

5446

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U. S. COAST & GEODETIC SURVEY
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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

~~Coast and~~ } Sheet No. 41 5446
Hydrographic }

LOCALITY

Santa Barbara Channel

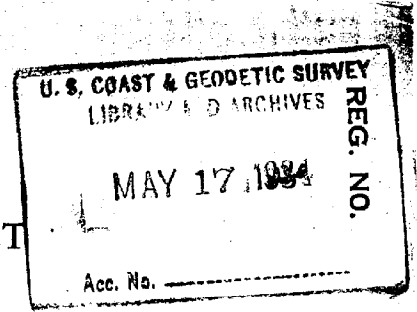
East Entrance

1933-34

CHIEF OF PARTY

Charles K. Green.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



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. *5202-2*

Field No. 41

REGISTER NO.

State California

General locality Santa Barbara Channel *Large*

Locality East Entrance

Scale 1:40,000 Date of survey Nov. 1933 - April, 1934

Vessel Chartered Launch VIRGINIA I

Chief of Party Chas. K. Green

Surveyed by Chas. K. Green - Harry T. Kelsh

Protracted by Chas. K. Green

Soundings penciled by John W. Parsons

Soundings in fathoms /feet/

Plane of reference M. L. L. W.

Subdivision of wire dragged areas by

Inked by M. S. Gurnee

Verified by M. S. Gurnee

Instructions dated October 31, 1932, 1932

Remarks:

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SHEET FIELD NO. 41
CALIFORNIA COAST, VENTURA COUNTY

INSTRUCTIONS

The work on this sheet is covered in instructions dated October 31, 1932.

LIMITS AND SCALE

The sheet embraces the offshore area of the submarine valleys off Hueneme and Mugu, and includes the development of the 50 and 100-fathom curves off the east end of Anacapa Island. It also includes the offshore hydrography immediately northward of Hueneme out to the 12-fathom curve, as this area was too far offshore for accomplishment of the 1:10,000 scale inshore sheet.

The sheet joins the PIONEER'S work (1933) on the east, sheet 101, 102 and 103 (of this party) on the northeast, sheet 21 (of this party) on the southwest, and overlaps sheet 1403 (old survey) elsewhere. The scale is 1:40,000.

GENERAL DESCRIPTION

The mainland coast is low and flat northwestward from Point Mugu. The shore is a flat sandy beach with a narrow belt of low dunes. Eastward from Mugu the coast is mountainous and rocky with short stretches of sand beaches. The coast of Anacapa Island is precipitous and rocky.

The hydrography includes the development of the 100-fathom curves of the east entrance to Santa Barbara Channel.

A remarkable feature of the sheet is the steep slopes of the submarine valleys which in some cases is more than a 2 to 1 slope. In general, the bottom is green mud outside the 100-fathom curve and sand inside that curve.

Probably
to 1 to 2
slope.
a.e.s.

SURVEY METHOD

The Hydrography is wire soundings with gas engine hoist.

Triangulation stations were mainly used in the control. A fifty foot tower (signal Mid) was erected on the low beach near triangulation station Arnold 2, and used considerably in the control. Because of fog and haze very few days were available for the work, and considerable time was lost in standing-by for seeing conditions.

DISCREPANCIES

Considering the steep slopes of the valley; the soundings check very well, and the area is adequately developed.

DANGERS

There are no bottom dangers.

CHANNELS

The eastern entrance to Santa Barbara Channel is 11 miles wide between Anacapa Light and Point Hueneme. Frequently both shores are shut out by fog, but there are fog horns at both lights.

ANCHORAGES

For anchorages, see descriptive reports accompanying inshore sheets nos. 101 and 102.

COMPARISONS WITH PREVIOUS SURVEYS

A much closer development of the area was made than was obtained on the old survey, (sheet Reg. No. 1403, of 1878), and therefore the depth curves show some changes. However the general features of the submarine valleys were well depicted on the old sheet.

The 173^{fathom} sounding shown on the old sheet about 700 meters east of the intersection of $119^{\circ} 08'$ and $34^{\circ} 02'$ was investigated and found to be a continuation of the bottom slope, and not a detached shoaler area.

The 20, 50 and 100-fathom curves along the middle of the west slope of the submarine valley off Hueneme show a rather sharp easterly bend. This feature is not shown on the old survey, perhaps due to a lack of soundings; but possibly may be a developing shoal point caused by the prevailing southeasterly littoral drift.

The eastern extremity of the 100-fathom curve off Anacapa Island is some 500 meters easterly from that curve as shown on the old work.

GEOGRAPHIC NAMES

No new names are used on this sheet.

due to the
appearance of
the soundings
on the old
survey, the
position of the 100 f. curve is
very approximate.
a-l.s.

CURRENTS

No current measurements were made. While sounding, changes of current were experienced over the slopes of the submarine valleys. The general set is easterly because of the prevailing westerly weather. ✓

SPECIAL NOTES

A harbor development at Point Hueneume is scheduled for construction this year (1934). ✓

Approved by

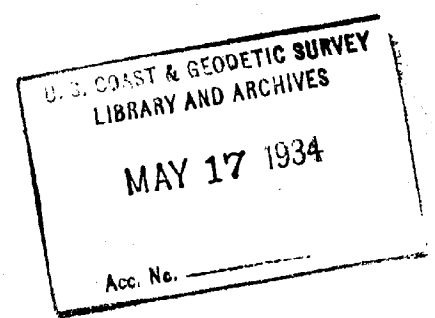
Submitted by

Chas. K. Green
Chas. K. Green,
Chief of Party #10.

Chas. K. Green
Chas. K. Green,
Chief of Party #10

STATISTICS SHEET No. 41

DATE 1933	LETTER	VOLUME	POSITIONS	SOUNDINGS	MILES STATUTE	VESSEL
Nov. 24	A	1	33	73	10.6	VIRGINIA
25	B	1	96	289	32.4	"
1934						
Feb. 13	C	1	61	133	22.5	"
14	D	1	69	160	29.8	"
27	E	1	49	103	14.0	"
28	F	1	60	77	11.0	"
Mar. 1	G	2	67	113	19.5	"
2	H	2	47	94	20.5	"
Apr. 18	J	2	<u>61</u>	<u>104</u>	<u>15.0</u>	"
			543	1146	175.3	



PARTY #10

Santa Barbara, Calif.,
May 3, 1934.

Hydrographic sheet No. 41, submitted herewith, has been inspected and approved by me, together with the data listed below.

List of data forwarded with Hydrographic Sheet No. 41.

Title sheet
Descriptive Report
Statistic sheet
Tidal data

A handwritten signature in cursive script that reads "Chas. K. Green".

Chas. K. Green,
Chief of Party.

LAC

June 9, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5446

Locality **East Entrance to Santa Barbara Channel, Coast of Calif.**

Chief of Party: **Chas. K. Green in 1933-34**

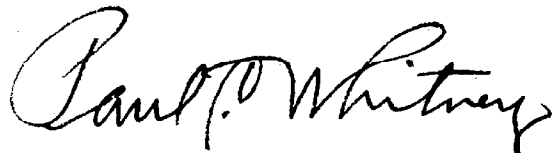
Plane of reference is **mean lower low water, reading**

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 feet

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents

VERIFICATION REPORT H-5446

M. S. Gurnee

I Conformity to Hydrographic Manual

The sounding records are neat and legible and conform to the general instructions as specified in the Manual. The only pronounced exception was that the position numbers were much too large and very poorly spaced. In some cases they were larger than the soundings, and it was necessary to renumber approximately 150 positions, or 30% of all the positions.

II Depth Curves

The twenty fathom curve is the lowest curve which appears on this sheet. This curve, and the fifty, one hundred, and two hundred fathom curves are also drawn. Due to the two submarine valleys which cross the sheet, and the detached development of the 50 and 100 fathom curves off the eastern end of Anacapa Island, these curves are not completely shown on this sheet. Attention is invited to page two of the descriptive report which gives a detailed comparison of the curves with those of previous surveys, noting changes or discrepancies.

III Field Plotting

The field plotting was completed to the extent required. However, the field draftsman, on every crossing, omitted to plot the deeper sounding of the two soundings nearest the intersection of the two lines. In the two submarine valleys which appear on this sheet, this omission was especially important due to the steep slopes of the valleys. All soundings omitted were plotted by the verifier and inked.

IV Office Plotting

The sheet compares well with the boat sheet. The protracting of approximately 80 (15%) of the positions was checked, and in no case was an appreciable error noted. A larger percentage of positions in or near the two submarine valleys (30%) were checked because of the added importance of these areas. All soundings at crossings which had been omitted were plotted and inked.

V Junctions

The junctions with sheets H-5420, H-5425, and H-5426 were all transferred to those sheets. The agreement is excellent. Slight alterations were made in the curves on H-5426 to conform more closely with this sheet. The only other adjacent sheet received to date, H-5445, has not as yet been verified.

VI Remarks

Lat: 34° 07'
Long: 119° 16'

The attention of the reviewer is invited to a shoal sounding of 36 fathoms at position 37f. Although this depth harmonizes with the depth curves, it is considerably shoaler than the adjacent soundings on all sides. However, due to the note in the sounding volume, "leadsman says O.K.", and the agreement with the curves, this sounding was considered correct. *Sounding on curves tends to corroborate this deep sounding, a. g. s.*

The crossings are in good agreement. Apparent discrepancies in the vicinity of the two submarine valleys are easily accountable for because of the extremely steep slopes.

Lat: 34° 05 1/2'
Long: 119° 11 1/2'

The time interval at 17a is twenty seconds, and it should have been 80 seconds. It is considered likely that an error of one minute of time was carried from position 8a on to this position, so the sounding was inked in on the regular 80 second interval. This plotting agrees with the boat sheet.

~~VII Rating~~

~~The position numbers were very poorly located and inked. The remainder of the work was excellently done.~~

Respectfully submitted,

Mark S. Gurnee

Mark S. Gurnee
Verifier.

July 5, 1934.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. H-5446

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

Number of positions on sheet	. 543 .
Number of positions checked	.. 80 .
Number of positions revised 5 .
Number of soundings recorded	1146 .
Number of soundings revised	.. 30 .
Number of signals erroneously plotted or transferred ✓

Date: ... July 5, 1934

Cartographer: ... Mark S. Gurnee

Verification of extracting Verification & inking of rocks & shoals	by Mark S. Gurnee	Time: 5 hrs.
Verification of inking by	" " "	Time: 28½ hrs.
Review by	Harold W. Murray	Time: 5½ "

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5446

East Entrance Santa Barbara Channel, California.

Surveyed Nov. 1933 to Apr. 1934.

Instructions dated Oct. 31, 1932 (Chas. K. Green).

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

Chief of Party - C. K. Green.

Surveyed by - C. K. Green and H. T. Kelsh.

Protracted by - C. K. Green.

Soundings penciled by - J. W. Parsons.

Verified and inked by - M. S. Gurnee.

1. Condition of Records.

The records are neat, legible and conform to the requirements of the Hydrographic Manual with the exception that dates of triangulation stations on the smooth sheet were abbreviated instead of being written in full. All dates so written were corrected in the office.

2. Compliance with Instructions for the Project.

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

3. Sounding Line Crossings.

Sounding line crossings in the vicinity of the submarine valleys and in the development near Anacapa Island are satisfactory. No other crossing lines were specified in the instructions.

4. Depth Curves.

Portions of the 20, 50, 100 and 200 fathom curves falling within the limits of this survey may be satisfactorily drawn.

5. Junctions with Contemporary Surveys.

The inshore junctions to the northward with H. 5420 and 5426 are satisfactory. The inshore junction with H. 5425 off Laguna Point has been considered in the review of that sheet. The junction on the west with H. 5445 near Anacapa Island will be considered in the review of that sheet. The junction on the east with the work of the Pioneer (1933) will be made when that work has been received in the office.

6. Comparison with Prior Surveys.

H. 1403 (Survey of 1878).

Soundings of this survey are in good agreement with those of the

current survey (H. 5446). In accordance with paragraphs 13 and 14 of the Instructions, a satisfactory junction has been made with H. 1403.

7. Comparison with Chart No. 5202.

This chart is on a very small scale and within the limits of this survey contains no information which would conflict with the new survey (H. 5446).

8. Field Plotting.

Field protracting and plotting were excellent and conform to the requirements of the Hydrographic Manual with the exception that in plotting of crossings, only the shoaler soundings were plotted. All soundings so omitted were added in the office by the verifier.

9. Additional Field Work Recommended.

This survey is complete, no additional work is necessary.

10. Superseding Old Surveys.

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

H. 1403 (Survey of 1878) in part.

11. Reviewed by - Harold W. Murray - July 10, 1934.

Inspected by - A. L. Shalowitz.

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

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

B. Borden
Chief, Section of Field Work.

G. W. Rude
Chief, Division of H. & T.

Applied to chart 544 - Dec 1935 J. J. ...
" " " 5202 - Mar 1936 R. M. ...
" " " 5101 - May 1936 R. M. ...

25 Jan 24, 1936

Applied to comp. chart 5007. Aug 24, 1940 P.R.K.

Soundings added outside 120 ft curve
on chart 5007 4-10-58 R.K.D. — chart
5120 used where possible.

added 150 ft curve 14 extended area above 39°04' in
vicinity of Hevenham Canyon after V.H.C. Aug 8, 1963