

5743

5743

Form 504  
Rev. Dec. 1933  
DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

# DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 17  
Hydrographic }

State CALIFORNIA

### LOCALITY

Southern California Coast

Vicinity of Point Sal

1934

### CHIEF OF PARTY

O. W. Swainson

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & 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. 17

REGISTER NO. 5743

State California

General locality Southern California Coast

Locality Vicinity of Point Sal

Scale 1:10,000 Date of survey Aug. 18 to Sept. 14 1934

Vessel Str. PIONEER, Stbd. Motorsailer, Port Motorsailer

Chief of Party O. W. Swainson

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

Protracted by H. J. Pulskamp, draftsman.

H. J. Pulskamp, Roy Murray, and  
Soundings penciled by P. M. Scott, Draftsmen.

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by None

Inked by J. Henrich & M. D. Cooper

Verified by M. D. Cooper

Instructions dated November 18, 1932. Project No. 120, 19

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

DESCRIPTIVE REPORT  
TO ACCOMPANY HYDROGRAPHIC SHEET FIELD NO. 17

AUTHORITY

The survey shown on this sheet was made in accordance with instructions dated November 18, 1932, for Project No. 120.

LOCALITY

The area covered by this survey includes Point Sal, which is 1/2 mile north of its southern limit, and extends from Latitude 34° 53.5' northwards to Latitude 35° 00.5', and from as close inshore as the hydrography could be carried to a distance of 2 to 2.2 miles off the shore. It joins sheet Field No. 18 on the north, sheet Field No. 16 on the south and sheet Field No. 46 on the west and southwest.

CONTROL

Recovered triangulation stations of 1933, signals located on Topographic sheets Field Nos. G, H, and I, and three hydrographic stations located by sextant cuts were used for the control of this sheet.

SURVEY METHODS

The survey was made on a scale of 1:10,000 in order that the inshore area might be well developed.

The inshore sounding was done by the motorsailers of the PIONEER, using hand lead.

The area outside of the motorsailer limits was sounded by the ship, using the fathometer.

All of the hydrography was by visual fixes.

CURRENTS

No current observations were made.

MAGNETICS

No magnetic observations were made.

COMPARISON WITH PREVIOUS SURVEYS

Tracings of the old survey, enlarged to the scale of this sheet,

were used to compare the new survey with the old.

The old work agrees reasonably well with the new. There is a general tendency for the old soundings to be shoaler close inshore and slightly deeper farther out than the new.

#### COMPARISON WITH ADJOINING SHEETS

The junctions with sheets Field Nos. 16, 18, and 46, are satisfactory, except that the overlapping soundings on sheet 46 have a general tendency to be a little deeper than those on this sheet.

#### DANGERS

In Latitude  $34^{\circ} 54.1'$ , Longitude  $120^{\circ} 40.6$ , about 550 meters westsouthwest from Point Sal there is an abrupt rocky shoal with least depth of  $1\frac{1}{6}$  fathoms (Pos. 15 c).

In Latitude  $34^{\circ} 54.03'$ , Longitude  $120^{\circ} 40.45'$  about 400 meters southwest from Point Sal there is a sunken rock covered by  $2\frac{1}{2}$  fathoms at mean lower low water.

Between the above dangers and Point Sal there is broken bottom.

Signal "Nic" is a rock 2 feet above high water about 300 meters southwest from Point Sal, in Latitude  $34^{\circ} 54'$ , Longitude  $120^{\circ} 40.3'$ . Around this rock is foul ground.

Seal Rock is a <sup>also on top about 6270</sup> (54) foot rock about 200 meters off the shore on the south side of Point Sal. Foul ground extends about 150 meters west of Seal Rock.

The following shoals are also listed:

A small shoal with a least depth of  $7\frac{1}{2}$  fathoms is centered in Latitude  $34^{\circ} 55.4'$ , Longitude  $120^{\circ} 40.8'$ .

A small shoal with a least depth of 10 fathoms is centered in Latitude  $34^{\circ} 55'$ , Longitude  $120^{\circ} 41.25'$ .

An extensive shoal with depths of  $7\frac{1}{2}$  to 12 fathoms is centered in Latitude  $34^{\circ} 55.7'$ , Longitude  $120^{\circ} 41.2'$ . The shoalest part,  $7\frac{1}{2}$  fathoms, is in Latitude  $34^{\circ} 55.55'$ , Longitude  $120^{\circ} 41.2'$ . On the extension of this shoal, in Latitude  $34^{\circ} 55.3'$ , Longitude  $120^{\circ} 41.85'$  there is a sounding of  $9\frac{1}{4}$  fathoms.

Dangers not listed are those ~~close~~ along or close to the shore.

FATHOMETER CORRECTIONS

Fathometer corrections were computed jointly for sheets Field Nos. 15, 16, 17, and 18, and the shoal water area of No. 46. They were obtained by numerous direct comparisons of the fathometer reading at vertical casts. As the depths do not exceed 25 fathoms, theoretical corrections were not considered.

The difference between the fathometer reading and the wire sounding was plotted as a function of the fathometer reading for each hydrophone-oscillator combination for which data were observed. Mean curves, from which the fathometer corrections were taken, were drawn through these points.

Graphs and detailed corrections are submitted with sheet 15.

DISCREPANCIES

No discrepancies of sufficient importance to mention were noted.

BOTTOM CHARACTERISTICS

The bottom characteristics of the old survey should be used in the area covered by fathometer soundings. *These have been transferred to the present survey in green. xxm.*



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

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

Sheet Field No. 17.

The positions were protracted by H. J. Pulskamp, The soundings were plotted by H. J. Pulskamp, Roy Murray, and P. M. Scott. These men were draftsmen with a limited amount of experience in hydrographic plotting. Shoreline, shoreline detail, and topographic signals were transferred by one of the draftsmen.

The records and sheets were carefully inspected for discrepancies on the following points by Lieutenant W. M. Scaife.

Records inspected for discrepancies and all doubtful points.

All features mentioned in records checked with smooth plotting.

Boat sheets compared with smooth sheet.

Comparison made with old work and with adjoining sheets.

Smooth sheet inspected by placing over the boat sheets the cover sheet used in plotting the smooth sheet, on which were shown the sounding lines and positions. In cases of poor agreement, the protracting was checked. In addition, the protracting of a number of additional positions, selected at random, was checked.

These checks, except for a few errors found in protracting, indicated very good protracting.

Points of doubt were called to my attention for action.

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

LIST OF SIGNALS USED

Sheet Field No. 17.

TRIANGULATION	TOPOGRAPHIC		HYDROGRAPHIC
<u>Oso Flaco</u> , 1874-1933	Ezy	Sue	Go
	Pet	Jec	
Dee, 1933	Huf	Car	Is
	Map	Duc	
<u>Splash</u> , 1933	Gen	Rop	Hum
	Dub	Ite	
Santa <u>Maria-2</u> , 1933	Poc	Arc	
	Ele	Baw = Him	
Whale, 1933	Sad	Lil	
	Oey	Why	
<u>Sando</u> , 1933	Tea	Bun	
	Ant	Keg	
<u>Mussel</u> , 1933	Cor	Tic	
= (Muss)	Riv	Low	
	Cak	Nel	
Point <u>Sal</u> , 1933	Clo = (Cak on	Rek	
	south boat sheet)	Nic	
	Mil	End	
	Ted	Seal <u>Rock</u> = (Roc)	
	Sit	Bit	
	Ren	Bol	
	Pod	Was	
	Tot	Top	
	Nol	Metz	
	Gra	Rod	

STATISTICS

Sheet Field No. 17.

VESSEL	Statute Miles of		Number of		Number of	
	Sounding Lines		Positions		Soundings	
	Handlead	Fath.	Handlead	Fath.	Handlead	Fath.
PIONEER		156.6		468		3112
Stbd. MS	111.3		754		2946	
Port MS	102.0		817		2574	
TOTALS	213.3	156.6	1571	468	5520	3112
GRAND TOTALS.	369.9		2039		8632	

FINAL FAIRWEATHER CORRECTIONS

Shots Nos. 15, 16, 17, & 18.

#17

DEPTH (Fms)	#1 Sig 15, 16, 17, 18	#2 Sig 15	#3 Sig 16, 17, 18	#5 & #6 15, 16, 17, 18	#8 Sig	#9 Sig
9.5	+2.0	+0.5	+0.8	0	-0.1	-0.9
10.	1.8	0.5	1.0	+0.1	+0.2	+0.4
10.5	1.8	0.5	1.1	0.5	0.5	-0.1
11	1.4	0.7	1.2	0.4	0.7	+0.1
11.5	1.0	0.5	1.5	0.5	0.9	0.5
12	1.0	0.5	1.4	0.5	1.0	0.5
12.5	1.7	0.2	1.5	0.7	2.1	0.5
13	1.5			0.5	1.5	0.7
13.5				0.9		0.5
14			1.0	0.9		0.9
14.5				1.0		
15					1.5	
15.5						
16		1.0				1.0
16.5						
17						
17.5				1.1		
18						
18.5					1.4	
19						
19.5						1.1
20						
20.5				1.2		
21						
21.5					1.5	
22	1.0					
22.5						1.5
23						
23.5				1.5		
24						
24.5		1.7	1.7		1.6	
25						1.5

K.D.

H-5743 Verification Report.

H-5743 July 15, 1935

The records conform to the requirements, they are neat and legible.

The usual depth curves can be completely drawn <sup>except as noted in the review.</sup>

The field plotting was completed as required, plotting was accurate.

It was necessary to show soundings of few fathoms in fractions, this was omitted by the field draftsman.

The junction with H-5749 to the north is adequate, as is the junction with H-5748 to the west. The junction with H-5747 to the south was not made as this sheet is still being verified.

#### REMARKS.

Positions on this sheet were accurately plotted, very few corrections. It was necessary to revise considerable soundings as the field draftsman failed to show sdgs. of 10 fathoms in fractions.

In the development of shoal spots an exercise of neatness and a selection of soundings would have been a help in completing the sheet. As these spots were not clear it was necessary to replot and respace, and make a selection of sdgs on the various shoal developments.

M. D. Cooper

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. .5743

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

Number of positions on sheet	2039
Number of positions checked	125
Number of positions revised	5
Number of soundings recorded	8632
Number of soundings revised	203
Number of signals erroneously plotted or transferred	0

Date: JULY 25, 1935

Verification by  
INKED BY

Review by

M. D. Cooper  
J. Honick  
H. W. Murray  
R. J. Christian

Time: 33 hrs } 53  
20 hrs }

Time: 7 1/2 "

2 1/2 "

HYDROGRAPHIC SURVEY NO. 5743

Smooth Sheet 1

Boat Sheet 3

Sounding Records 7 Vols. \_\_\_\_\_

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes in D.R.

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

Statistics Yes

Approved by Chief of Party O. W. Swainson

Recoverable Station Cards (Form 524) \_\_\_\_\_

Special Chart for Lighthouse Service \_\_\_\_\_  
(Circular Nov. 30, 1933)

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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

## TIDE NOTE FOR HYDROGRAPHIC SHEET

May 16, 1935

Division of Hydrography and Topography:

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

Tide Reducers are approved in  
7 volumes of sounding records for

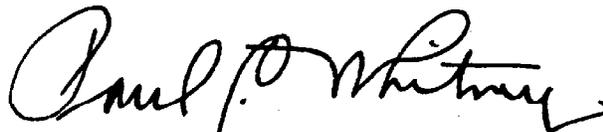
HYDROGRAPHIC SHEET 5743

Locality: Vicinity of Point Sal, California

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 higher high water above plane of reference  
is 5.4 feet.

Condition of records satisfactory except as noted below:

  
Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5743 (1934) FIELD NO. 17

Vicinity of Point Sal, Southern California Coast, California  
Surveyed in 1934

Instructions dated Nov. 18, 1932 (PIONEER) and April 4, 1932 (GUIDE)

Hand Lead and Fathometer Soundings

3 Point fixes on shore signals

Chief of Party - O. W. Swainson

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

Protracted by - H.J.Pulskamp

Soundings penciled by - H.J.P., R.Murray and P.M.Scott

Verified and inked by - M. D. Cooper and J. Honich.

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 matters of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project except that no bottom characteristics were obtained on the fathometer work. This deficiency was remedied by transferring characteristics in color from H-1460 (1879-80) and H-1470 (1880). (See D.R., page 3).

3. Sounding Line Crossings.

A sufficient number of cross lines were run out to the 10 fathom curve. These are in very good agreement with the general system of lines.

4. Depth Curves.

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

5. Junctions with Contemporary Surveys.

- (a) The junction on the south with H-5747 (1934) will be considered in the review of that survey.
- (b) The junctions on the north with H-5749 (1934) and on the west with H-5748 (1934) are satisfactory except that a number of fathometer soundings on the latter 1:40,000 scale survey are 1 fathom deeper than the fathometer soundings of the present survey.

6. Comparison with Prior Surveys.

(a) H-290 (1851).

This is a reconnaissance survey on a scale of 1:375,000 and contains no information that conflicts with the present survey.

(b) H-921 (1867).

Soundings of this 1:5,000 scale survey covering the shoal area of Point Sal are generally in good agreement with the present survey. In view of its detailed nature and the irregular character of the bottom, it was found advisable to carry forward several shoal soundings. These soundings, however, could not be verified in position as the fixes are based on objects falling outside the limits of the sheet. The positions as plotted on the old smooth sheet have been accepted and used in transferring the soundings to H-5743 (1934).

(c) H-1460 (1879-80) and H-1470 (1880).

Soundings of the above surveys are generally in good agreement with those of the present survey. However, in inshore depths of 5 fathoms or less soundings of the 1879-80 surveys vary 1 to 2 fathoms shoaler than those of the present survey in some areas and 1 to 2 fathoms deeper in others. On the extensive shoal area in the vicinity of latitude  $34^{\circ} 55.5'$ , longitude  $120^{\circ} 41.5'$ , a number of soundings on H-1460 (1879-80) vary  $1/2$  to 2 fathoms shoaler than those of the present survey. In view of the general irregularity of this rocky area, two critical soundings were carried forward to the present survey.

7. Comparison with Chart No. 5302.

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

8. Field Plotting.

Field protracting and plotting were satisfactory and conform to the requirements of the Hydrographic Manual with the exception that a number of soundings in congested areas were improperly spaced with respect to time interval. Those so plotted were corrected in the office. (Par. 147).

9. Additional Field Work Recommended.

This survey is complete and no additional field work is required.

10. Superseding Previous Surveys.

Within the area covered, H-5743 (1934) with the indicated additions from prior surveys, supersedes the following surveys for charting purposes:

H-290 (1851)	in part.
H-921 (1867)	" "
H-1460 (1879-80)	" "
H-1470 (1880)	" "

11. Reviewed by Harold W. Murray  
and R. J. Christman

July 22, 1935

Inspected by R. L. Johnston

July 30, 1935.

Examined and approved:

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

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

*J. O. Robert*  
Chief, Division of Charts.

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

*Applied to drawing of Chart 5302-Mar. 23, 1936 - J.F.W.*

25 Jr 3, 1936  
L.A.S.