

6258

U. S. COAST & GEODETIC SURVEY
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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~~ } Sheet No. 81
Hydrographic }

LOCALITY

Off Southern California Coast

~~Santa Barbara Basin~~

Anacapa Passage to Santa Rosa I.

1937

CHIEF OF PARTY

H. B. Campbell, H. & G. Engr.

5.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 81

REGISTER NO. H6258

State California

General locality Off Southern California Coast

Locality Anacapa Passage to Santa Rosa I.
~~Santa Barbara Basin~~

Scale 1/80000 Date of survey 6/10 to 8/16, 192³⁷

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

Chief of Party H. B. Campbell

Surveyed by H. B. Campbell & R. R. Moore

Protracted by R.R. Moore, L.S. Hubbard, G.A. Nelson, G.R. Fish, W.R. Porter.

Soundings penciled by W.R. Porter

Soundings in fathoms ~~feet~~

Plane of reference

Subdivision of wire dragged areas by

Inked by W.R. Jackson

Verified by W.R. Jackson

Instructions dated June 23, 1934
April 19, 1937, 192

Remarks:

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SHEET

No. 81

Season of 1937
Southern California

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

H. B. CAMPBELL, CMDG.

AUTHORITY

This hydrographic survey was executed under the Director's Instructions dated June 23, 1934, and Supplemental Instructions dated April 19, 1937. ✓

LOCALITY

This survey covers the area off the coast of southern California south of Santa Rosa, Santa Cruz, and Anacapa Islands and north of San Nicolas Island. The majority of the area within latitudes 33° 00' and 35° 55' N., and longitudes 119° 25' and 120° 15' W., was covered. ✓

A small offshore area lying west of San Nicolas Island within latitudes 33° 15' and 33° 40' N., and longitudes 120° 20' and 120° 30' W., was surveyed and is plotted on an insert on this sheet. ✓

METHOD OF SURVEY

Visual control was employed throughout nearly all of the area lying within approximately fifteen miles of the northern islands. Beyond that distance, throughout most of the survey, radio-acoustic-ranging was used. A velocity of 1482.5 meters per second was used in plotting all R.A.R. fixes. This velocity was obtained in 1935 for this general area. See Special Report 238 of 1935 (O.W. Swainson) ✓

All soundings were obtained by using the fathometer supplemented by vertical casts as called for in the field instructions. See Special Report on Fathometer Corrections, Season 1937. ✓
Shelf No. 941-SHS-6258-59-60-61-1937-C Accession No. 8-1537.

Throughout the majority of the area the control was good as to both visual and R.A.R. methods. In the southwest section of the area and in the survey of the offshore section west of San Nicolas Island considerable lag, probably due to the intervening shoals, was encountered and some adjustments were found necessary when plotting. The soundings in these portions are generally deeper than 500 fathoms. ✓

In plotting R.A.R. positions all factors such as bomb distance, course, log, and time were given consideration and in cases of non-agreement the most probable location was chosen. ✓

The following R.A.R. stations were used in the control of this sheet:

N. A. 1927 Datum			
Anacapa (Cap)	Lat.	33° 59'	1811 m.
	Long.	119 24	832
Santa Rosa (Rosa)		33 53	855
		120 06	22
Pt. Dume (Dume)		33 59	1636
		118 46	1180
San Miguel (Mig)		34 00	1189
		120 19	1432
San Nicolas (Nick)		33 12	655
		119 26	681

DISCREPANCIES

Crossings throughout the sheet are, for the most part, good. Variations of a few fathoms occasionally occur on steep slopes and over irregular bottom. ✓

DANGERS

There are no dangers to surface vessels in the area covered by this survey. ✓

COMPARISONS WITH PREVIOUS SURVEYS

This survey joins the following sheets: Sheet Register Nos. 5860, 5850, 5775, 5646, 5332, and 1937 sheets Field Nos. 82 and 83. ✓

H-6259 H-6260

The insert is within Sheet Register No. 5775. ✓

The soundings at the junctions with the above listed sheets are in close agreement with the previously executed work. There are some differences over areas with steep slopes which probably arise through differences in accuracy of control. None of these occur in shoal water.

TIDAL NOTE

Location of Tide Gage: Los Angeles Harbor, Standard Gage. ✓
Latitude 33° 45'.
Longitude 118 16 .

Corrections made according to tidal differences recorded in Tide Tables, Pacific Coast, 1937. ✓

Respectfully submitted,



Wilbur R. Porter,
Jr. H. & G. Engineer,
U.S.C. & G.S.S. PIONEER.

TABLE OF STATISTICS

Sheet Field No. 81

1937

: Date :	Day :	Positions :			Soundings		: Statute Miles :		
: 1937 :	Letter:	Bomb:	Other:	Total:	Fathometer:	V.C. :	Total:	Sounding Lines :	
6/10	A	15	35	50	456		456	91.0	
6/11	B		112	112	594	2	596	121.0	
6/15	C	14	76	90	545	1	546	138.8	
6/16	D	27	56	83	639		639	160.0	
6/17	E		23	23	157	1	158	30.0	
6/18	F	10	37	47	215	1	216	57.0	
6/22	G	21	28	49	353	1	354	91.0	
6/23	H		58	58	285	2	287	58.3	
6/24	J	23	12	35	262	1	263	70.0	
6/30	K		138	138	613	2	615	132.0	
7/1	L	10	40	50	285	1	286	69.0	
7/7	M	15	2	17	185	1	186	40.0	
7/8	N	45	28	73	521	2	523	103.0	
8/3	P	14	10	24	156	3	159	45.0	
8/4	Q	55	26	81	838		838	99.0	
8/5	R	58	31	89	747		747	102.0	
8/6	S	37	16	53	377	4	381	67.0	
8/10	E	28	8	36	246	3	249	47.0	
8/11	U	53	19	73	504	2	506	139.0	
8/12	V	34	9	43	260		260	93.5	
8/13	W	29	14	43	316	1	317	68.0	
8/17	X	48	18	66	492	1	493	134.0	
8/18	Y	76	35	111	694	2	696	128.0	
8/19	Z	38	20	58	315	3	318	82.0	
8/26	AA	56	38	94	462	3	465	112.0	
TOTALS:		25	707	889	1596	10517	37	10554	2277.6

CHIEF OF PARTY'S REPORT
OF
INSPECTION OF RECORDS AND SHEETS

This sheet and the records accompanying it for this survey have been examined and are approved by me.

The sheet was protracted and soundings penciled by Lieut. (j.g.) W. R. Porter. Lieut. Porter also wrote the descriptive report.

No Additional work on this area is recommended.

H. B. Campbell

H. B. Campbell,
H. & G. Engineer,
Chief of Party,
Commanding Str. PIONEER.

Field Records Section (Charts)

H6258

HYDROGRAPHIC SHEET NO.

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

Number of positions on sheet	..1596
Number of positions checked	...94.
Number of positions revised	...65.
Number of soundings recorded	.10554.
Number of soundings revised	...90.
Number of signals erroneously plotted or transferred

Date: July 7, 1938.

Verification by W.R. Jackson

Time: 33 days, 5 hours.

Review by J.A. McCormick, July 15, 1938

Time: 45 hrs.

Verification Report on H-6258 (1937)

1. The records conform to the requirements of the General Instructions, except (1) the fix was not repeated at the top of the page, some pages were merely marked "Same". ✓
2. The control for the hydrography near shore was three point visual fix on prominent objects on shore located by triangulation and sextant cuts. The offshore work was RAR from shore hydrophone stations. ✓
3. In general the depths agree where sounding lines cross. In Lat. $33^{\circ} 33.5'$, Long. $119^{\circ} 35'$ a cross line has approximately 70 fms. difference. Adjusted.
4. No depth curves were drawn on the sheet at this time. This was left for a detailed contouring. ✓
5. There were no floating aids to navigation on the sheet. ✓
6. The junction on the north with H-5850 (1935), H-5860 (1935) and H-5773 (1935) is satisfactory. The junction on the west and south with H-5775 (1933) is in general satisfactory. Some adjustment was necessary to effect agreement and a junction was left in pencil for consideration by the reviewer. Junction with H-5775 adjusted to satisfactory agreement.

The junction on the south with H-5646 (1933) and H-5332 (1932) is in general satisfactory. Some of the overlapping soundings that did not agree were left in pencil. Junction with H-5332 adjusted to satisfactory agreement. See par. 6b, review for discussion of H-5646.

The junction on the east with H-6260 (1937) and H-6259 (1937) is in good agreement. ✓

7. The field plotting was in general satisfactory. It was noticed that where visual fix was used the position holes were entirely too large, and where RAR was used on numerous occasions the position hole was omitted entirely. Par. 144 of the Hydrographic Manual reads "Positions should be shown by a needle hole, accentuated by an ink dot." Not criticized in review.

25 errors in reduction of soundings were discovered;

12 were 100 fathoms or over,

3 were 200 fathoms,

1 was 500 fathoms. ✓

8. In Lat. $33^{\circ} 52.7'$, Long. $119^{\circ} 31.5'$ a sounding of 627 rejected in the record has been put on the sheet in pencil. This is probably a reliable sounding, 4-5 C. Inked.

On position 17 H in Lat. $33^{\circ} 54.7'$, Long. $119^{\circ} 42.8'$ a sounding of 283 was put on the sheet. The original sounding of 291 was possibly O.K. 283 accepted.

Between positions 2 - 3 G in Lat. $33^{\circ} 42.2'$, Long. $119^{\circ} 25.4'$ a sounding of 1012 was left in pencil as the original entry was scratched out and not reduced. This appears to be a reliable sounding. 1012 mked.

On position 45 D in Lat. $33^{\circ} 39.9'$, Long. $119^{\circ} 24.9'$ a sounding of 865 has been left in pencil. This sounding is an echo sounding too weak to register on the fathometer but is probably a reliable sounding. 865 too uncertain. Omitted.

In Lat. $33^{\circ} 25.4'$, Long. $119^{\circ} 37.0'$ a sounding of 70 fathoms that was questioned at the time it was taken, was left in pencil. Area adequately covered. 70 omitted.

In Lat. $33^{\circ} 36.5'$, Long. $119^{\circ} 58.5'$ there are four soundings that were left in pencil because they appear to be too shoal, and as the records, Vol. 5, page 29, have a note about the fathometer speed being slow for two of the soundings it might apply to all four. Soundings verified by dd surveys. Retained and inked.

In Lat. $33^{\circ} 16.6'$, Long. $120^{\circ} 09.7'$ (40 U), a sounding questioned at the time of recording and rejected by the field plotter has been plotted, but left in pencil. Deeps on other lines indicate that this probably is a reliable sounding and should be retained. Sdg. of 637 fms. retained and inked.

On position 83 Y, in Lat. $33^{\circ} 36'$, Long. $119^{\circ} 59'$, a sounding of 207 is on a recorder's error and the sounding should be 307 instead of 207. 207 is on a turn and there is no other evidence of shoaling. Rejected.

Respectfully submitted,

William R. Jackson

William R. Jackson
Asst. Cartographic Engineer

July 7, 1938.

HYDROGRAPHIC SURVEY NO. T-6258

Smooth Sheet Yes

Boat Sheet Two

Records; Sounding 7 Vols., Wire Drag ---- Vols., Bomb 2 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals -----

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service None
(Circular Nov.30, 1933)

Hydrography: Total Days 25; Last Date August 26, 1937

Remarks _____

Remarks

Decisions

	Remarks	Decisions
1		
2		
3		<i>USGB decision</i>
4		
5		
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27		

GEOGRAPHIC NAMES

Survey No. **H6258**

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
	On Chart No. 5101	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List			
X <u>Anacapa Island</u>	✓										1
X <u>Anacapa Passage</u>	✓										2
X <u>santa Cruz Island</u>	✓										3
X <u>santa Rosa Island</u>	✓										4
X <u>San Nicolas Island</u>	✓										5
✓ <u>Begg Rock</u>	✓	T-1523						✓			6
											7
											8
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											27

Names underlined in red above
 by SWE on 4/8/38

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY DESCRIPTIVE REPORT PHOTOSTAT OF	}	No. H-6258 No. X	{	received Mar. 18, 1938 registered Mar. 24, 1938 verified reviewed approved
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This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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lac

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 26, 1938

Division of Hydrography and Topography:

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

Plane of reference

~~Tide Records~~ approved in

7 volumes of sounding records for

HYDROGRAPHIC SHEET 6258

Locality Anacapa Passage to Santa Rosa Island, California Coast

Chief of Party: H. B. Campbell in 1937

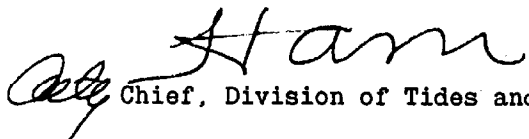
Plane of reference is mean lower low water reading

3.7 ft. on tide staff at Los Angeles Harbor (Berth 60) *Not on H-6258*

13.9 ft. below B.M. 8

Height of mean high water above plane of reference is 4.7 feet.

Condition of records satisfactory except as noted below:


Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6258 (1937) FIELD NO. 81

Anacapa Passage to Santa Rosa Island, Off Southern
California Coast, California.

Surveyed in June - August 1937, Scale 1:80,000
Instructions dated June 23, 1934 and April 19, 1937 (PIONEER)

Fathometer Soundings.

3 Point fixes on shore signals.
RAR control.

Chief of Party - H. B. Campbell.
Surveyed by - H. B. Campbell, and R. R. Moore.
Protracted by - Various officers.
Soundings plotted by - W. R. Porter.
Verified and inked by - W. R. Jackson.

1. Condition of Records.

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

- a. Twenty five errors were found in the field reduction of soundings. Of these, 12 were of 100 fathoms, 3 were of 200 fathoms and one was of 500 fathoms. The necessary corrections were made in the office.
- b. Position numbers and day letters were entered on the cover labels and title pages of the sounding records in black ink instead of the color used in the records (par. 138). This was corrected in the office.
- c. Where objects used for shore fixes remained unchanged from page to page of the sounding records, the word "same" was entered at the top of the page instead of repeating the names of the objects (par. 74).
- d. Log readings were omitted for about 40% of the R.A.R. work.

The Descriptive Report satisfactorily covers all items of importance, except the method used in plotting time circles on the sheet for hydrophone stations at Point Dume and San Miguel Island.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project except that discrepancies in the junction with H-5646 (1933) and H-6259 (1937) should have been investigated in the field (see par. 6b and c this review).

3. Shoreline and Signals.

- a. This being an offshore survey, no shoreline is shown.

- b. Hydrographic signals originate with the present survey, the cuts used in their location being recorded and indexed in the sounding volumes.
- c. Hydrophones were located by shore fixes which are recorded in volume 1, pages 2 and 3, of the sounding records. The geographic positions are listed in the descriptive report.

4. Sounding Line Crossings.

Sounding line crossings are satisfactory except in lat. $33^{\circ} 14.5'$ long. $119^{\circ} 52.4'$, where a depth of 147 fathoms on line 24 - 25 AA falls in 155 fathoms on line 16 - 17 AA. The 147 is in similar disagreement with depths on H-5646 (1933). The 147 and shoaler soundings preceding it on line are considered questionable as to depth or position but no basis for adjustment or rejection being found they have been retained as plotted by the field party.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

- a. The junctions with H-5332 (1932), H-5773 (1935), H-5775 (1933), H-5850 (1935), H-5860 (1935) and H-6260 (1937) are satisfactory.
- b. The junction with H-5646 (1933) is in general satisfactory but several differences in depths are noted in the overlapping area in the vicinity of lat. $33^{\circ} 15'$, long. $119^{\circ} 55'$ (see also par. 4, this review). Soundings on both surveys were obtained with the fathometer and both were controlled by R.A.R. Considerable time was spent by the office draftsman in attempts at adjustment but no basis was found for reasonable changes. The discrepancies appear to be due to a combination of fathometer and control errors on both surveys with the inshore survey being slightly better controlled. Adjustments failing, several of the more widely conflicting depths from the present survey were omitted in the inking of the overlap on H-5646 (1933) and the latter survey should control for the charting of the common area.
- c. The junction with H-6259 (1937) has been made acceptable by the adjustment of several lines on both surveys. In some places the surveys were brought into agreement by re-weighting the various factors of the control. In lat. $33^{\circ} 48'$, long. $119^{\circ} 25'$, a purely arbitrary adjustment was necessary in order to bring the R.A.R. controlled

soundings of H-6259 into agreement with the shore-fixed work of C day on the present survey.

7. Comparison with Prior Surveys.

a. H-289 (1851), 1:380,000.

This reconnaissance survey contains but a very few soundings within the limits of the present work. It is of no current value in charting and should be superseded by the present survey.

b. H-1323a & b (1875), 1:20,000; H-1334b (1875), 1:20,000;
H-1459b (1879), 1:20,000.

These inshore surveys overlap small portions of the present work in the vicinity of Santa Cruz, Santa Rosa and San Nicolas Islands. The present survey adequately covers the common areas and should supersede the old surveys for charting purposes.

c. H-4447 (1924-28), 1:120,000; H-4550 (1926-28), 1:120,000;
H-4559 (1925-28), 1:120,000.

The present work falls entirely within the combined area of the above surveys. Soundings on the old surveys were obtained by pressure tubes and sonic depth finder and the control is a combination of shore fixes and dead reckoning. Depths are, in general, in only fair agreement with those on the present survey and in some cases the agreement is exceedingly poor. The 119 fathom sonic sounding (charted) in lat. 33° 03.5', long. 120° 08.7' on H-4447 (1924-28) originates with pos. 6L. The sounding was not questioned in the records, but its location is uncertain. It is based on dead reckoning and a star fix taken 1-1/2 hours subsequently. It was adjusted 1.6 miles from the field plotting and, when being transferred to H-5775 (1933), was arbitrarily shifted .4 mile in the direction of the original location, giving a net shift of 1.2 miles from the original field plotting. The lines are one mile apart on H-5775 (1933) in the vicinity of the sounding, and the one line on the present survey in the vicinity was broken to take a simultaneous sounding, during which the ship drifted .8 mile away from the location.

It appears then that the sounding was not questioned in the record, that its location is uncertain, but probably on the ridge defined by H-5775 (1933) and the present survey, both of which are in excellent agreement. As the sounding lines on the two latter surveys are a mile apart there is not sufficient development to disprove the 119 and it should be carried forward on the sheet and retained on the chart until disproved.

The purpose of the present survey was to replace the sonic and tube soundings of the older surveys with the more reliable fathometer soundings. This purpose being accomplished and the area adequately covered, the present survey should supersede the above surveys in future charting. It has been necessary, however, to transfer bottom characteristics from H-4559 in order to remedy a deficiency of such information on the present work.

8. Comparison with Chart 5101 (New Print dated Oct. 23, 1937).
Chart 5113 (New Print dated March 30, 1936).
Chart 5114 (New Print dated July 30, 1937).
Chart 5115 (New Print dated May 17, 1937).
Chart 5202 (New Print dated Jan. 14, 1938).
Chart 5002 (New Print dated Dec. 15, 1937).

a. Hydrography.

Within the area of the survey the charts are based entirely on surveys discussed in the foregoing paragraphs.

b. Aids to Navigation.

There are no floating aids within the area of the survey. Fixed aids are discussed in the reviews of the contemporary inshore surveys.

9. Field Plotting.

The field plotting was satisfactory.

10. Additional Field Work Recommended.

No additional work is required. However, when possible to do so the 119 fathom sounding discussed in paragraph 7c should be investigated. There may be lesser depths on the ridge.

11. Superseded Old Surveys.


Within the area covered the present survey supersedes the following old surveys for charting purposes:

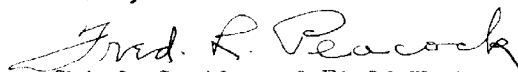
H-289	(1851)	in part	H-4447	(1924-28)	in part
H-1323a & b	(1875)	" "	H-4550	(1926-28)	" "
H-1334b	(1875)	" "	H-4559	(1925-28)	" "
H-1459b	(1879)	" "			

12. Reviewed by - J. A. McCormick, July 15, 1938.

Inspected by - E. P. Ellis.

Examined and approved:


 T. B. Reed,
 Chief, Section of Field Records.


 Fred R. Peacock,
 Chief, Section of Field Work.


 K. T. Adams,
 Chief, Division of Charts.


 Chief, Division of H. & T.

Applied to drawing of 5101
" " " " 5202

Sept. 1938

Jes. Lood

by Carter

1938

Applied to compilation of New Chart No. 5020

Dec 1938, S.B. Maize

Applied to chart 5113, 2-10-39

K.P.

" " " 5115, 7/21/39

J.W.

" " " 5114 6/28/40

S.R.