

5365a
5365b

5365a
5365b

Form 504
Ed. June, 1928

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

U. S. COAST & GEODETIC SURVEY
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State: CALIFORNIA

Acc. No.

DESCRIPTIVE REPORT

~~Hydrographic~~ } Sheet No. 2 & 2-A. 5365a
Hydrographic } 5365b

LOCALITY

Halfmoon Bay.

Purissima to Pillar Point.

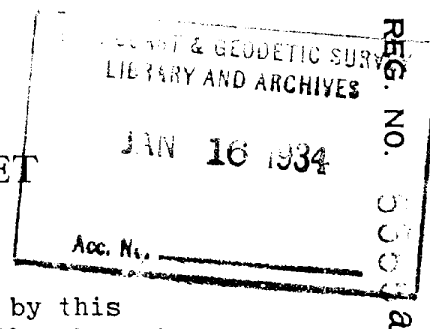
1932

CHIEF OF PARTY

Fred L. Peacock.

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. 2

REGISTER NO. 5365a

State California

General locality Halfmoon Bay (Large)

Locality Purisima to Pillar Point.

Scale 1 : 10,000 Date of survey April 30-July 17, 1932

Vessel Chartered Launch ROGUE

Chief of Party Fred. L. Peacock

Surveyed by A. Newton Stewart

Protracted by R. D. Dewell

Soundings penciled by A. Newton Stewart

Soundings in fathoms feet

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated April 4, 1932

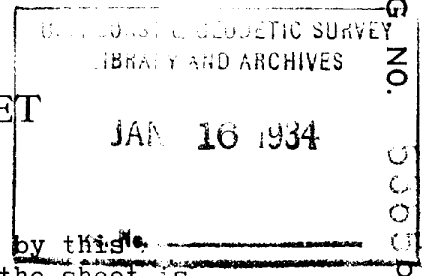
Remarks: Hand lead sounding See Sheet 2A

Visual fix control

KWW 9/22/92

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. 2A

REGISTER NO. 5355b

State California

General locality Halfmoon Bay Coast (Large)

Locality Pillar Point to South of Southeast Reef.

Scale 1 : 5,000 Date of survey April 30-July 17, 1932

Vessel Chartered Launch ROGUE

Chief of Party Fred. L. Peacock

Surveyed by A. Newton Stewart

Protracted by R. D. Dewell

Soundings penciled by A. Newton Stewart

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated April 4, 1932

Remarks: Hand lead sounding See Sheet 2

Visual fix control

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEETS FIELD NOS. 2 and 2A
Project 101
COAST OF CALIFORNIA
U.S.C. & G.S.S. GUIDE
1932

INSTRUCTIONS: Instructions for the hydrography on these sheets are dated April 4, 1932.

LOCALITY: Sheet 2 covers Half Moon Bay, California; the inshore area extending southward from Pillar Point to Latitude $37^{\circ}24.0$. It extends offshore to develop the fifteen fathom curve, and covers an area of 15.4 square statute miles.

Sheet 2A is a supplement to Sheet 2, and covers the shoal area extending to the southeastward from Pillar Point in the upper central part of Sheet 2, together with the approaches to the anchorage in the bay.

LIMITS: Sheet 2 joins sheet 4978 on the north, Ship Sheet Field No. 43 on the west, and Launch Sheet Field No. 3 on the south.

The area covered by Sheet 2A lies entirely within the limits of Sheet 2.

CHARACTER OF WORK: The hydrography on this sheet is all hand lead sounding with visual fix control. The depths range up to a maximum of 19 fathoms.

The area was first covered by a system of lines spaced 75 meters apart inside the ten fathom curve and 150 meters in greater depths. This was followed by a system of closely spaced lines in the area covered by sheet 2A in order to develop the area of irregular bottom and to define the shoals therein. All shoals and shoal indications were then carefully investigated and the locations of the least depths thereon were determined by detached positions.

The position interval ranges from one to five minutes, the usual interval being two to three minutes. Supplemental positions were obtained at radical changes of course and speed.

Paragraph twenty-three of the instructions states that the scale of Launch Sheets should be 1:10,000. The field work was plotted on that scale. However, because of the amount of development in the area covered by Sheet 2A it was decided in order to show this

in detail that it should be plotted on a scale of 1 : 5,000.

This survey was conducted between April 30 and July 17, 1932.

CONTROL: The control for the hydrography on this sheet consists of positions determined by triangulation in 1929 by Lieutenant-Commander L. W. Swainson and in 1931 by Lieutenant C. D. Meany, and of topographic signals located by the 1932 topographic unit of the Ship GUIDE's party. These positions are plotted on the North American 1927 Datum.

Attention is called to the use of the topographic position of the lone tree located by Lieutenant C. D. Meany in 1931 by triangulation. This is a leaning tree and because of the difference in the two positions it was considered best to use a definite topographic position rather than a triangulation position of an indeterminate part of the tree. The topographer and hydrographer collaborated in the field upon the location of this signal.

TIDAL REDUCERS: Tidal reducers were obtained from the Princeton Portable Automatic Tide Gage. There was no correction applied for either time or range.

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 29, 1932 to February 28, 1933.

LEADLINE CORRECTIONS: It should be noted that considerable trouble was had during the season due to shrinkage of leadlines. Leadlines were checked regularly before and after each days work, and often at noon. Corrections to soundings were obtained by direct proportion between the times of the corrections.

BOTTOM CHARACTERISTICS: Numerous bottom characteristics well distributed were obtained. In general the bottom is sandy. The shoal areas in the vicinity of Pillar Point are rocky. From Pillar Point southeastward to Southeast Reef and on in the same direction to shore in the vicinity of signal Dad the bottom characteristics vary greatly, the bottom being rocky where shoal soundings were obtained. For a distance of about a mile south of Southeast Reef and also close inshore on the southern portion of the sheet the bottom is rocky.

It will be noticed that a brown sand bottom lies in general next to rocky bottom and that there is a possibility of this being thin sand over rock.

DANGERS AND SHOALS: For the class of boats in general which use the waters lying within the approaches to the bay there are no dangers outside of the areas marked off by buoys.

Shoals in addition to those shown previously have been found in both approaches. In the upper approach attention is called to the 3 5/6 fathom spot in Latitude 37°28.85 and Longitude 122°29.4. From this spot southeastward to buoy "N 2" there is a series of shoals varying from four to six fathoms which lie directly across the approach. In Latitude 37°28.6 and Longitude 122°28.9 there are a number of shoal soundings slightly under six fathoms. These were felt over with the leadline without finding less water.

The shoal extending from station Gull to lighted buoy No. "1" has been found to extend farther than shown previously and additional shoal soundings were obtained. In a smooth sea many of the fishing boats pass inside this buoy.

In the southern approach scattered shoal spots less than shown previously were found. One of these having 4 1/2 fathoms lies a short distance southwest of buoy No. "C 3". Two others having less than five fathoms lie respectively in Latitude 37°27.5 and Longitude 122°27.7 and in Latitude 37°27.3 and Longitude 122°27.8. Between these two positions and buoy No. "C 3" there are scattered spots having about six fathoms of water.

On Southeast Reef the rock shown in Latitude 37°28.1 and Longitude 122°28.4 was found to have two feet less water than shown previously. Breakers show prominently on this rock in all but the very smoothest weather.

An additional rock having 4 feet of water at mean lower low water was found in Latitude 37°28.2 and Longitude 122°28.7. Breakers seldom show on this rock except in the heaviest weather. It was not known previously to local boat owners.

Attention is also called to the 2 5/6 fathom spot in Latitude 37°28.4 and Longitude 122°28.6.

POSITION OF BUOYS: The positions of all buoys with the exception of buoy No. "2 PP" have been taken from the topographic sheet as these positions were considered more satisfactory than the hydrographic positions obtained. The hydrographer and topographer collaborated in the field on these positions, which were obtained while the hydrographic survey was being made.

The position of buoy No. "2 PP" is approximate only, a satisfactory position not having been obtained by either hydrographer or topographer.

ANCHORAGE: Half Moon Bay affords the best anchorage for small boats in Northerly weather between Santa Cruz Harbor and San Francisco Bay,

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but becomes somewhat choppy if a strong northerly wind blows for several days.

Boats should be warned not to use this bay in Southerly weather particularly when visability is low. The holding ground is poor and the bay is difficult to leave in heavy southerly weather.

The usual anchorage used by fishing boats is in three to four fathoms of water in Latitude $37^{\circ}29.7$ and Longitude $122^{\circ}29.2$. In smooth weather the smaller fishing boats anchor north of this position in about $2\frac{1}{2}$ fathoms.

JUNCTIONS: Satisfactory junctions have been obtained with Sheets 4978 on the north, Ship Sheet Field No. 43 on the west and Launch Sheet Field No. 3 on the south.

DESCREANCIES: Because of the character of the bottom where differences in soundings occur it is felt that these soundings are correct and that few if any discrepancies occur on this sheet.

COMPARISON WITH PREVIOUS SURVEYS: The general characteristics of this area have been shown by a previous survey on Sheet No. 821. Additional development has shown most notably more shoal water in the approaches to the anchorage, and also some additional shoal spots mentioned previously.

When the survey was started there was but little kelp close inshore between stations Gull and Sail Rock. By the middle of July there was more kelp in this area but not as much as was shown previously. Also by this time there was some kelp growing on the shoal spots between station Gull and Buoy No. "1". At no time was there any kelp on Southeast Reef.

In this connection it should be noted that about the time this survey was in progress the Hydrographic Office of the Navy, in its bulletins, stated that there was an unusual scarcity of kelp along the coast.

Respectfully submitted,

A. Newton Stewart
A. Newton Stewart,
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.

VARIATION OF SOUNDING METHOD IN DEPTHS TOO GREAT FOR ORDINARY HAND
LEAD SOUNDING:

The deeper soundings on this sheet were obtained by a slight modification of the usual hand lead sounding.

Whenever the depth became so great that any difficulty was experienced in obtaining vertical lead line casts at regular sounding speed the launch engine clutch was disengaged at the command "Sound", and was re-engaged when the sounding had been obtained. This method was resorted to because of the small amount of work necessary outside the fifteen fathom curve and was particularly feasible in that the launch was equipped with pilot house control which enabled the helmsman to view the operations of the leadsman and control the engine accordingly. ✓

A fourteen pound lead was used for all soundings outside the ten fathom curve.

Although a hand wire sounding machine was installed on the launch, ready for use, the method detailed above was favored, since in the opinion of the hydrographer it gave better control of the sounding line and was faster.

The regularity with which the engine clutch was manipulated appeared to insure satisfactory accuracy with respect to the spacing of soundings intermediate between positions.

All recorded soundings were made with the lead line vertical and all doubtful soundings were rejected at the time.

A. Newton Stewart
A. Newton Stewart,
Jr. H. & G. Engineer,
U.S.C. & G. Survey,
Hydrographer.

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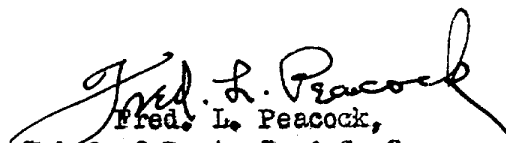
Statement
to accompany
HYDROGRAPHIC SHEET FIELD NOS. 2 & 2A
Project No. 101
COAST OF CALIFORNIA
U.S.C. & G.S.S. GUIDE
1932

The protracting of the launch work on these sheets was done by Mr. R. D. Dwell, Civil Engineering Hand, under the direct supervision of Lieutenant (j.g.) L. W. Swanson.

At least ten percent of the protracting on Sheet 2 was verified by Lieutenant Swanson and on Sheet 2 A by Lieutenant (j.g.) A. Newton Stewart.

The soundings were penciled and depth curves drawn by Lieutenant Stewart.

The completed smooth sheet has been inspected and is approved. However, as part of the work was done by a temporary employee it is recommended that the office verification be correspondingly rigid.


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

LIST OF SIGNALS
to accompany
HYDROGRAPHIC SHEETS FIELD NOS. 2 & 2A

TRIANGULATION

Hydrographic Name	Location
Pill	Pillar Point 2, 1916
Sail	Sail Rock, 1931
Shed	Shed, 1931
Dock	Miramar Dock Banner, 1931
Cross	Half Moon Bay, Cross on Church, 1931
Spire	Half Moon Bay High School Flagpole, 1931
All	Dream Cafe Chimney, 1931
Moon	Moon 2, 1931
Gate	Gate on Cliff, 1931
One	Westerly Oil Derrick, 1931
Water	Water Tank, 1931
Max	Mex 2, 1932

TOPOGRAPHIC

	Topographic Sheet B
Dud	"
Gull	"
Ben	"
Lone	"
Yel	"
Ted	"
Pow	"
Gab	"
Tank	"
Pile	"
Who	"
Low	"
Stack	"
Dad	"
Big	"
Bee	"
Pod	"
Rey	"
Tri	"
On	"

Top
Pole
Doe
Ten
Net
Rat
Hi
Two
Mex RM

Topographic Sheet B

"
"
"
"
"
"
"
"

Statistics
to accompany
HYDROGRAPHIC SHEETS FIELD NOS. 2 & 2A
Project No. 101

Day	1933 Date	Stat. Miles Sdg. Line	No. of Positions	No. of Sdgs.
a	4-30	9.6	71	262
b	5-2	35.0	176	920
c	5-3	15.3	84	364
d	5-4	15.5	100	393
e	5-5	14.0	81	369
f	5-6	19.4	145	432
g	5-10	16.0	103	342
h	5-11	17.5	136	466
j	5-12	14.8	111	463
k	5-13	17.0	130	575
l	5-14	9.2	60	262
m	5-16	19.8	142	671
n	5-17	15.9	120	550
p	5-18	5.8	172	437
q	5-21	11.5	76	282
r	5-22	7.8	54	189
s	5-23	5.5	40	136
t	5-24	1.5	9	39
u	5-25	14.3	89	328
v	5-26	14.5	104	353
w	6-6	2.2	19	62
x	6-7	3.4	41	198
y	6-8	23.5	114	651
z	6-9	10.5	65	224
a.	6-10	5.8	61	156
b.	6-15	7.3	69	232
c.	6-17	19.4	138	567
d.	6-18	15.5	144	510
e.	6-21	7.4	72	231
f.	6-22	15.0	149	500
g.	6-24		22	24
h.	6-25	7.4	67	296
j.	7-13	21.5	149	616
k.	7-15	10.5	87	308
l.	7-16	9.1	79	317
m.	7-17	4.7	39	131
TOTALS		442.9	3318	13006

Area in square statute miles - 15.4

Note: Statistics for Sheets 2 and 2A have not been separated as certain portions have been plotted on both sheets. Appropriate notes have been entered in the records showing which sheet all work has been plotted on.

82 L.A.C.

January 27, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 5365 a and b

Locality Purisima to Pillar Point, Half Moon Bay, California

Chief of Party: Fred L. Peacock on 1932

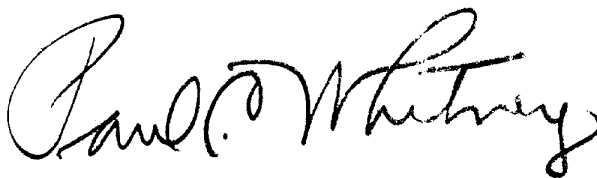
Plane of reference is mean lower low water, reading

3.1 ft. on tide staff at Princeton

13.7 ft. below B. M. 4

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

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5365a

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

Number of positions on sheet	.3318 [both sheets a+b]
Number of positions checked	... 16.
Number of positions revised
Number of soundings recorded	13006 [both sheets, a+b]
Number of soundings revised	.350...
Number of signals erroneously plotted or transferred

Date: ... 3/1/34

Cartographer: J. Miller

Section of Field Records.

Verification Report on Hydrographic Sheet # 5365a

Halfmoon Bay, California

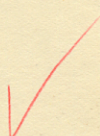
Chief of Party, - F. L. Peacock

Surveyed by, - A. N. Stewart

Protracted by, - R. T. Dewell

Soundings Plotted by, - A. N. Stewart

Verified and inked, - I. Miller



- Records
1. Adequate information, necessary in order to correctly plot and changes in course was lacking. In many cases soundings on turns were omitted as their correct locations were indefinite.

The custom of leaving a blank line between the last sounding of one position and the succeeding position was not followed in the records.

In other respects the records conformed with the general requirements of the Hydrographic Manual.

- Protracting
2. This sheet was inspected and the protracting verified by Mr. Murray. Mr. Murray will make a subsequent report on this sheet and will include a report on the inspection and verification of the protracting.

- Soundings
3. The usual care in plotting the soundings was not evident on this sheet. In many instances changes in time intervals were disregarded. It was necessary to repace approximately 200 soundings because of this.

About 45 soundings were in error as to value. This does not include the soundings revised due to the fact that a few of the tide reductions were changed subsequent to the field plotting.

Position number 40X was plotted two times on this sheet. (one in error) and soundings between 40 and 41X were duplicated. (one line in error) general.

4. The position numbers were inked too close to the positions and in many cases were illegible.

5. The symbols for number rocks were carelessly inked on the sheet and were revised by the verifier. Instead of a low water line, the symbols for breakers were inked along the shoreline. Respectfully submitted. This was revised by the verifier. It was decided that only a few of the notes relative to rocks were necessary for the smooth sheet.

Irvin Miller

H-5365 b.

This sheet was checked for protracting and the critical areas developed by H. W. Murray.

The records would have been easier to read if the customary gap of one line had been left between positions.

In the plotting of this sheet the field party has questioned and rejected so many positions that one feels inclined to doubt much of the remainder of the work. Repeated reference is made in the early part of the work to a day for more accurate information.

The position numbers were so close to the positions that they were in a great many instances entirely obliterated when the sounding was inked.

The changes in course and speed of boat were not fully recorded.

Explanatory notes have apparently not been placed opposite the proper soundings. This is particularly noticeable with regard to docks and buoys.

In many cases where latitude and longitude of positions was given, they were found to be erroneous and in many cases a sufficient number were not given. The lack of this information made it necessary to protract from 8 to 10% of the positions in order to find beginnings of lines. This Lawrow served as an additional check on the protracting which was found to be excellent. The same cannot be said of the penciling of the soundings. In no case where a broken time interval occurs, was it taken into consideration.

Respectfully submitted

W. L. Muller

SECTION OF FIELD RECORDS
Review of Hydrographic Sheet No. 5365 a and b
Halfmoon Bay, Purisima to Pillar Point, California.
Surveyed April - July 1932
Instructions dated April 4, 1932 (Guide)

Chief of Party - F. L. Peacock.
Surveyed by - A. N. Stewart.
Protracted by - R. D. Dewell.
Soundings penciled by - A. N. Stewart.
Verified and inked by (a) Irwin Miller (b) W. L. Mullen and
H. W. Murray.

1. The records in general conform to the requirements of the Hydrographic Manual. A large number of rejections and changes in the record were made by the field party in smooth plotting this sheet. This reflects somewhat on the care and accuracy of the field work. No blank space was left before the position soundings, and change of course frequently omitted.
2. The plan and extent of development conform to the regulations and satisfy the specific instructions.
3. Soundings are generally consistent and agree satisfactorily at crossings of lines. The depths are given in fathoms and fractions instead of in feet as provided in the exception par. 152 of the regulations. Depth units on Chart 5520 are given in feet.

The Descriptive Report notes unusual kelp conditions during this field season.

4. Depth curves can be drawn satisfactorily except close inshore.
5. Junction with H. 4987 to northward is satisfactory. Junction with H. 5294 to southward is satisfactory although the bottom close inshore is very irregular. To westward sheet H. 5395 has not yet been completed.
6. Comparison with H. 821 (1863) shows general agreement although the present survey shows more shoal water in the approach to the anchorage and also less water on the reefs. Chart 5520 (Ed. Oct. 1933) has 4 feet least water on Southeast Reef where the survey sheet shows a "rock awash at extreme low tides". Several preliminary reports on results of the survey were used in preparing the current edition of this chart.
7. Field drafting was not done with sufficient care. The verifier found that respacing of many soundings was necessary and some 45 or more soundings were plotted with wrong values. Position numbers were placed too close to the positions and became obliterated or illegible when soundings were inked.
8. Recommendation. This sheet (H. 5365a and 5365b) should supersede all previous information for charting the area covered by it.

Attention is invited to the fact that the previous survey carried the sounding lines closer to the beach but the general agreement is such that this information may still be used on the charts.

This survey is considered as closely made as it is economical to do so

H. 5365a & b - 2.

with hand lead; but due to the irregular and rocky nature of the bottom and the possible future naval importance of this area, a wire drag survey of the irregular area is indicated as being desirable.

W.D.
in 1934

9. Reviewed by - R. J. Christman, April 25, 1934.

Examined and approved:

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

L. O. Polbut
Chief, Division of Charts.

W. S. Borden
Chief, Section of Field Work.

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

