

5851

U. S. COAST & GEODETIC SURVEY
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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: California ✓

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 83 ✓
Hydrographic }

LOCALITY

~~Southern California Coast~~

Point Dume & Point Mugu

~~Off Mugu Point~~

193 5

CHIEF OF PARTY

O. W. Swainson

5851

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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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. 83

REGISTER NO. 5851

State CALIFORNIA

General locality Southern California Coast

Locality Shore Point Dune & Point Mugu
~~Off Mugu Point.~~

Scale 1:80,000 Date of survey August, 1934, March 19 35

Vessel PIONEER

Chief of Party O. W. Swainson

Surveyed by O. W. Swainson

Protracted by E. M. Prudomes

Soundings penciled by H. J. Healy

Soundings in fathoms ~~feet~~

Plane of reference Mean Lower Low Water.

Subdivision of wire dragged areas by

Inked by J. S. Evans &

Verified by J. S. Evans

Instructions dated November 18, 1932., 19

Remarks: Verification of ^{soundings} records complete; depth curves & overlaps incomplete as of 8/31/35 - J.S.E.

DESCRIPTIVE REPORT

TO ACCOMPANY SHEET FIELD NO. 83. ✓

AUTHORITY

The hydrography on this sheet was done in accordance with instructions to the Commanding Officer for Project No. 120, dated November 18, 1932. ✓

LOCALITY

This sheet comprises a survey of the southeastern approach to Santa Barbara Channel, carrying the work offshore and eastward to a satisfactory junction with sheet Register No. 4559. ✓ Inshore it joins sheet No. 44 and also sheet Register No. 5446. On the west this sheet joins with the inshore work around Anacapa Island and also with sheet (No. 51). The scale of this sheet is 1:80,000. ✓
(H-5507) ✓
(1933-34) ✓
{H-5849} ✓
1934 ✓

CONTROL AND SURVEY METHODS

Sounding lines were controlled by visual fixes on triangulation and topographic signals and one hydrographic signal. ✓ Soundings were obtained with the fathometer. ✓ A few vertical casts were taken for a comparison with the fathometer and also bottom characteristics were obtained. ✓ Soundings 1 to 11 F, inclusive, were copied in this record from sheet field No. H-5653-43, positions 50 to 60 F. This line would not come within the limit of sheet field No. 43. H-5653(1933-34) ✓
*Bottom characteristics were omitted in case ✓

DANGERS

There are no dangers within the limits of this sheet. ✓ ✓

COMPARISON WITH PREVIOUS SURVEYS

The present survey compares favorably with H-1403 except that a few of the old soundings are a little deeper. ✓ The old survey's soundings are generally shallower in most cases. ✓
* This survey makes a satisfactory junction with sheets Register Nos. 4559, 5445, 5446, and sheet field No. 44. H-5507 (1933-34) ✓

TIDES


* Junction with H 4559 (1925-28) on the south limit shows discrepancies in the depths with H. 5851 (1934-35) ✓

The tidal reducers used for the reduction of soundings were obtained from the Santa Barbara Hourly Heights. ✓


FATHOMETER CORRECTIONS

The fathometer corrections used are the same as for sheet No. 51, a (H-5849) 1934 ✓

list of these corrections is attached inside the front cover of Volume No. 1, and also attached to this report along with a list of the comparisons taken on this sheet.


Henry J. Healy,
Jr. H. & G. Engineer,
U.S.C. & G.S.S. PIONEER.

Approved and forwarded:


O. W. Swainson,
H. & G. Engineer,
Chief of Party,
Commanding PIONEER.

LIST OF COMPARISONS

Sheet Field Number 83.

Date	Pos'n	V.C.	FATHOMETER			
			#1 Sml. FRx6	#1 Sml. FRLD	#3 Big FRLD	#3 Big FRSD
✓ 9/25/34	47C	485.4	474	473		466
✓ 9/28/34	118D	491.0	494	493	493	491 485

67C 140 Fath 137

35C 473 " 479

STATISTICS

Sheet Field No. 83.

Date	Day	Statute Miles / Sounding Lines	No. of Soundings	No. of Positions
8/31/34	A	19.1	108	26
9/24/34	B	30.0	198	36
9/25/34	C	62.5	349	67
9/28/34	D	114.1	643	129
10/1/34	E	36.0	203	35
9/24/34	F	Included in record sheet No. 43. H-5653		
10/22/34	G	36.1	203	37
2/18/35	H	32.7	184	33
3/4/35	J	37.9	222	40
Total	9	368.4 ✓	2110 ✓	403 ✓

FINAL FATHOMETER CORRECTIONS

HYDROGRAPHIC SURVEY VESSEL NO. 53.

No. 4 Big FRID		No. 2 Big FRID		No. 1 Small FRID		No. 1 Small FRID	
Depth	Cor'n.	Depth	Cor'n.	Depth	Cor'n.	Depth	Cor'n.
14-19	+1	15-87½	+2	89-98	+2½	100-188	-1
19½-32½	+1½	89-100	+1½	98½-99	+2	126-155	-2
33-65	+2	101-140	+1	99½-100	+1½	126-240	-3
65½-100	+1½	100-200	0	101-152	+1	241-305	-4
101-140	+1	201-265	-1	115-210	0	304-365	-5
141-200	0	266-320	-2	211-270	+1	366-420	-6
		321-365	-5	271-335	-2	421-455	-7
		366-440	-4	336-400	-5	455-545	-8
				401-455	-4		
				456-505	-5		

No. 4 Big FRID		No. 1 Big FRID	
Depth	Cor'n.	Depth	Cor'n.
11	+0.1	8½	+0.8
12	+0.2	9	+0.9
13½	+0.3	9½	+1.0
15	+0.4	10	+1.1
14	+0.5	10½	+1.2
14½	+0.6	11	+1.3
15	+0.7	11½	+1.4
15½	+0.8	12-12½	+1.5
16½	+0.9	13-13½	+1.6
17½	+1.0	14-14½	+1.7
18½	+1.1	15-15½	+1.8
19½	+1.2	16-17	+1.9
21	+1.3	17½-20½	+2.0
23	+1.4	19-21	+2.1
25	+1.5	21½-27	+2.2

An additional correction of 2½ fathoms for No. 1 Big is applied for Long Dredge or FR x 6.
No. 1 Small FRID is FR x 6.

CHIEF OF PARTY'S REPORT
OF INSPECTION OF RECORDS AND SHEET.

This sheet was protracted by E. M. Prudames, draftsman.
The sheet and records were carefully examined by Lieutenant (j.g.)
H. J. Healy. The soundings were penciled and the descriptive
report written by Lieutenant (j.g.) H. J. Healy.

Any point of doubt was brought to my attention for action.

O. W. Swainson

O. W. Swainson,
Chief of Party, C. & G. S.,
Commanding PIONEER.

HYDROGRAPHIC SURVEY NO. 5851

Smooth Sheet 1

Boat Sheet 1

Sounding Records 2 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes in Vol. 1

Landmarks for Charts (Form 567) None

Statistics Yes

Approved by Chief of Party 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. 5851

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

Number of positions on sheet	.403
Number of positions checked	..15..
Number of positions revised	...0..
Number of soundings recorded	.2110
Number of soundings revised	..12..
Number of signals erroneously <i>soundings added</i>	75
plotted or transferred	...0..

Date: Aug. 31, 1935

Verification by *J. S. Evans*

Review by

Chas R. Bunk

Time: 8 Da. - 1 Hr.

2 Da. - 3 Hr

Time:

August 14, 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Hydrography and Topography:

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

Tide Reducers are approved in
2 volumes of sounding records for ✓

HYDROGRAPHIC SHEET 5851 ✓

Locality Offshore Point Dume and Point Mugu, Calif. ✓

Chief of Party: O. W. Swainson in 1934-1935. ✓

Plane of reference is

3.6 ft. on tide staff at Santa Barbara
16.5 ft. below B.M. 1

Height of mean high water above plane of reference is 4.6 feet. ✓

Condition of records satisfactory except as noted below:

Aty *Ham*
Chief, Division of Tides and Currents.

Supplementary Report on H 5851

Some of the junctions with the sheets named in Mr. Evans report had been started. These were completed and other overlaps made insofar as they had been verified. H 5850 and H 5849 had not been verified and inked.

At the suggestion of E.P. Ellis the line on the East end of this sheet was transferred to H 4559.

Junctions ^{and} were satisfactory and very good except where the additional work on H 4559* overlapped near the center of the ~~sheet on the~~ north junction. The bottom seems to be rather irregular at this point and at these depths the junction was considered acceptable.

Chas. P. Bush Jr

* The agreement is generally good in this particular area. The discrepancies are ^{mainly} in the lower portion of the present survey's area. R.

FIELD RECORDS SECTION

Verification Report on H-5851 (incomplete) as of August 31, 1935.

1. The records conform to requirements. ✓
2. With insufficient time left before expiration of appointment, the verifier has not checked nor drawn the depth curves. ✓
3. The field plotting was complete, except that in general, ~~every~~ ^{the} alternate soundings ~~was~~ ^{were} plotted, rather than every sounding, without consideration for intermediate shoaler soundings. The verifier feels that in the considerable depth of this area, the matter of shoaler depth is relatively unimportant, but has observed instructions, and has plotted all shoaler soundings. ✓
4. Extra work on this sheet consisted of plotting 75 shoaler soundings other than those plotted in the field. 4 courses were respaced. ✓
5. With insufficient time left, the verifier is unable to complete the overlaps to make a report on junctions. ✓
6. Remarks: The verifier feels that the following list of overlaps for this sheet, may be of some assistance to the subsequent verifier: H-4559 (1925-26), H-5445-46 (1933-34), H-5507 (1933-34), H-5653 (1933-34), H-5849-50 (1932-34-35), a total of 7 sheets. ✓

Upon the advice of higher authority, the shoreline was considered to be unnecessary on this sheet, through its definitely off shore nature.

The transfer of overlaps constitutes the major portion of the work on this sheet. ✓

Respectfully submitted
J. S. Evans

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5851 (1934-5) FIELD NO. 83

Offshore Point Dume and Point Mugu
Surveyed in Aug. 1934, Mar. 1935
Instructions dated Nov. 18, 1932 (PIONEER)

Fathometer Soundings.

3 Point fixes on shore signals.

Chief of Party - O. W. Swainson.
Surveyed by - O. W. Swainson.
Protracted by - E. M. Prudames.
Soundings penciled by - H. J. Healy.
Verified and inked by - T. S. Evans.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. There should have been more determinations for bottom characteristics. (Hydrographic Manual, page 6, par. 50).

The Descriptive Report is satisfactory.

2. Compliance with Instructions for the Project.

The instructions for the project have been complied with.

3. Shoreline and Signals.

The topographic signals were obtained from T-4816 (1932), T-4823 (1932, 1934), T-4824 (1933) and T-4841 (1933).

4. Sounding Line Crossings.

No general system of cross lines were run but those that were, as well as the adjacent lines, show good agreement.

5. Depth Curves.

The usual depth curves can be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

The junctions with H-5849 (1934), H-5850 (1934-5) on the northwest, will be considered in the reviews of those sheets.

The junction with H-5445 (1933) and with H-5446 (1933-34) on the northwest are satisfactory.

The junction with H-5507 (1933-34) on the north is satisfactory.

The junction with H-4559 (1925-26, 1928) is considered in paragraph 7c of this review.

7. Comparison with Prior Surveys.

a. H-1341a (1875-76).

This survey is on a scale of 1:40,000 and overlaps the northern portion of the isolated line of soundings at the eastern limit of the present survey with only a few soundings. The depths are in fair agreement with the present survey.

b. H-1403 (1878).

This survey is on a scale of 1:40,000 and covers the area of the present survey between approximate longitudes 118°52' and 119°20' with widely spaced wire soundings. In some areas, particularly inside the 300 fathom curve, the two surveys are in good agreement. However, in depths greater than 300 fathoms, the wire soundings on H-1403 (1878) are generally shoaler by an average of about 5% of the depth. No explanation for such difference presents itself, except it is possible that some mechanical defect in the method used is the cause. Normally, the reverse would be expected. There is no reason to question the present fathometer work since the comparative soundings are in very good agreement.

For charting purposes the present survey can be supplemented wherever necessary by soundings from H-1403 (1878) in the areas where there is a reasonable agreement between the two.

c. H-4559 (1925-26, 1928).

This survey is on a scale of 1:120,000 and covers a small area on the north limit of the present survey in the vicinity of longitude 119°03', and overlaps considerable portion of the present survey in its southern and eastern portions.

For the most part the agreement between the two surveys is good, the greatest consistent discrepancy being the southernmost line of soundings transferred from H-4559 (1925-26). This is a sonic depth finder line to which no corrections were applied for difference between wire and sonic soundings, these differences amounting to as much as 33 fathoms in 500. The two wire soundings on this line are in excellent agreement with the fathometer soundings on the present survey and if a correction were applied to the entire sonic line, a fair agreement would be had between the two surveys. Because of the wide spacing of the two southernmost lines on the present survey it was deemed advisable to retain this line from H-4559 (1925-26) for charting purposes. The originally

plotted soundings have, therefore, been transferred to the present survey with a correction applied based upon the comparative soundings on H-4559 (1925-26). No soundings were transferred from H-4559 that were in disagreement with those on the present survey where the area was adequately covered by the latter, and no soundings were corrected on H-4559 (1925-26) that fall outside the limits of the present survey.

The present survey should be considered basic for charting the area represented by it and no soundings from H-4559 (1925-26) that fall within the limits or very close to the limits of the present survey should be used for charting, except those that have actually be transferred to the present survey.

8. Comparison with Chart No. 5202 (Corrected to May 11, 1935).

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.

9. Field Plotting.

The protracting of the positions and plotting of soundings were good, except in a number of cases the plotter failed to plot the shoaler and more important depths that were entered in the sounding volumes. These changes were made in the office.

10. Additional Field Work Recommended.

The work in the general area is considered satisfactory and no additional work is required within the limits of the present survey. However, in view of the discrepancies noted in the work of H-4559 (1925-26) (see par. 7c of this review), it would be desirable to extend the work beyond the limits of the present survey so as to cover the area of H-4559 with a more modern survey. If this is done, the new work should overlap the present survey at its southern limits so as to include the line of soundings from H-4559 (1925-26) discussed in par. 7c of this review.

11. Note to Compiler.

The compiler's attention is called to the latter portion of paragraph 7c of this review regarding the use of soundings from H-4559 (1925-26) for charting purposes.

12. Superseding Old Surveys.

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

H-1341a (1875-76) in part

13. Reviewed by - G. Risegari, Nov. 19, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Lobat
Chief, Division of Charts.

J. S. Borden
Chief, Section of Field Work.

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

Applied to Chart 5114 - Feb 24, 1936 - *L.H.Z.*
Applied to Chart 5202 - Mar 27, 1936 - *L.H.Z.*
" " " 5101 - May 1936 - *L.H.Z.*

*One sdy added outside 600 ft curve on
Chart 5007 4-10-58 RKD*

21 Jan 17, 1936
E. J. Q.