

5245

5245

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey *Hydrographic*  
Field No. .... Office No. *5245*

LOCALITY

State *California*  
General locality *Half moon*  
Locality *Bay*

1932  
CHIEF OF PARTY  
*F. L. Penock*

LIBRARY & ARCHIVES

DATE .....

5245

U. S. COAST & GEODETIC SURVEY  
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MAR 28 1933  
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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

~~Topographic~~ Hydrographic } Sheet No. 5245

LOCALITY

CALIFORNIA COAST

Half Moon Bay to Davenport

1932

CHIEF OF PARTY

Fred. L. Peacock

5245

DESCRIPTIVE REPORT  
to accompany

HYDROGRAPHIC SHEET FIELD NO. 44.

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.

CHARACTER OF WORK:

The hydrography on this sheet is all fixed position hydrography. The soundings were all obtained by the Fathometer red light method direct, except for ninety-one vertical cast soundings for Fathometer comparison.

The depth range is from fifteen to sixty fathoms, with very little work outside the fifty fathom curve.

The line spacing is approximately 360 meters inside the thirty fathom curve and 720 meters outside the 30 fathom curve.

Cross lines are spaced roughly four miles apart.

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

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

LIMITS:

The work on this sheet is a narrow strip of hydrography extending from approximately Latitude  $37^{\circ} 22'$  N. to approximately Latitude  $37^{\circ} 02'$  N., between inshore launch hydrography on the one side and R. A. R. hydrography on the other.

There are about 124 square statute miles of hydrography on this sheet. It joins Ship Sheet No. 43 on the north and Ship Sheet No. 48 on the south; Launch Sheets Nos. 3, 4, 5 and 6 on the east and R. A. R. Sheets Nos. 81 - 1932 and R. A. R. Registry No. 4981 - 1929 on the west.

CONTROL:

The control for the hydrography on this sheet con-

CONTROL (continued):

sisted mainly of hydrographic signals over triangulation stations of the 1931 scheme executed by Lieutenant C. D. Meaney, plotted on North American 1927 adjusted datum. In addition three signals, located by the 1932 topographic unit of the Ship GUIDE's party, were used to a limited extent.

TIDE REDUCERS:

Tidal reducers for the soundings on this sheet were obtained from three tide stations, as follows:

June 19 to August 5: Princeton portable automatic tide gage station.

Sept. 1 and Sept. 21: Ano Nueva Island portable automatic tide gage station.

Oct. 23, 1932, to

Febr. 6, 1933: Santa Cruz portable automatic tide gage station.

It was considered unnecessary to apply any corrections for time or range to the tides at these three stations for the area of this sheet as it appears that the maximum difference could seldom exceed one-tenth of a fathom.

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 the constant Fathometer corrections, the dial speed correction, and the velocity correction for the temperatures, 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 approximately constant throughout the season and was a little fast. 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.

BOTTOM CHARACTERISTICS:

Thirty-nine 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 a dark green mud. This changes to fine gray sand, usually between the thirty and forty fathom curve. Along the twenty fathom curve, and just outside it, occasional rocky patches protrude through the sand.

DANGERS:

No dangers to navigation were found within the limits of this sheet. A fourteen fathom sounding in the overlap with Launch Sheet No. 3 and surrounded by depths of fifteen to eighteen fathoms was developed and verified by the launch party, but no depth less than thirteen fathoms resulted.

A few soundings less than fifteen fathoms at the extreme northeastern corner of this sheet are covered by hand lead hydrography on Launch Sheet No. 3.

A rough, rocky area in Latitude  $37^{\circ} 18' N.$ , Longitude  $122^{\circ} 29' W.$ , was developed with the Fathometer. The least depth resulting from this development was twenty-three fathoms. The prevailing depth in this area varies from twenty-four to twenty-seven fathoms.

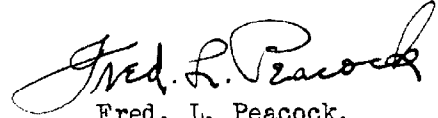
Depths along the twenty fathom curve from Latitude  $37^{\circ} 14' N.$  to Latitude  $37^{\circ} 19' N.$  are also irregular with occasional rocky bottom and depth variations of approximately two fathoms.

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 of a maximum of two fathoms are noted. 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.

Two soundings, namely that on Position 29 S day, and the sounding immediately preceding it, were questioned as possible strays at the time they were obtained. Position 23 to 24, T day, covers the same area and in view of the depths obtained there on T day the two questioned soundings were rejected.

Respectfully submitted,

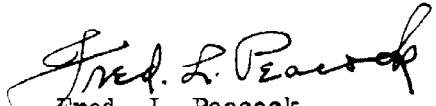


Fred. L. Peacock,  
Lieutenant-Commander, C. & G. S.



E. H. Sheridan,  
Aid, C. & G. S.

Respectfully forwarded,  
Approved:



Fred. L. Peacock,  
Chief of Party, C. & G.S.,  
U.S.C. & G.S.S. GUIDE.

STATEMENT  
to accompany

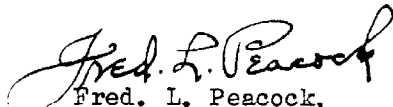
HYDROGRAPHIC SHEET FIELD NO. 44.

Coast of California  
U.S.C. & G.S.S. GUIDE

1932-1933.

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

Ensign Sheridan has drawn the depth curves. 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. S.,  
Commanding Ship GUIDE.

Oakland, California,  
March 23, 1933.

LIST OF SIGNALS  
to accompany  
HYDROGRAPHIC FIELD SHEET NO. 44.

TRIANGULATION

Hydrographic Name:	Location:
FLAT	Flat, 1931.
CAN	Can, 1931.
POM	Pom, 1931.
DERO	Dero, 1931.
TANK	Tank on beach by hotel, 1931.
ROAD	Road, 1931.
PID	Pigeon Point Lighthouse, 1931.
FRA	Frank, 1931.
KLC	Oil derrick, 1931.
ANO	Ano Nueva Island Lighthouse, 1931.
ANT	Trantor, 1931.
COOKE	Cooke, 1931.
OCEAN	Ocean, 1931.
JARO	Jaro, 1931.
CAB.	S. W. Cable tower at Davenport, 1931.
KNOB	Bald Knob, 1931.
GLASS	Glass, 1931.

TOPOGRAPHIC

NAT	Tank, 1932, Sheet F.
WELL	Oil Derrick No. 2, Sheet B.
OIL	Westerly oil derrick, Sheet B.



STATISTICS  
to accompany  
HYDROGRAPHIC SHEET FIELD NO. 44

Date 1932-3	Day	Stat.Miles Snd'g line	No. of Positions	S O U N D I N G S	
				Echo (RL)	Wire & Hand Lead
6-19	A	49.9	80	340	4
6-20	B	54.3	84	390	4
6-24	C	18.3	38	218	1
6-30	D	85.7	176	636	11
7-31	E	13.4	23	86	
8-5	F	7.0	13	52	
9-1	G	48.2	76	288	9
9-21	H	13.8	25	72	5
10-23	J	80.5	138	493	6
11-10	K	50.5	105	508	6
11-13	L	16.9	37	45	4
11-16	M	30.8	66	364	4
12-2	N	42.3	83	225	8
12-14	P	11.2	19	55	1
1-4	Q	21.1	40	108	3
1-6	R	12.0	25	67	2
2-1	S	16.8	33	59	3
2-5	T	20.3	38	110	11
2-6	U	13.3	33	83	9
TOTALS.....		601.3	1132	4199	91

AREA: In square statute miles, 124.0

Section of Field Records.

Surveyed June 19, 1932 to Feb. 6, 1933.  
Report on H, 5245.

Chief of Party Fred S. Meacock.

Surveyed by F. L. P.; R. H. Studds, and J. H. Brittain.

Contracted by S. H. Van Gelder (Civil Eng. Ward)

Soundings Plotted by S. H. Van Gelder.

1. The Records conform to the requirements of the General Instructions. ✓

2. The plan and Character of development fulfill the requirements of the General Instructions. ✓

3. The sounding line crossings are adequate and agree as well as can be expected. ✓  
(See page 3 Descriptive Report H, 5245 first paragraph under "Discrepancies".)

4. The major portion <sup>of the hydrography</sup> of this sheet (H, 5245) falls between the 20 and 50 fathom curves. These curves are completely drawn within the limits of this sheet; however, the 20 fathom curve may be more satisfactorily drawn when the overlaps of the inshore sheets are made. ✓

5. The field plotting was <sup>H 5245</sup> completed to the extent prescribed in the Hydrographic Manual, and was very well executed.

6. No portion of the field drafting was done over in the Office.

7. The junctions with inshore sheets Field No's. 3, 4, 5, and 6 and the offshore sheets Field No's. 43, 48 and 81 will be considered when those sheets are verified.

This sheet (H 5245) is joined on the West by R.A.R. work, H 4981 (1929). The soundings on H 4981 agree fairly well with this survey (H 5245) and are in agreement within the range of 0 to 2 fathoms with two exceptions, approximate Lat.  $37^{\circ}20'$ ; Long  $122^{\circ}34'$  and Lat.  $37^{\circ}11'30''$  Long  $122^{\circ}34'15''$  respectively, where a difference of 3 fathoms is noted. Soundings on line 17 & 22 S were plotted in preference to soundings on line 15 & 19 P, inclusive. Soundings on Sand & days H 5245 also soundings in this immediate vicinity on the overlapping survey H 4981 indicate approximately one fathom deeper water. Attention is directed to the 50 fathom sounding at position 17 P which falls between 53 and 54 on H 4981 and close to a 51 (recorded 51.5) on line 19 and 20 S. See Descriptive Report H 5245 page 2 - "Apparatus Connection" also page 3 first paragraph, under "Discrepancies".

8. Further surveying is not required to fully develop important areas within the limits of this sheet (H 5245). Respectfully Submitted  
Man. 7. 1933

This 50 fathom soundings are from the 1929 survey

SECTION OF FIELD RECORDS  
Review of Hydrographic Sheet No. 5245.  
El Jarro Pt. to Tunitas Creek, California.  
Surveyed June 1932 to Feb. 1933.  
Instructions dated April 4, 1932 (Guide)

Chief of Party - F. L. Peacock.  
Surveyed by - F. L. Peacock, R. F. A. Stredds, J. H. Brittain.  
Protracted and soundings plotted by - S. H. Van Gelder (Civil  
Engr.).  
Verified and inked by - Leo S. Straw.

1. The records conform to the requirements of the Hydrographic Manual.
2. The plan and extent of development satisfy the specific instructions.
3. Sounding line crossings are adequate. A note on page 48, vol. 2 of the sounding records says "Sdg. echo varying 3 - 4 fathoms on swell". This supports the explanation given in the Descriptive Report under Discrepancies, of the few differences of 1 and 2 fathoms in crossings.
4. Depth curves can be drawn satisfactorily.
5. Junction with H. 4981 (1929) is satisfactory.

Contemporary survey sheets on the north, east, south and southwest are not yet available.

6. Comparison with H. 871 (survey of 1865) shows good agreement in depths. The 1865 survey consisted of lines about 4 miles apart.


This sheet (H. 5245) overlaps slightly H. 4455 (survey of 1925) and was found to be in good agreement. Chart 5402 does not show anything in conflict with the present survey in the area covered by H. 5245.


7. The field drafting was very well done except that the position numbers were placed too close to the position.
8. Recommendations.- This sheet (H. 5245) should be considered the basic survey for future charting purposes of the area covered by it.

No further surveys are deemed necessary.

9. Reviewed by R. J. Christman, June 17, 1933.
10. Sheet Inspected by - A. L. Shalowitz.


Approved.- The reference to the "3 - 4 fathom swell" must be of extreme conditions, otherwise soundings under these circumstances would be abnormal. The crossings appear to show that this condition was not extensive throughout the work.

  
L. O. Colbert (Signed).  
Chief, Field Records Section.

  
Chief, Field Work Section.

Examined and approved:

  
Chief, Chart Division.

  
Chief, H. & T. Division.

April 21, 1933

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5245

Locality <sup>E)</sup> Jarro Point to Tunitas Creek, Coast of Calif.

Chief of Party: Fred L. Peacock in 1932-33

Plane of reference is mean lower low water, reading

3.1 ft. on tide staff at Half Moon Bay

13.7 ft. below B. M. 4

1.4 ft. on tide staff at Ano Neuvo Island

17.8 ft. below B.M. 1

3.0 ft. on tide staff at Santa Cruz

14.5 ft. below B.M. 2

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

Height of mean higher high water above plane of reference is 5.5 ft.  
at Half Moon Bay; 5.2 ft. at Ano Nuevo I., and 5.3 ft. at Santa Cruz.

*Paul P. Whitney*  
Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *H.5245*

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

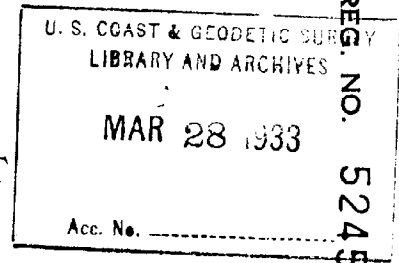
Number of positions on sheet	<i>1132</i>
Number of positions checked	<i>.153</i>
Number of positions revised	<i>.15</i>
Number of soundings recorded	<i>4200</i>
Number of soundings revised	<i>.101</i>
Number of signals erroneously plotted or transferred	<i>0</i>

Date: ..... *June 6 1933* .....

Cartographer: ..... *[Signature]* .....

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.

Field No. 44

REGISTER NO. **5245**

State California

General locality Pacific Coast

Locality El Jarro Pt., to Tunitas Creek  
June 19, 1932, to

Scale 1:40,000 Date of survey February 6, 1933

Vessel GUIDE

Chief of Party Fred. L. Peacock

Surveyed by Fred. L. Peacock, R. F. A. Studds and J.H. Brittain.

Protracted by S. H. Van Gelder

Soundings penciled by S. H. Van Gelder

Soundings in fathoms ~~XXXX~~

Plane of reference M L L W

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by [Signature]

Verified by [Signature]

Instructions dated April 4, 1932

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

KWW, 8/26/92