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Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

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Type of Survey *Hydrographic*

Field No. *5533* Office No. *5534*

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LOCALITY

State *California*

General locality *San Pedro*

Locality *Channel*

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1934

CHIEF OF PARTY

*R. W. Knox*

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LIBRARY & ARCHIVES

DATE .....

H 5532  
H 5533  
H 5534  
D.E.M.  
10-16-98

U. S. COAST & GEODETIC SURV  
LIBRARY AND ARCHIVES  
OCT 22 1934  
Acc. No. \_\_\_\_\_

55501  
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4 Add'l Wk

Form 504  
Ed. June, 1923

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
R. S. Patton *Director*

State: CALIFORNIA

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DESCRIPTIVE REPORT

|              |                        |      |
|--------------|------------------------|------|
| Topographic  | } Sheet No. LB13, LB14 | 5532 |
| Hydrographic |                        | LB15 |

5534

LOCALITY

San Pedro Channel

Newport Beach

to

Sunset Beach

19 34

CHIEF OF PARTY

Robert W. Knox

4 Add'l Wk

& Add'l Wk

55501  
55505  
5332  
5333  
5334

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEETS NOS. LB13, LB14 & LB15

Scale 1:10 000

SOUTHERN CALIFORNIA

VICINITY SAN PEDRO BAY

Instructions dated Feb. 17, 1933

Surveyed by R. W. Knox

AREA, LIMITS, ETC. The area covered by hydrographic sheets Nos. LB13, LB14 and LB15 comprises the inshore waters between Seal Beach and Newport Bay. Junction was made with sheet No. 19 of the 1933 hydrography of this party to the northward and with the work of Lieut. (jg) Sipe of the current season to the southward. The offshore junction on the two northerly sheets is with hydrographic sheet No. LB22, previously submitted. The party of the Steamer Pioneer will effect a junction with the offshore limits of sheet LB15 and a small portion of sheet LB14.

The hydrography of sheet LB15 was carried seaward to such a distance as to cover the area of the large scale chart of Newport Bay, No. 5108. The soundings on this sheet were plotted in feet.

Extensive development and improvements in the harbor and approaches of Newport Bay are contemplated, and work has actually begun on the extension of the north jetty. The spoil to be dredged from Newport Bay will be dumped on the beach - in an effort to widen it - north and west of the breakwater.

During the month of September, 1934, the beach line in the vicinity of Newport Bay suffered a considerable change due to the effect of about two weeks of heavy seas. About a half dozen beach houses toppled into the sea and many more were saved by moving them beyond the reach of the seas. The beach line was re-surveyed by plane table on October 9th, from Newport Bay Breakwater to the vicinity of Huntington Beach where the survey showed no appreciable change had taken place since the area was air-photographed in 1932. The latest shore line detail appears on the hydrographic sheets. The included sketch shows the changes in the shore line during the past 60 years, as recorded by surveys of this Bureau.

The inshore lines of the three sheets were run with an out-board motor driven whale boat and represent as shoal soundings as could be obtained during periods of relatively calm weather and smooth seas without endangering personnel and equipment. In most places the one fathom curve was obtained, and in all but a very few the two fathom curve was developed.

CONTROL. Shore line signals plotted in green ink were obtained from the air-photo topographic sheets of this party. Existing objects, such as chimneys and gables of houses, were identified in the photographs and their location determined by the regular intersection method, a rapid and sufficiently accurate method for the purpose. A total of five inshore sheets which have included numerous signals located by this method have been surveyed by the writer, and no signal has been found in error a sufficient amount to warrant investigation.

The smooth and boat sheets were constructed immediately after the objects were located, so as to best preserve the location of the signals. The overlay sheets upon which the signals were intersected are attached to the smooth sheets.

Signals plotted in red ink are those located by plane table and needed to supplement the air-photo objects. Some were located in 1933, all were checked during the current season.

SURVEY METHODS. Standard survey methods were used. A trolley rig was used for a short time, but found to occasion considerable inconvenience with the party as organized. As there was no saving in time the method was discontinued.

ANCHORAGES AND CHANNELS. There are no anchorages or channels on the area covered by these sheets.

COMPARISON WITH PREVIOUS SURVEYS AND DANGERS. No bromides of previous hydrographic work were furnished the party. However, the soundings on chart No. 5108 were transferred to the boat sheet (LB15) and compared with the current work. But one of the charted soundings seemed to warrant investigation, a 55 foot spot in latitude  $33^{\circ} 35.42'$ , longitude  $117^{\circ} 53.28'$ . No evidence of the shoal could be found.

*From P. 4545 (1926)*  
The group of rocks off Huntington Beach, in latitude  $33^{\circ} 40.2'$ , longitude  $118^{\circ} 01.2' - 01.5'$  was transferred from T 1369 to the boat sheet and an attempt made to prove their existence. The outer breaker line was observed to coincide with the outermost transferred rock, but the breakers decidedly did not have the appearance of being caused by a sunken rock but rather by a shaling sand bottom. The other transferred rocks were well within the breaker line, and the seas broke continuously a distance of at least 100 m offshore from the outer of the two. It is recommended these three rocks be deleted from the charts.

A sunken rock with 3 feet at MLLW was located in the above general vicinity, in latitude  $33^{\circ} 40' 53.0m$ , longitude  $118^{\circ} 01' 12.0m$ . The rock is marked by submerged marine growth and was not breaking at the time the limits of the breakers - mentioned in the above paragraph - were observed.

On sheet LB14 there is a  $3 \frac{1}{6}$  fathom spot about 600m off the mouth of the Santa Ana River in latitude  $33^{\circ} 37' 9.0m$ , longitude  $117^{\circ} 57' 9.1m$ . Another spot, about 260m southwest of the former was

See  
Reviews  
Par. 7.  
H 5532

H 5532

H 5533

also investigated. The latter was determined to be a large sewer outlet, and the former was thought to be a man-made obstruction, as there was also evidence of the escape of sewage in that vicinity. ✓

A group of sunken rocks is located in latitude  $33^{\circ} 37.0'$ , longitude  $117^{\circ} 56.2'$ . These rocks are marked by submerged marine growth. #5533

A detailed search was made for the reported sunken rock near Huntington Beach in latitude  $33^{\circ} 38' 10''$ , longitude  $117^{\circ} 58' 45''$ . No evidence of a shoal could be found. The original report of this rock was made by the master of a gas boat, in 1899, and his method of location & other than distances referred to the shore - was by compass bearings to Santa Catalina Island and Point Fermin. The distances to these objects are about 26 and 16 miles respectively, and an error of a quarter point in taking a bearing - an exceedingly small error for a gas boat - would displace his rock about 1.3 miles in one case and 0.8 miles in the other. From the report, therefore, the location is extremely approximate, and the rock might be anywhere along the coast within a distance of several miles - even as far north as the sunken rock mentioned above, off Huntington Beach. It is recommended it be removed from the charts. see par. 7a of review of H5533 JGL

**SUBMARINE VALLEY.** A submarine valley extends from the end of the Newport Pier in latitude  $33^{\circ} 36.4'$ , longitude  $117^{\circ} 55.8'$ , seaward in a southerly direction. A considerable number of green mud specimens were obtained in the bottom of the valley, whereas the ocean bottom is uniformly fine gray sand. A like condition has been found in other submarine valleys surveyed by this party. The Commanding Officer of the Steamer Pioneer has offered to run sounding lines parallel to the axis of the valley when that vessel sounds the deeper portion of the valley. H5533 ✓

**BOTTOM.** Except as noted above, bottoms were mostly fine gray sand. ✓

**DISCREPANCIES.** No discrepancies were noted during the progress of the work, nor during the smooth plotting.

Respectfully submitted:

*Robert W. Knox*  
Robert W. Knox,  
H. & G. Eng'r.

STATISTICS

Sheet LB13

| Date 1934 | Day | Statute Mi Sgd Line | No Sdgs | No Pos | Vol No | Boat      |
|-----------|-----|---------------------|---------|--------|--------|-----------|
| Aug 6     | a   | 20.4                | 479     | 83     | 1      | Romance   |
| 7         | b   | 6.9                 | 113     | 28     | 1      |           |
| 8         | c   | 6.7                 | 130     | 27     | 1      |           |
| 10        | d   | 13.1                | 269     | 59     | 1      |           |
| 13        | e   | 22.2                | 426     | 88     | 1      |           |
| 14        | f   | 22.7                | 408     | 93     | 2      |           |
| 15        | g   | 7.0                 | 109     | 23     | 2      |           |
| 29        | h   | 7.0                 | 121     | 21     | 2      |           |
| 30        | j   | 7.0                 | 153     | 27     | 2      |           |
| Sept 5    | k   | 13.0                | 229     | 48     | 2      |           |
| 12        | l   | 6.9                 | 113     | 18     | 3      |           |
| 19        | m   | 7.1                 | 191     | 35     | 3      | Whaleboat |
| 20        | n   | 7.8                 | 183     | 35     | 3      | do        |
| 21        | p   | 9.6                 | 192     | 38     | 3      | Romance   |
| 24        | q   | 9.1                 | 194     | 42     | 3      |           |
| Totals    |     | 166.5               | 3310    | 665    |        |           |

Sheet LB14

|        |   |       |      |     |   |                  |
|--------|---|-------|------|-----|---|------------------|
| Aug 6  | a | 13.0  | 211  | 70  | 1 | Romance          |
| 7      | b | 24.4  | 416  | 108 | 1 |                  |
| 8      | c | 22.5  | 328  | 116 | 1 |                  |
| 9      | d | 9.5   | 173  | 53  | 1 |                  |
| 10     | e | 5.9   | 118  | 29  | 2 |                  |
| 13     | f | 15.8  | 261  | 80  | 2 |                  |
| 15     | g | 4.2   | 55   | 19  | 2 |                  |
| 16     | h | 20.4  | 295  | 83  | 2 |                  |
| 29     | j | 8.1   | 154  | 35  | 2 |                  |
| 30     | k | 3.7   | 66   | 12  | 2 |                  |
| Sept 5 | l | 4.6   | 64   | 17  | 2 |                  |
| 12     | m | 6.8   | 117  | 23  | 2 |                  |
| 19     | n | 19.3  | 444  | 94  | 3 | Whaleboat & Rnce |
| 20     | p | 4.9   | 95   | 19  | 3 | Romance          |
| 21     | q | 17.8  | 370  | 88  | 3 |                  |
| 24     | r | 7.3   | 171  | 44  | 3 |                  |
|        |   | 188.2 | 3338 | 890 |   |                  |

Sheet LB15

|         |   |      |      |     |   |           |
|---------|---|------|------|-----|---|-----------|
| Aug 7   | a | 3.4  | 61   | 24  | 1 | Romance   |
| 9       | b | 21.7 | 403  | 132 | 1 |           |
| 10      | c | 3.4  | 52   | 27  | 1 |           |
| 15      | d | 2.8  | 60   | 11  | 1 |           |
| 16      | e | 2.8  | 73   | 14  | 1 |           |
| 30      | f | 5.6  | 69   | 36  | 1 |           |
| Sept 12 | g | 12.2 | 140  | 73  | 1 |           |
| 19      | h | 4.3  | 85   | 16  | 2 | Whaleboat |
| 20      | j | 3.9  | 112  | 26  | 2 | do        |
| 21      | k | 6.2  | 127  | 32  | 2 | Romance   |
| Totals  |   | 66.3 | 1182 | 391 |   |           |

APPROVAL OF CHIEF OF PARTY

Hydrographic sheets numbers LB13, LB14 and LB15 and accompanying records have been inspected and approved by me. The field work was done under my immediate supervision, the office under my occasional supervision.

No additional work is considered necessary.



Robert W. Knox,  
H. & G. Eng'r,  
Chief of Party.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

OCT 22 1934

REG. NO.

5532

HYDROGRAPHIC TITLE SHEET

Acc. No. \_\_\_\_\_

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

Field No. LB13 5532

REGISTER NO.

State California

General locality San Pedro Channel

Locality Huntington Beach to Sunset Beach *Large*

Scale 1:10,000 Date of survey Aug 6 to Sept 24, 1934

Vessel chartered launch Romance

Chief of Party Robert W. Knox

Surveyed by R W K

Protracted by D. V. Radcliffe

Soundings penciled by D. V. R.

Soundings in fathoms feet

Plane of reference mean lower low water

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by M. Silverberg

Verified by [Signature]

Instructions dated February 17, 1933, 19\_\_\_\_

Remarks: \_\_\_\_\_



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY  
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Acc. No.

HYDROGRAPHIC TITLE SHEET

5533

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

Field No. LB14

REGISTER NO. **5533**

State California

General locality San Pedro Channel

Locality Newport Beach to Huntington Beach *Large*

Scale 1:10 000 Date of survey Aug 6 - Sept 24, 1934

Vessel chartered launch Romance

Chief of Party Robert W. Knox

Surveyed by R. W. K.

Protracted by D. V. Radcliffe

Soundings penciled by A. J. Vollmar

Soundings in fathoms ~~feet~~

Plane of reference mean lower low water

Subdivision of wire dragged areas by

Inked by *James M. M. Sweeney*

Verified by *James M. M. Sweeney*

Instructions dated February 17, 1933, 19

Remarks:

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY  
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OCT 22 1934  
Acc. No. \_\_\_\_\_

REG. NO. 5534

HYDROGRAPHIC TITLE SHEET

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

Field No. LB15

REGISTER NO. 5534

State California

General locality San Pedro Channel *Small*

Locality Newport Beach *Large*

Scale 1:10 000 Date of survey Aug 7 - Sept 21, 1934

Vessel chartered launch Romance

Chief of Party Robert W. Knox

Surveyed by R W K

Protracted by D. V. Radcliffe

Soundings penciled by R W K

Soundings in fathoms feet

Plane of reference mean lower low water

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by R. W. Knox

Verified by J. H. S.

Instructions dated February 14, 1933, 19 \_\_\_\_\_

Remarks: 17

*Mr. Ellis*

*LAC*

November 7, 1934.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
3 volumes of sounding records for

HYDROGRAPHIC SHEET 5532

Locality ~~Huntington~~ Huntington Beach to Sunset Beach, Coast of Southern California

Chief of Party: Robt. W. Knox in 1934  
Plane of reference is mean lower low water, reading  
0.0 ft. on tide staff at Pier "A", Balboa  
7.0 ft. below B.M. 1

Height of mean higher high water above plane of  
reference is 5.2 feet.

Condition of records satisfactory except as noted below:

*Stammann*  
Acting Chief, Division of Tides and Currents.

Mr. Ellis

RAC

November 8, 1954

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5534

Locality Newport Beach, Coast of Southern California

Chief of Party: Robt. W. Knox in 1954

Plane of reference is mean lower low water reading

0.0 ft. on tide staff at Pier "A" Balboa

7.0 ft. below B.M. 1

3.6 ft. on tide staff at Los Angeles Harbor, Berth 60

14.0 ft. below B.M. 8

Height of mean higher high water above plane of reference is 5.2 ft.

at Pier "A" Balboa and 5.4 ft. at Los Angeles Harbor, Berth 60.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

Mr. Ellis

LAC

November 8, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
3 volumes of sounding records for

HYDROGRAPHIC SHEET 5533

Locality Newport Beach to Huntington Beach, Coast of Southern California

Chief of Party: Robt. W. Knox in 1934  
Plane of reference is mean lower low water reading  
0.0 ft. on tide staff at Pier "A" Balboa  
7.0 ft. below B.M. 1

3.6 ft. on tide staff at Los Angeles Harbor, Berth 60  
14.0 ft. below B.M. 8

Height of mean higher high water above plane of reference is 5.2 ft. at  
Pier "A" Balboa and 5.4 ft. at Los Angeles Harbor, Berth 60

Condition of records satisfactory except as noted below:

*Hammer*

Acting Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5532

The following statistics will be submitted with the cartographer's report on the sheet:

|  |      |
|--|------|
| Number of positions on sheet                         | 665  |
| Number of positions checked                          | 35   |
| Number of positions revised                          | 4    |
| Number of soundings recorded                         | 3310 |
| Number of soundings revised                          | 28   |
| Number of signals erroneously plotted or transferred | 0    |

Date:..... Nov. 16, 1934 .....

Cartographer:..... *Morton Silverberg* .....

Verification of pretracting  
Verification of inking of rocks and shoals

*M. Silverberg*

Time: 1 1/2 hrs.

Verification of inking by

*M. Silverberg*

Time: 31 hrs

Review by

Time:

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5533

The following statistics will be submitted with the  
cartographer's report on the sheet:

|   |      | <i>as'd Work</i> |
|---|------|------------------|
| Number of positions on sheet                            | 890  | 36               |
| Number of positions checked                             | 61   |                  |
| Number of positions revised                             | 1    |                  |
| Number of soundings recorded                            | 3338 | 248              |
| Number of soundings revised                             | 448  |                  |
| Number of signals erroneously<br>plotted or transferred | 0    |                  |

Date: *Nov. 22 1934*

Cartographer: *James M. McQueen*

Verification of *protracting*  
Verification & inking of *rocks and shoals* by *J.M. McQueen*

and  
Verification of inking by *J.M. McQueen*

Review by *John G. Ladd*

*and investigation of  
control from T-4668*

Time: 16 hrs  
Time: 30 hrs.  
Time: 20 "

Additional work *protracted and verified*  
by *J.A. Mc Cormick*  
*Aug. 20, 1935*  
*Time 7 hrs.*

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5534

The following statistics will be submitted with the cartographer's report on the sheet:

|  |         |
|--|---------|
| Number of positions on sheet                         | ...39!  |
| Number of positions checked                          | ....68  |
| Number of positions revised                          | .....7  |
| Number of soundings recorded                         | ...1162 |
| Number of soundings revised                          | ....84  |
| Number of signals erroneously plotted or transferred | .....3  |

Date:..... Nov. 20, 1934 .....

Cartographer:..... J. W. Day .....

Verification of protecting  
Verification & inking of rocks and shoals } by J.W. Day

Verification of inking by

Review by and investigation of control *H. H. Shaw*

Time: 20.5 hrs.

Time:

Time: 34.3





VERIFICATION REPORT OF H-5533.

1. The soundings recorded were neat and legible and conformed to the general instructions given in the Hydrographic Manual.
2. The three, five, ten, twenty, fifty and one hundred fathom curves could be completely drawn but the "one" and "two" fathoms were broken in places due to lack of soundings close to shore.
3. Field plotting was very complete with few mistakes or omissions. Four soundings were revised. Position numbers were placed a little far from the positions. All ten fathom soundings had to be corrected to include quarter fathoms due to an order issued subsequent to the field plotting.
4. The sheet was compared with the boat sheet and checked very closely. A number of positions were reprojected and found ~~to~~ <sup>be</sup> correct.

Position 35r. Vol. 3 page 58, lat.  $33^{\circ}37.5'$ , long.  $117^{\circ}57.5'$ , plotted out of position using the  $\triangle$  given, however by using  $\triangle$  SHAK instead of  $\triangle$  NUOIL the position agreed with the boat sheet.

444 soundings between 1n and 94n, Vol. 3, pages 3 to 24, had to be changed due to a revision by the office of the tide reductions.

Position 1h, Vol. 2, page 31, lat.  $33^{\circ}35.8'$ , long.  $117^{\circ}55.6'$ , states course changed because of fish line but did not state whether fish line was permanent and did not show on boat sheet.

Position 7e, Vol. 2, page 4, lat.  $33^{\circ}36.1'$ , long.  $117^{\circ}56.2'$ , states, "Bends Rt. around Fish buoy," but buoy was not shown on boat sheet.

5. Sheet H-5532 which joined the west side of the sheet made a satisfactory overlap.

Sheet H-5524 which joined the south side of the sheet made a satisfactory overlap.

Sheet H-5534 which joined the east side of the sheet made a satisfactory overlap.

6. No crossings were made on the sheet.

Respectfully submitted,

*James M. M. Green*

Additional work done in 1935 by Ship Pioneer  
projected and verified on this sheet. Curves  
corrected on this sheet and H-5534 to fit  
new work.  
Aug. 20, 1935. *James M. M. Green*

Nov. 23, 1934

To: Mr. Bacon  
From L. S. S.

GEOGRAPHIC NAMES  
CALIFORNIA

Date November 1, 1934

Survey No. H5533

Chart No. 5102

Diagram No. 5102-3

*Names underlined in red approved Nov 2, 1934*

*L. S. Bacon*

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

φ Not Approved by the Division of Geographic Names, Department of Interior.

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

| Status | Name on Survey         | Name on Chart             | New Names in local use | Names assigned by Field | Location |
|--------|------------------------|---------------------------|------------------------|-------------------------|----------|
|        | <u>-----</u>           | <u>Huntington Beach</u> ✓ | -----                  | -----                   |          |
|        | <u>-----</u>           | <u>Newport Beach</u> ✓    | -----                  | -----                   |          |
|        | <u>Santa Ana River</u> | Same                      | -----                  | -----                   |          |
|        | <u>Newport Bay</u>     | Same                      | -----                  | -----                   |          |
|        |                        |                           |                        |                         |          |
|        |                        |                           |                        |                         |          |
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|        |                        |                           |                        |                         |          |
|        |                        |                           |                        |                         |          |

VERIFICATION REPORT ON H-5532.

1. Conformity to Hydrographic Manual.

The sounding records are neat and legible and conform to the requirements of the Hydrographic Manual.

The statistics recorded on the cover of Vol. 3 were in error and corrected as indicated.

The position numbers were poorly spaced, being much too far from the position points.

No Recoverable Stations (Form 524) nor the Special Chart for the U. S. Lighthouse Service (Circular Nov. 30, 1933) were submitted.

2. Depth Curves.

The one fathom curve was broken due to insufficient soundings. The two, three and five fathom curves are complete as far as the limits of this sheet. The ten fathom curve occurs only in two places due to sheet limitations.

3. Field Plotting.

The field plotting was complete to the extent required for the soundings. The plotting of hydrographic positions was verified carefully. The protracting of approximately five per cent of the positions was checked.

The right angle of 64a (Lat.  $33^{\circ}42.10'$ , Long.  $118^{\circ}05.50'$ ) was off  $1^{\circ}$ .

The time interval between positions 20e and 21e (Lat.  $33^{\circ}38.50'$ , Long.  $118^{\circ}01.10'$ ) was incorrect, there being one sounding too many. Position 40e (Lat.  $33^{\circ}40.50'$ , Long.  $118^{\circ}03.00'$ ) did not agree with the course. Line 26p to 28p (Lat.  $33^{\circ}39.20'$ , Long.  $118^{\circ}01.00'$ ) was entirely omitted.

4. Office Plotting.

The office plotting as done by the verifier consisted of correction of discrepancies as outlined under 3 (Field Plotting). The line 26p to 28p had to be placed on the smooth sheet.

5. Junctions.

The agreement with the overlaps was in general excellent. Junction with H-5533 could not be made since it has not been verified. The one outstanding discrepancy occurs with one fathom row of soundings as obtained from H-5487. The soundings were taken approximately 7 weeks apart and during the time it looks as though the bottom changed. The plotting of each position involved on both sheets was checked carefully and no error could be found. However, from the general conditions it is recommended that the soundings, in question, which were transferred from H-5487, be rejected.

Respectfully submitted,

*Morton Silverberg*

Morton Silverberg.



## Section of Field Records

Report on H-5534                      Surveyed Aug 7 - Sept 21, 1934  
Chief of Party R.W. Knox              Surveyed by R.W. Knox  
Protracted by D. Radcliffe              Soundings plotted, R.W. Knox ✓  
Verified & inked by J.W. Day

The six foot curve was partially drawn. The twelve, eighteen, thirty, sixty, one hundred twenty, and three hundred foot curves were completely drawn ✓ within the limits of the sheet. Fragments of the six hundred foot curve were drawn.

No junctions were made as adjoining work had not been verified.

at approx.  $\phi$   $33^{\circ}-35.7$   $\lambda$   $117^{\circ}-52.8$  positions ~~OK~~ <sup>OK</sup>  
6J and 7J do not correspond to the adjacent work. ✓  
The depths seem too great for the location.

The soundings on the lines 8K-9K and ~~OK~~  
26K-27K do not make a good crossing. Location ✓  
approx  $\phi$   $33^{\circ}-35.8$   $\lambda$   $117^{\circ}-53.8'$

The air photo compilers discovered faulty plotting of the triangulation stations Weather Bureau Tower Newport 1933, Newport Breakwater Lighthouse 1933, ✓ and Lampost Newport Pier (sea) 1933. These stations were replotted from the field computations on to the smooth sheet. The hydrographic positions using these signals were checked and found not to be in appreciable error.

Weather Bureau and Breakwater Lighthouse were in error about 10 metres, Lamport was in error about 19 metres.

The bad crossings mentioned above were reverified as some of the positions involved the corrected triangulation stations. No change toward improvement could be made.

Respectfully submitted,  
J. W. Pay

Nov. 20, 1934

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5532 (1934)

Huntington Beach to Sunset Beach, San Pedro Channel, California.  
Instructions dated Feb. 17, 1933 (R.W. Knox)  
Date of Survey, Aug.-Sept. 1934.

Hand Lead Soundings----- 3-Point Fixes on Shore Objects.

Chief of Party- R.W.Knox  
Surveyed by- R.W.K.  
Protracted and soundings penciled by-D.V.Radcliffe  
Verified and inked by M. Silverberg.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual.

2. Compliance with Instructions for the Project.

The plan, character and extent of development is in accordance with the instructions for the project.

3. Sounding Line Crossings.

No cross lines were run. The soundings on adjacent lines are consistent.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including the major portion of the 1 fathom curve.

5. Junction with Contemporary Surveys.

(a) H-5487 (1933-34)

The sheet joins H-5532 (1934) to the northwest and the junction is satisfactory. The agreement in depth is very good except on the line closest to shore where  $1\frac{1}{2}$  fathom is shown inshore of  $5\frac{1}{6}$  fathom soundings on H-5532. The deeper soundings were taken on July 30, the others on Sept. 19, and it is quite possible that the change was caused by the heavy seas during two weeks of September. (referred to in the "Descriptive Report") Although it is uncertain as to what period of the month it refers to. Both lines are shown on the sheet, but the later work should be used for charting.

(b) H-5533 (1934)

This sheet joins H-5532 (1934) to the southeast. The junction is satisfactory and the agreement in depth is very good.

(c) H-5524 (1934)

This sheet joins H-5532 (1934) to the southwest (offshore). The junction is satisfactory and the agreement in depths on the adjacent lines is very good.



6. Comparison with Prior Surveys.

(a) H-4162 (1920)

This survey covers the area offshore from approximately the 3 fathom curve. The agreement in depth is good and the greater detail of the 5 fathom curve is due mostly to the large scale and closer development of the 1934 survey.

(b) H-1418 (1878)

The general agreement of this survey with the 1934 survey is good. The 3 fathom curve off Bolsa Creek (lat. 33°-41'.4, long. 118°-03') extends a little further seaward than on the new survey which shows irregular bottom in the vicinity. The difference in detail may be due to the larger scale and closer development of the 1934 survey.

(c) H-289 (1851)

This is a reconnaissance survey on small scale. None of the soundings fall within the area of H-5532 (1934).

7. Comparison with Chart No. 5101.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review except the 3 sunken rocks off Huntington Beach. The authority for the rocks is T-1369 (1874). The Descriptive Report states that the positions assigned to these rocks is within the line of breakers but "the breakers decidedly did not have the appearance of being caused by a sunken rock but rather by a shoaling sand bottom" the outermost "break" on T-1369 (1874) is on line with a probable planetable set-up on that sheet and the 3 foot rock located by the 1934 survey. The distance offshore may have been estimated as no intersecting cut on the sheet could be found. The rocks should not be retained as now shown on the chart.

8. Field Plotting.

The protracting was satisfactory except that the position numbers and day letters were placed too far from the positions and one short sounding line (26 to 28 P) was omitted. This was added in the office. Penciling of soundings was satisfactory.

9. Additional Field Work Recommended

The survey is complete and very satisfactory and no additional work is necessary.

10. Superseding Old Surveys.

Within the area covered the present survey supersedes the following surveys for charting purposes:

|               |         |
|---------------|---------|
| H-4162 (1920) | In part |
| H-1418 (1878) | " "     |
| H-289 (1851)  | " "     |

11. Reviewed by R.J.Christman, November 1934.

Inspected by A.L.Shalowitz.

Examined and approved:

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

*F. Borden*  
Chief, Section of Field Work

*L. O. Dolbati*  
Chief, Division of Charts

*G. Wade*  
Chief, Division of H. and T.

*Applied to chart 5143  
Jan 1935 H.C.E.*

*Applied to chart 5148.  
May 22, 1943. L.A.M.*

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY No. 5533 (1934).

Newport Beach to Huntington Beach, San Pedro Channel, California.

Surveyed: August 6 - September 24, 1934

Instructions dated October 31, 1932, (C.K.Green)  
and February 17, 1933 (R.W.Knox )

Hand Lead and Machine Soundings - 3 Point Fixes on Shore Signals.

Chief of Party - R. W. Knox.

Surveyed by - R. W. Knox.

Protracted and soundings penciled by - D. V. Radcliffe and A. J. Vollmar.

Verified and inked by - James M. McQueen.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. The tide reducer for "n" day, Vol. 3, was incorrect. The reductions have been corrected in the office.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project. However it should be noted at this point that the lines of soundings parallel to the axis of the submarine valley as called for in the instructions of 1932 (par. 20) are to be run by the party surveying the offshore portion of this valley (see D.R. page 3 of H-5533 (1934).)

3. Sounding Line Crossings.

No cross lines were run. The parallel adjacent lines are in good agreement.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including portions of the 0, 1 and 2 fathom curves.

5. Junctions with Contemporary Surveys.

Satisfactory junctions are made with H-5532 (1934) on the west, H-5534 (1934) on the east and with H-5524 (1934) on the southwest (offshore).

The junction with the offshore survey on the southeast will be considered in the review of that survey which has not been received from the field.

6. Comparison with Prior Surveys.

a. H-289 (1851).

This survey is a small scale reconnaissance survey of the west coast. It contains no soundings in disagreement with the present survey.

b. H-1786b (1886).

This survey covers the head of the submarine valley off Newport Beach and is in satisfactory agreement with the present survey with the exception of a few soundings on the western edge of the valley that fall on the new survey in somewhat deeper water. However they are not discussed in detail since they are on the edge of a steep bank where a slight displacement would space them in perfect agreement with the new work. Because the present survey is well controlled and because this edge of the valley may have changed since the period of the old survey, H-1786 (1886) should be superseded by H-5533 (1934) for charting purposes. It is noted that the additional work of 1928 shown on H-4545 (1926-8) confirms the soundings of the present survey.

c. H-1256 (1875).

This survey covers a small area on the eastern limits of the present survey and is in general agreement with the exception of the soundings on the line between position 13 and 14a at lat.  $33^{\circ}35'.9$ , long.  $117^{\circ}55'.8$ . A  $10\frac{1}{2}$  fathom sounding on this line falls on a 19 fathom sounding on the present survey. There is a sharp bend in the line at position 13a. An examination of the sounding records for H-1256 (1875) shows no justification for the bend at pos. 13a and that the fix at pos. 14a is very weak. It is considered that the line (13 to 14a) is out of position and the soundings thereon should be disregarded in future charting.

d. H-1418 (1878).

This survey covers the entire area of the present survey and is in good general agreement. Because the present survey is on a larger scale, covers the area more closely and is in greater detail than H-1418 (1878), it should supersede the latter survey.

e. H-4545 (1926-8).

This survey overlaps the present survey along its eastern limits in the vicinity of the submarine valley. The valley is fairly well developed by machine soundings which are in agreement with those of the present survey. When the sounding lines parallel to the axis of the valley, to be run by the Steamer Pioneer, are received a further comparison will be made from the standpoint of combining the work.

f. H-4560 (1926-28).

This is an offshore survey on a scale of 1-120,000 which covers a small part of the present survey. It contains no soundings in disagreement with the present survey.

7. Comparison with Chart No. 5108 and No. 5101.

a. Within the area of the present survey the charts are based on surveys discussed in the foregoing paragraphs with the following exceptions:

(1). The charted sunken rock at lat.  $33^{\circ}38'.35$ , long.  $117^{\circ}58'.75$  originates with chart letter No. 586 (1899). It falls on the new survey in depths of  $3 \frac{5}{6}$  fathoms. The field party made a careful search for this rock but could find no evidence of it (see D.R. page 3). In view of the weakness of the original location of the reported rock, (as explained in D.R. page 3) and the unsuccessful search for it, the field party's recommendation that it be removed from the chart is concurred in.

(2). There are no off shore aids to navigation within the limits of the present survey.

8. Field Plotting.

The field plotting was satisfactory with the following exceptions:

a. In many cases the position numbers are much too far from the positions.

b. Approximately 440 penciled soundings on the smooth sheet had to be corrected due to a change in the tide reductions made by the Div. of Tides after sounding volumes were received in the office.

c. Triangulation stations "Lampost, Newport Pier 1933" was found to be plotted 20 meters in error. It has been corrected in the office.

9. Additional Field Work Recommended.

No additional field work is required.

10. Shoreline.

The shoreline on this survey originates with T-4868 (1933-34) which is the latest shoreline authority for the area. Unfortunately the projection on T-4868 (1933-34) was found upon examination to be very inaccurate. The traverse upon which the shoreline is based is therefore considered to be correspondingly inaccurate. In addition Lieut. Mathisson verbally reports that extensive dredging operations subsequent to T-4868 (1933-34) were undertaken which will undoubtedly affect the shoreline. The shoreline on H-5533 (1934) will be corrected when the compilation of the aerial photographs, which were taken subsequent to the storm of September 1934 but prior to the plane table survey, T-4868 is completed.

Photographs have not been applied to compilation. (See T-5030A for adjusted shoreline). H.W.M. 10/6/36

11. Superseding Old Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:

|        |           |          |
|--------|-----------|----------|
| H-289  | (1851)    | in part. |
| H-1256 | (1875)    | " "      |
| H-1418 | (1878)    | " "      |
| H-1786 | (1886)    | " "      |
| H-4560 | (1926-28) | in part. |

12. Reviewed by John G. Ladd, March 1935.

Inspected by - R. L. Johnston.

Examined and approved:

*K. T. Adams*

K. T. Adams,  
Ass't. Chief, Div. of Charts.

*J. S. Borden*

Chief, Section of Field Work.

*R. D. Albert*

Chief, Division of Charts.

*G. H. de*

Chief, Division of H. & T.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5534 (1934)

Newport Beach, San Pedro Channel, California  
Surveyed Aug.-Sept. 1934  
Instructions dated Feb. 17, 1933 (R.W.Knox)

Hand Lead and Machine Soundings - 3 Point Fixes on Shore Signals.

Chief of Party - R. W. Knox.

Surveyed by - R. W. Knox.

Protracted and soundings plotted by - D. V. Radcliffe and R. W. Knox.

Verified and inked by - J. W. Day.

1. Condition of Records.

The records are neat, legible and conform to the requirements of the Hydrographic Manual.

2. Compliance with Instructions for the Project.

The survey satisfies the requirements of the Instructions for the project.

3. Sounding Line Crossings.

No system of crosslines was run. The soundings on the longitudinal lines are in good agreement.

4. Depth Curves.

Within the limits of this survey the depth curves may be satisfactorily drawn including portions of the low water and six foot curves.

5. Junctions with Contemporary Surveys.

The junction with H-5533(1934) on the west is satisfactory. The inshore work on the east and off shore work on the south has not yet been received in the office.

6. Comparison with Prior Surveys.

a. H-239(1851).

This is a small scale reconnaissance survey of the west coast. It contains no soundings which are in conflict with the present survey.

b. H-1256(1875) and H-1418(1878).

These surveys are in reasonable agreement with the present survey. It is noted, however, that extensive dredging and construction

incident to harbor improvement together with natural forces have materially changed the contour of the bottom particularly in lat.  $33^{\circ}35.65'$ , long.  $117^{\circ}53.4'$ .

c. H-1786(1887).

Only a few soundings from the old survey fall within the limits of the present survey. The agreement is satisfactory.

d. H-4545(1926).

(1). The two 17 foot soundings (charted 17, lat.  $33^{\circ}26.21'$ , long.  $117^{\circ}55.64'$ ) on H-4545(1926) fell outside of the 22 and 23 foot soundings on the present survey. From an examination of the records the position controlling the two 17 foot soundings was found to be in error. A correct plotting of the position brings the soundings in good agreement with the present survey.

(2) The 55 foot sounding (charted) in lat.  $33^{\circ}35.42'$ , long.  $117^{\circ}53.2'$  was investigated by the field party. No shoal was found and the 55 foot sounding should be disregarded in future charting.

e. H-4560(1926).

This survey is on a 1 to 120,000 scale. The few fathometer soundings which fall within the limits of H-5534(1934) are in fair agreement except the 114 foot sounding (charted) in lat.  $33^{\circ}35.4'$ , long.  $117^{\circ}54.2'$  falls in depths of approximately 130 feet on the new survey. It is evident from the uniform slope and sandy character of the bottom that the 114 foot sounding is in error. It should be disregarded in future charting.

7. Comparison with Chart No. 5108.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

8. Field Plotting.

The field protracting and plotting are satisfactory. Although the plotting of triangulation stations was checked by the field; three were erroneously plotted. They were corrected in the office. No displacement of the soundings resulted by correcting the triangulation stations used as control.

9. Additional Field Work Recommended.

This survey is complete, no additional work is required.



10. Shoreline.

The shoreline on this survey, H-5534 (1934) originates with T-4868 (1934) which is the latest shoreline authority. Unfortunately the projection of T-4868 (1934) was inaccurate and in addition three triangulation stations on H-5534 (1934) were erroneously plotted. Lieut. Mathisson verbally reports that extensive dredging operations subsequent to T-4868 (1934) were underway at Newport Beach which will undoubtedly affect the shoreline. The shoreline on H-5534 (1934) will be corrected when the compilation of aerial photographs, which were taken subsequent to the storm of September 1934 but prior to the plane table survey T-4868 (1934) is completed.

Photographs have not been applied to compilation. (See T-5030A for adjusted shoreline).  
H.W.M. 10/4/36

11. Superseding Old Surveys.

Within the area covered the present survey supersedes the following surveys:

|              |          |
|--------------|----------|
| H-289 (1851) | in part. |
| H-1256(1875) | " "      |
| H-1418(1878) | " "      |
| H-1786(1887) | " "      |
| H-4545(1926) | " "      |
| H-4560(1926) | " "      |

12. Reviewed by - Leo S. Straw, March 1935.

Inspected by A. L. Shalowitz.

Examined and approved:

*K. T. Adams*  
K. T. Adams,  
Ass't. Chief, Division of Charts.

*H. Borden*  
Chief, Section of Field Work.

*L. D. Colburn*  
Chief, Division of Charts.

*G. H. Hude*  
Chief, Division of H. & T.

LETTER TRANSMITTING FIELD RECORDS

REFER TO NO.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

Long Beach, California, .....

5533 Additional work August 5 ....., 19 35

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

From: O. W. Swinson, C. and G. Survey, Chief of Party.

Subject: Records.

The following-named records, computations, sheets, packed in ~~two~~  
package ~~s~~, ~~bundles~~, were forwarded to you on ~~this date~~, 19 ~~35~~,  
by ~~ordinary~~, registered, mail, ~~express~~ (Government bill of lading No. ~~.....~~).

Package No. 17 - 1 sounding volume.

" " 18 - 1 Boat Sheet

This work was done at the request of Lt. Enck and is sent to the office to be plotted on his smooth sheet of the area off Newport Bay, Calif. which was done in 1934.

O. W. Swinson,  
~~H. & G. Engineer~~, C. and G. Survey, Chief of Party.

Received the above:

Chief Clerk,  
Coast and Geodetic Survey.

This letter and one copy should be sent to the office. The copy will then be returned as a receipt.

HYDROGRAPHIC SURVEY NO. 5533 Add'l Wk

Smooth Sheet \_\_\_\_\_

Boat Sheet 1 \_\_\_\_\_

Sounding Records 1 Vols. \_\_\_\_\_

Descriptive Report None \_\_\_\_\_

Title Sheet None \_\_\_\_\_

List of Signals Yes in Vol. 1 \_\_\_\_\_

Landmarks for Charts (Form 567) Yes \_\_\_\_\_

Statistics None \_\_\_\_\_

Approved by Chief of Party -----Sent by O. W. Swainson

Recoverable Station Cards (Form 524) None \_\_\_\_\_

Special Chart for Lighthouse Service None \_\_\_\_\_  
(Circular Nov. 30, 1933)

Remarks \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **5533** *Add'l Wk*

The following statistics will be submitted with the  
cartographer's report on the sheet:

|   |       |
|---|-------|
| Number of positions on sheet                            | ..... |
| Number of positions checked                             | ..... |
| Number of positions revised                             | ..... |
| Number of soundings recorded                            | ..... |
| Number of soundings revised                             | ..... |
| Number of signals erroneously<br>plotted or transferred | ..... |

Date:

Verification by

Time:

Review by

Time:

August 19, 1935

Form 712  
DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Hydrography and Topography:

Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in  
1 volumes of sounding records for

HYDROGRAPHIC SHEET 5533 (additional work)

Locality Newport Beach, California

Chief of Party: O. W. Swainson in 1935  
Plane of reference is mean lower low water reading  
0.0 ft. on tide staff at Pier "A", Balboa  
7.0 ft. below B.M. 1

Height of mean high water above plane of reference is 4.6 ft.

Condition of records satisfactory except as noted below:

*O. W. Swainson*  
Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5533 A. W. (1934)

Off Newport Bay, California  
Surveyed in 1935

Fathometer Soundings.

3 Point Fixes on Shore Signals.

Chief of Party - O. W. Swainson.

Surveyed by - O. W. Swainson.

Protracted by - J. A. McCormick.

Soundings penciled by - J. A. McCormick.

Verified and Inked by - J. A. McCormick.

1. Purpose of Survey.

The purpose of this additional work was to run some additional fathometer lines in the submarine valley off Newport Beach. The work was done by Commander Swainson at the request of Lieut. Knox who did the original work in 1934.

2. Results of Survey.

The additional work was plotted in the office and is designated by cap A day letters as distinguished by the lower case day letters used in the 1934 work.

The additional work gives a more complete development of the valley. The fathometer soundings are in general in excellent agreement with the machine soundings of the 1934 work. In only a very few cases are differences noted and in such cases the wire soundings are deeper. This may be due to any of the following reasons: wire soundings not truly vertical, irregularity in the bottom, or slope of bottom making fathometer depths shoaler.

3. Reviewed by - A. L. Shalowitz, September 27, 1935.

Examined and approved:

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

*L. D. Gilbert*  
Chief, Division of Charts.

*B. B. Borden*  
Chief, Section of Field Work.

*G. H. Hude*  
Chief, Division of H. & T.

25 July 13, 1936  
E.H.S.

Applied to Chart 5101 - May 1936 R.M.Z.  
additional work applied to CR 5108 Aug 1936 - J.V.S. Smith  
Applied to compilation 5142 in 1950 L.A.M.