

5508

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. 12 5508
Hydrographic }

LOCALITY

Pacific Coast

North of Point Conception

19 33

CHIEF OF PARTY

O. W. Swainson,

5508

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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REG. NO. 5508
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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. 12

REGISTER NO. 5508

State California

General locality Pacific Coast

Locality North of Point Conception. ✓

Scale 1:40,000 Date of survey Oct. 11 - Dec. 20, 1933

Vessel Str. PIONEER, Stbd. and Port Motorsailer.

Chief of Party O. W. Swainson, H. & G. E.

Surveyed by O. W. Swainson, P. L. Bernstein, C. J. Wagner, J.C.E Herbe.

Protracted by J. R. Jahn (Draftsman)

Soundings penciled by J. R. Jahn

Soundings in fathoms feet

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by *J. R. Jahn*

Verified by *J. R. Jahn*

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

Remarks:

DESCRIPTIVE REPORT
TO ACCOMPANY SHEET FIELD NO. 12.

AUTHORITY

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

LOCALITY

The area of the sheet extends from Point Conception northwestward. It joins the 1933 survey of Lieutenant C. K. Green on the east, sheet field No. 13 on the west, and sheet field No. 45 on the south.
H5589

CONTROL

The control was by visual fixes on recovered 1933 triangulation stations of Lieut. F. G. Johnson, and the 1933 topographic survey, sheet field No. A, of Lieut. P. L. Bernstein, of the PIONEER. Southward of signal ~~C&P~~ the topographic signals were furnished by Lieutenant C. K. Green (1933 survey).

SURVEY METHODS

The survey was made on a 1:10,000 scale so that the inshore area could be well developed. The launches did the inshore portion, out to about 14 fathoms, using the hand lead, and the ship the outer portion using the fathometer mostly.

The ship always worked within an hour or two run of the launches so as to be able to quickly pick them up in case of a sudden rise in the wind and sea.

The port motorsailer was struck by a heavy breaker near the sunken rock at Latitude $34^{\circ} 32.2'$, Longitude $120^{\circ} 34.2'$, and was washed ashore. The PIONEER pulled it off. About five hundred dollars damage was done to the launch.

CURRENTS

No current observations were made and very little observed, at least not enough to mention.

TIDES

Tides from the Santa Barbara Tide Gage operated by Lt. C. K. Green were used for the reduction of the soundings. No time or height correction was made to the Santa Barbara data to refer them to this area.

MAGNETICS

No magnetic observations were made.

FATHOMETER CORRECTIONS

Theoretical corrections were computed and index corrections obtained in accordance with the instructions (see 1933 Season's Report and Descriptive Report for sheet field No. 25). It was found that these ^{field} corrections were wrong. Obviously, the trouble was in the base line correction in shallow water. The sound apparently was not reflected from a point of the ocean bottom half way between the oscillator and hydrophones. The reflected echo struck the hull of the ship and traveled along the hull to the hydrophone. Therefore, as the soundings on this sheet were all under 25 fathoms, the vertical casts were listed, and the average difference between the vertical casts and fathometer of the 37 comparisons was used for the fathometer correction. This gave fathometer soundings that closely checked the hand lead soundings of the launch work, even into 13 fathoms.

SLOPE CORRECTIONS

No slope corrections were made.

COMPARISON WITH PREVIOUS SURVEYS

A tracing of the original survey was made. This tracing was used to compare the old with the new survey. There are no important discrepancies. The bottom characteristics of the old survey should be retained.

DANGERS

There are no dangers. The rocks are all well inside the kelp line and close inshore. Where the hydrographic position or information regarding rocks differed from that obtained by the topographer, the latter was accepted. The topographer had the better opportunity to locate the rocks. The hydrographer's notes were more or less estimates.

COMPARISON WITH OTHER SHEETS

This sheet checks well with the work on the offshore sheet (No. 45) sheet 13 to the westward, and the 1933 work of Lieut. C. K. Green to the eastward. There is an occasional discrepancy of one fathom but these discrepancies are sometimes due to fractional fathoms. In all cases they are unimportant.

Soundings from position 48 $\frac{1}{2}$ A to 54 A of the PIONEER; 16a to 17a and 56a to 60a of the Port launch; and 77f to 83f of the starboard launch were rejected as they did not agree with other soundings.

O. W. Swainson
O. W. Swainson,
Chief of Party,
Commanding PIONEER.

STATISTICS FOR SHEET NO. 12.

U.S.C. & G.S.S. PIONEER

DATE 1933	VOL.	DAY	NO. STAT. MI. SNDG. LINES	No. OF SOUNDINGS		NO. OF POSITIONS	REMARKS
				FATH.	HAND LEAD		
10/17	1	A	29.6	341		62	Ship
10/17	1	B	2	20		8	
10/19	1	C	2.3	28		6	
10/19	1	D	46	441		84	
10/20	1	E	72	788		183	
			151.9	1618		343	Total
10/11	II	a	17.1		547	115	Stbd M/S
10/12	II	b	6.0		184	54	
10/17	II	c	15.5		699	204	
10/18	II	d	3.0		89	25	
10/18	III	d	17.7		441	143	
10/19	III	e	18.0		535	167	
10/20	III	f	11.1		376	87	
12/6	IV	g	8.5		357	82	
			96.9		3228	877	Total
10/11	V	a	14.5		496	116	Port M/S
10/12/	V	b	5.1		98	43	
12/5	VI	c	14.2		398	144	
			33.8		992	303	Total
			282.6	1618	4220	1523	Grand total
						5838	Total sndgs.

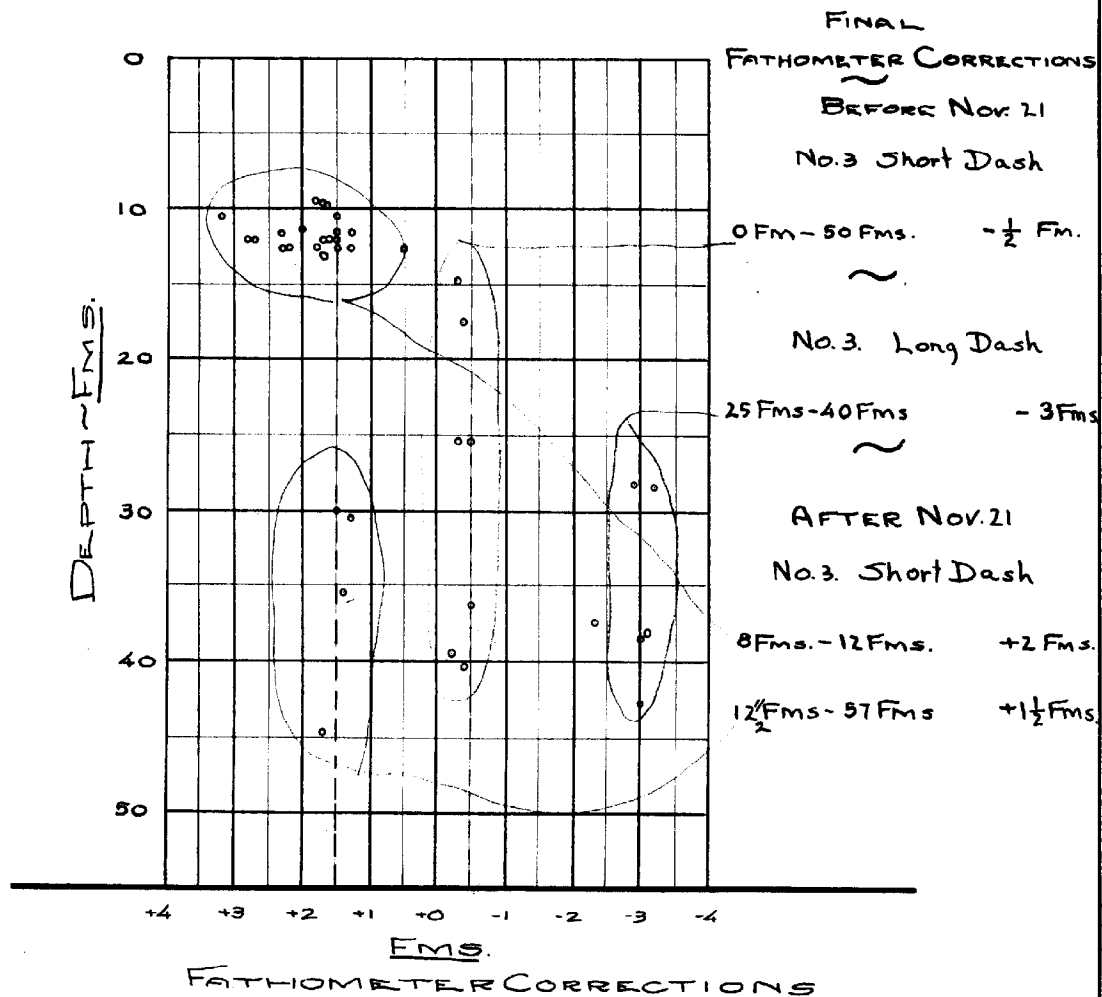
SHEET NO 12.

FATHOMETER CORRECTIONS

GRAPHICAL DETERMINATION

DOTTED LINES INDICATE THE MEAN OF CORRECTIONS
AND GIVE THE RESULTANT FATHOMETER CORR.

- NO.3. SHORT DASH BEFORE NOV. 21
- NO.3 LONG DASH BEFORE NOV. 21
- AFTER NOV. 21



ABSTRACT OF FATHOMETER COMPARISONS

Sheet No. 12.

U.S.C. & G.S.S. PIONEER.

Date	Position	Day	Vertical Cast	Fathometer #3 Sh.Dash	V.C. - Fath = Correction
1933					
10/17		A	34.9	37.2	-2.3
			34.9	38.0	-3.1
			35.3	38.3	-3.0
			34.4	38.8	-4.4
	18	A	25.1	25.4	-0.3
	18	A	24.9	25.4	-0.5
	62	A	39.6	40.0	-0.4
10/18	1	B	14.4	14.7	-0.3
	8	B	39.1	39.3	-0.2
10/19	1	C	16.9	17.3	-0.4
	6	C	35.8	36.3	-0.5
				#3 Lg. Dash	
10/17	18	A	25.1	28	-2.9
	18	A	24.9	28.1	-3.2
	62	A	39.6	42.6	-3.0
				#3 Sh. Dash	
12/19	1	D	11.3	9.6	+1.7
	1	D	11.3	9.5	+1.8
	13	D	36.9	35.5	+1.4
	13	D	46.2	44.5	+1.7
	84	D	13.0	11.5	+1.5
	84	D	14.0	13.5	+0.5
12/20	1	E	11.4	9.8	+1.6
	87	E	13.6	12	+1.6
	136	E	HL 14.7	12.5	+2.2
	139	E	14.7	12	+2.7
	139	E	14.8	12	+2.8
	139	E	14.0	12.5	+1.5
	138	E	HL 14.7	13	+1.7
	157	E	31.8	30.5	+1.3
	157	E	31.5	30	+1.5
	177	E	HL 13.7	10.5	+3.2
	177	E	13.7	12	+1.7
	177	E	HL 13.8	12.5	+1.3
	177	E	13.8	12.5	+1.3
	178	E	14.0	13.5	+0.5
	178	E	14.7	13.0	+1.7
	178	E	14.8	12.5	+2.3
	178	E	14.7	12.5	+2.2
	179	E	14.7	12	+2.7
	180	E	14.3	12.5	+1.8
	181	E	12	10.5	+1.5
	181	E	13.5	12.5	+2.0
	181	E	14.0	12.5	+1.5
	182	E	13.8	11.5	+2.3
	182	E	13.5	12	+1.5
	183	E	12.8	11.5	+1.3

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

Lieut. G. M. Marchand examined the records and sheet carefully. He went through the records and inspected the boat sheet to see that all hydrographic features mentioned in the records were plotted on the smooth sheet. He compared the hydrographic location of rocks with the topographic sheet. The comparison of the sheet with old surveys and the adjacent sheets was made by him. Points of doubt or discrepancy were called to my attention for action. The smooth sheet plotting was checked by placing a tracing of the smooth sheet positions over the boat sheets and replotting the questionable positions. The Descriptive Report was written by me. ✓

O. W. Swainson

O. W. Swainson,
Chief of Party,
Commanding PIONEER.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No.

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

Number of positions on sheet	.....	1523
Number of positions checked	.....	34
Number of positions revised	.....	0
Number of soundings recorded	.....	5838
Number of soundings revised	.....	4
Number of signals erroneously plotted or transferred	.....	0

Date: ... *Oct 27, 1934*

Cartographer: ... *M. Jespersen*

Verification of protracting
Verification & inking of rocks & shoals) by *J. Jespersen*

Time: 1 day 1 hr

Verification of inking by *J. Jespersen*

Time: 6 days 2 1/2 hrs

Review by *R. G. Christman*

Time: 12 1/4 hrs

FIELD RECORDS SECTION

Report on H 5508

The records conform to the requirements of the general instructions.

The usual depth curves with the exception of the 0, 1 and 2 fathom curves can be drawn.

The field plotting was completed to the extent prescribed in the Hydrographic Manual.

The shore line from \odot Cap south was left in pencil by the field draftsman and could not be verified and inked because the topographic sheet covering this area has not been received.

T 4883
Rec'd Feb
1935

No overlaps were made with adjoining sheets, as the only adjoining sheet received at the present time is H 5509 and this has not been verified.

The attention of the reviewer is called to the following:

The only rock added to the sheet by the writer was the sunken rock over 46 e (blue), lat. $34^{\circ} 31'.7$, long. $120^{\circ} 31'.2$.

Bare rock, lat. $34^{\circ} 31'.75$, $120^{\circ} 31'.25$. This rock is not shown on the topographic sheet, but is shown on the boat sheet. The notation (6') not shown on either topographic or boat sheets. See review, paragraph 8.

Rocks awash southwest of \odot Run, lat. $34^{\circ} 31'.6$, long. $120^{\circ} 30'.9$. The notation "Bares 2' MLLW" appears neither on the boat sheet nor on the topographic sheet.

As discrepancies were found in checking rocks with topographic and boat sheets, tracings were made showing a composite check of all rocks appearing on boat, topographic and smooth sheets and are appended to the smooth sheet for the attention of the reviewer.

All reports and records were received at this office.

The crossings are in good agreement with the exception of the 26 fathom depth surrounded by shoal depths in lat. $34^{\circ} 31'.2$, long. $120^{\circ} 33'.7$. This sounding was not inked.

Respectfully submitted,

October 30, 1934.

I. M. ZESKIND

LCC

October 1, 1934.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 5508

Locality North of Point Conception, Coast of Southern Calif.

Chief of Party: O. W. Swainson in 1933
Plane of reference is mean lower low water reading
3.6 ft. on tide staff at Santa Barbara
16.6 ft. below B.M. 1

Height of mean higher high water above plane of reference is 5.4 ft.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5508 (1933).

North of Point Conception, Pacific Coast, California.

Instructions dated November 18, 1932 (PIONEER).

Surveyed - Oct. 11 - Dec. 20, 1933.

Fathometer and Hand Lead Soundings - Visual Fixes on Shore Objects.

Chief of Party - O. W. Swainson.

Surveyed by - O. W. Swainson; P. L. Bernstein; C. J. Wagner; J. C. Ellerbe.

Protracted and soundings penciled by - J. R. Jahn.

Verified and inked by - I. M. Zeskind.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual.

The reference triangulation station on the smooth sheet was inked in red by the field draftsman. This was changed to black in conformity with the office practice of showing the reference station in the same color as the projection lines.

2. Compliance with Instructions for the Project.

The plan and extent of development conform to the instructions for the project.

3. Sounding Line Crossings.

Depths at crossings are in good agreement, generally within less than 1 fathom, except line 48A to 54A, lat. $34^{\circ}29'$, long. $120^{\circ}31'$, which is over 1 fathom too deep and was rejected by the field party, and a 26 fathom sounding in lat. $34^{\circ}31'.2$, long. $120^{\circ}33'.7$ where the crossing line shows 24 fathoms. The rejection of the line 48A to 54A is concurred in, and these soundings, as well as the 26 fathom sounding mentioned in preceding sentence were not inked on the smooth sheet.

4. Depth Curves.

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

5. Junction with Contemporary Surveys.

Junctions with adjoining sheets will be considered in the reviews of those sheets.

6. Comparison with Prior Surveys.

a. H. 1371a (1877).

This survey is in very good agreement with the 1933 survey. In-shore features are not given in as great detail as on the 1933 survey

but there are a few places where the soundings approach the low water line more closely. No bottom characteristics are shown on the 1933 survey outside the 10 fathom curve and the bottom characteristics from the 1877 survey have been transferred to H. 5508 (1933) in color, as recommended by the field party in the descriptive report.

b. H. 2252 (1896).

This is a special survey in connection with naval speed trials and shows no hydrographic features.

c. H. 1037 (1869).

Only a few soundings at the northern edge of this survey fall within the area of the present survey. They are all in good agreement with the 1933 survey.

d. H. 290 (1851).

This is a reconnaissance survey on a very small scale (1:375,000) and all features shown are covered in the later surveys.

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, except the following: The two high water rocks in approximate lat. $34^{\circ}30'.7$, long. $120^{\circ}30'.5$ have been carried forward from the first edition of Chart 5300 (June 1886), but no authority for them could be found. The new survey, H. 5508 (1933), shows the three fathom curve projecting seaward $\frac{1}{4}$ mile to the approximate charted position of these rocks, and the sea probably breaks here in extreme weather. It is possible that reported breakers may have been the original source of these rocks. The least depth found in the vicinity in the present survey is $2 \frac{5}{6}$ fathoms. These rocks should no longer be charted.

8. Field Plotting.

Protracting of positions and penciling of soundings were well done.

There are several inconsistencies in transfer of inshore details.

a. The notes "bares 5' MLLW" and "bares 2' MLLW" appeared on the smooth sheet near Θ Run, lat. $34^{\circ}31'.5$, long. $120^{\circ}30'.9$, without similar notation on the topo sheet (T. 4864) or authority for them on the boatsheet or in the sounding records. The notes were erased from the sheet.

b. Two rocks with elevation 2' on the topo sheet had the note

"awash at HW" on the smooth sheet.

c. A rock with elevation (6') was shown near the shore in lat. $34^{\circ}31'.75$, long. $120^{\circ}31'.23$. The rock is not shown on the topo sheet (T. 4864) and no authority for the elevation was found. The rock has been retained on the smooth sheet, but the elevation erased as it is of little importance and might be misleading.

9. Additional Field Work Recommended.

The survey within the limits of the sheet is complete, and no additional work is necessary.

10. Superseding Old Surveys.

Within the area covered, the present survey with indicated additions from previous surveys, supersedes the following surveys for charting purposes.

H. 2252 (1896) in part.
H. 1371a (1877) in part except bottom characteristics.
H. 1037 (1869) in part.
H. 290 (1851) in part.

Note to Compiler.

11. Because of the good agreement between the new survey and H. 1371a (1877), such inshore soundings on H. 1371a as are necessary may be used to supplement the new survey.
12. Reviewed by - R. J. Christman, Oct. 1934.

Inspected by - C. K. Green.

Examined and approved:

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

F. O. Zolbert
Chief, Division of Charts.

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

R. R. Lukens
Chief, Division of H. & T.

Applied to drawing of Chart 5302 - Apr. 1, 1936 - JTW.
" " " " 5202 Mar 1936 R.M.-3.

25 for 13, 1936
CHS.

Chart 5280 - fully app'd after V&R. 10-26-63 ERJ

Chart 5066 - fully applied after V&R thru chart 5280
RND. 1-31-64