

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 46a, 43, 44)
   - the H.W. line has been clearly defined showing where the H.W. line and the Sea Wall line are the same in many places.

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41)

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27)
   - on T-702 rocks and small islets were hard to distinguish. Sheet T-4832 should supersede T-702 as T-4832 is much more in detail (see reverse side)

10. The span, draw and clearance of bridges are shown. (Par. 16c)

11. Locations and elevations of summits are given. (Par. 19, 51)

12. The tree line was shown on mountains. (Par. 16g) No tree line indicated at all

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
Sheet T702 apparently generalized the rocks along this coast. Since most of the rocks are inshore and the topographer of T4832 had a copy of T702 with him for comparison, it is unlikely that the topographer of T4832 missed any rocks and so T4832 should supersede T702.

The retaining wall along nearly the entire extent of Sheet T4832 changes the character of the shore line in many places.

Several sunken rocks located hydrographically and shown on Chart 5202 are to be found on HS392 but are not transferred to T4832.
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) No points for checking distortion shown.

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation, and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 37, 67 except scaling of BMs and DPs, 68.) 6 Cards Submitted

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) None submitted

17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.)

18. The geographic datum of the sheet is N.A. 1827 (Adjusted) and the reference station is correctly noted. (Par. 34.)

19. Junctions with contemporary surveys are adequate. The junction with T 4836 was not so good and where differences occurred, Sheet T 4833 was accepted. The junction on the East with T 4831 was satisfactory.

20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.)

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.)

22. No additional surveying is recommended.

23. The Chief of Party inspected and approved the sheet and the descriptive report after review by.

24. Remarks:

Reviewed in office by Charles P. Quirk Jr. May 18, 1936.

Examined and approved:

- T. W. Green
  Chief, Section of Field Records

- Fred L. Peacock
  Chief, Section of Field Work

- L. D. Allard
  Chief, Division of Charts

- F. T. Kende
  Chief, Division of Hyd. and Top.