

5921

5921

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

DESCRIPTIVE REPORT

~~*****~~ } Sheet No. 40
Hydrographic }

State California

LOCALITY

Northern California Coast

Navarro Head to Caspar Pt.

1935

CHIEF OF PARTY

F.H. Hardy

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.
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. 40

REGISTER NO. **H5921**

State CALIFORNIA

General locality ^{Northern} CALIFORNIA COAST

Locality ~~off MENDOCINO BAY~~ ⁴⁷⁵ Navarro Head to Caspar Pt.

Scale 1 : 40,000 Date of survey July 7 to Oct. 22, 1935

Vessel U. S. C. & G. S. S. GUIDE

Chief of Party F. H. Hardy

Surveyed by F. H. Hardy, L. P. Raynor and F. B. Quinn

Protracted by T. A. Renton

Soundings penciled by L. W. Swanson

Soundings in fathoms ~~XXXX~~

Plane of reference M. L. L. W.

Subdivision of wire dragged areas by _____

Inked by Jamcormick

Verified by Jamcormick

Instructions dated May 26, 1935 & 22 - AB 1995 GU4, 1935
Office Letter dated July 3,

Remarks: Sextant Fix Hydrography Throughout. Fathometer,

Machine and Hand Lead Soundings.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5921 (1935) FIELD NO. 40

Navarro Head to Caspar Pt., Northern California Coast, Cal.

Surveyed in July - October 1935.

Instructions dated May 22, 1935, Letter July 3, 1935.

Hand Lead and Machine Soundings.
Fathometer Soundings.

3 Point fixes on shore signals.

Chief of Party - F. H. Hardy.
Surveyed by - F. H. Hardy, L. P. Raynor, F. B. Quinn.
Protracted by - T. A. Renton.
Soundings penciled by - L. W. Swanson.
Verified and inked by - J. A. McCormick.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that very few bottom characteristics were obtained in the western portion of the sheet. A number have, therefore, been added to the present survey from H-1586a (1883) and H-1586b (1883).

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

2. Compliance with Instructions for the Project.

The character and extent of the survey satisfactorily complies with the instructions for the project.

3. Shoreline and Signals.

No shoreline is shown on this sheet and the signals used are all on triangulation stations.

4. Sounding Line Crossings.

No cross lines were run, however, the adjacent parallel lines show good agreement.

5. Depth Curves.

Within the limits of the survey, the usual depth curves may be satisfactorily drawn.

6. Junctions with Surveys.

- a. The junction with H-5944 (1935) and H-4983 (1929) on the north is satisfactory.

- b. The junction with H-4984 (1929) on the east is satisfactory except for the gap in the vicinity of Colby Reef. This, however, has been covered by H-4990 (1929).
- c. The junction with H-4990 (1929) on the east, south and west is satisfactory. H-4990 (1929) also contains a few sounding lines running across the present survey and they are in general good agreement.
- d. The junction with H-4989 (1929) on the west and north is satisfactory.
- e. Two lines of soundings from H-4991 (1929) fall on the north-west portion of the present survey and are in good agreement.

7. Comparison with Prior Surveys.

a. H-401 (1854).

This is a reconnaissance survey, on a scale of 1:375,000, and shows a line of widely spaced track soundings that fall on the present survey. These soundings have been superseded on the charts and further consideration is unnecessary.

b. H-1228 (1872).

This survey, on a scale of 1:10,000, overlaps the present survey with a few no bottom soundings in the vicinity of lat. 39°17', long. 123°49'. The present survey has adequately covered the area.

c. H-1537 (1882).

This survey, on a scale of 1:10,000, overlaps the present survey at the southeast limit with only a few soundings which are in fair agreement with the present depths. Since this area has been adequately covered by the present survey and H-4990 (1929), the old survey need not be considered in future charting.

d. H-1586a (1883), H-1586b (1883).

These surveys, on a scale of 1:20,000, cover the area of the present survey. In general, in depths of 50 fathoms or less, the old surveys are in good agreement with the present survey, but in depths greater than 50 fathoms the soundings on the old surveys are generally shoaler from 1 to 3 fathoms. A study of the original sounding records was made to trace, if possible, the reasons for the differences. It is noted that the leadline was used up to depths of 110 fathoms. No comparison of leadline was submitted but the soundings were reduced in accordance with a table of corrections given at the end of each day. This apparently was accomplished by erasing the original sounding entry and substituting the corrected sounding but in a few

cases only can the original figures be determined. There is no evidence to show how the values of the corrections were determined. The leadline (old style cord) must have been unstable as the corrections for similar depths on different days vary considerably. In view of the known difficulty of getting accurate soundings in deep water with the old style leadline and the uncertainties in the reductions for leadline noted above, and because the present survey, although plotted on a scale of 1:40,000, shows as close or a closer development of the area with well distributed vertical casts in good agreement with the fathometer soundings, the above surveys should be superseded by H-5921 (1935) for charting purposes.

8. Comparison with Chart No. 5602 (New Print dated Aug. 15, 1935)
Chart No. 5703 (New Print dated Feb. 25, 1935).

a. Hydrography.

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

b. Aids to Navigation.

The whistle buoy in lat. $39^{\circ}13.6'$, long. $123^{\circ}47.1'$, was located by the present survey by sextant angles, approximately 80 meters north of the charted position. Either position adequately marks the feature intended.

9. Field Plotting.

The field plotting was excellent.

10. Additional Field Work Recommended.

No additional leadline or fathometer examination is required, but it would be desirable to drag the 8-1/2 fathom shoal in lat. $39^{\circ}18.8'$, longitude $123^{\circ}49.4'$, to determine the least depth on it.

11. Superseding Old Surveys.

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

H-401	(1854)	in part
H-1228	(1872)	" "
H-1537	(1882)	" "
H-1586a	(1883)	" " (except bottom characteristics carried forward)
H-1586b	(1883)	" "

12. Reviewed by - G. Risegari, July 22, 1936.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Robert
Chief, Division of Charts.

Govt. L. Teacock
Chief, Section of Field Work.

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

applied to chart 5602 June 18, 1937 J.H.S.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET FIELD NO. 40
Project H. T. 206
Coast of California
U.S.C. & G.S.S GUIDE
1935

INSTRUCTIONS: Instructions for the hydrography on this sheet are dated May 2, 1935 and Office Letter 22 - AB 1995 GU4, dated July 3, 1935.

CHARACTER OF WORK: The hydrography on this sheet is all fixed position hydrography. Ship soundings were obtained by the Fathometer red light method direct, except for 23 vertical cast soundings for Fathometer comparison. Motorsailer soundings were obtained by wire and handlead.

The line spacing is well within the limits prescribed by the instructions. Work done by the motorsailer was the development of two rocky shoals and a small split in the junctions of H 4984 and H 4990. The spacing of ship lines between the 30 and 50 fathom curves is approximately 400 meters. From the 50 fathom curve to the limits of this work the line spacing is approximately 700 meters.

No cross lines were run on this sheet.

The position interval is in general two or three minutes, with supplemental positions at radical changes of course or speed.

The scale of this sheet is 1 : 40,000.

LIMITS: The work on this sheet is a narrow strip of hydrography extending from approximately Latitude 39 10 to approximately Latitude 39 22.5 between inshore launch hydrography (H. 4984) on the east and ship hydrography (H 4990 and H 4989) on the west.

This sheet is joined on the south by H 4990 and on the north by Ship sSheet Field No. 41, 1935. (H-5944)

CONTROL: The control for the hydrography on this sheet consisted of hydrographic signals over triangulations stations, plotted on the North American 1927 Adjusted Datum.

TIDAL REDUCERS: The tide reducers for all the soundings on this sheet were obtained from the Shelter Cove Portable Automatic Tide Gage maintained by this party for the entire field season.

Tidal reducers were not corrected for time or range.

Further Tidal information may be obtained in the Season's Tidal Report covering all tidal work of the party of the Ship GUIDE.

APPARATUS CORRECTIONS: Apparatus corrections for the fathometer soundings on this sheet were entered in accordance with instructions in the hydrographic manual. They consisted of the following; Velocity corrections for the temperatures, salinities, and depths sounded; a dial speed correction based on the observed speed of the fathometer, and corrections made from comparative vertical casts.

These three corrections were combined and computed in tenths of fathoms, and the results entered in the volumns in half fathoms, to 100 fathoms, and to the nearest fathom in depths greater than 100 fathoms.

For further information on this subject the reader is referred to the report on Temperatures and Salinities which covers these corrections more completely.

The leadline and wire sheaves were checked through-out the season and found to be correct.

BOTTOM CHARACTERISTICS: Seven bottom characteristics were obtained on this sheet and were fairly evenly distributed. The character of the bottom on the outer edge of the sheet is green mud. This changes to fine gray sand, approximately between the thirty and forty fathom curves, with rocky patches and broken shell.

DANGERS: No offshore dangers to navigation were found on this sheet. Two shoals were developed by the motorsailer on the inshore limits of this sheet. The southerly shoal in Latitude 39 14.4, Longitude 123 47.45 with a least depth of $4 \frac{2}{6}$ fathoms was found on H 4984. The northern shoal in Latitude 39 18.8 Longitude 123 49.45 with a least depth of $8 \frac{1}{2}$ fathoms is approximately 400 meters north of a developed shoal on H 4984 with a least depth of 12 fathoms.

** The $4 \frac{2}{6}$ fath. shoal is approx. 100 meters south of the $4 \frac{2}{6}$ fath. on H-4984 (1929) and close to a $5 \frac{1}{2}$ fath. It is quite probable that there are two spots to this shoal. The $4 \frac{2}{6}$ is being assumed as the $4 \frac{2}{6}$ (1929).*

COMPARISON WITH PREVIOUS SURVEYS: Comparison with H. 4990, & H 4989 H 4984.

The junction that this survey makes with the above mentioned sheets is very good. Several lines on the above sheets cross this sheet and the soundings check within one or two fathoms. Where this survey joins H 4984 the soundings of the two sheets are of the same good agreement.

The shoal in Latitude 39 18.6 on H 4984 with a least depth of 12 fathoms was further developed and a sounding of $8 \frac{1}{2}$ fathoms was found approximately 400 meters north. Soundings of 18 and 19 fathoms were obtained on this survey in the vicinity of the 12 fathoms on H 4984. In as much as this bottom is irregular it is recommended that these shoal soundings on H 4984 be retained.

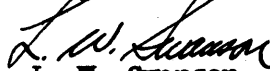
In Latitude 39 20.4, Longitude 123 50.0 a sounding of 21 fathoms was obtained. This shoal was developed on H 4984 and a least depth of 19 fathoms was obtained. It was planned to further develop this shoal with the motorsailer, but due to adverse weather conditions this was not accomplished. It is recommended that the least depth obtained on H 4984 be retained.

± The $8 \frac{1}{2}$ fath spot as well as a large area around spot was drifted over with two lead lines. This was the least depth found. (See Sdg. Vol. 2 page 12).

The shoal developed on H 4989, Latitude 39 20.4, Longitude 123 52.2 and Latitude 39 23, Longitude 123 53.8 was not further developed on this survey. It was deemed that sufficient development was done on the previous survey.

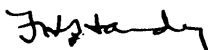
JUNCTION: The junction with field sheet No. 41 on the north is good.

Respectfully submitted,



L. W. Swanson,
Jr. H. & G. E, C & G. Survey.

Forwarded,
approved.



F. H. Hardy,

Commanding Ship GUIDE
C, & G. Survey.

✓ CKG

Verifier's Report on H-5921.

Records: Records conform with specifications. ✓

Drafting: Drafting is excellent. ✓

Control: There are no contemporary topographic sheets and no topographic signals were used. ✓

Junctions: This sheet is joined on the north by H-5944. The junction was made on H-5944 and was satisfactory. ✓

March 9, 1936.

Submitted,

J.A. McCormick.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H5921**

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

Number of positions on sheet	358...
Number of positions checked	..7...
Number of positions revised	..0...
Number of soundings recorded	1262...
Number of soundings revised	..43...
Number of signals erroneously plotted or transferred	0 ...0...

Date: March 9, 1936.

Verification by J.A. McCormick

Time: 15 hr.

Review by

B. Prigari

Time: ~~15 hr.~~

33 hrs

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 13, 1936.

Division of Hydrography and Topography:

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

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5921


Locality Navarro Head to Caspar Pt., California coast.

Chief of Party: F. H. Hardy in 1935.

Plane of reference is *mean lower low water, reading*
2.7 ft. on tide staff at Shelter Cove
7.2 ft. below B.M. 1A

Height of mean high water above plane of reference is 5.6 feet.

Condition of records satisfactory except as noted below:


Chief, Division of Tides and Currents.

LIST OF SIGNALS
to accompany
HYDROGRAPHIC SHEET FIELD NO. 40

TRIANGULATION

Hydrographic Name	Location
Sad	Saddle Point 1871 - 1930
Ro	Navarro Head 2, 1919 - 30
Hand	Handley 1871 - 1930
Mal	Mallery 1930
Stic	Stickney 1871 - 1930
Kent	Kent 2, 1919 - 30
High	Mendocino High School Belfry 1930
Cab	Point Cabrillo Lighthouse 1909 - 29
Mid	Mid 1919 - 29
Mitch	Mitchel 2, 1919 - 29
Beaver	Beaver 2, 1919-29
Sol	Soldier 1919 - 29
West	West Stack 1929
Lag	Laguna Point 1874 - 1929

STATISTICS

Date	Day	Number of Soundings			No.	Statute	Boat
1935	Letter	Fath.	Mach.	H. L.	Pos.	Miles	
7 - 7	A	86	5		17	8.6	Ship
8 - 4	B	227	5		78	42.5	Ship
8 - 5	C	607			188	84.0	Ship
9 - 6	D	196	13		62	23.3	Ship
10-22	E	27			8	2.3	Ship
9 - 6	a		91	5	60	9.7	Motorsailer.
		<u>1143</u>	<u>114</u>	<u>5</u>	<u>358</u>	<u>170.4</u>	

Area of Sheet 61 Square Statute Miles.

STATEMENT
to accompany
HYDROGRAPHIC SHEET FIELD NO. 40

The smooth plotting of this sheet was done by Mr.
T. A. Renton, Observer.

The soundings were penciled and depth curves drawn
by Lieutenant (j.g.) L. W. Swanson.

The completed smooth sheet has been inspected and is
approved.

F. H. Hardy

F. H. Hardy,
Chief of Party, C & G. Survey
Commanding Ship GUIDE.

Oakland, California.

HYDROGRAPHIC SURVEY NO. H5921

Smooth Sheet yes

Boat Sheet yes # 12

Sounding Records 2 Vols. _____

Descriptive Report yes

Title Sheet yes

List of Signals Vol 1

Landmarks for Charts (Form 567) none

Statistics Vol 1

Approved by Chief of Party yes

Recoverable Station Cards (Form 524) none

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

Remarks _____

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

} No. H 5921
 } ~~No. H~~

{ received Dec. 20, 1935
 { registered Dec. 28, 1935
 { verified
 { reviewed
 { approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
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25		<i>Ball</i>	
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63			
82			
83			
88			
90			

RETURN TO

82	
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V C KG - Dec. 30 '35

Remarks

Decisions

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4	Casper Point ON T13636	
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GEOGRAPHIC NAMES

Hydrographic Survey No. H5921

Name on Survey	A <small>On Chart No. 5602</small>	B <small>On previous survey No.</small>	C <small>On U. S. quadrangle Maps</small>	D <small>From local information</small>	E <small>On local Maps</small>	F <small>P. O. Guide or Map</small>	G <small>Rand McNally Atlas</small>	H <small>U. S. Light List</small>	K
<u>Navarro Head</u> ✓	✓	T1362 *					✓		1
<u>Mendocino Bay</u> ✓	✓	T1363a *						✓	2
<u>Point Cabrillo</u> ✓	✓	*					✓	✓	3
<u>Caspar Point</u> ✓	*	H1586a T2480 ✓ H4984				Caspar (town)	Caspar (town)		4
<u>Bull Rock</u> ✓	✓	*							5
<u>Colby Reef</u> ✓	✓	*							6
									7
									8
									9
									10
									11
<i>Above does not include all hydrographic names in this area. See other</i>									12
Names underlined in red approved by K.T.A on 1/6/36									13
<i>hydrographic + topographic surveys</i>									14
<i>No geographic names were pencilled</i>									15
<i>on this survey by the field party</i>									16
<i>They were added in ^{ink} this office</i>									17
<i>K.T.A.</i>									18
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									M 234

25 Jan 16, 1936

~~100~~

(H. E. Mac Ewen)

Applied to Chart Comp. 5711 August 28, 1941

Applied to chart 584 J.M.A. November 1, 1938

20 - (Rev. 30-3)

" " " 1251 - Nov. 1938 - J.M.A.
" " compilation 576 Dec. 1940 J.M.A. (A few steps N.E. cor. of chart.)

Examined for 1251 PHA 8/72 Aug 1952

Chart 854 J.P.W. 1/28/64 Extended 18 foot curve along north limit of hydro