

5509

U. S. COAST & GEODETIC SURVEY
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Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: California

11-5013

DESCRIPTIVE REPORT.

HYDROGRAPHIC

Field _____ Sheet No. 13 5509

LOCALITY:

Pacific Coast

Point Arguello

19133-34

CHIEF OF PARTY:

O. W. Swainson,

5509

*Soundings submitted to Cartographic Section
Hearn.*

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SHEET

FIELD NO. 13.

U.S.C. & G.S.S. PIONEER

O. W. SWAINSON, CMDG.

PROJECT NO. 120.

AUTHORITY

This survey was made in accordance with instructions dated November 18, 1932, Project No. 120.

LOCALITY

The area of this sheet extends from longitude $120^{\circ} 33'$ W. (six miles East of Point Arguello) to latitude $34^{\circ} 36'$ N. (one and one half miles north of Point Arguello). It joins Field Sheet No. 12 on the east, No. 45 on the south and west, and No. 14 on the north.

CONTROL

The control was by vixual fixes on recovered triangulation stations located by Lt. F. G. Johnson in 1932-33 and the topographic survey--sheet B-- executed by the PIONEER in 1933.

SURVEY METHODS

The work was done on a 1:10,000 scale so that the inshore dangers could be well developed. The launches did the inshore portion out to 14 fathoms, using the hand lead, and the ship the outer portion, using the fathometer mostly. Where the fathometer overlapped the hand lead the fathometer soundings tended to be slightly shoaler. It is difficult to tell which is the most likely to correct. Some of the discrepancy is due to dropping fractions. In some cases while there was actually only one or two feet difference in the soundings the reductions to whole units made them a fathom different.

JUNCTION WITH OTHER SHEETS

The junction with No. 12 and No. 14 is good. The overlapping soundings of No. 45. appear to be slightly shoaler. Where discrepancies exist preference should be given to No. 13.

CURRENTS

No current observations were made. The sounding lines did not show very strong currents in any particular direction. It appeared to be southeasterly more often than northwesterly--perhaps about one half knot. The prevailing northwest wind masks the current.

Current observations should be made off Point Arguello as many ships have been wrecked in this vicinity.

TIDES

Tides from the Santa Barbara Tide Gage operated by Lt. C. K. Green were used for the reduction of the soundings. No time or height correction was made.

MAGNETICS

No magnetic observations were made. The PIONEER was swung for deviations in 1933 and checked from time to time. Some mariners believe that there must be some magnetic influence off the point to cause so many vessels to run ashore here.

DANGERS

There are no dangers other than close inshore and near the points. Navigation in this area requires great care and caution due to the many vessels rounding the point and the inshore set especially off Purisima Point.

FATHOMETER CORRECTIONS

While the theoretical corrections were computed and index correction obtained (1933 Season's Report and Descriptive Report for Sheet No. 25), the corrections used for reducing the soundings were obtained by averaging the difference between 17 vertical casts and the corresponding fathometer readings. This gave better agreement with the launch soundings. A constant correction of + 1.5 fathoms was used for all the fathometer readings on this sheet. (Also see Descriptive Report for Sheet No.12).

SLOPE CORRECTIONS

No slope corrections were applied.

COMPARISON WITH PREVIOUS SURVEYS

A tracing was made of the original survey and placed over the smooth sheet. This tracing is forwarded with the sheet. The soundings that do not check with the new survey are circled with a pencil. There are but few discrepancies and these of a minor nature.

This tracing is now destroyed - H. W. M.

Lat. 34° 33.2', Long. 120° 36.2'

A At position 31 to 32 b (starboard launch) very little indication is shown of the sunken rock located by the topographer. The topographer said this area had heavy breakers in rough sea. His notation and rock should be retained. (See TP Fulsow)

B Latitude 34° 33.5', longitude 120° 37.9'-- Old survey shows 1-3/6 fathoms; new survey shows 3 fathoms with a sunken rock. The new survey should be retained. Perhaps both were right. *old sdgs retained*

C Latitude 34° 33.1, longitude 120° 37.5'-- Old survey shows sunken rocks, also a 4 fathom sounding; new survey shows least depth of 5-1/6 fathoms and is well covered with soundings. Retain the 4 fathoms but remove the sunken rocks. *Retained*

D *sunken rock* Latitude 34° 32.9', longitude 120° 37.8'-- Old survey shows 8-3/4 fathoms and 9 fathoms; new survey shows 10 fathom curve around the area. Retain the old soundings. *9* *Retained*

E Latitude 34° 33.1', longitude 120° 36.9'-- Old survey shows 2-5/6 fathoms; present survey shows 3-1/6 fathoms. Use new survey. *Accepted*

F Latitude 34° 33.2', longitude 120° 36.2'-- Old survey shows sunken rocks with note "breakers in heavy weather". Topographer makes note of sunken rocks and breakers. New survey gets 1-1/2 fathoms but no sunken rocks. Retain the sunken rocks as per the old survey. *Retained*

O. W. Swainson

O. W. Swainson,
Chief of Party,
Commanding PIONEER.

CHIEF OF PARTY'S REPORT
ON
INSPECTION OF RECORDS AND SHEET.

Field No. 13.

U.S.C. & G.S.S. PIONEER.

O. W. SWAINSON, CMDG.

I examined all the soundings on the smooth sheet to see that there was no sounding which looked different from what should be expected from those surrounding it. I examined the protracting from time to time. Lieut. Healy examined the sheet closely, comparing the junction of the sheets, the new with the old survey, checking the protracting by placing the smooth sheet overlay over the boat sheet, and comparing the topographic sheet with the hydrographic sheet. He also went through the sounding records and checked the plotting of all remarks, etc. He made notes of doubtful points for my attention and action.



O. W. Swainson,
H. & G. Engineer,
Commanding PIONEER.

FATHOMETER COMPARISONS

Sheet No. 13.

Pos. No.	Vertical Cast	Fathometer (Uncorr)	V. C. - Fath.
1A	16.0 [✓]	14.2 [✓]	+1.8
1A	15.8 [✓]	14.0 [✓]	1.8
63A	25.8 [✓]	24.3 [✓]	1.5
63A	25.9 [✓]	24.5 [✓]	1.4
201A	12.7	11.2	1.5
201A	12.6	11.2	1.4
201A	12.6	11.5	1.1
14B	21.7 [✓]	20.0 [✓]	1.7
14B	21.6 [✓]	20.2 [✓]	1.4
14B	21.9 [✓]	20.8 [✓]	1.1
26B	30.5 [✓]	29.5 [✓]	1.0
1C	26.6 [✓]	25.2 [✓]	1.4
17D	13.6 [✓]	12.2 [✓]	1.4
17D	13.6 [✓]	12.5 [✓]	1.1
30D	17.0 [✓]	15.8 [✓]	1.2
30D	16.4 [✓]	15.1 [✓]	1.3
30D	16.5 [✓]	15.0 [✓]	1.5

Location in Sdg Rec. Indefinite

Total 23.6
Mean +1.39

Use +1 $\frac{1}{2}$ fathoms to be added to all Fathometer soundings.

STATISTICS FOR SHEET NO. 13.

Date	Day	No.	No. of Soundings			St. Miles	Boat
	:Letter:	Pos.:	Hand	Fatho-: Vert. :	:Sndg.Lines		
:	:	: Lead	: meter	: Wire	: Total:	:	:
12/21/33	A	201	766	7	773	75	PIONEER
1/24/34	B	39	234	4	238	14	do
1/29/34	C	199	1013	1	1014	64	do
1/31/34	D	30	145	5	150	9	do
12/5/33	a	152	711		711	23	Stbd. MS
12/6/33	b	88	479		479	11	do
12/14/33	c	136	402		402	20.5	do
12/15/33	d	138	522		522	17	do
12/19/33	e	168	523		523	20	do
12/20/33	f	157	495		495	17.3	do
12/24/33	g	32	54		54	2.3	do
12/6/33	a	127	384		384	17.3	Port MS
12/15/33	b	92	238		238	9	do
12/19/33	c	155	367		367	15.4	do
12/20/33	d	206	574		574	19.3	do
12/21/33	e	189	437		437	17.7	do
Totals		2109	5186	2158	17	7361	351.8

FIELD RECORDS SECTION
Verification Report on H-5509

Report on: H-5509
Chief of Party: O.W. Swainson
Protracted by: J.R. Jahn
Verified & Inked by: J. Levine.

Surveyed in: Dec. 1933 - Jan. 1934
Surveyed by: { O.W. Swainson
 C.J. Wagner
 W.C. Ellerbe
Soundings Plotted by: J.R. Jahn

The records, in general, conform to the requirements of the General Instructions ~~except as noted in the review.~~ ^{from.}

With the exception of the depth curves close inshore, where on account of rocks, breakers, etc., insufficient hydrography was executed, all other curves can be completely drawn.

The field plotting was complete as to hydrography, but the verifier had to plot and ink the major portions of the topography (shore line, rocks, breakers, etc.,) this data being taken from sounding records, boat sheet and topographic sheet. Certain references to rocks, shoals, etc., are made on the boat sheet by the Field Party with respect to previous surveys; these were not considered by the verifier but are noted here for the attention of the reviewer.

In several instances verifier had to revise drafting done by the Field Party.

In the sounding records, Vol. 4, Page 46, position 162-e, there is recorded a sounding of 8 fm. (uncorrected). This sounding because of its apparent disagreement with adjacent hydrography was neither reduced in the sounding records nor plotted on the smooth sheet. However, upon authority of Lt. C.K. Green, who is acquainted with this particular survey, and after conference between Capt. Ellis and him, (Nov. 1, 1934) it was recommended the sounding be given consideration. Verifier reduced sounding in the records and it now appears on the smooth sheet, 8.4 fm. (Approx. location: Lat $34^{\circ}33'$; Long $120^{\circ}38.1'$)

In the sounding records, Vol. 6, Page 21, at position 148-d. (Approx. location: Lat. $34^{\circ}36.2'$; Long. $120^{\circ}38.8'$) there is recorded a wreck, (remnants of a Japanese ship) This wreck was shown on the boat sheet & smooth sheet, and Topographic sheet. Upon authority of Lt. C.K. Green, who advised that the wreck is

"all washed up" and no longer exists, and after conference with Capt. E. P. Ellis (Nov. 1, 1934) it was recommended that the wreck be not plotted. All references to the wreck, as well as the symbol therefor, have been removed from the smooth sheet and appropriate notation made in the sounding records.

On the boat sheet (Approx. Location: Lat. $34^{\circ}33.2$; Long. $120^{\circ}35.6$) there appears a note to the effect that soundings on loop between 118a and 122a "are 1 fm. too deep". (Sounding records - Vol. 3, page 25).

After a careful investigation of the hydrography in this vicinity together with all data pertaining thereto it was disclosed that the above discrepancy was probably due to a confusion of signals which had the effect of displacing the lines of soundings (between pos. 118a and 122a) from their true locations. By using the signal Wash for the left angle instead of Pig (as recorded) at positions 118a to 122a (both inclusive) and replotting soundings in between it was found that the resulting hydrography agrees ^{with} the adjacent soundings.

As the result of the displacement of the lines between 118a and 122a due to a confusion of signals as explained in the preceding paragraph, the field party rejected pos. 123a and all soundings between pos. 122a and 124a because the location of the latter line did not agree with the apparently displaced ~~of the~~ line from 118a to 122a. When the line between pos. 118a and 122a was replotted using as signal for the left angle, Wash instead of Pig, it was found that by plotting position 123a together with all soundings between 122a and 124a (as recorded and reduced by verifier) the line between pos. 122a and 124a appeared to fit in very well with the hydrography, course and time of the lines back and ahead of line 122a to 124a.

Proper notations have been made in the sounding records with respect to the above discrepancies and their adjustments. (Authority - E.P.F. - Nov. 6, 1934) ✓

The junction with Sheet H-5508 on the east is satisfactory. ✓

On the north, Sheet H-5509 is joined by Sheet H-....., (Field Sheet #14) and on the south and west by Sheet H-....., (Field Sheet #45). The latter named sheets have not yet been received in the Washington Office, hence no junctions were executed for these sheets. ✓

Respectfully submitted-

Julius Levine
Jr. Hydrographic Engr.

November 14, 1934

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5509

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

Number of positions on sheet	2109
Number of positions checked	101
Number of positions revised	7
Number of soundings recorded	7361
Number of soundings revised	38
Number of signals erroneously plotted or transferred	None

Date: Nov. 14, 1934

Cartographer: J. Levine

Verification of pretracting Verification & inking of rocks & shoals	by J. Levine	Time: 75 hrs.
Verification of inking by	J. Levine	Time: 86 1/2 hrs.
Review by		Time: 17 1/2 "

RAC

October 1, 1934.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 5509

Locality Point Arguello, Coast of Southern Calif.

Chief of Party: O. W. Swainson in 1933-34
Plane of reference is mean lower low water, reading
3.6 ft. on tide staff at Santa Barbara
16.6 ft. below B.M. 1

Height of mean higher high water above plane of reference is 5.4 ft.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

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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. 13

REGISTER NO. **5509**

State CALIFORNIA

General locality South Pacific Coast

Locality Point Arguello.

Scale 1:10,000 Date of survey Dec. 1933 - Jan, 1934

Vessel Str. PIONEER - Stbd. and Port Motorsailers.

Chief of Party O. W. Swainson.

Surveyed by O. W. Swainson, C. J. Wagner, J. C. Ellerba.

Protracted by J. R. Jahn

Soundings penciled by J. R. Jahn

Soundings in fathoms Fath

Plane of reference M L L W

Subdivision of wire dragged areas by _____

Inked by J. Levine

Verified by J. Levine

Instructions dated November 18, 1932., 19____

Remarks: _____

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5509 (1933-34)

Point Arguello, Pacific Coast, California
Surveyed December 1933 - January 1934
Instructions dated: Nov. 18, 1932 (PIONEER)
Apr. 4, 1932 (GUIDE)

Hand Lead and Fathometer Soundings - 3 Point Control on Shore Signals

Chief of Party - O. W. Swainson.
Surveyed by - O. W. Swainson, C. J. Wagner, J. C. Ellerbe.
Protracted and soundings penciled by - J. R. Jahn.
Verified and inked by - J. Levine.

1. Condition of Records.

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

- a. On the cover label and title page of the sounding records, the positions and day letters were in black ink. These were changed to the proper color in the office. (Par. 138).
- b. Topographic features outside the high water line were not completely transferred to the smooth sheet. These were added in the office.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project. Practically no bottom characteristics were obtained during the fathometer work. Bottom characteristics from prior surveys have been transferred to supply this deficiency.

3. Sounding Line Crossings.

Average agreement of soundings at crossings is within one fathom.

4. Depth Curves.

The usual depth curves may be satisfactorily drawn within the limits of the survey including portions of the 1, 2, and 3 fathom curves.

5. Junction with Contemporary Surveys.

The junction with H-5508 (1933) is satisfactory, although a few fathometer soundings on that sheet in lat. $34^{\circ}31'.5$, long. $120^{\circ}34'.0$ are from 1 to 2 fathoms shoaler than on H-5509 (1934). These differences occur in depths of approximately 20 fathoms. In both deeper and shoaler areas the agreement in depth is good. The junction on the south, west and north will be considered when that work has been received from the field.

6. Comparison with Prior Surveys.

a. H-290 (1851).

This is a reconnaissance survey on a scale of 1 to 375,000 and contains no information which conflicts with the present survey.

b. H-1371a (1877), H-1371b (1877) and H-1470 (1880).

Soundings of the above surveys are generally in good agreement with those of the present survey although differences of 1/4 to 2 fms. occur in several spots, being deeper in some and shoaler in others. The larger differences are confined to depths of 20 fms. or more. A number of rocks and soundings, inshore and offshore, some originating with the above surveys and others with T-1520a (1877) and T-1520b (1877) were found to be in conflict with H-5509 (1933-34). These have been disposed of in accordance with the principles laid down in "Instructions for Review of Hydrographic Surveys". Cognizance was taken of the recommendations of the Chief of Party contained in the Descriptive Report, page 3. The more important of the rocks and soundings considered are the following:

(1). Two sunken rocks are shown on H-1371b (1877) in lat. $34^{\circ}32'.7$, long. $120^{\circ}33'.8$ for which no authority could be found on either the old topographic sheet or in the sounding records. They are therefore assumed to be non-existent and should be disregarded in future charting. It is barely possible that these rocks were incorrectly plotted from a note recorded at pos. 4le (Vol. 15) which is about 300 meters to the southeastward and at which no rocks are shown. (See next paragraph).

(2). The sunken rock shown on H-1371a (1877) in lat. $34^{\circ}32'.7$, long. $120^{\circ}33'.6$ originates with a note "rocks inside boat" recorded at pos. 4v (Vol. 15). A similar note is recorded at pos. 4le (Vol. 15) on H-1371b (1877) discussed in the foregoing paragraph which is about 80 m. SSW of pos. 4v. The two notes probably refer to the same rocks. In view of the indefinite character of such information, the word "foul" only, in color, has been added to the present survey in this vicinity.

(3). The rock with least depth of 2 feet in lat. $34^{\circ}33'.2$, long. $120^{\circ}34'.9$ on H-1371b (1877) is from a note at pos. 33e (Vol. 15) and was actually seen at the time of that survey. This has therefore been carried forward to the present survey.

7. Comparison with Chart No. 5302.

Within the area of the present survey, the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

8. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual.

9. Additional Field Work Recommended.

This survey is complete and no additional field work is recommended.

10. Superseding Previous Surveys.

Within the area covered, the present survey with the indicated additions from previous surveys supersedes the following surveys for charting purposes:

H-290 (1851)	in part.
H-1371a(1877)	" "
H-1371b(1877)	" "
H-1470 (1880)	" "

11. Note to Compiler.

In view of the general good agreement between the new and old surveys, the soundings on H-1371a (1877) and H-1371b (1877) that fall inshore of the inshore limits of the present survey can be used to supplement the new survey wherever necessary, for large scale charting.

12. Reviewed by Harold W. Murray and R. J. Christman, December 14, 1934.

Inspected by A. L. Shalowitz.

Examined and approved:

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

Paul Borden
Chief, Section of Field Work.

L. D. Robert
Chief, Division of Charts.

St. Huse
Chief, Division of H. & T.

*Applied to drawing of chart 5302 - Apr. 1, 1936 - J.W.
" " " " " 5202 Mar 1936 L.M.Z*

25 Jan 13, 1936
RD

Chart 5280 - fully app'd after V&R - GRT - 9-28-63

App'd to chart 5281 after V&R RKD 10-23-63

App'd to chart 5066 after V&R thru charts 5280 and
5281