

5830

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

State: CALIFORNIA

DESCRIPTIVE REPORT

~~Hydrographic~~ } Sheet No. 50
Hydrographic }

LOCALITY

Southern California Coast

Santa Barbara Channel

1934

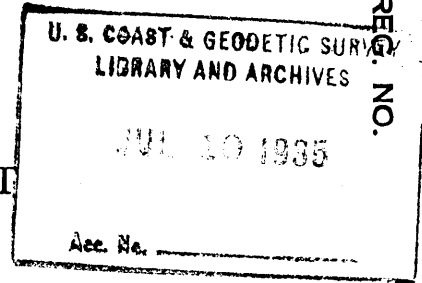
CHIEF OF PARTY

O. W. Swainson, H. & G. Engineer.

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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. 50

REGISTER NO. 5830

State CALIFORNIA

General locality Southern California Coast

Locality Santa Barbara Channel

Scale 1:40,000 Date of survey June 26 to Oct. 3, 1934

Vessel PIONEER

Chief of Party O. W. Swainson

Surveyed by O. W. Swainson, J. M. Smook, H. J. Healy, G. M. Marchand, M. E. Wennermark.

Protracted by G. A. Nelson

Soundings penciled by G. A. Nelson, G. M. Marchand

Soundings in fathoms ~~1000~~

Plane of reference M. L. L. W.

Subdivision of wire dragged areas by

Inked by R. W. Cochran and E. F. Greene, Jr

Verified by R. W. Cochran

Instructions dated June 23, 1934, Pro. HT-187, 19

Remarks:

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 50.

AUTHORITY

This survey was undertaken in pursuance of the Director's instructions dated June 23, 1934, for Project No. HT-187.

LOCALITY

This sheet comprises a resurvey of Santa Barbara Channel, California, from Goleta Point to Point Conception. It joins contemporary sheets field Nos. 45, 122, and 82.

SURVEY METHODS

Standard methods were used throughout for this survey. Soundings were obtained by fathometer and a number of stops were made for vertical cast comparisons. Horizontal control was by three point fixes on recovered triangulation stations and topographic stations.

These control points were supplemented by several hydrographic stations located by this party during the course of the work.

DISCREPANCIES

Pos. 62F to Pos. 63F (Vol. 3, p. 28 and 29) - Sounding of 302, 298, and 295 fathoms rejected as stray flashes. In depth from 290 to 310 the fathometer sometimes gave considerable trouble. The flashes came very irregularly and strays were frequent, giving rise to possible errors of from 5 to 20 fathoms. The above rejections are based on this fact. *lat. 34°-20' long. 119°-59'* *slips rejected by Field Party*

Pos. 141 to 142 G (Vol 3, p. 71) 298 and 299 fathom soundings rejected as strays for reason quoted above. They are questioned in the record.

Pos. 150 G to 158 G (Vol. 4, p. 5) All soundings rejected as they are generally deeper than cross lines previously run.

Pos. 160 E - (Vol. 3, p 14) 161 fathom sounding rejected as stray. Questioned in record.

Pos. 89 - 90 (Vol. 3, p. 62) 311 fathom sounding rejected as stray, questioned in record.

COMPARISON WITH ADJOINING SHEETS

This survey is in excellent agreement with contemporary sheets field Nos. 45, 82, and 122.

COMPARISON WITH PREVIOUS SURVEYS

H-1370 In general the new survey is in excellent agreement with the old survey.

At the outer edge of the sheet a few discrepancies occur in the depths obtained by the old and the new survey. As the latter survey gives depths that are generally shoaler, these depths should be given preference. ✓

Bottom characteristics obtained by the old survey should be retained as only a small number was obtained by the new survey. ✓

The 200 ^{*}fathom sounding on sheet 1370 in Latitude $34^{\circ} 21.8'$, Longitude $120^{\circ} 05.3'$ should be rejected. New survey shows depth of 250 fathoms here. Attention is invited to the fact this sounding is not included in the 200 fathom curve on H-1370 and is not plotted on Chart No. 5202. ^{* See review. Sdg. is erroneous.} ✓

H-5030 Where this sheet overlaps H-5030 the comparison is very good. ✓

The junction with the work of Lieutenant C. K. Green at the north edge of the sheet is good (Sheets field Nos. 108, 109, 110, 111, 112, of Lieutenant Green's work). If any discrepancies are found to exist after final review his wire soundings should be given preference. ✓

ANCHORAGES

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

FATHOMETER CORRECTIONS

The data for correcting the fathometer soundings is appended to this report. ✓

Respectfully submitted:



G. M. Marchand,
Jr. H. & G. Engineer,
U. S. Coast and Geodetic Survey.

Approved and forwarded:



O. W. Swainson,
H. & G. Engineer,
Commanding PIONEER.

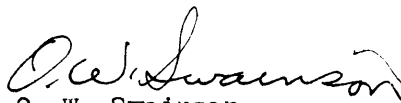
CHIEF OF PARTY'S REPORT OF INSPECTION
OF HYDROGRAPHIC SHEET

The sheet and records for this survey have been examined by me and approved.

The sheet was protracted by Lieutenant (j.g.) G. A. Nelson and the plotting inspected by laying a tracing of the smooth sheet over the boat sheet.

Lieutenant (j.g.) G. M. Marchand wrote the Descriptive Report and made the rejections of certain erroneous soundings in the records after obtaining my approval.

No further work is recommended.



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

TABLE OF STATISTICS

Sheet No. 50.

	Date 1934	Day	Vol.	Vessel	Stat. Mi. Sndg.	No. of Sndgs.	No. of Pos'ns.
June	26	A	1	PIONEER	111.0	1133	143.
	27	B	1	"	77.0	772	106
	27	B	2	"	35.0	356	48
	28	C	2	"	126.2	857	165
	29	D	2	"	- -	2	1
July	24	E	2	"	63.8	355	98
	24	E	3	"	47.7	281	71
	25	F	3	"	107.9	631	163
	26	G	3	"	100.0	539	143
	26	G	4	"	9.5	59	15
	27	H	4	"	6.8	49	10
Oct.	3	J	4	"	<u>5.1</u>	<u>34</u>	<u>8</u>
TOTALS		-	-	-	- 690.0	5068	971

FATHOMETER CORRECTIONS

Sheet Field No. 50.

The corrections for the No. 6 hydrophone-big oscillator combination were taken from Sheet field No. 46. The No. 2 hydrophone-small oscillator combination corrections were taken from sheet field No. 49, the No. 2 hydrophone-small oscillator and No. 1 hydrophone-big oscillator/^{FRSD} combination corrections from sheet field No. 48. The No. 1 hydrophone-big oscillator FRx6 combination corrections are the same as the No. 1 hydrophone-small oscillator FRLD corrections, as comparisons show that the fathometer readings for a given depth were the same with these two different combinations. Similar comparisons also showed that the No. 1 hydrophone-big oscillator, FRLD reads 1 fathom deeper than No. 1 hydrophone-big oscillator, FRSD, the No. 1 hydrophone-big oscillator, FRLD correction being therefore 1 fathom less (algebraically) than the No. 1 hydrophone-big oscillator FRSD corrections.

The attached sheet of vertical cast comparisons taken on sheet field No. 50 shows that the corrected fathometer soundings agree very well with the vertical wire sounding which proves the accuracy of the final corrections.

The fathometer scale was uniform throughout.

FINAL FATHOMETER CORRECTIONS

Sheet Field No. 50

Str. PIONEER, 1934.

#1 Big FRSD		#1 Big FRLD		#1 Sml FRSD		#1 Sml FRLD		#1 Sml FRx6	
Depth	Cor'n	Depth	Cor'n	Depth	Cor'n	Depth	Cor'n	Depth	Cor'n
20 - 69½	+2½	70 - 112	+1	55 - 94½	+2	50 - 135	0	50 - 135	-1
70 - 112	+2	113 - 182	0	95 - 100	+1½	136 - 200	-1	136 - 200	-2
113 - 182	+1	183 - 227	-1	101 - 170	+1	201 - 250	-2	201 - 250	-3
183 - 227	0	228 - 300	-2	171 - 225	0	251 - 305	-3	251 - 305	-4
228 - 300	-1			226 - 280	-1	306 - 355	-4	306 - 355	-5
				281 - 330	-2				

#2 Sml FRSD		#2 Sml FRLD		# 6 Big FRSD	
Depth	Cor'n	Depth	Cor'n	Depth	Cor'n
52 - 93	+1½	52 - 93	-1½	21 - 100	+1½
93½ - 130	+1	93½ - 130	-2	101 - 137	+1
131 - 185	0	131 - 185	-3	138 - 160	0
186 - 240	-1	186 - 240	-4		
241 - 295	-2	241 - 295	-5		
296 - 350	-3	296 - 350	-6		

ABSTRACT OF VERTICAL CAST COMPARISONS

with FINAL FATHOMETER CORRECTIONS applied.

DATE 1934	Pos. & Day	Fath. Read- ing	Fath. Cor'n	Corr. Fath.	Vertical Cast	Hydrophone-Oscil- lator combination.
6/26	11A	26.8	+1 $\frac{1}{2}$	28 $\frac{1}{2}$	29.2	#6 Hyd. Big Osc. FRSD
	65A	49.5	+1 $\frac{1}{2}$	51	52.0	do
		51.0	+1 $\frac{1}{2}$	52 $\frac{1}{2}$	53.0	do
	80A	34.0	+1 $\frac{1}{2}$	35 $\frac{1}{2}$	36.0	do
6/27	39B	40.5	+1 $\frac{1}{2}$	42	42.2	do
	50B	39.5	+1 $\frac{1}{2}$	41	40.7	do
		38.8	+1 $\frac{1}{2}$	40 $\frac{1}{2}$	40.5	do
	75B	46.3	+1 $\frac{1}{2}$	48	47.2	do
	129B	102.5	+1	103 $\frac{1}{2}$	105.0	do
6/29	153B	94.5	+1 $\frac{1}{2}$	96	95.7	do
	1D	27.2	+1 $\frac{1}{2}$	28 $\frac{1}{2}$	28.7	do
7/25		26.9	+1 $\frac{1}{2}$	28 $\frac{1}{2}$	28.6	do
	168F	36.4	+1 $\frac{1}{2}$	38	38.5	do
7/24		36.8	+1 $\frac{1}{2}$	38 $\frac{1}{2}$	39.0	do
	4E	50.0	+2 $\frac{1}{2}$	52 $\frac{1}{2}$	52.0	#1 Hyd. Big Osc. FRSD
7/25		49.2	+2 $\frac{1}{2}$	52	51.7	do
	109F	214	0	214	215	do
7/26	13G	223.5	-1	222	221	#1 Hyd. Big Osc. FRLD
	75G	303	-3	300	300	do
	143G	297	-2	295	293	do
7/26	13G	224	-2	222	221	# 1 Hyd. Big Osc. FRx6
	143G	296	-3	293	293	do
7/24	56E	159.5	+1	160	158.4	#1 Hyd. Sml Osc. FRSD
		157.5	+1	158	157.5	do
7/25	109F	214	0	214	215	do
	149E	283 to 300	-3	?	279	#1 Sml FRLD
6/27	90B	109.5	+1	110	109.5	#2 Sml FRSD
	129B	102.5	+1	103	105	do
	153B	96	+1	97	95.7	do
7/24	148E	308	-6	?	279	#2 Sml FRLD
7/26	143G	297	-6	291	293	do
7/24	148E	282 to 310	-6	?	279	#2 Sml FRx6
7/26	143G	297	-6	291	293	do

Lac

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 24, 1935.

Division of Hydrography and Topography:

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

Tide Reducers are approved in
4 volumes of sounding records for

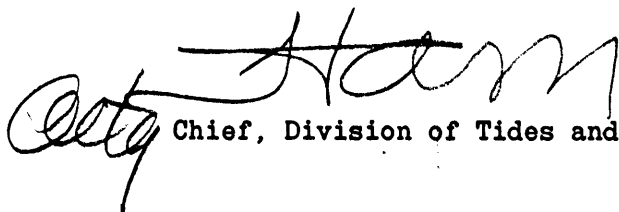
HYDROGRAPHIC SHEET 5830

Locality Santa Barbara Channel, Calif.

Chief of Party: O. W. Swainson in 1934
Plane of reference is mean lower low water reading
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:


Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **5830**

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

Number of positions on sheet	<i>971</i>
Number of positions checked	<i>91</i>
Number of positions revised	<i>0</i>
Number of soundings recorded	<i>5068</i>
Number of soundings revised	<i>0</i>
Number of signals erroneously plotted or transferred	<i>0</i>

Date: *Inked by E. F. Greene, Jr. & R. W. Cochran*

Verification by *R. W. Cochran*

Review by

Chas O Bush Jr.
S. Pisigani

Time: *E. F. GREENE, JR. 50 hrs.*

1 day 4 hrs

Time: *21 1/2 hrs.*

HYDROGRAPHIC SURVEY NO. 5830

Smooth Sheet 1

Boat Sheet 1

Sounding Records 4 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes in Vol. 1

Landmarks for Charts (Form 567) Yes ✓

Statistics Yes

Approved by Chief of Party O. W. Swainson

Recoverable Station Cards (Form 524) Yes

Special Chart for Lighthouse Service NO
(Circular Nov. 30, 1933)

Remarks _____

Aug. 31st 1934.

1. The records conform acceptably to the prescriptions laid down in the General Instructions.
2. The Verifier had not sufficient time left to draw on the depth curves without doing it too hastily for acceptability.
3. The field plotting was completed, acceptably, to the extent prescribed in the Hydrographic Manual.
4. The field drafting was very well done. No part of it had to be done over.
5. Generally speaking, all joints with contemporary and adjacent surveys were satisfactory.
6. The sheet was first verified by R.W. Cochrane. The sheet was next partially verified and ^{then} inked by the undersigned. The undersigned transferred all overlaps using proportional dividers to transfer positions. A very small part of the inking was completed by R.W. Cochrane.

signed: E.F. Greene, Jr. Verifier.

The junctions with H-5830 which had not been made were accomplished and curves adjusted on all the overlapping sheets. Curves were also drawn by
 Chas. R. Bush, Jr.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5830 (1934) FIELD NO. 50

Santa Barbara Channel, Southern California Coast, Cal.

Surveyed in 1934

Instructions dated June 23, 1934 (PIONEER)

Fathometer Soundings.

3 Point fixes on shore signals.

Chief of Party - O. W. Swainson.

Surveyed by - O. W. Swainson, J. M. Smook, H. J. Healy,
G. M. Marchand, and M. E. Wennermark.

Protracted by - G. A. Nelson.

Soundings penciled by - G. A. Nelson, G. M. Marchand.

Verified and inked by - R. W. Cochran, E. F. Greene, Jr.

1. Condition of Records.

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

The Descriptive Report is clear and comprehensive and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project, except that no bottom characteristics were obtained west of longitude 120°21', in an area of about 25 square miles. In view of the general good agreement in depths with H-1370 (1877), bottom characteristics have been carried forward from the latter survey in this area. Bottom characteristics have also been added in other areas to supplement those obtained on the present survey.

3. Shoreline and Signals.

The shoreline is shown on the inshore adjoining sheets. The topographic signals are from T-4859 (1933), T-4880 (1933), T-4881 (1933), and T-4882 (1933).

4. Sounding Line Crossings.

The few cross lines that were run, 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-5627 (1933), H-5626 (1933), H-5625 (1933), H-5624 (1933), H-5503 (1933), on the north are satisfactory.

The junction with H-5030 (1930) on the east is satisfactory.

The junction with H-5861 (1934-35) on the south is satisfactory.

The junctions with H-5776 (1933-35) and H-5746 (1933-34) on the west is satisfactory.

7. Comparison with Prior Surveys.

a. H-1043 (1869)

This survey is on a scale of 1:10,000 and overlaps a small area of the present survey on the north limit, between longitudes 119°52', and 119°57', with a few widely spaced soundings which are in general good agreement. The present survey has adequately surveyed the area and should supersede the old work for charting purposes.

b. H-1045 (1869).

This survey is on a scale of 1:100,000 and covers the area of the present survey between longitudes 119°50', and 120°06', with soundings which are spaced from 1/4 to 1-1/2 miles apart on widely spaced lines.

In general, the agreement with the present survey is fair. The present survey developed the area in much greater detail with fathometer soundings that are in excellent agreement with the vertical cast comparisons. The present survey should supersede the old survey for charting purposes.

c. H-1342a (1877), 1342b (1877).

These surveys are on a scale of 1:10,000 and cover narrow strips along the north limits of the present survey, between longitudes 120°06' and 120°24'.

The agreement in depths with those of the present survey is fair. Since the present survey has satisfactorily developed the area, the old survey need not be used for charting purposes.

d. H-1370 (1877).

This survey is on a scale of 1:100,000 and covers all of the area of the present survey with the exception of a small portion on the north limit between longitudes 119°50' and 120°05'. In general, the agreement in the depths is good.

The 200 fathom sounding in latitude 34°21.8', longitude 120°05.3' (uncharted) falls on the present survey in an open area surrounded by soundings of from 243 to 269 fathoms.

This sounding is questioned in the sounding volume with a reference note as follows: "Ship drifting so fast, it was impossible to tell whether the bottom was reached or not". Because of the questionable accuracy of the sounding, together with the fact that no indication of a shoaling was found on the present survey, the 200 fathom sounding should be disregarded.

Except for the bottom characteristics carried forward H-1370 (1877) should be disregarded in future charting.

e. H-2252 (1896).

This is a special survey for a navy speed trial course. It contains no hydrographic information.

8. Comparison with Chart No. 5202 (New Print May 14, 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 field plotting was satisfactory.

10. Additional Field Work Recommended.

No additional field work is required.

11. Superseding Old Surveys.

Within the limits the present survey supersedes the following surveys for charting purposes:

H-1043	(1869)	in part
H-1045	(1869)	" "
H-1342a	(1877)	" "
H-1342b	(1877)	" "
H-1370	(1877)	" "

Reviewed by - G. Risegari, Dec. 2, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

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

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

J. H. Hulse
Chief, Division of H. & T.

25 Jan 15, 1936
LWJ

Applied to Chart 5202 - Mar 27, 1936 R.M.Z.
" " " 5302 - Apr, 2 " J.P.W.
Applied to Chart 5066 Nov. 23, 1963 John P. Wein
" " " 5066 EXT Nov 1971 Ref. Durosko