WIRE DRAG SURVEY.

5886

Form 504
Rev. April 1935

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Topographic / *Hydrographic* } *Sheet No.* 9

State California

LOCALITY

California Coast

Soquel Point ~~(Santa Cruz Harbor)~~

to Needle Rock Point

193 4

CHIEF OF PARTY

F.H.Hardy H. & G.E.

U. S. GOVERNMENT PRINTING OFFICE

WIRE DRAG SURVEY.
5886

Form 537
Ed. Dec., 1930

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. 9 5886

REGISTER NO.

State California

General locality California Coast

Locality Soquel Point ~~(Santa Cruz Harbor)~~ to Needle Rock Point

Scale 1 : 10,000 Date of survey Oct. 7 to Oct. 12, 1934

Vessel Chartered Launches PT. REYES (Guide Launch) & FLORENCE (End Launch)

Chief of Party F. H. Hardy

Surveyed by G. C. Jones

Protracted by T. A. Renton and G. E. Logan

Soundings penciled by

Soundings in fathoms ~~XXXX~~ DRAG DEPTHS IN FEET.

Plane of reference M L L W

Subdivision of wire dragged areas by T. M. Means.

Inked by T. M. Means

Verified by James Cormick

Instructions dated ~~March~~ May 31, 1934

Remarks: Dual Control Wire Drag. Positions by Visual Fixes.

U. S. GOVERNMENT PRINTING OFFICE. 1932

DESCRIPTIVE REPORT
to accompany
WIRE DRAG SHEET FIELD NO. 9
Project H. T. 184
Coast of California
U.S.C. & G.S.S GUIDE
1934

INSTRUCTIONS: Instructions forthe wire drag on this sheet are dated ~~March~~ May 31, 1934 and office letter dated April ", 1934.

CHARACTER OF WORK: Control for the wire drag on this sheet was by means of visual fixes.

Dual control was used for all the work on this sheet.

The effective depth range is from 14 to 84 feet.

Thepoeition interval was usually five minutes, with supplemental positions at radical changes of course and speed.

The scale of this sheet is 1 : 10,000.

The work includes that portion Soquel Point (Santa Cruz Harbor) to Needle Rock Point, and from approximately 1/3 mile off the shore to approximately the 20 fathom curve.

The area ofthe work on this sheet is 13.5 square statute miles.

On "C" day (W.D.Vol.#1, Page 17) a note by the chief of the wire drag party states that such portion of this days work to position #18 should be rejected if covered by other lines with more moderate swell. That part of this days work is covered with deeper depths and also was done on days with a more moderate swell. However it has been plotted and inked. Theoverlay tracing will eliminate that part ofthis days work.

CONTROL: Control for the work on this sheet consisted of hydrographic signals over triangulation stations of the 1931 scheme executed by Lieutenant C. D. Meany, plotted on the North American 1927 Adjusted Datum.

Shoreline and Topographic Signals were transferred from a photostat of Topographic Sheet T 4839.

DATES OF SURVEY: The work on this sheet began October 7, 1934 and was completed October 12, 1934.

TIDAL REDUCERS: Tidal reducers for the work on this sheet were obtained from the Monterey Portable Automatic Tide Gage.

For further information on this subject the reader is referred to the Season's Tidal Report.

OVERLAPS: The overlap of buoy path lines is more than sufficient throughout this sheet.

The overlap of drag lines at the beginning and ending of days work on this sheet are good.

JUNCTIONS: The overlapping junctions with Wire Drag Sheet Field No. 8 on the West is more than sufficient.

There was no drag work immediately south east of this sheet in Monterey Bay.

GROUNDINGS:

Pos. No. Letter Day	Latitude & Longitude	Grounded Eff. Depth	Least Sounding Depth	Cleared Eff. Depth	Depth Plotted
36 B	36 56.59 122 01. 51	20 ft.	3 5/6 fms.	15 ft.	3 2/6 fms.
29 D	36 55.52 122 01.55	77	12 1/6	61	12 1/6 & 12 4/6

After investigating the grounding on position 36 B the launches were reversed to clear the drag. "F" grounded on another shoal outside of line. They were unable to clear the drag from #14 buoy to "F". Because of strong winds the launches could not be manuevered properly. "F" and #14 buoys with 500 feet of wire wre left for further attemps to recover in calm weather. Sounding taken at the time were 50 feet at "F" with two foot tide reducer, making the sounding 8 fathoms. This sounding is plotted. A reduced sounding of 7 1/2 fathoms was obtained approximately 145 meters inshore, the Tender got a position on this sounding. This sounding is also plotted. The 8 fathom sounding was cleared with 38 feet. The 7 1/2 fathom sounding was cleared with 41 feet.

COMPARISON WITH PREVIOUS SURVEYS:

Comparison with H 5373A. The grounding on position 36 B day in Latitude 36 56.59, Longitude 122 01.51 grounded at an effective depth of 20 feet. The least sounding obtained was 3 5/6 fathoms. The effective upright length of 3 2/6 fathoms or 20 feet, has been plotted. This sounding falls approximately 20 meters north of a developped shoal with a least depth of 4 5/6 fathoms as shown on the above survey. The bottom in this vicinity is uneven.

The two soundings obtained on "B" day, mentioned above in Latitude 36 56.20, Longitude 122 01.92 of 7 1/2 fathoms

8 3/4

Comparison with H 5373A Cont.
and Latitude 36 56.13, Longitude 122 01.97 of 8 fathoms, are in depths of 8 1/4 to 9 3/4 fathoms as shown on the above survey.

The grounding on position 29 D day does not fall within the limits of the above survey. This grounding is believed to be within the limits of H 5266,* a comparison could not be made as this party did not have a copy of that survey.

* Falls on H.5266

COMPARISON WITH CHART 5402: Corrected to March 21, 1935.

None of the groundings on this survey are charted. The effective upright length of 3 2/6 fathoms plots approximately on the charted 6 1/2 fathoms 0.6 nautical miles south of Santa Cruz Light.

The 12 1/6 fathom grounding plots approximately 1.6 nautical miles south of Santa Cruz Light. No charted sounding is in this immediate vicinity.

The two soundings in Latitude 36 56.2 plot within the charted ten fathom curve and near a charted sounding of 8 fathoms. Because of the scale of this chart it is probably impracticable to chart either of these two soundings.

COMPARISON WITH CHART 5403: Corrected to August 7, 1935.

None of the groundings on this survey are charted. The effective upright length of 3 2/6 fathoms plots approximately 0.55 nautical miles south of Point Santa Cruz Light. This is approximately 0.05 nautical miles further off shore than the charted 4 1/4 fathoms this vicinity.

The 12 1/6 fathom grounding plots approximately 1.6 nautical miles south of Point Santa Cruz Light. This sounding falls in depths of 14 to 18 fathoms as shown on this chart.

The two soundings obtained on this survey plot within the charted ten fathom curve. The sounding of 7 1/2 fathoms is approximately 0.1 nautical miles south of the northerly, and 0.12 nautical miles northeast of the southerly, of the two charted 8 fathom soundings this vicinity. The other sounding of 8 fathoms plots near the southerly of the two charted 8 fathoms.

PERSONNEL AND LAUNCHES: Lieutenant Commander G. C. Jones was in charge of this work and also in charge of the Guide Launch. Lieutenant (j.g) W.J.Chovan was in charge of the End Launch.

The launches used were the Chartered Launches POINT REYES (Guide Launch) and FLORENCE (End Launch).

Forwarded, Approved.

G. C. Jones,
In Charge Wire Drag.

F. H. Hardy,
Chief of Party, C & G S.
Commanding Ship GUIDE.

Respectfully submitted,

L.W.Swanson
Jr. H & G.E.
C & G Survey.

LIST OF SIGNALS
to accompany
WIRE DRAG SHEET FIELD NO. 9

TRIANGULATION

Hydrographic Name	Location
Der	Oil Derrick Near Bal, 1931
Bal	Bal, 1931
San	Santa Cruz, Christian Church Tabernacle, 1931
Light	Santa Cruz Lighthouse, 1884, 1931
End	End of Dock, Sant Cruz, 1931
Dome	Casino Dome, 1910
Cap	Capitola, End of Dock, 1931

Topographic
Located on Topographic Sheet T 4839

Cat	Mor	Gab	Hop
Tom	Saw	For	How
Net	Red	Set	Aim
	Ran		

STATISTICS

DATE 1934	DRAG DAY	VOL.	STATUTE MILES	NO. POS.	DRAG LENGTH	TENDER NUMBER SOUNDINGS	TENDER NUMBER POSITIONS
Oct. 7	A	1	1.5	18	9000	-	-
8	B	1	3.9	76	6000	3	3
9	C	1	5.7	134	6000	-	-
10	D	1	3.4	60	8500	2	2
11	E	1	6.8	97	4400	-	-
12	F	2	3.0	40	8500	-	-
	TOTALS		24.3	425		5	5

AREA 13.5 SQUARE STATUTE MILES.

STATEMENT
to accompany
WIRE DRAG SHEET FIELD NO. 9

The protracting and plotting of buoy positions was done by Mr. G. E. Logan, draftsman and Mr. T. A. Renton, observer, drag areas were subdivided and inked by Mr. T. M. Means draftsman, under the direct supervision of Lieutenant (j.g.) L. W. Swanson.

The completed smooth sheet has been inspected and is approved.

F. H. Hardy,
Chief of Party, C & G S.
Commanding Ship GUIDE.

Oakland, California.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5886

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

Number of positions on sheet	430
Number of positions checked	5
Number of positions revised	0
Number of soundings recorded	5
Number of soundings revised	0
Number of signals erroneously plotted or transferred	0

Date: Nov. 25, 1935

Verification by Jamecormick Time: 5 hr.

Review by E. Pierzani Time: 1½ hrs.

Survey No. 5886

Date. Nov.4,1935

GEOGRAPHIC NAMES

Chart No. 5402

Diagram No. 5402-2

*, Approved by the Division of Geographic Names, Department of Interior.

¢, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	Needle Rock Point	same			
	Terrace Point	"			
	Santa Cruz	"			
	Santa Cruz Harbor	"			
	Point Santa Cruz	"			
	San Lorenzo Creek	"			
	Twin Lakes	"			
	Soquel	"			
	Soquel Point	"			
	Soquel Cove	"			
	Capitola	"			
	Aptos	"			
	Monterey Bay	"			

(M 100)

RAC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

November 15, 1935.

Division of Hydrography and Topography:

✓ Division of Charts: **Attention: Mr. E. P. Ellis**

Tide Reducers are approved in
4 volumes of ~~sounding~~ records for
wire drag

HYDROGRAPHIC SHEET 5886

Locality · **Soquel Point to Needle Rock Point, California coast.**

Chief of Party: **F. H. Hardy in 1934**
Plane of reference is **mean lower low water reading**
2.5 ft. on tide staff at **Monterey**
12.5 ft. below B.M. **3**

Height of mean high water above plane of reference is 4.6 feet.

Condition of records satisfactory except as noted below:

Paul A. Whitney
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5886 W.D. (1934) FIELD NO. 9

Soquel Point to Needle Rock Point, California Coast, Cal.
Surveyed in Oct. 1934
Instructions dated May 31, 1934 (GUIDE), Office letter dated Apr. 2, 1934.

Wire Drag with Hand Lead Soundings. Dual control on shore signals.

Chief of Party - F. H. Hardy.
Surveyed by - G. C. Jones.
Protracted by - T. A. Renton, G. E. Logan.
Subdivision of wire dragged areas by - T. M. Means.
Inked by - T. M. Means.
Verified by - J. A. McCormick.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual and S. P. 118, except as follows:

a. No bottom characteristics were recorded on the soundings obtained at drag groundings.

b. The drag positions at which groundings occurred were not entered in the remarks column of the sounding record. (Page 36, S.P. 118). This was done in the office.

c. No cuts to the groundings were recorded, nor, with one exception were the nearest buoys to the groundings recorded. (Page 32, S.P. 118).

d. Position angles on shoals were not checked by taking an angle to a fourth object. (Page 33, S.P. 118).

e. Signal Mor was indicated on the hydrographic sheet as a topographic signal and is listed in the descriptive report as originating with T-4839 (1932). There is no indication, however, of such signal on the latter sheet. Neither is the signal shown on the boat sheets, but a note near signal More states "Banner on Mast 5 meters south of reference mark".

Signal More, though not listed in the descriptive report as a used signal, is nevertheless shown in the drag records as used by the end launch. The original entry in the guide launch record was also signal More, but was later corrected to Mor.

Since the two signals are only 20 meters apart, the use of either one does not materially affect the plotting of the drag work. The signal (Mor) has been changed to a hydrographic signal on the sheet.

With the exception noted in paragraph 1e, the descriptive report is clear and comprehensive and adequately covers all matters of importance.

2. Compliance with Instructions for the Project.

a. The plan, character and extent of the survey comply with the instructions for the project. This survey is well executed and such matters as overlaps, proper speed, and determination of lift have been given careful attention. However, from the study of the depths on H-5373a (1932-33) it would appear that a deeper drag could have been used in the inshore areas. (See par. 8b, this review).

b. No description of equipment was contained in the descriptive report but the descriptive report of H-5712 (1934) states that a report on the equipment used will be forwarded. It is assumed that standard equipment was used.

3. Shoreline and Signals.

The shoreline and topographic signals originate with T-4838 (1932) and T-4839 (1932). Hydrographic signal Mor was located by a measured distance and bearing from triangulation station More. (From note on boat sheet).

4. Junctions with Wire Drag Surveys.

The junction on the west with H-5863 (1934) is satisfactory. One of the drag strips continues from one sheet to the other.

5. Comparison with Latest Hydrographic Surveys.

H-4455 (1924-25), H-5247 (1932-33), H-5266 (1932-33), H-5373a (1932-33), H-5393 (1932-33).

The present survey covers portions of the above hydrographic surveys and the effective drag depths are consistent with the depths shown on these surveys.

6. Comparison with Chart No. 5402 (New Print dated Aug. 6, 1935) and Chart No. 5403 (New Print dated July 31, 1935).

None of the soundings on either chart conflict with the effective depths of the drag.

7. Field Plotting.

The plotting, protracting, and subdivision of dragged areas were well done.

8. Results of Survey.

a. Shoals discovered and clearance depths obtained.

No new shoals were found on this survey. Several of the shoals located on H-5373a (1932-33) were reduced in depth, the most important being the 3-2/6 fathom grounding off Pt. Santa Cruz, which is 9 feet less than was found on H-5373a (1932-1933). The 3-2/6 fathom grounding was cleared with an effective depth of 15 feet.

b. Effective Depths.

The effective depths of the various drag strips are sufficient to insure safety to surface navigation in the normal steamer lanes, however, from a study of the depths on H-5373a (1932-1933), it would appear that the drag could have been set to a greater effective depth in the immediate vicinity and in the approaches to the municipal wharf at Santa Cruz. The depths here range from 5 to 8 fathoms, yet the drag depths range from 19 to 21 feet.

c. Splits and Insufficient Overlaps.

A small split exists in latitude 36°56.4', longitude 122° 0.5' as a result of navigational buoy "SC" located in this area. H-5373a (1932-33) shows the buoy in depths of 60 feet with no indication of a shoaling in a generally sandy bottom area. It is not likely that a danger exists here. The overlaps within the sheet are sufficient.

9. Additional Field Work Recommended.

No additional work is recommended at this time.

10. Reviewed by - G. Risegari, Dec. 12, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green,
Chief, Section of Field Records.

L. O. Colbert
Chief, Division of Charts.

Chief, Section of Field Work.

Chief, Division of H. & T.

HYDROGRAPHIC SURVEY NO. 5886

Smooth Sheet yes

Boat Sheet 2

Sounding Records 1 Vols. 2 W.D.

Descriptive Report yes

Title Sheet yes

List of Signals yes

Landmarks for Charts (Form 567) no

Statistics yes

Approved by Chief of Party yes

Recoverable Station Cards (Form 524) none

Special Chart for Lighthouse Service (Circular Nov. 30,1933) no

Remarks

GEOGRAPHIC NAMES

Survey No.

Name on Survey	A: On Chart No. 5402	B: On previous survey No.	C: On U. S. quadrangle Maps	D: From local information	E: On local Maps	F: P. O. Guide or Map	G: Rand McNally Atlas	H: U. S. Light List	K:	
Monterey Bay ✓	✓									1
Soquel Pt. ✓	✓									2
Santa Cruz Harbor ✓	✓									3
Pt. Santa Cruz ✓	✓									4
Needle Rock Pk Pt ✓	✓									5
										6
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Names underlined in red approved by C. H. Swanson Jan. 25 '30

Verifier's Report on H-5886 (Wire Drag)

Records:

Records conformed to specifications ✓

Drafting:

Drafting was excellent. ✓

Junctions:

Junction was made with H-5863 ✓ to the westward.

Remarks:

Topographic signals were checked by ✓ verifier with T-4839. Signal mar does not appear on the topo sheet. It is presumed that it was located by compass ✓ and tape from △ more which may have been obscured by trees.

Soundings were transferred to H-5373a ✓ and H-5766.

Nov. 25, 1935.

Submitted,
Jamie Cormick

25 Jan 15, 1936
Call

Applied to Chart 5402 - Feb 24, 1936 - L.M.Z
" " " 5403 - April 21, 1936 L.M.Z.