5373a
5373b

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.* 8 & 8-A 5373

LOCALITY

Santa Cruz

Santa Cruz to Needle Rock Point.

19 32-33

CHIEF OF PARTY

Fred L. Peacock.

U. S. GOVERNMENT PRINTING OFFICE: 1931

5373a
5373b

Form 537

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. 8

REGISTER NO. 5373-A

State California

General locality Santa Cruz ~~California~~

Locality Santa Cruz to Needle Rock Point Harbor.

Scale 1 : 10,000 Date of survey December 1, 1932 to July 12, 19 33

Vessel Motorsailer, Gig, Chartered Launch ROGUE

Chief of Party Fred. L. Peacock

Surveyed by Walter J. Chovan, A. Newton Stewart

Protracted by E. A. Foster, E. E. Garnett

Soundings penciled by E. E. Garnett

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by P. H. Scherr

Verified by P. H. Scherr

Instructions dated April 4, 19 32

Remarks: Hand lead soundings - Visual fix control.

See Sheet Field No. 8A.

KWW 9/22/52

U. S. GOVERNMENT PRINTING OFFICE

Form 537
Ed. Sept., 1929

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. 8 A (Supplement to Sheet Field No. 8)

REGISTER NO. 5373-B

State California

General locality Santa Cruz Harbor

Locality Santa Cruz Municipal Pier

Scale 1" = 50' Date of survey July 11 - 12, 1933

Vessel Gig

Chief of Party Fred. L. Peacock

Surveyed by Walter J. Chovan

Protracted by E. E. Garnett

Soundings penciled by E. E. Garnett

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by P. H. Schierr

Verified by P. H. Schierr

Instructions dated April 4, 1932

Remarks: Hand lead soundings along pier and plan of pier.

See Sheet Field No. 8

U. S. GOVERNMENT PRINTING OFFICE: 1930

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEETS FIELD NOS. 8 and 8A
Project No. 101
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: Sheet No. 8 covers the inshore area from the vicinity of Needle Rock in Latitude 36° 57.3 to Santa Cruz, California. It includes the anchorage in Santa Cruz Harbor. Sheet No. 8A is a supplement to Sheet No. 8, showing the soundings obtained along the Santa Cruz Municipal Wharf.

DATES OF SURVEY: The hydrography on Sheet No. 8 was executed mostly between December 1st and 16th, 1932 by a party using the chartered Launch ROGUE. On July 11th and 12th, 1933, the soundings plotted on Sheet No. 8A were obtained and some additional development was done on Sheet No. 8. The work on the latter dates was done by parties using two ship's launches.

LIMITS: Sheet No. 8 joins Launch Sheet Field No. 7 on the northwest, Launch Sheet Field No. 9 on the east and Ship Sheets Field Nos. 45 and 48 on the south.

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

Sounding lines are spaced approximately 90 meters apart inside the ten fathom curve and 180 meters in greater depths. Further development was done in shoal areas with additional sounding lines and detached positions.

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

Cross lines are spaced not over four miles apart.

Sheet No. 8 has been plotted on a scale of 1 : 10,000 in accordance with paragraph twenty-three on the instructions. Sheet No. 8A wasplotted on a scale of 1 inch to 50 feet in order to show the detail.

The positions of the soundings on Sheet No. 8A were obtained by measuring off the dock in ten foot sections, each ten foot mark being given a position number and the number marked on the dock. Soundings were obtained along the face of the dock at each position. Along lines normal to the dock from each position three soundings were obtained at distances of five feet, fifteen feet and twenty-five feet respectively from the face of the dock. In preforming this work the distance from the dock each sounding was to be obtained was measured from the bow of Gig, and marked. Then with the bow of the Gig held against the dock and the center line in the desired position, the soundings were obtained. Lieutenant (j.g.) W. J. Chovan was in charge of this part of the work and directed it from a position on the dock above the Gig.

Fish houses on the dock are shown on the sheet in dotted lines and are approximate in size.

CONTROL: The control for the hydrography on this sheet consists of positions determined by triangulation by Lieutenant C. D. Meany in 1931, and of topographic signals located by the 1932 topographic unit of the Ship GUIDE's party. There are also two hydrographic stations located by the hydrographic party during the progress of the survey. The sextant fixes and cuts for the locations of these two stations are recorded in the sounding volumes. These positions are plotted on the North American 1927 Adjusted Datum.

TIDAL REDUCERS: Tidal reducers were obtained from the records of the Santa Cruz Tide Station. It was not necessary to apply a correction for either time or range.

A portable automatic tide gage was maintained at this station during the time work was in progress in 1932, but had been removed a short time prior to July 11 and 12 1933, when the field work was completed. On the latter dates staff readings were obtained on the same staff that was used while the gage was in operation.

For further information on this subject the reader is refered to the Season's Tidal Report which covers all the tidal work for the Ship GUIDE's party from April 29, 1932 to February 28, 1933.

LEADLINE CORRECTIONS: It should be noted that considerable trouble was had during 1932 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 over the area were obtained. Close inshore, with the exception of the immediate vicinity of the Santa Cruz Municipal Wharf, the bottom is rocky. It is also rocky from the shoal area south of Santa Cruz Lighthouse westward for a distance of about two and one half miles from inshore to approximately the outer limits of the sheet where it becomes sandy in greater depths. Other areas are of sandy bottom.

DANGERS AND SHOALS: With the exception of the shoal area extending to the southward from the Santa Cruz Lighthouse the bottom is regular.

Attention is called to shoals in Longitude 122° 01.5 where there is 4 1/6 fathoms in Latitude 36° 56.6, 4 5/6 fathoms in Latitude 36° 56.5, and 6 1/2 fathoms in Latitude 36° 56.4. Also in Longitude 122° 02.1 and Latitude 36° 56.0 at about the outer limit of the ten fathom curve attention is called to an 8 1/2 fathom sounding. This area was felt over without finding less water.

Recorded sdg reduces to 9 fath 4 feet, rpb

ANCHORAGE: Fishing boats anchor near the east side of Santa Cruz Municipal Wharf in three to five fathoms of water. Larger vessels anchor farther offshore in approximately Longitude 122° 00.0 at any desired depth. This anchorage affords good protection from northerly weather but is exposed from the south. In the anchorage used by fishing boats there are breakers in moderately heavy southerly weather.

JUNCTIONS: Satisfactory junctions are obtained on the northwest with Launch Sheet Field No. 7, on the east with Launch Sheet Field No. 9 and on the south with Ship Sheets Field Nos. 45 and 48.

DISCREPANCIES: This sheet is free from apparent discrepancies, the maximum difference between soundings where lines cross being one fathom. Any irregular soundings in the area previously mentioned south of Santa Cruz Lighthouse are believed to be correct.

COMPARISON WITH PREVIOUS SURVEYS: In general this survey agrees very well with previous surveys as shown on Sheets Nos. 379, 504, 445 and 558. The newer survey, being in greater detail, gives a better delineation of the depth curves.

In Longitude 122° 01.5 and south of Latitude 36° 56.8 about the same depths on the shoals were found in this survey as were shown previously. A small amount of scattered kelp was growing inside the six fathom curve in Latitude 36° 56.6.

Several shoal soundings southeast of Santa Cruz Lighthouse shown on sheet No. 379 were searched for without being found and they are not believed to exist. The positions obtained in the search for these shoals are protracted on the smooth sheet but many of the soundings were plotted on four overlays which accompany the sheet. In this area prevailing depths were found to be somewhat greater than shown previously.

Overlay tracings have been applied to the sheet.

Particular attention is called to the five fathom sounding shown on sheet No. 379 in Latitude 36° 56.8 and Longitude 122 00.9. This bottom in this vicinity was thoroughly sounded with the leadline without finding less than eight fathoms of water.

This sounding was erroneously plotted on H-379 and should have been 8½. See Remarks.

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. S.,
Commanding Ship GUIDE.

MOORING BUOYS

During the fishing season the anchorage used by fishing boats off Santa Cruz Municipal Wharf becomes somewhat congested with private mooring buoys. These buoys are not permanent and are often shifted. Several which were in place on July 12, 1933 were located by three point fix and were recorded. These positions serve only to show in general the positions where such buoys may be found at any particular time.

A. Newton Stewart

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

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.

STATEMENT
to accompany
Hydrographic Sheets Field Nos. 8 & 8A
Project No. 101
Coast of California
U.S.C. & G.S.S. GUIDE
1932-1933.

The protracting on Sheet No. 8 was done by Mr. E. A. Foster and Mr. R. E. Garnett, civil engineering hands, under the direct supervision of Lieutenant (j.g.) L. W. Swanson. The soundings were also plotted by Mr. R. E. Garnett under Lieutenant Swanson's supervision. At least 10 percent of the hydrography done by the ROGUE was verified through f day by Lieutenant Swanson. At least 10 percent of the remainder of that done by the ROGUE and also that done by the Motorsailer and the Gig was verified by Lieutenant (j.g.) A. Newton Stewart. Lieutenant Stewart has also verified at least 10 percent of all soundings plotted, and has drawn the depth curves.

Both positions and soundings were plotted on Sheet No. 8A by Mr. Garnett and both have been verified by Lieutenant (j.g.) W. J. Chovan, who was in charge of the field work on that sheet.

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

Fred. L. Peacock

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

Oakland, California.
January 24, 1934.

LIST OF SIGNALS
to accompany
HYDROGRAPHIC SHEETS FIELD NOS. 8 & 8A
Project No. 101
Coast of California
U.S.C. & G.S.S. GUIDE
1932-1933

TRIANGULATION

Hydrographic Name	Location
Pars	Pars, 1931
Rick	Oil Derrick near Pars, 1931
Bal	Bal, 1931
Oil	Oil Derrick near Bal, 1931
More	More, 1931
Cliff	Cliff, 1931
Crus	Santa Cruz Lighthouse, 1931
Mag	Santa Cruz Magnetic Station, 1931
End	End of Dock, 1931

TOPOGRAPHIC

Dog	Topographic Sheet H
Dim	"
Abe	"
Cat	"
Tom	"
Pod	"
Sig	"
Net	"
Fen	"
Gun	"
Bil	"
Sow	"
Chim	"
Red	"
Ran	"
Mar	"
Rat	"
Arch	"
Yel	"
Pig	"
Cow	"
Pile	"
Dome	"

(Continued on next page)

TOPOGRAPHIC

Hydrographic Name	Topographic Sheet H
Go	"
Gab	"
Tre	"
For	"
Set	"
Stew	"
Able	"
Aim	"
How	"
Tan	"
Hop	"
Green	"

HYDROGRAPHIC

Ran	Sounding Volume No. 1	Motorsailer, Sheet 8
Sig	Sounding Volume No. 1	Gig, Sheets 8 and 8A

STATISTICS
to accompany
HYDROGRAPHIC SHEETS FIELD NOS. 8 and 8 A
Project No. 101
Coast of California
U.S.C. & G.S.S. GUIDE
1932-1933.

Sheet 8

Date 1932	Day	Statute Miles Sounding Lines	No. of Positions	No. of Soundings.
ROGUE				
12-1	a	25.0	158	410
12-2	b	28.5	164	586
12-5	c	24.1	125	443
12-6	d	20.0	120	337
12-7	e	34.5	178	715
12-8	f	58.4	204	853
12-15	g	29.0	188	857
12-16	h	18.0	144	461
Totals - ROGUE		217.5	1261	4662
1933 - Motorsailer				
7-11	a	4.5	161	281
7-12	b	3.2	124	220
Totals - Motorsailer		7.7	285	501
1933 - Gig				
7-12	b	4.5	55	177
Totals Sheet 8		229.5	1601	5340
1933 - Gig		Sheet 8 A		
7-11	a		262	520
7-12	b		271	544
Totals Sheet 8 A			533	1064

Lae

February 23, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 5373 (a and b)

Locality **Off Santa Cruz, Coast of California**

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

Carl P. Patterson

Chief, Division of Tides and Currents

SECTION OF FIELD RECORDS

Report on H. 5378 A & B.
Chief of Party - F. L. Peacock.
Protracted by - E. A. Foster,
E. E. Garnett
Verified and inked by-P. H. Scherr.

Surveyed in Dec. 1, 1932-July 12, 1933.
Surveyed by - W. J. Chovan,.
A. N. Stewart.
Soundings plotted by - E. E. Garnett.
Topography inked by - Field party.

1. The records conform to the requirements of the General Instructions, However where rocks are noted as on Page 32, Volume I of the records, no description is given of them. A bottom characteristic of "rock" is mentioned which is evidently "rky".

2. The usual depth curves were drawn.

3. The field plotting was completed to the extent prescribed in the General Instructions.

4. The office draftsman did over no part of the drafting done by the field party. However as no topographic sheet for this area had been received in the office as yet, no comparison could be made. The Santa Cruz Municipal Pier could not be inked because of the absence of the topographic sheet.

5. The junction with the West Sheet, H. 5312, is satisfactory, as is also that with the off shore sheet, H. 5266. The East sheet H. 5393, is not completed as yet. ~~The off shore sheet, H. 5247, is being used at present.~~ Junction with H5247 was made.

6. Remarks - The Whistle Buoy in the harbor had been designated by the Field party as "Santa Cruz Harbor Buoy". The symbol was changed by us as were also the symbols of the private mooring buoys near the pier.

The line of soundings on the edge of the pier on Sheet B was omitted as the next line of soundings is only five feet away from the edge.

7. The Field drafting was very good. The protracting was excellent.

Submitted by - Paul H. Scherr.

Paul H. Scherr

March 20, 1934.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4373 AVB.

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

Number of positions on sheet	2134
Number of positions checked	76
Number of positions revised	2
Number of soundings recorded	6404
Number of soundings revised	18
Number of signals erroneously plotted or transferred	✓

Date: March 19, 1934

Cartographer: Paul H. Ickes

Section of Field Records

REVIEW OF HYDROGRAPHIC SHEET NO. 5373 a and b.

Santa Cruz to Needle Rock Point, Santa Cruz, Calif.
Surveyed Dec. 1932 to July 1933.
Instructions dated April 4, 1932 (GUIDE).

Hand Lead Soundings and 3 Point Control.

Chief of Party - F. L. Peacock.
Surveyed by - W. J. Chovan, A. N. Stewart.
Protracted by - E. A. Footer and E. E. Garnett.
Soundings penciled by - E. E. Garnett.
Verified and inked by - P. H. Scherr.

1. The records conform to the requirements of the Hydrographic Manual except that no notation appears on the smooth sheet regarding the plotting and verification of the topographic and hydrographic signals.

2. The plan and extent of development conform to the regulations and satisfy the specific instructions.

3. Soundings are consistent and the agreement in depth at crossing of lines is good. Uneven bottom off Point Santa Cruz accounts for the few differences that occur in that vicinity.

4. Depth curves can be drawn satisfactorily. The hydrography could not be carried into the low water line and the one and two fathom curves are necessarily incomplete.

5. Junctions with contemporary survey sheets are adequate, H. 5312 lies to the west, H. 5393 to the east, and H. 5266 and H. 5347 to the south. H. 5373b is a large scale plan of the municipal wharf.

6. Comparison with H. 379 (1853) shows good agreement in the deeper areas. There are a number of places westward of Point Santa Cruz where the 3 and 5 fathom curves extend farther offshore than on the new survey but it is due probably to the failure to record the time of taking the soundings on the older survey, thus necessitating their being plotted at regular intervals. In the harbor there is a decided deepening off the mouth of the San Lorenzo River, otherwise the sheets are in good agreement.

Sheets H. 300 (1852) and H. 504 (1855) are local large scale surveys and are in good general agreement with the present survey. H. 558 (1856) scale 1-40,000 and H. 4455 (1925) slightly overlap this sheet. All the foregoing sheets should be superseded by H. 5373 a and b for charting the area represented by it.

Chart 5403 shows a detached 3 eastward of Point Santa Cruz and a 5¼ farther to the southeast, both from H. 379. The location of

the first may be due to the method of plotting the soundings and the latter is an error in plotting from the records and should have been 8¼ which agrees with the present survey.

7. Field protracting and penciling of soundings was very well done. The low water line, docks at Santa Cruz and a few details along shore were added in the office from tppo sheet 4839. Sheet H. 5373b does not conform to the standard practice that north should be made the top of the sheet.

8. No additional lead line survey is recommended for the area covered by this sheet but owing to the importance of the area off Point Santa Cruz for vessels entering and leaving Santa Cruz Harbor, it is desirable that the shoal area extending southwesterly from Point Santa Cruz be wire dragged from the outer limits of the 10 fathom curve to, if practicable, the main five fathom curve inshore.

9. Reviewed by - R. J. Christman - May 1934.

10. Sheet Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Colbert
Chief, Division of Charts.

Chief, Section of Field Work.

Chief, Division of H. & T.