

5313

U. S. COAST & GEODETIC SURVEY
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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director



State: California

DESCRIPTIVE REPORT

5313

~~Hydrographic~~
Hydrographic

} Sheet No. 47

LOCALITY

California Coast

Point Pinos to Partington Point

1932-33

CHIEF OF PARTY

Fred. L. Peacock

5313

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5313

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. 47

REGISTER NO. 5313

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES
OCT 14 1933
Acc. No.

State California

General locality Pacific Coast

Locality Pointington Pt. to Pt. Pinos Point

Scale 1:40,000 Date of survey to December 15, 1932 to January 14, 1933

Vessel GUIDE

Chief of Party Fred. L. Peacock

Surveyed by Fred. L. Peacock, R. F. A. Studs & J. H. Brittain

Protracted by E. A. Foster

Soundings penciled by S. H. Van Gelder

Soundings in fathoms feet

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by Helen M. Strong

Verified by Helen M. Strong

Instructions dated April 4, 1932

Remarks: Positions by visual sextant fix. Soundings by Fathometer.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHY SHEET FIELD NO. 47
Coast of California.
U. S. C. & G. S. S. GUIDE.
1932 - 1933.

INSTRUCTIONS: Instructions for the hydrography on this sheet are dated April 4, 1932.

LOCALITY: The work on this sheet is the inshore ship hydrography, extending south from Pinos Point along the California Coast to Partington Point. It joins inshore launch hydrography on the east and offshore ship R.A.K. hydrography on the west.

CHARACTER OF WORK: The hydrography on this sheet is all visual fixed position hydrography. The soundings were all obtained with the fathometer except for 34 wire vertical cast soundings for fathometer comparisons. The depth range is from 13 to 979 (without slope correction applied) fathoms. The major part of the work, however, was within the 500 fathom curve.

The sounding line spacing is approximately 300 meters inside the 30 fathom curve, 700 meters between the 30 and 100 fm. curves, and $2/3$ of a mile outside the 100 fathom curve. Additional development has been made in rough and irregular areas.

Cross lines are spaced approximately four miles apart.

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

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

DATES OF SURVEY: Work on this sheet was begun December 15, 1932, and was concluded January 14, 1933.

LIMITS: The hydrography on this sheet covers an area of approximately 276 square statute miles in the southwesterly approaches of Monterey Bay and the coastwise steamer track between Partington Point and Cypress Point. That portion of this sheet inside the hundred fathom curve roughly approximating the area surveyed in 1910 by the ship EXPLORER on hydrographic sheet No. 1550a. ✓

CONTROL: The control for the hydrography on this sheet consists of hydrographic signals over triangulation stations on the 1932 scheme, executed by Lieutenant Chas. Pierce, plotted on the North American 1927 adjusted datum.

TIDE REDUCERS: Tidal reducers for the soundings on this sheet were obtained from the portable automatic tide station, Santa Cruz Municipal Wharf, Santa Cruz.

It was considered unnecessary to apply any correction for time or range to the tides at this station.

For further information on this subject the reader is referred to the Season's Tidal Report, which covers all the tidal work of the party on the Ship GUIDE from April 28, 1932, to February 28, 1933.

APPARATUS CORRECTION: The apparatus correction for the soundings on this sheet, consisting of constant Fathometer corrections, the dial speed correction, and the velocity correction for the temperature, salinities and densities of the water sounded, was obtained from an analysis of the temperatures, salinities, dial speed tests and comparative vertical casts throughout the season. Dial speed was a little fast, but was approximately constant throughout the season. Temperature and salinity underwent a minor, seasonal variation. The index correction was approximately zero throughout the entire season with the exception of a few periods of short duration, when the fathometer was not working satisfactorily and was subject to a small variation dependent on the vessel being deep or light in the water.

For further information on this subject the reader is referred to the Season's Report on Temperature and Salinity Determination, which also covers in complete detail dial speed tests, sounding sheave tests, and the results of comparative vertical casts.

DANGERS: No dangers to navigation were found within the limits of this sheet. A thirteen fathom sounding on the inshore line just west of Coopers Pinnacle is on this sheet. This will be further developed when the launch work reaches that vicinity. The rocky shoal southwest of Point Sur, ^{was} thoroughly developed, the least depth found was 23 fathoms. In Latitude $36^{\circ} 16.4$ and Longitude $121^{\circ} 54.7$ a shoal with a least depth of 24 fathoms was developed. It is intended that this shoal will be thoroughly developed by wire soundings when the launch work is done in this vicinity.

SLOPE CORRECTIONS: In that part of this sheet where the bottom breaks off rapidly into deep water, thirty-six soundings were corrected for slope.

The correction for slope was applied to these soundings in accordance with the methods outlined in special publication No. 165. However, due to the uneven bottom in these areas the correction for slope is considered doubtful. On all soundings the correction seems to be large and the soundings uncorrected for slope give a better delineation of the bottom than corrected soundings. It is therefore respectfully requested that final verification of these soundings be given careful consideration.

Use uncorrected soundings

It should be noted that the depth curves have been drawn from the uncorrected soundings.

BOTTOM CHARACTERISTICS: Eighteen bottom characteristics, distributed over the area of this sheet, were obtained. On the shoal developed off Point Sur the bottom is rocky, in the shoaler depths the bottom is in general fine gray sand with one or two rocky indications in the northern part of the sheet. Offshore, in deeper depths, the bottom merges from sand into mud and gravel.

DISCREPANCIES: In general the soundings throughout this area check with those of previous surveys and crossings are good. In a few places discrepancies in crossings and between adjacent lines occur, most of these are on or near steep slopes. Such instances undoubtedly result from cumulative effect of personal equation, inexact interpretation of the effect of swell, and the applying of tidal and apparatus corrections in half fathom units separately.

In comparing this work with that of previous work on No. 1550a it was found that they compare very favorably. However, one sounding in Latitude $36^{\circ} 19'.6$ and Longitude $122^{\circ} 05'.8$ differs by one hundred fathoms. It is thought that this sounding was probably recorded one hundred fathoms in error. *Error of 100 fms. in column of reduced s.d.p. (H 1550a).*

H-5278

H-5279

JUNCTIONS: The junctions with ship sheets No. 46 and 82 are good. The junction with Ship R.A.R. Sheet 121 is for the most part good. The only comparison that could be made was with the boat sheet. It is expected that differences occurring with the boat sheet comparison will be improved with the smooth sheet plotting.

Respectfully submitted,

Lawrence W. Swanson
Lawrence W. Swanson,
Jr. H. & G. Engineer,
U.S.C. & G. Survey.

Respectfully forwarded,

Approved:

Fred. L. Peacock
Fred. L. Peacock,
Chief of Party, C. & G. Survey,
Commanding Ship GUIDE.

STATISTICS
to accompany
HYDROGRAPHIC SHEET FIELD NO. 47.

Date 1932-33	Day	Statute miles Sounding Lines	No. of Positions	No. of (echo) R.L.D.	R.L.x6	V. C. Wire	No. of Bottom Characteristics.
12-15-32	A	74.8	126	282	103	5	3
12-16-32	B	103.4	168	294	256	5	1
12-17-32	C	105.4	174	446	167	3	3
12-18-32	D	110.6	200	401	210	4	2
1-5-33	E	94.4	187	483	120	4	3
1-11-33	F	101.0	197	571	147	4	2
1-12-33	G	101.7	183	281	233	6	3
1-13-33	H	95.5	189	357	184	3	1
1-14-33	J	6.2	16	53			
TOTALS		793.0	1440	3168	1420	34	18

This sheet covers an area of 276 square statute miles.

LIST OF SIGNALS
to accompany
HYDROGRAPHIC SHEET FIELD NO. 47

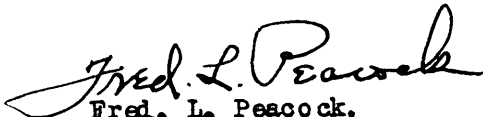
TRIANGULATION

Hydrographic Name	Location
Bos	Whaler's Rock 1932
Club	Club, 1932
Coop	Cooper's Pinnacle, 1890
Cy	Cypress Rock
Div	Division Knoll, 1932
Feif	Pfeiffer's Point, 1890
Field	Field, 1932
Gran	Granite, 1932
Grim	Grimes, 1932
Gut	Gut, 1932
Joe	Point Joe, 1932
Kas	Kassler's Point, 1932
Kee	Chimney on House at Yankee
Kee	Yankee Point, 1932
Lera	Molera, 1932
Miss	Cross, New Carmel Mission, 1932
Nol	Whaler's Knoll, 1932
Part	Partington Point, 1932
Peb	White Stack on Pebble Beach, 1932
Pico	Pico Blanco, 1932
Pinos	Pinos Point Lighthouse, 1932
Rock	Bird Rock, 1932
Sob	Soberanas Point, 1932
Sur	Point Sur Lighthouse, 1932
Tura	Ventura Rock, 1932
Vent	Ventura Rock, 1932
Yan	Chimney on House at Yankee Point, 1932
Zil	Brazil, 1932

STATEMENT
to accompany
HYDROGRAPHIC SHEET FIELD NO. 47.
Coast of California
U.S.C. & G.S.S. GUIDE
1932-1933.

The smooth plotting on this sheet was done by Mr. E. A. Foster, civil engineering hand, and the penciling of soundings thereon was done by Mr. S. H. Van Gelder, civil engineering hand, under the direct supervision of Lieutenant J. H. Brittain to March 14 and of Ensign E. H. Sheridan and Ensign H. C. Applequist thereafter.

Lieutenant L. W. Swanson has drawn the depth curves and verified at least ten per cent of the positions and soundings. The completed smooth sheet has been inspected, and is approved. However, in as much as the plotting of this sheet was done by a temporary employee, it is recommended that office verification be correspondingly rigid.


Fred. L. Peacock,
Chief of Party, C. & G. Survey,
Commanding Ship GUIDE.

Oakland, California,
October 7, 1933.

*66

October 19, 1933

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

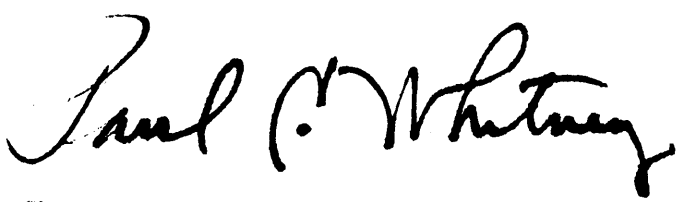
HYDROGRAPHIC SHEET 5313

Locality Partington Point to Point Pinos, California Coast

Chief of Party: Fred L. Peacock in 1932
Plane of reference is mean lower low water reading
3.0 ft. on tide staff at Santa Cruz
14.5 ft. below B. M. 2

Height of mean higher high water above plane of reference is 5.3 feet

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5313*

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

Number of positions on sheet	<i>1440</i>
Number of positions checked	<i>...24</i>
Number of positions revised	<i>....0</i>
Number of soundings recorded	<i>4622</i>
Number of soundings revised*	<i>...40</i>
Number of signals erroneously plotted or transferred	<i>.....</i>

** Error in value. Also many revisions in spacing.*

Date: *Nov. 14, 1933*.....

Cartographer: *Helmut M. Strong*.....

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 5313.
Partington Point to Point Pinos, Pacific Coast, California.
Surveyed - Dec. 15, 1932, Jan. 14, 1933.
Instructions dated April 4, 1932.

Chief of Party - Fred L. Peacock.
Surveyed by - Fred L. Peacock, R. F. A. Studds, J. H. Brittain.
Protracted by - E. A. Foster.
Soundings pencilled by - S. H. Van Gelder.
Verified and inked by - Helen M. Strong.

1. Records conform in general to requirements of the Hydrographic Manual. ✓
Sextants and clocks not O. K.'d for all days. Two items of hydrographic information omitted from Index to Vol. II.
2. Usual depth curves could be completely drawn. ✓
3. Field plotting completed according to specifications. ✓
4. Errors in many sounding values and spacings were corrected. Fathometer readings were inserted with all V. C.'s. Position numbers in many instances too close to positions. Depth curves were pencilled with too many sinuosities. ✓
5. Crossings on H. 5313 and overlaps with H. 5278 and H. 5279 good. Prepared for Mr. Shalowitz a tracing of soundings adjacent to H. 4321 (1929) on scale of 1:80,000, for his study of area. ✓
6. Sounding in lat. $36^{\circ}19'.16$ long. $122^{\circ}05'.8$ mentioned in descriptive report was investigated and inked as on smooth sheet. H. 1550a showed it to be 100 fathoms deeper. *error in sounding record*
7. 100 fathom curve agrees in general with that on 155^a (1910) except for a submarine valley at Lat. $36^{\circ}13'$, Long. $121^{\circ}51'$, not appearing on earlier sheet. ✓
8. Extreme unevenness characterizes bottom, especially in northern and southern portions of sheet. ✓
8. A rejected sounding of 36 fathoms in lat. $36^{\circ}35'$, long. $122^{\circ}00'$, between pos. 5G and 7G apparently falls near the head of a submarine valley. Believe this sounding might be further investigated.
9. Deeper and less deep soundings fall close together in lat. $36^{\circ}32'$, long. $122^{\circ}00'$. A comparison with earlier surveys does not reveal ~~anything here~~. *this condition. Probably effect of uncertain slopes.*
10. A discrepancy of 15 fathoms between 123 fathoms, V. C., and 108 fathoms, fathometer reading appears at pos. 1A, lat. $36^{\circ}35'.5$, long. $122^{\circ}30'$. *at least partly due to slope.*
11. Micaceous material was brought up at pos. 116G. from 337 fathoms, lat. $36^{\circ}23'.5$, long. $122^{\circ}03'.50"$. This is such as might occur along a fault plane or in an area of strong folding.
12. Field drafting is fair. ✓

Submitted by - Helen M. Strong. Nov. 17, 1933.

SECTION OF FIELD RECORDS
Review of Hydrographic Sheet No. 5313
Partington Point to Point Pinos, Pacific Coast, California.
Surveyed Dec. 1932 - Jan. 1933.
Instructions dated April 4, 1932 (Guide)

Chief of Party - F. L. Peacock.
Surveyed by - F. L. Peacock, R. F. A. Studds, J. H. Brittain.
Protracted by - E. A. Foster.
Soundings pencilled by - S. H. Van Gelder.
Verified and inked by - Helen M. Strong.

1. The records generally conform to the requirements of the Hydrographic Manual.
2. The plan and extent of development conform to the regulations and satisfy the specific instructions.
3. Soundings are in good agreement at crossings of lines. Corrections for slope were not applied to any of the soundings on this sheet because the bottom is of the submarine valley and shelving type where the degree of slope is very uncertain.
4. Depth curves can be drawn satisfactorily.
5. Junction with contemporary surveys is effected at the north only where it joins H. 5279 and H. 5278. This junction is adequate.
6. Comparison with H. 1549 and H. 1550 (1883) and H. 1550a (1910) shows good general agreement in depth with more detail in the submarine valleys. The 288 on H. 1550a mentioned in the Descriptive Report resulted from an error of 100 fathoms in the reduced column of soundings in the record for that sheet. The sounding did not appear on the published chart.

Charts 5402, 5403 and 5476 do not show any information inconsistent with this survey.

7. Field protracting was good. There were quite a number of errors in pencilled soundings. Some of the position numbers were hard to read, generally too small. The 36 soundings corrected for slope by the field party were inked on the sheet with uncorrected values on final verification, see Descriptive Report, "Slope corrections".
8. Recommendation. This sheet (H. 5313) should supersede all previous surveys for charting the area represented by it.

No further surveys are deemed necessary after the development of the 24 fathom spot in lat. $36^{\circ}16'.4$ long. $121^{\circ}54'.7$ noted under "Dangers" in the Descriptive Report. At this spot the bottom characteristic was noted as "kelp" and this was placed on the sheet.

9. Reviewed by - R. J. Christman, Feb. 2, 1934.

L. O. Colbert
L. O. Colbert,
Chief, Section of Field Records.

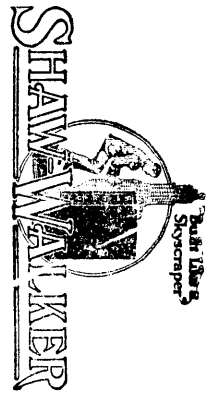
J. S. Boden
Chief, Section of Field Work.

Examined and approved:

W. R. ...
Chief, Division of Charts.

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

applied to drawing of Chart 5302 - Jan 16, 1936 - JFW



No. 852R