

5653

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

DESCRIPTIVE REPORT

~~XXXXXX~~ } Sheet No. 43 5653
Hydrographic }

State California

LOCALITY

Offshore California Coast

Santa Monica Bay

1933 & 34

CHIEF OF PARTY

O.W. Swainson

5653

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY
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FEB 19 1935

Acc. No. _____

REG. NO. 5653

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. 43

REGISTER NO. 5653

State California

General locality Offshore Southern California Coast.

Locality Santa Monica Bay.

Scale 1:40,000 Date of survey May 15, 1933 to , 19 Sept. 24, 1934.

Vessel Str. PIONEER, Starboard Motorsailer.

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

Surveyed by O. W. Swainson, J. C. Ellerbe.

Protracted by J. R. Jahn (Draftsman)

Soundings penciled by J. R. Jahn

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by _____

Inked by P.H. Scherr + M.H. Brinkley

Verified by P.H.S.

Instructions dated Nov. 18, 1932, Pro. #120, and Feb. 17, 1933 to Lt. R. W. Knox, Pro. #HT102.

Remarks: Motorsailer used only to locate oil seepage areas.

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SHEET FIELD NO. 43.

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

O. W. Swainson, Commanding.

AUTHORITY

The hydrography of field sheet 43 was done in accordance with instructions dated November 18, 1932, for Project No. 120 and particularly those to Lieutenant R. W. Knox, dated February 17, 1933, for Project HT102.

LOCALITY

The sheet extends offshore of the 1933 work of Lt. R. W. Knox, between Point Fermin and the northern end of Santa Monica Bay.

CONTROL

The survey was controlled by visual fixes on recovered triangulation stations and topographic stations furnished by Lt. R. W. Knox.

SURVEY METHODS

The work was done on a scale of 1:40,000 as this scale was considered best to bring the signals within reach of the protractor and yet allow close spacing of the lines. All the sounding was done by the PIONEER using the fathometer. The lines were run parallel to the beach to allow a gradual increase in the spacing of the lines as the depth increased. One of the PIONEER'S motorsailers was used a portion of one day to locate the boundaries of several oil seepage areas.

CURRENTS

No current observations were made, nor were any decided currents observed in the course of the hydrography.

MAGNETICS

No magnetic observations were made.

TIDES

Tidal corrections were obtained from the records of the automatic gage maintained by the Los Angeles Harbor Department at Los Angeles Harbor. No time or height corrections were made to these data in referring them to the locality of the sheet.

FATHOMETER CORRECTIONS

The description of the method of correcting the fathometer sounding was attached to report for sheet 44. Attached to this report is a short description of the corrections from September 6 to September 24, 1934.

SLOPE CORRECTIONS

No slope corrections were applied. The slopes on the sides of the submarine valleys are sufficiently steep to require corrections in accordance with the instructions. However, it was uncertain as to what part of the bottom reflected the echo, as the bottom was so irregular. Slope corrections would cause as many errors as they would correct. ✓

DANGERS

There are no dangers to navigation on this sheet. ✓

JUNCTION WITH OTHER SHEETS

This hydrography joins the inshore work of Lt. R. W. Knox very satisfactorily. Also it is in agreement with field sheets Nos. 44 and 48 of this party at the points of junction. Where there are discrepancies with Lt. Knox' work, his soundings should be given preference by reason of the fact his soundings were obtained by wire. ✓

COMPARISON WITH PREVIOUS SURVEYS

Under 200 fathoms the soundings obtained by this party agree very favorably with Registered Sheet No. 4559. Over this depth discrepancies amounting to as much as 60 fathoms were noted, the old sounding being shoaler as a rule. In an effort to bring the old and the new work to a closer agreement in the deeper areas the work of this sheet was carried much farther to seaward than was originally planned. However, this action did not secure the results desired. It is believed that the old soundings are in error because of the nature of the sounding apparatus used; namely, the Sonic Depth Finder, which is admittedly inferior to the modern fathometer using the red light method. It is recommended that the new survey be given precedence where discrepancies occur. ✓

45 fm. discrepancies

STATISTICS

A table of statistics is appended to this report.. ✓

EXPLANATORY REMARKS

(A) Due to the fact the smooth sheet was projected before it was deemed necessary to carry the work farther offshore than first planned, part of the work shown on the boat sheet could not be plotted on the smooth sheet. This made it necessary to transfer all of Q day and portions of R and S days to adjoining sheets, namely field Nos. 48 and 83. Hence, the following changes were made.

Q day, (August 9, 1933) transferred from Vol. 6, sheet #43 to Vol. 3, sheet #48, becoming E day, sheet #48.

Positions 1 to 9 inclusive, R day (September 6, 1934) transferred

from Vol. 6, sheet #43 to Vol. 3, sheet #48, becoming Pos. 1 to 9, F day, sheet #48.

Positions 1 to 15 inclusive, S day (September 24, 1934) transferred from Vol. 6, sheet #43 to Vol. 3, sheet #48, becoming Positions 1 to 15, G day, sheet #48.

Positions 50 to 60, inclusive, S day (September 24, 1934), transferred from Vol. 6, sheet #43, to Vol. 1, sheet #83, becoming 1 to 11 F day, sheet #83.

All of the above work is shown on the boat sheet of sheet #43.

(B) The positions Nos. 3 to 30, inclusive, in violet ink in Latitude $33^{\circ} 46'$, Longitude $118^{\circ} 36' - 32'$ are from the records of sheet No. 121. ← H-5775
This work was done while making R. A. R. velocity tests on sheet No. 121, but the soundings belong properly on sheet No. 43. For the recording of this work see Vol. 4, sheet #121, pages 53-63 inclusive.

(C) Several areas of oil and gas seepage were located on this sheet. The starboard motorsailer was used for this work and the record of same is to be found in Vol. VI, pages 16 to 18, inclusive. The work is designated on the sheet by lower case letters in blue, and numbered from 1 to 18. A tracing of these areas is included with the sheet. A special report on this oil seepage was forwarded August 9, 1933.

(D) Very few bottom characteristics were obtained during this survey. It is recommended that the characteristics for charting purposes be obtained from the previous surveys.

Respectfully submitted,

O. W. Swainson


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

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

I examined most of the soundings myself then turned the sheet over to Lieutenant G. M. Marchand for verification. He checked the plotting by placing a tracing of the smooth sheet over the boat sheet. He examined the sounding records to see that they were complete and that all vertical casts, notes, etc., were plotted on the smooth sheet. He compared the junctions of the sheet and the new with the old work. Wherever there was any doubt he called the matter to my attention for action.

RECOMMENDATION FOR ADDITIONAL WORK

As the soundings on the other limit of the sheet do not check with the old work, the resurvey should extend southwestward as far as Lieutenant R. W. Knox' 1932-33 survey around Santa Barbara Island.


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

FATHOMETER CORRECTIONS

Sheet No. 43.

September 6 - 24, 1934.

The corrections were assumed to be the same as those of sheet No. 51. The work on the two sheets was done during the same period and the conditions of temperature and salinity in the two areas were practically identical.

No corrections for #1 Hydrophone, Big Oscillator, FRx6, soundings were computed for sheet No. 51.

It has been observed that the #1 Hydrophone, Big Oscillator, FRx6 soundings are the same as the #1 Hydrophone, Small Oscillator, FRLD, soundings, so the same corrections apply.

The fathometer scale was uniform throughout.

STATISTICS FOR SHEET 43.

Date	Vol.	Day Letter	No. Fath. Soundings	No. of Positions	No. of Statute Miles Sound. Lines	Remarks
1933						
May 15	I	A	1017	175	98.0	
16	I	B	497	121	79.7	
16	II	B	736	80	39.6	
17	II	C	1118	173	117.0	
18	III	D	868	165	103.0	
19	III	E	781	130	65.0	
19	IV	E	533	94	52.0	
22	IV	F	127	28	19.5	
June 1	IV	G	789	154	93.0	
2	IV	H	183	41	21.0	
2	V	H	657	145	103.0	
20	V	J	493	79	51.0	
21	V	K	200	36	20.0	
22	V	L	172	28	17.0	
23	V	M	129	23	13.5	
23	VI	M	48	6	6.5	
24	VI	N	96	25	16.0	
27	VI	a*	- -	18	- - -	*These position were taken to locate oil seepage.
31	VI	P	191	40	23.5	
1934						
Sept. 6	VI	R	73	18	13.0	Positions 1-9 trans. to sheet 48.
24	VI	S	143	16	25.3	Positions 1-15 trans to Sheet 48, pos. 50-60 trans. to sheet 83.
April 17, 1933	IV sh.	121	72	28	13.5	RAR and Visual fixes for velocity tests on 4/17/33.
Totals			8918	1643	990.1	

DWS

FINAL FATHOMETER CORRECTIONS

Sheet No. 43.

September 6, 1934

to

September 24, 1934.

#3 Big FRSD		#1 Small FRSD		#1 Small FRLD & #1 Big FRx6		#1 Small FRx6	
Depth	Cor'n	Depth	Cor'n	Depth	Cor'n	Depth	Cor'n
19½ - 32½	+1½	50 - 58	+2½	101 - 152	0	100 - 125	-1
33 - 63	+2	58½ - 90	+2	153 - 210	-1	126 - 185	-2
63½ - 100	+1½	90½ - 100	+1½	211 - 270	-2	186 - 240	-3
		101 - 152	+1	271 - 335	-3	241 - 305	-4
		153 - 210	0	336 - 400	-4	306 - 365	-5
		211 - 270	-1	401 - 455	-5	366 - 430	-6
						431 - 485	-7

Comp. Jlc

Section of Field Records

Verifier's Report on H-5653
(Includes Additional Work Report)

1. The records conform to the requirements of the General Instructions with the exception that the day letters on the cover and title page were not in color. ✓
2. The usual depth curves were drawn. ✓
3. The field plotting was complete. ✓
4. The office draftsman changed no part of the field drafting other than a few corrections in plotting. ✓
5. Junctions with the following sheets were made:

H-5364 - on H-5364 1933
H-5368 - " H-5363 1933
H-5396 - " H-5396 1933
H-5235 - " H-5235 1933
H-5397 - " H-5397 1933
H-5485 - " H-5485 1933
H-5523 - " H-5523 1933-34
H-5507 - " H-5507 1933-34

All junctions were satisfactory with the exception of that with H-5485. The 20 fathom curve at the junction between these two sheets remains in pencil pending review. *Depths at junction agree within 1/2 fathom. Curve was adjusted by plotting 20 fms as recorded in the records.*

Remarks.

- a. The additional work on this sheet was plotted, verified, and inked by us. ✓
- b. The work mentioned under section "B" of the Explanatory Remarks was verified by us from the records of H-575 and inked. ✓
- c. The oil seepage areas were dashed as shown with accompanying notes. ✓
- d. The name of the surveyor of the additional work is nowhere mentioned in the records or elsewhere. Proper stamps are not used in the volume for this work. ✓

Respectfully submitted,

P. Scherr.

P. Scherr.
August 15, 1935.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. .56.53

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

Number of positions on sheet	1643
Number of positions checked	28
Number of positions revised	3
Number of soundings recorded	8918
Number of soundings revised	15
Number of signals erroneously plotted or transferred	✓

Date: August 15
Inked by M. H. Brinkley 47½ hrs.
Verification by P. Scherr 72¾ hrs. Time: 120¼ hrs.
Review by R. J. Christman Time: { 12½ hrs Review
2½ " add. dev.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5653 (1933-4-5) - FIELD NO. 43

Santa Monica Bay, Offshore California Coast, California
Surveyed in May, 1933; September, 1934; and March, 1935
Instructions dated November 18, 1932 (PIONEER)
And February 17, 1933 (R. W. Knox)

Fathometer Soundings.

3 Point Fixes on Shore Signals.

Chief of Party - O. W. Swainson.
Surveyed by - O. W. Swainson, J. C. Ellerbe.
Protracted by - J. R. Jahn.
Soundings penciled by - J. R. Jahn.
Verified and Inked by - P. H. Scherr and M. H. Brinkley.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that day letters were not incolor on cover and title page. This has been changed in the office.

The Descriptive Report satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan and extent of the survey comply with the instructions for the project.

3. Shoreline.

This is an offshore sheet and no shoreline is shown. Signals are recovered triangulation stations, topographic stations from 1932-33 surveys by R. W. Knox, and 5 hydrographic stations with locations in the sounding records.

4. Sounding Line Crossings.

Depths at crossings are in very good agreement, and soundings generally are consistent over the entire area of the survey.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

Junctions with the following inshore sheets are satisfactory:

H-5364 (1933)	H-5235 (1933)
H-5363 (1933)	H-5397 (1933)
H-5396 (1933)	H-5485 (1933)

Junctions with H-5507 (1933-4) to the northwest and with H-5523 (1933-4) to the southeast are satisfactory.

The survey to the southward is not yet available for comparison of junction.

To the westward, H-5653 (1933-4-5) overlaps H-4559 (1926-28), a part of the westernmost ^{line} of the present survey being plotted on H-5851 (1934-5). The agreement in depth is not good, differences up to 45 fathoms being found, generally shallower on the older survey. (See par. 7e of this review).

7. Comparison with Prior Surveys.

a. H-289 (1851).

This is a reconnaissance survey, on a very small scale, and all the information on the sheet is adequately covered by later surveys.

b. H-706a (1859), H-1211 (1873).

These surveys, scale 1-10,000, slightly overlap the present survey on the inshore side. They show no special features in the common area and have been superseded for charting purposes by later surveys.

c. H-1341a (1875-6)^{H-1341b (1875)}, H-1417 (1878).

These surveys, scale 1-40,000^{, 1-10,000} and 1-20,000, respectively, extend offshore to about the 200 fathom curve. The agreement in depth with the present survey is very good. Because H-5653 (1933-4-5) is more closely developed and shows much more detail in and around the submarine valleys, it should supersede the above surveys for charting except that the bottom characteristics should be retained. *These bottom characteristics have not been inked on the present survey. H-5653, RWD 1/77*

d. H-4162 (1920), H-4504 (1925),
H-4224 (1922), H-4547 (1926).

These surveys, on various scales, slightly overlap the present survey southward and southeastward of Point Fermin. The agreement in depth is good and there are no special features that need comment in this review. For the area covered by H-5653 (1933-4-5) these surveys should be superseded for charting purposes.

e. H-4559 (1925-6) and 28), H-4560 (1926).

These surveys, on scale 1-120,000, overlap the deeper portion of the present survey (outside approximately the 100 fathom

curve). Along the outer edge of the present survey, differences in depths up to 45 fathoms were noted. Similar differences occur in the deeper parts of the overlapping area, generally shoaler on the older survey but no consistency in the differences is apparent. The discrepancies are believed to be due to the limitations of the Sonic Depth Finder which was used in the older survey. The present survey adequately covers the area and should supersede the above surveys for charting. Also see "Comparison with Previous Surveys" page 2 of the Descriptive Report.

455915
from 5653

f. H-4784 (1928).

This is a rather open fathometer survey (scale 1-40,000) of the submarine valley in Santa Monica Bay. The agreement in depths with the present survey is very good. A combination of the two surveys would show a few minor changes of curves on H-5653 (1933-4-5) which, however, would not materially increase its value for charting. Because of the closer development, H-5653 (1933-4-5) should supersede the above survey for future charting purposes.

8. Comparison with Charts 5143, 5144 and 5101.

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

9. Field Plotting.

Field plotting was excellent.

10. Additional Field Work Recommended.

This survey is complete and satisfactory. However, in view of the discrepancies noted in par. 7e of this review, it would be desirable to extend the western limits of the present survey to an overlap with H-5851 and H-5848.

11. Superseding Old Surveys.

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

H- 289	(1851)	in part			
H- 706a	(1859)	" "			
H-1211	(1873)	" "			
H-1341a	(1875-6)	" "	except bottom characteristics.		
H-1417	(1878)	" "	" "	"	
H-4162	(1920)	" "			
H-4224	(1922)	" "			
H-4504	(1925)	" "			
H-4547	(1926)	" "			
H-4559	(1925-6 & 28)	" "			
H-4560	(1926)	" "			
H-4784	(1928)	" "			
H-1341b	(1875)	" "	except bottom characteristics.		

12. Reviewed by - R. J. Christman and R. L. Johnston, September 12, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Pollock
Chief, Division of Charts.

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

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

Applied to Chart 5101 - April 21, 1936 - R.M.J.
"

5653
Additional work

Additional work

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

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. Add'l Wk.
Hydrographic }

Additional work

State California

LOCALITY

Offshore California Coast

Santa Monica Bay

1935

CHIEF OF PARTY

O.W. Swinson

Additional work

Additional work

5653

Additional work

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. _____

REGISTER NO.

State California

General locality Offshore California Coast

Locality Santa Monica Bay

Scale 1:40,000 Date of survey March, 1935, ~~193~~

Vessel PIONEER

Chief of Party O.W. Swainson

Surveyed by _____

Protracted by P. H. Scherr

Soundings penciled by P.H.S

Soundings in fathoms feet

Plane of reference M.L.L.W

Subdivision of wire dragged areas by _____

Inked by P.H. Scherr

Verified by P.H.S

Instructions dated _____, 192

Remarks: Add'l work done by request of Dr. Francis P. Shepard, University of Illinois. Title Sheet ^e executed in Office.

POST-OFFICE ADDRESS: P. O. Box 530, Long Beach, California.

TELEGRAPH ADDRESS: Coast Guard, San Pedro, California

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

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

April 8, 1935.

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

From: The Commanding Officer,
U.S.C. & G.S.S. PIONEER.

Subject: Additional work on Sheet Field No. 43.

At the personal request of Dr. Francis P. Shepard, of the University of Illinois, additional soundings were taken across the submarine valley off Redondo Beach in Santa Monica Bay.

This hydrography is being considered as additional field work on sheet, field No. 43, and is shown on the accompanying chart No. 5144, which is being forwarded as a boat sheet. The sounding record is also being forwarded.

It is recommended that this work be plotted on sheet No. 43 which was previously forwarded to the office. If and where these soundings conflict with previous work on this sheet, the latter should be given preference.

The same fathometer corrections were used as for sheet No. 43. Tide and slope corrections were not considered.

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

RAC

April 26, 1935

F. E.

Division of Hydrography and Topography:

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

Tide Reducers are approved in
6 volumes of sounding records for

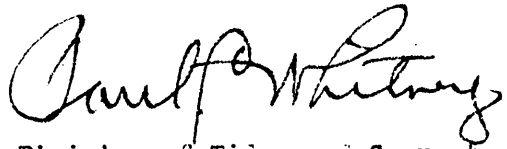
HYDROGRAPHIC SHEET 5653

Locality Santa Monica Bay, Calif.

Chief of Party: O. W. Swainson, 1933-1935
Plane of reference is mean lower low water reading
3.6 ft. on tide staff at Los Angeles
14.0 ft. below B.M. 8

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.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. *H-5653*
.....

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

Number of positions on sheet <i>20</i>
Number of positions checked -
Number of positions revised -
Number of soundings recorded <i>129</i>
Number of soundings revised -
Number of signals erroneously plotted or transferred -.....

Date:

Verification by *P.H. Scherr*

Review by

Time: *Included with time
for H-5653*

Time:

Nov. 12, 1935, applied to Chart 5144, by J.W. McGuire
" 13, in part " " 5143 " J.W. McGuire
3/8/39

Applied to Chart 5101 - April 21, 1936 - L.M.J. 25 Jan 7, 1936

Applied to chart 5148 May 24, 1943 E.D.
" " " 5142 1950 L.A.M.
"