

5390
5391
5392

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

FEB 14 1934

Acc. No. _____

Original

Form 504
Ed. June, 1928
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R S Patton, Director

State: CALIFORNIA

DESCRIPTIVE REPORT

Topographic }
Hydrographic } Sheet Nos 16, 17, 18

LOCALITY

Southern California

Kellers Shelter

to

Point Mugu

19 33

CHIEF OF PARTY

Robert W. Knox

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

U. S. COAST & GEODETIC SURVEY
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REG. NO. 5390
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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. 16

REGISTER NO. 5390

State California

General locality State of California

Locality Kellers Shelter to Point Dume

Scale 1:10,000 Date of survey May 16 - June 16, 1933

Vessel chattered launch ROMANCE

Chief of Party Robert W. Knox

Surveyed by do

Protracted by A. J. Vollmar

Soundings penciled by do

Soundings in fathoms feet

Plane of reference mean lower low water

Subdivision of wire dragged areas by _____

Inked by J. W. Day

Verified by J. W. Day

Instructions dated April 14, 1932; Feb 17, 1933, 19____

Remarks: _____

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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REG. NO. 5391

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. 5391

State California

General locality Santa Monica Bay

Locality Point Dume to Arroyo Sequit

Scale 1:10,000 Date of survey May 23- Jun 7, 1933

Vessel chattered launch ROMANCE

Chief of Party Robert W. Knox

Surveyed by do

Protracted by A. J. Vollmar

Soundings penciled by D. L. Ackland

Soundings in fathoms feet

Plane of reference mean lower low water

Subdivision of wire dragged areas by _____

Inked by M. S. Gurnee

Verified by M. S. Gurnee

Instructions dated April 14, 1932; Feb 17, 1933, 19____

Remarks: _____

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. 18

REGISTER NO. 5392

State California

General locality Southern California

Locality Arroyo Sequit - Point Mugu

Scale 1:10,000 Date of survey Jun 1 - Jun 7, 1933

Vessel chartered launch ROMANCE

Chief of Party Robert W. Knox

Surveyed by do

Protracted by C. L. Rasmussen

Soundings penciled by D. L. Ackland

Soundings in fathoms feet

Plane of reference mean lower low water

Subdivision of wire dragged areas by _____

Inked by J. W. Day

Verified by J. W. Day

Instructions dated April 14, 1932; Feb 17, 1933, 19

Remarks: _____

H-5390
H-5391
H-5392

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEETS NOS. 16, 17 & 18.

Scale 1:10,000

SOUTHERN CALIFORNIA

KELLERS SHELTER TO POINT MUGU

* * *
Instructions dated Feb. 17, 1933

Surveyed by R. W. Knox,
*

AREA, LIMITS, ETC. The area covered by sheets 16, 17 and 18 comprises the inshore waters from Kellers Shelter on the northern shore of Santa Monica Bay west and north to Point Mugu, on the open coast. Junction at approximately the 15 fathom curve, except in the vicinity of the submarine valley near Point Dume, was made with the work of the current season of the STR. PIONEER. ✓

There are no towns of importance along the shores of these waters, but summer cottages, service stations, roadhouses and stores are quite numerous eastward of point Dume, but noticeably scarce north of that Point. There is no water borne commerce, and but few fishing boats and yachts, and an occasional Coast Guard Cutter, make use of the anchorages at Kellers Shelter and Dume Cove. ✓

Paragraph 10 of the Director's instructions of Feb. 17, 1933 stated that it was desired to finish the project by June 30, 1933, if possible. It was therefore attempted to so plan the execution of the surveys from the San Pedro Breakwater to Point Mugu, a distance of some sixty miles, so as to complete them by the end of the fiscal year and still satisfy the requirements of the Hydrographic Manual, the specific instructions and such additional requirements as the nature of the bottom demanded. The work was completed shortly before June thirtieth, and an examination of the smooth sheets leads the Chief of Party to believe that all essential requirements were met. ✓

SURVEY METHODS: Standard survey methods were used; a ten and twelve pound lead being used under and over approximately ten fathoms, respectively. A great deal of trouble was experienced in obtaining true lead line corrections, due to the poor quality of the tiller rope used. Successive days corrections were plotted on cross section paper, and the results studied in an effort to better arrive at true corrections. ✓

DISCREPANCIES: The lead line was apparently misread on position 2a, as that sounding is recorded as 16 fathoms, whereas two check soundings, on positions 129j and 130j, are 14 and 15 fathoms. Pos 1+2a omitted, R.W.M. H-5390 ✓

No discrepancies were noted on sheets 17 and 18.

Some of the soundings in fathoms and quarters are incorrectly plotted in that 4 foot increments was plotted as 1/2 fathom rather than 3/4 fathom. This was not discovered by the Chief of Party until the sheets had been reviewed and preparations made for mailing to the office. ✓

DANGERS AND SHOALS: Sheet 16. In the area covered by this sheet, all points of land are guarded by off-lying rocks, in general quite close to the high water line:

a. Shoal water extends more than 200 m off the beach south and west of the pier in Kellers Shelter at the eastern end of the sheet.

b. A group of about 8 rocks make out a maximum distance of 150 m from the point in latitude $34^{\circ} 01:8$, longitude $118^{\circ} 40:9$.

c. A small group of rocks lie immediately off the next point westward, that marked by signal Sin.

d. In latitude $34^{\circ} 01:8$, longitude $118^{\circ} 43:0$ there is a group of rocks, the most southerly of which is sunken.

e. Three rocks lie about 100 m off signal Der

~~f. Three rocks lie about 100 m off signal Blue~~ - Probably refers to rocks under

g. A group of three rocks lie about 100 m southeast of signal

STRA.

h. A foul area consisting of rocks and breakers extend about 320 m south by east of signals Twin and Hed.

Sheet 17. There is a group of 4 rocks 200 m south of Point Dume, and a very small ^{islet} always bare, about 80 m northwest of this group. On the northern half of the sheet there are many rocks and breakers, but they are all within 150 m of the high water line, and are generally marked by heavy kelp. N.E.

Sheet 18. There is a foul area in latitude $34^{\circ} 02:8$ and longitude $118^{\circ} 57:2$ and slightly less than 300 m offshore. It consists of about a dozen breakers and extends about 125 m in a north and south direction and 350 m in an east and west direction. About 500 m west of the center of this group is a lone sunken rock, in latitude $34^{\circ} 02' 1520$ m, longitude $118^{\circ} 57' 870$ m. The kelp in this area is so thick and heavy as to be almost impenetrable with a launch.

SUBMARINE VALLEY: A submarine valley with extremely steep slopes runs about a quarter mile off-shore from Point Dume, and roughly parallel with the beach north of this point. Both "rocky" and "fine gray sand" specimens were obtained from this valley.

ANCHORAGES: The two anchorages affording protection from northerly and westerly weather between the ports of San Pedro and Santa Barbara are contained on sheet 16:

Kellers Shelter affords a safe but uncomfortable anchorage for westerly and southwesterly weather. Long seas make around the point, particularly when the wind is even slightly south of west, but the point effectively breaks down the chop. The ROMANCE safely anchored many times in this cove. Caution should be exercised in not attempting to anchor too close to the westerward shore of the cove, where a shoal makes out near signal Ado. The ROMANCE anchored in 3-4 fathoms, sand bottom, on a line prolonged from the wharf.

Dume Cove, and anchorage slightly better than Kellers Shelter, is formed by Point Dume. The best anchorage is abreast the fourth arroyo east of the Point in 6-7 fathoms, sand bottom, immediately outside the heavy kelp line.

In entering this anchorage care should be taken to avoid the shoal area off the point east of Point Dume.

On sheet 17 there is an open bight near Δ Sequis, it is, however, of no value as an anchorage. ✓

CURRENTS: No currents of abnormal strength were encountered in the survey of the area covered by these sheets except in the vicinity of the submarine valley near Point Dume, sheet 17. Here moderately strong currents of a confused directional nature were observed. ✓


COMPARISION WITH PREVIOUS SURVEYS: No bromides of previous inshore work were furnished the party. ✓

BOTTOM: Bottom specimens were invariably fine sand, mostly gray, but with some green and yellow, and broken shell. Some rocky bottoms were noted close ashore. ✓

GEOGRAPHIC NAMES: Local names are identical with those appearing on the charts. ✓

PLOTTING: Because of shortage of steel three-arm protractors, most of the plotting was done with a celluloid protractor. In by far the majority of cases, the fixes were strong, and it is thought the work suffered little in accuracy therefrom. ✓

Rocky bottom specimens were erroneously recorded in the volumes as rk or Rk instead of rky. In all cases actually involving a rock awash or a sunken rock the proper notation will be found in the remarks column. ✓


Respectfully submitted:

Robert W. Knox,
Chief of Party.

STATISTICS

HYDROGRAPHIC SHEETS NOS 16, 17, 18.

Date	Vol	Day	No. 16			Boat	
			St. mi.	sdg.	Pos		
May 16	1	a	24.6		172	420	Romance
25	1	b	13.2		88	215	do
26	1	c	20.7		117	397	do
Jun 5	2	d	17.2		93	238	do
7	2	e	1.0		9	35	do
8	2	f	31.4		223	809	do
9	3	g	21.0		162	565	do
15	3	h	4.0		32	119	do
16	3	j	<u>16.0</u>		<u>134</u>	<u>456</u>	Romance & skiff
totals			149.1		1030	3254	

No. 17

May 23	1	a	24.2		171	345	Romance
24	1	b	29.4		186	503	do
25	1 & 2	c	15.5		88	358	do
31	2	d	20.0		93	486	do
Jun 7	2	e	<u>5.4</u>		<u>83</u>	<u>151</u>	do
totals			94.5		621	1843	

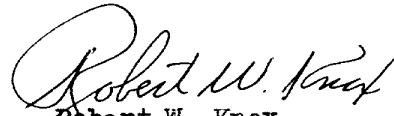
No. 18

Jun 1	1	a	27.5		191	502	Romance
2	1	b	30.3		180	508	do
6	2	c	30.7		188	622	do
7	2	d	<u>5.3</u>		<u>42</u>	<u>126</u>	do
totals			93.8		601	1758	

APPROVAL OF CHIEF OF PARTY

Field sheets nos 16, 17, and 18 and accompanying records have been inspected and approved by me. The field work was done under my immediate supervision; the office work under my occasional supervision.

No additional work is considered necessary.


Robert W. Knox,
H. & G. Eng'r,
Chief of Party.

82 RAC

March 17, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 5390

Locality Kellers Shelter to Point Dume, Coast of Southern California

Chief of Party: Robt. W. Knox in 1933

Plane of reference is mean lower low water reading

2.8 ft. on tide staff at El Segundo

6.4 ft. below B. M. R-20

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

Condition of records satisfactory except as noted below:

Hammer
Acting Chief, Division of Tides and Currents

March 17, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5391

Locality Point Dume to Arroyo Sequit, Coast of Southern California

Chief of Party: Robt. W. Knox in 1933

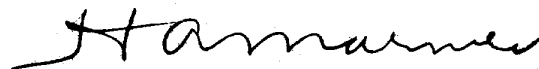
Plane of reference is Mean lower low water, reading

2.8 ft. on tide staff at El Segundo

6.4 ft. below B. M. R-20

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

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents

LAC

March 17, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
2 volumes of sounding records for


HYDROGRAPHIC SHEET 5392

Locality Arroyo Sequit to Point Mugu, Coast of Southern California

Chief of Party: Robt. W. Knox in 1933
Plane of reference is mean lower low water, reading
2.8 ft. on tide staff at El Segundo
6.4 ft. below B. M. R-20

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

Condition of records satisfactory except as noted below:


Acting Chief, Division of Tides and Currents

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *539!*

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

Number of positions on sheet	.. <i>52!</i>
Number of positions checked	... <i>4!</i>
Number of positions revised	... <i>!</i>
Number of soundings recorded	<i>2025</i>
Number of soundings revised	... <i>75</i> (approx)
Number of signals erroneously plotted or transferred <i>0</i>

Date:....*June 8, 1934*.....

Cartographer:.. *M. S. Gurnee*

Verification of pretrasting by *J. G. Ladd* **Time:** *7 Hours*

Verification of inking by *M. S. Gurnee* **Time:** *54½ "*

Review by **Time:**

Section of Field Records

Report on H-5390

Verified and Inked by J. W. Day

The records conform to the requirements of the General Instructions with the exception of some bottom characteristics, which error was acknowledged in the report of the ~~field~~ chief of party.

The three, five and ten fathom curves were completely drawn; the two and twenty fathom curves were partially drawn. The one fathom curve does not appear anywhere on the sheet.

The field plotting was completed to the extent required.

Several of the topographic station names were placed in the shore line. These were removed back of the shore line and the latter made continuous.

The junctions with adjacent sheets were good insofar as they were made. The offshore sheet has not reached the office and sheet H-5391 adjoining inshore sheet on the west has not been verified.

The ~~central topographic position~~ ^{middle object} used in fixing positions 31c and 32c was confused with an adjacent similar object. The two positions were replotted using time and sum of sextant angles. The positions are approximately Lat $34^{\circ}-01.7'$ Long $118^{\circ}-41.6'$.

The buoy at approximately Lat $34^{\circ}-59.7'$ Long $118^{\circ}-48.3'$ appeared on the topographic sheet 47 meters S.S.E. of the position located from sounding record position 57a.

Several corrections were made in the locations of
awash rocks and ledges. The information as to the
location of breakers was rather unsatisfactory.

The field drafting was of good quality.

Respectfully submitted,

J. W. Day

May 16, 1934

The junction with H 5364 was made and the soundings verified. ✓
Position 2a at Lat. $34^{\circ}-01.3$ Long $118^{\circ}-40.4$ the
depth recorded seems to be in error, as is indicated ✓
by nearby soundings 129j and 130j. Pos. rejected - H.W.M.
~~Soundings between positions 41j and 42j (Lat. $34^{\circ}-01.7$ Long
 $118^{\circ}-41.7$ approx.) were corrected.~~

J.W.D.

Position 98f was mis-plotted at Lat. $39^{\circ}-59.9$
Long. $118^{\circ}-48.4$. This error was discovered at the time ✓
the junction with H-5391 was made. The position
has been correctly plotted and makes good junction
with the adjacent work.

June 6, 1934

J.W.D

Partial Verification Report - H-5391

1. In regard to the four rocks awash south of Point Dume, there is only one mention of the rocks in the sounding volumes. On position 185b in Vol. I, the note "group of breakers 60 m. ~~ee~~ out"

*App. determination
accepted.*
✓

2. The descriptive report states that on the northern part of the sheet (meaning the western part) there are many rocks and breakers. There is no mention of breakers in the sounding volumes in this vicinity.

✓

~~3. The position numbers are much too far from the positions.~~

✓

4. In inking the soundings care must be taken in correcting the fractions as shown on the smooth sheet, as four feet has been, in most cases, plotted as $\frac{1}{2}$ fathom instead of $\frac{3}{4}$ fathom.

✓

Respectfully submitted,

John S. Lacey

March 23, 1934.

Partial Verification Report H-5391

I Conformity to ^{Hydrographic Manual} Instructions

The sounding records are neat and legible, and conform to the General Instructions except as noted in the following: ✓

- a. As noted by the Chief of Party, all soundings from seven to ten fathoms and four feet were plotted as half fathoms. These were corrected by the verifier to read as $\frac{3}{4}$ fathoms. ✓
- b. Bottom characteristics are not noted at the top of each page. ✓
- c. Reference marks relating the "Remarks" to the position are frequently omitted. ✓
- d. The bottom characteristics are not entered with the specified abbreviations. "Rk" is used continuously for "rky", as is "fn" for "fne". ✓

II Depth Curves

The five, ten, twenty, fifty, and one hundred fathom curves are completely drawn. The three and two fathom curves are drawn as completely as possible, being incomplete in several places near shore. The one fathom curve appears nowhere on the sheet, as no soundings shoaler than 1-1/6 fathoms were taken. ✓

III Field Plotting

The field plotting was completed to the extent required. However, several minor items are worthy of note, to wit: ✓

- a. ~~Position numbers are plotted unnecessarily far from their positions.~~ ✓
- b. The field draftsman confused ^{the abbreviation for} gray and green ~~and~~ several times in plotting bottom characteristics. ✓
- c. The spacing of soundings between positions is none too accurately executed, especially in such places where a change in course occurs between positions. The field draftsman also invariably plotted soundings between positions at even intervals regardless of varying time intervals. ✓
- d. From position 20c to 22c, soundings were plotted in sixths of fathoms instead of quarter fathoms.

IV Office Plotting

Position 2d, as plotted in the field, fell inside the low water line. It was noted that the signals had been changed in the field records at the time of plotting, Gent being changed to Dume. It was discovered that by changing this signal to Die instead of Dume, which would have been a more probable error due to the similarity of the stations Gent and Die, the resulting position was in much better agreement with time, course, and adjacent signals, as well as falling offshore in a position ~~position~~ comparable with the depth at the position. This change was made by the verifier and noted in the records. ✓

Several minor changes in spacing were also made, resulting in closer agreement with course and time. ✓

V Junctions

The junctions with H-5390 and H-5392 are very good, except for one position transferred from H-5390 in the vicinity of position 50e. The ATTENTION OF THE REVIEWER is invited to this discrepancy which shows an overlap sounding of 38 fathoms closely surrounded by soundings of 53 (31e), 84 (55e), and 65 (56e) fathoms. No apparent error in plotting any of these positions was noted.

The work joining this sheet offshore, done by the Steamer Pioneer, during the 1933 season, has not yet been received. ✓

VI Remarks

Quarter fathom soundings between ten and eleven fathoms were added as recently ordered. ✓

Frequent changes in signals by the draftsman are noted. These changes have been carefully checked. It is considered by the verifier that the field draftsman was more anxious to change signals than to vindicate the field entries. One difference was noted in section IV above. There is also apparently no occasion for the change of one degree in the left angle at position 45d. ✓

On one or two occasions, in congested areas with uniform bottom, overlapping or superimposed soundings of the same depth were omitted by the verifier. ✓

Bottom characteristics were also occasionally omitted where no change had occurred from the surrounding characteristics. ✓

The crossings are all in excellent agreement. ✓

Two "no bottom" soundings appear on the sheet (80e and 163a), but neither are of unusual character. ✓

VI (Con)

Attention is invited to the preceding partial report by Mr. J. G. Ladd, who verified the protracting and checked the rocks and breakers on this sheet.

VII Criticism

The work in general is well done, and the field drafting is neat and very good.

Respectfully submitted,

Mark S. Gurnee
Verifier.

June 9, 1934.

PARTIAL REPORT FOR H 5392 . . .

MARCH 23, 1934.

1./ The protracting was found to have been very well done. The position numbers were small and legible, but ~~too far from the positions,~~ however in open work of this nature, this is not likely to cause any confusion.

2./ The datum note - indicating the datum to which the projection of the sheet is referred to - was not indicated on the sheet by the field party.

The hydrographic names of the triangulation stations on the sheet were not indicated by the field party.

3./ The rocks noted on pg. 37 Vol II of the sounding volumes were indicated by the verifier on the smooth sheet, as rocks awash - as the topographic

Page 2

3. CONTD.

sheet for this area, has not been ^{interpretation} received at this time - this ^{accepted, not} interpretation could not be checked. ^{shown on 740.}
 It is of note that of all the numerous rocks near the shore in this area, mention is made of only two of them in the sounding volumes.

4.) Attention is called to the Chief of Party's notation in the descriptive report, stating that "some of the soundings in fathoms + quarters are incorrectly plotted in that four foot increments were plotted as $\frac{1}{2}$ fathom instead of $\frac{3}{4}$ fathom" This error should be corrected by the person inking this sheet.

Respectfully Submitted
 Warren H Bamford.

Section of Field Records

Report on H-5392

Verified and inked by J. W. Day

The records conformed to the requirements of the General Instructions with the exception of some of the bottom characteristics which were ~~admitted~~ ^{omitted} by the ~~field~~ chief of party.

The five and ten fathom curves were completely drawn. The two, three and twenty fathom curves were partially drawn. The one fathom curve does not appear on the sheet.

The field plotting was complete to the extent of the requirements, with the exception of the low water line rocks from Big Sycamore Canyon to Point Mugu.

No part of the drafting was done over in the office.

No junctions with adjacent sheets were made as those sheets were not verified ^{as of} to this date.

The topography east of Big Sycamore Canyon ^{adjoining that which was previously done in 1932} was done in 1933. Topographic ~~positions~~ ^{signals} "Six", "Cut", and "Car" were ^{located in 1933} for ~~convenience~~ ^{the hydrographer} and the ^{traverse footing line} ~~work~~ on T-4832 ^{was} tied in and adjusted with position "Pod" established in the work on T-4816 of the year previous. The reasons for the names of "Fin", "Tri", "Swed", and "Anti" could not be determined but ^{since July} ~~roughly~~ checked the locations.

of "Bug", "Sum", "Bim" and "Ab" ^{respectively} which were established by work on T-4816.

The awash rocks at Lat. $34^{\circ}-02.6$ Long. $118^{\circ}-56.7$ and Lat. $34^{\circ}-02.7$ Long. $118^{\circ}-57.0$ mentioned in Mr Bamford's report were not on the topographic sheet covering this area. Their designation and location are based solely on the information in the sounding volume II page 37. ✓

The field drafting on this sheet was good. ✓

Respectfully submitted,

May 23, 1934

J. W. Day

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY No. 5390 (1933)

Kellers Shelter to Point Dume, Calif.
Instructions dated April 14, 1932 and Feb. 17, 1933 (R. W. Knox)
Surveyed in 1933.

Hand Lead and Machine Soundings - 3 Point Fix Control on Shore Signals

Chief of Party - R. W. Knox.
Surveyed by - R. W. Knox.
Protracted and soundings penciled by - A. J. Vollmar.
Verified and inked by - J. G. Ladd; J. W. Day.

1. Condition of Records.

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

2. Compliance with Instructions for the Project.

The plan, character and extent of development satisfy the instructions for the project.

3. Sounding line crossings.

No cross lines were required by the instructions. A comparison of closely spaced adjacent lines shows good agreement.

4. Depth curves.

within the limits of the survey the usual
Depth curves may be satisfactorily drawn, *including portions* ~~with the exception of the~~
~~1 fathom and portions of the 2 fathom curves. * see below~~

5. Junctions with Contemporary Surveys.

The junction on the west with H. 5391 (1933) has been considered in the review of that sheet.

The 38 fathom sounding on H. 5390 (1933) that falls in depths of 60 to 80 fathoms on H. 5391 (1933) will be finally disposed of when the offshore sheet is received. *See par. 5a2 Review of H-5507 (1933-4)*

The junction on the east with H. 5364 is satisfactory.

6. Comparison with Prior Surveys.

a. H. 1340a (1876).

Comparison of soundings with the current survey (H. 5390 (1933)) reveals little or no disagreement in depths. A number of rocks and soundings, inshore and offshore (some originating with H. 1340a and others with T. 1432a, survey of 1877) were found to be in conflict with the rocks shown on H. 5390 (1933). These have been disposed of

** On this open coast it should not be expected that sounding lines be run inside of those actually run.*

G. Ladd

in accordance with the principles laid down in "Instructions for Review of Hydrographic Surveys". The more important of the rocks so disposed of are as follows:

1. The sunken rock in lat. $34^{\circ}1'.8$, long. $118^{\circ}45'.1$ originates with T. 1432a (1877). It was not seen on either the current hydrographic or topographic survey, but does appear on Blueprint No. 24083 (Geological Topographic Survey of 1929) as a bare rock. The rock was transferred to the new topographic and hydrographic surveys as a sunken rock.

b. H. 1341a (1876).

In general, a good agreement exists between the depths of this survey and the current survey (H. 5390 (1933)).

c. H. 289 (1851).

This is a track survey on a very small scale and contains no matters of importance which would conflict with the current survey.

d. The topographic ~~■~~ (T. 4831) ^{and T. 4830} determinations of the buoy off Point Dume differs by about 47 meters with the hydrographic determination on this sheet and the adjacent sheet (H. 5391 (1933)). A mean of the three determinations would probably give the most likely position.

7. Comparison with Chart 5202.

Apart from matters discussed in the foregoing paragraph, there are no other rocks, soundings, or other matters of importance needing consideration in this review.

8. Field Plotting.

Field protracting and plotting of soundings were accurate and conform to the requirements of the Hydrographic Manual.

9. Additional Field Work Recommended.

This survey with the indicated additions from previous surveys is complete, and no additional work is necessary.

10. Superseding Old Surveys.

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

H. 289 (1851) in part.
H. 1340a (1876) " "
H. 1341a (1876) " "

11. Note to Compiler.

Because of the general good agreement between the old and the new

surveys, the soundings on H. 1340a (1876) that fall inshore of the inshore limits of the present survey H. 5390 (1933) can be used to supplement the new survey whenever necessary for large scale charting.

12. Reviewed by - Harold W. Murray, June 1934.

Inspected by - A. L. Shalowitz.

K.T. Adams

K. T. Adams,
Chief, Section of Field Records.

Examined and approved:

L.C. Pollock

Chief, Division of Charts.

L.C. Pollock *J.S. Borden*
Chief, Section of Field Work.

G. H. de

Chief, Division of H. & T.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5391 (1933).

Point Dume to Arroyo Sequit, Santa Monica Bay, Calif.
Instructions dated Apr. 14, 1932 and Feb. 17, 1933 (R.W.Knox).
Oct. 31, 1932 (C.K.Green).

Hand Lead and Machine Soundings - 3 Point Control on Shore Signals.

Chief of Party - R. W. Knox.
Surveyed by - Party of R. W. Knox.
Protracted and soundings plotted by - A. J. Vollmar and D. L. Ackland.
Verified and inked by - J. G. Ladd and M. S. Gurnee.

1. Condition of Records.

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

- a. Bottom characteristics were not consistently entered at the top of each page and when so entered, the correct abbreviation was not used.
- b. Remarks in sounding records were not adequately cross-referenced.
- c. The plotting of triangulation stations and transfer of topographic signals were not checked in the field. This has been accomplished in the office.
- d. Rocks outside the low water line were not correctly transferred from the topographic sheet in character and number. This has been corrected in the office.

2. Compliance with Instructions for the Project.

The plan, character and extent of development satisfy the instructions for the Project except as noted in paragraph 3 below.

3. Sounding Line Crossings.

No general system of cross lines were required by the instructions. The requirement of cross lines in the vicinity of the submarine valley off Point Dume (par. 20, Instructions to C. K. Green) was not complied with. The forthcoming offshore survey may supplement this deficiency.

4. Depth Curves.

Depth curves may be satisfactorily drawn within the limits of the survey ~~except the 1 fathom~~^{including} and portions of the 2 and 3 fathom curves.

5. Junction with Contemporary Surveys.

Junction on the west with H. 5392 is satisfactory.

Junction on the east with H. 5390 is satisfactory with the exception

of a 38 foot sounding of the adjoining sheet which falls on the present survey in depths varying from 60 to 80 fathoms. This sounding should not be charted pending receipt of the offshore survey which may offer a solution that is not now apparent. *See par. 5a2 Review of H-5507 (1933-4)*

6. Comparison with Prior Surveys.

a. H. 1405 (survey of 1878)

There is in general a good agreement in depths between this survey and the present survey (H. 5391 - 1933). A number of rocks inshore and offshore (some originating with H. 1405 and others originating with the topographic sheet T. 703 of the same approximate date) were found to be in conflict with the rocks shown on H. 5391. These have all been disposed of in accordance with the principles laid down in "Instruction for Review of Hydrographic Surveys". The more important of those so disposed are the following:

1. The charted sunken rock (auth. H. 1405) in approximate lat. $34^{\circ}2'.3$, long. $118^{\circ}54'.4$ is incorrectly plotted from a note in the sounding records of H. 1405. The note was found to have been applied twice, one at position 5b and again near position 6b. The cross line 41-42b (H. 1405) of the same day ^{(tide of 0.2 feet), and 42-44 (tide of 3 feet) and 44-46} (tide of 4 feet) of the present survey confirmed the non-existence of this rock. The rock should therefore be disregarded in future charting. A note to this effect has been applied to H. 1405.

2. The charted sunken rock (auth. H. 1405) in approximate lat. $34^{\circ}2'.2$, long. $118^{\circ}53'.8$ was found to have been incorrectly plotted from a note "Sunken rocks 20 feet inside boat" recorded immediately under the fix at position 21b. By assuming the note refers inshore to position 21b, it agrees favorably with a rock shown on T. 703. The topographic determination has been retained.

3. The bare and sunken rocks in lat. $34^{\circ}02'.1$, long. $118^{\circ}51'.5$ were plotted slightly incorrectly from the records of H. 1405 (Pos. 3 to 4f). They have been transferred to the new survey in their correct position.

b. H. 1341a (survey of 1876)

This survey overlaps the present survey in the vicinity of Point Dume. The soundings are in good agreement.

7. Comparison with Chart No. 5202.

Apart from the matters discussed above, there are no other rocks, shoals or matters of importance that need consideration in this review.

8. Field Plotting.

Field protracting was accurately done. General criticism is limited to the following:

(a) Bottom characteristic abbreviations used did not always conform to the Hydrographic Manual, the abbreviations for gray and green being often confused.

(b) Soundings were not consistently plotted with respect to time intervals.

(c) Incorrect depth fractions were used (the chief of party called attention to this after the sheet had been plotted); 4 feet being plotted as $\frac{1}{2}$ fathom and frequently "sixths" should have been "quarters".

9. Additional Field Work Recommended.

This survey is complete, no additional work is required.

10. Superseding Old Surveys.

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

H. 1405 (survey of 1878) in part.

H. 1341a (survey of 1876) in part.

11. Miscellaneous Matters.

On B.P. No. 24085 (Geological Topographic Survey of 1929) a rock is shown in approximate lat. $34^{\circ}2'.4$, long. $118^{\circ}55'$. A careful inspection of T. 703, H. 1405 and the present survey (H. 5391) failed to confirm the existence of such rock. It is possible that it is merely a smudge in the printing.

12. Reviewed by - Harold W. Murray - June 19, 1934.

Sheet Inspected by - A. L. Shalowitz.

K. T. Adams
K. T. Adams,
Chief, Section of Field Records.

F. B. Jordan
Chief, Section of Field Work.

Examined and approved:
L. O. Robert
Chief, Division of Charts.

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

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5392

Arroyo Sequit to Point Mugu, California
Surveyed in June 1933

Instructions dated April 14, 1932 and Feb. 17, 1933 (R.W.KNOX).

Hand Lead and Machine Soundings - 3 Point Control on
Shore Signals.

Chief of Party - R. W. Knox.
Surveyed by - R. W. Knox.
Protracted by - C. L. Rasmusson.
Soundings penciled by - D. L. Ackland.
Verified and inked by - W. H. Bamford and J. W. Day.

1. Condition of Records.

The records are neat, legible and conform to the requirements of the Hydrographic Manual. ~~No geographic datum was indicated on the smooth sheet by the field party, but was added in the office.~~ ^{The} geographic datum was indicated

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey comply with the instructions for the Project.

3. Sounding Line Crossings.

No cross lines were required by the instructions for the project.

4. Depth Curves.

Depth curves may be satisfactorily drawn within the limits of the survey ~~with the exception of the 1 fathom and portions of the 2 and 3 fathom curves.~~ ^{including}

5. Junctions with Contemporary Sheets.

The junctions with contemporary sheets will be considered when those sheets have been reviewed.

6. Comparison with Prior Surveys.

a. H. 1404 (survey of 1878)

Soundings on this survey are in good agreement with the present survey (H. 5392). A number of rocks and soundings in-shore and offshore (some originating with H. 1404 and others with the topographic sheet T.702, survey of 1857) were found to be in conflict with H. 5392. These have been disposed of in accordance with the principles laid down in "Instructions for Review of Hydrographic Surveys". The more important of those so disposed of are the following:

1. The representation on T. 702 in approximate lat. $34^{\circ}3'.4$, long. $118^{\circ}58'.3$ is believed to be a general delineation of what is more accurately shown on the current topographic sheet (T. 4832). Though none of these rocks were transferred, either to the topographic or hydrographic sheet, it was deemed advisable to write instead the words "foul area" in red on the hydrographic sheet (H. 5392).

2. In approximate lat. $34^{\circ}2'.6$, long. $118^{\circ}56'.7$, a $1\frac{4}{6}$ and a $1\frac{1}{2}$ fathom sounding falling in depths of about 3 fathoms on the new survey (line 30 to 32a, H. 1404) were not transferred since the soundings of the entire line are shoaler than those on the current survey.

3. The $\frac{4}{6}$ fathom sounding falling in depths of 2 to $2\frac{1}{2}$ fathoms on H. 1404 in lat. $34^{\circ}02'.7$, long. $118^{\circ}57'.2$ is located by a very weak fix which when re-plotted on a smaller scale sheet (H. 1403) falls about 90 m. NNE of the position on H. 1404. This brings the sounding within the limits of a foul area on the present survey (H. 5392) which is considered as a sufficient representation.

(H-1404)
4. A $1\frac{2}{6}$ fathom sounding, falling in depths of around 3 fathoms on the new survey (~~H. 1404~~) in lat. $34^{\circ}2'.5$, long. $118^{\circ}56'.2$ is plotted from a weak fix accompanied by a note "25 m. from a rocky beach". By replotting using time, course and the above note, the remaining soundings of the line (pos. 27 to 28a) are in excellent agreement with those of the current survey (H. 5392). The $1\frac{2}{6}$ fathom sounding need not be further considered.

b. H. 554 (survey of 1856).

A small portion of this survey falls within the northwestern limits of the present survey (H. 5392). In general, soundings are in good agreement.

7. Comparison with Chart No. 5202.

Apart from the matters discussed in the foregoing paragraph, there are no other rocks, soundings or other matters of importance needing consideration in this review.

8. Field Plotting.

Field plotting and protracting were well done and conform to the requirements of the Hydrographic Manual.

9. Additional Field Work Recommended.

The present survey, with the indicated additions shown in red is complete, no additional work is necessary.

10. Superseding Old Surveys.

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

H. 554 (survey of 1856) in part.
H.1404 (survey of 1878) in part.

11. Note to Compiler.

Because of the general good agreement between the new and the old surveys, the soundings on H. 554 and H. 1404 that fall inshore of the inshore limits of the present survey can be used to supplement the new survey wherever necessary for large scale charting.

12. Reviewed by - Harold W. Murray - June 1934.

Inspected by - A. L. Shalowitz.

K.T. Adams
K. T. Adams,
Chief, Section of Field Records.
F.S. Bowditch
Chief, Section of Field Work.

Examined and approved:

L.O. Pollock
Chief, Division of Charts.
G. C. Cade
Chief, Division of H. & T.

25 Jan 27, 1936
EAG

Applied to drawing of Chart 5202 - Mar 1936 R.M.Z.
" " " " " 5101 - May 1936 R.M.Z.
" " " " " 5144 March 1934 D.C. Wald.