

6260

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. 83
Hydrographic }

LOCALITY

Off Southern California Coast;
~~Channel Islands; Basin south of~~
Santa Barbara Passage to San Nicolas I.

1937.

CHIEF OF PARTY

H. B. Campbell.

68

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. 83 (H6260) (1937)

REGISTER NO. H6260

State CALIFORNIA.

General locality SOUTHERN CALIFORNIA; CHANNEL ISLANDS.

Outer

Locality ~~NORTH SOUTH OF~~ SANTA BARBARA. Passage to San Nicolas I.

Scale 1 - 80,000 Date of survey SEPT. 2 - OCT. 8, 1937.

Vessel PIONEER.

Chief of Party H.B. CAMPBELL.

Surveyed by H.B. CAMPBELL.

Protracted by G.A. NELSON.

Soundings penciled by G.A. NELSON.

Soundings in fathoms ~~5000~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by G.C. McGlasson

Verified by G.C. McGlasson

Instructions dated JUNE 23, 1934 & APRIL 19, 1937. 19

Remarks:

6260

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SHEET
NO. 83 H 6260 (1937)
Season of 1937.
Southern California.

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

H.B. CAMPBELL, COMMANDING.

LOCALITY

This survey covers the area south of San Nicolas, Santa Catalina and north of San Clemente Islands.

AUTHORITY

This survey was made under the Director's instructions dated June 23, 1934 and supplemental instructions dated April 19, 1937.

METHOD OF SURVEY

R.A.R. was used throughout supplemented by occasional visual fixes except "J" day which was entirely visual. A velocity of $1482\frac{1}{2}$ m/s was used in plotting all R.A.R. fixes. This apparent velocity was obtained in 1935 for this general area. See Special Report of Velocity Tests, U.S.S. PIONEER, 1935.

All soundings were obtained with the fathometer with standard corrections applied. Vertical casts were taken as called for in the field instructions. See Special Report on Fathometer Correction, Season 1937. Special Report 238 of 1935 (O.W. Swainson)

The survey of Osborn Bank was done on a separate sheet # 21, H 6261 (1937) 1 - 20,000 scale.

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

N.A. 1927 Datum.

ANACAPA - (Cap)	Lat. 33° - 59'	+1811 meters.
	Long. 119° - 24'	+ 832 meters.
SAN NICOLAS - (Nick)	Lat. 33° - 12'	+ 655 meters.
	Long. 119° - 26'	+ 681 meters.
SANTA BARBARA - (Arb)	Lat. 33° - 28'	+ 615 meters.
	Long. 119° - 03'	+ 184 meters.
SANTA BARBARA - (Ara)	Lat. 33° - 27'	+ 757 meters.
	Long. 119° - 02'	+ 22 meters.
SANTA CATALINA - (Cat)	Lat. 33° - 25'	+ 1153 meters.
	Long. 118° - 31'	+ 1291 meters.

SAN NICOLAS LAUNCH Lat. 33° - 13' + 1612 meters. ✓
(Las) (Floating) Long. 119° - 23' + 824 meters.

DISCREPANCIES

No discrepancies occur. All crossings were good. Such discrepancies as occurred on crossings in the original plotting were easily made good by a slight displacement of one of the lines. ✓

DANGERS

There are no dangers to surface navigation in the area covered by this sheet. ✓

JUNCTIONS WITH OTHER SHEETS.

This survey joins Registry Nos. ⁽¹⁹³²⁾ #5332, ⁴⁹³²⁻³³ #5646, ⁽¹⁹³²⁾ #5304 on the northwest; PIONEER 1936 on the west and south; Registry Nos. ⁽¹⁹³⁴⁾ #5645, ⁽¹⁹³³⁻²⁵⁾ #5600, ⁽¹⁹³⁵⁾ #6118 and ⁽¹⁹³⁴⁾ #5848 on the southeast and east; Registry Nos. ⁽¹⁹³²⁾ #5306 and Sheets 81 and 82, PIONEER 1937 on the north. For other junctions, see verifier's report.
^{H 6258 (1937)} ^{H 6259 (1937)}

COMPARISON WITH PREVIOUS SURVEYS

The soundings on the junction with other sheets are in general in good agreement. There are differences of 15 - 25 fathoms on crossings with a loop of a line on Register No. ⁽¹⁹³⁶⁾ #5848 in Lat. 33° - 22'; Long. 118° - 47'. The soundings on No. ⁽¹⁹³⁴⁾ #5848 on that loop appear to be too shoal by that amount. See par. 6, review.

Soundings from Register No. ^{(1924) Add'l. Work (1928)} #4447, which this survey supercedes, check well with the present soundings, making allowances for displacements due to differences in the accuracy of the control. See par. 7d, review.



George A. Nelson
Jr. H. & G. Engineer,
U.S.C. & G. Survey.

TABLE OF STATISTICS
 SHEET # 83 H 6260(1937)
 1937.

Date	Day	Positions			Soundings			Statute Miles
		Letter	Bomb	Other	Total	Fath.	V.C.	
9/2	A	52	23	77	425	1	426	96.6
9/14	C	25	9	34	269	2	271	64.0
9/15	D	62	27	89	576	2	578	125.3
9/16	E	36	14	50	310	2	312	82.0
9/20	F	13	7	20	117	2	119	25.6
9/21	G	64	11	75	425	3	428	134.0
9/22	H	61	11	72	379	2	381	122.0
9/23	J	0	85	85	465	1	466	133.0
9/24	K	32	9	41	341	2	343	109.0
9/29	L	58	20	78	481	2	483	147.5
10/1	M	8	5	13	90	0	90	19.0
10/4	N	13	34	47	225	1	226	46.0
10/5	P	35	18	53	272	1	273	59.0
10/6	Q	55	30	85	717	2	719	134.0
10/7	R	70	30	100	997	0	997	144.0
10/8	S	10	1	11	51	0	51	16.0
TOTALS	16	594	334	930	6,140	23	6,163	1,457.0

CHIEF OF PARTY'S REPORT
OF
INSPECTION OF RECORDS & SHEETS.

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

The sheet was protracted and sounding penciled by Lieut. (J.G.) G.A. Nelson. Lieut. Nelson also wrote the descriptive report.

No additional work on this area is recommended.



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

Field Records Section (Charts)

H6260 (1937)

HYDROGRAPHIC SHEET NO.

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

Number of positions on sheet	930.
Number of positions checked	29.
Number of positions revised	2.
Number of soundings recorded	6163
Number of soundings revised	52.
Number of signals erroneously plotted or transferred	0.

Date: 11 June, 1938

Verification by G.C. McGlasson

Time: 12 days 3 hours

Review by J.A. McCormick, July 7, 1938.

Time: 54 hrs.

HYDROGRAPHIC SURVEY NO. H-6260 (1937)

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 4 Vols., Wire Drag --- Vols., Bomb 2 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals ---

Landmarks for Charts (Form 567) None

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service Yes
(Circular Nov.30, 1933)

Hydrography: Total Days 16 ; Last Date Oct. 8, 1937

Remarks _____

Remarks

Decisions

	Remarks	Decisions
1		
2		
3		
4	<i>Named after Lt. Comdr. A.P. Osborn USN. who surveyed this bank in 1897 in command of Str. Gedney.</i>	
5	<i>Not necessary to be inked on this sheet</i>	
6	<i>Not necessary to be inked on this sheet</i>	
7		
8		
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26		
27		
M 234		

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY }
 DESCRIPTIVE REPORT } No. H -6260 (4937)
 PHOTOSTAT OF } ~~No. 11~~

{ received Mar. 18, 1938
 { registered Mar. 24, 1938
 { verified
 { reviewed
 { approved

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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✓

GEOGRAPHIC NAMES

Survey No. **H6260** (937)

Name on Survey	Source										No.
	A	B	C	D	E	F	G	H	K	USCP	
<u>Santa Catalina I.</u>	✓										1
<u>Outer Santa Barbara Passage</u>											2
<u>santa Barbara I.</u>	✓										3
<u>Isborn Bank</u>	✓	✓								✓	4
<u>San Nicolas Island</u>	✓										5
<u>San Clemente Island</u>	✓										6
											7
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											27

GAE on 4/13/38

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

~~The Records are~~ approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 6260 (4337)

Locality Outer Santa Barbara Passage to San Nicolas Island, Southern
California Coast

Chief of Party: H. B. Campbell in 1937

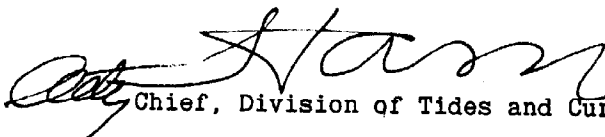
Plane of reference is mean lower low water reading

3.7 ft. on tide staff at Los Angeles Harbor (Berth 60) *off limit of H-6260*

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.

11 June, 1938.

Report on H 6260
Verifying and Inking

1. The records are neat and legible and conform to the requirements of the General Instructions. However the field party failed to record the log between positions in majority of the crosses. Not criticized in review.
2. The usual depth curves were omitted by direction of Mr Shalowitz.
3. The field plotting was completed to the extent prescribed in the Hydrographic Manual.
4. The office draftsman had to do over drafting done by the field party as noted on statistic sheet, ink degree symbol on the latitude and longitude, and remove the "BAR" station arc numerals which were inked among the the soundings of the survey. Not criticized in review
5. This sheet joins with the contemporary adjacent sheets as follows: A 6211 (1936), H 6208 (1936),

H 6118(1935), H 6259(1937), H 6211(1937),
H 6206(1936), H 5304(1932), H 5645(1934),
H 5848(1934), H 5646(1932-33), H 5306(1932),
H 5600(1933-34), H 5332(1932), and H 6258(1937).

H 6258(1937) has not been verified
and indeed consequently the junction
will be made at a later date.

Part of the junction with H 5304(1932)
was not satisfactory, therefore
some of the soundings were left
in pencil for consideration and final
adjustment by the reviewer.

The junction with H 5646(1932-33)
was not satisfactory and all of
the soundings were left in pencil -
awaiting final action of the
reviewer.

The junction with H 5600(1933-34)
was not satisfactory and all of
the soundings were left in pencil
awaiting final action of the
reviewer. Furthermore this junction
was made with proportional dividers
and the soundings were spaced
according to the time in the
records.

The other junctions, with the
above mentioned sheets, seemed
to be, in general, satisfactory.

6. This is an off-shore sketch survey
and no shoreline was shown.
The method of survey is "RAR"
supplemented by occasional visual

fetes and the control, mainly, consists of triangulation stations and a few topographic stations which originated from T 4869 (1933-34) and T 4748 (1932).

The station "West End light" (North) was transferred from sheet 5112 originating from T 4869 (1933-34).

The remaining topographic stations were transferred from a photostat of H 5305 (1932). However the original source is from T 4748 (1932) and all topographic stations were checked against the original source.

The light House (Bar) on H 6260 (1937) is named "lit" on the topographic sheet and topographic station "bull" is spelled with one t only, on the topographic sheet.

The geographic ~~location~~ ^{position} of the hydrophone stations will be found in the Descriptive Report and the locations will be found in volume 1, pages 1-3 of the records H 6260 (1937).

7. The aids to navigation were located by triangulation or topography; consequently no errors exist.
8. Twenty errors were found in the reduction of soundings and

they vary from one half to
one hundred fathoms.

9. Lat. $33^{\circ} 01'$ Volume 1 - page 49.
Long. $119^{\circ} 25'$

The neon light was not
working and soundings were
obtained by noting position of
tube at sound of echo.

10. Lat. $32^{\circ} 55'$ Volume 1 - page 47.
Long. $119^{\circ} 23'$

Between positions 69-700, there
is a note under the "remarks
column" (Floater at 75 fathoms)
this indicates that the depth
is about five to ten fathoms
shallower than the surrounding
hydrography.

Adequately covered.

11. Lat. $33^{\circ} 10'$ Volume 3 - page 13.
Long. $119^{\circ} 15'$

There are two fathometer
soundings shown in connection
with a V.C. and both
fathometer soundings were taken
by the same method - namely
"SSL". However they vary by
115 fathoms in depth. A note
in the records ^{states} that this is
a very steep slope which

probably accounts for the discrepancy. Therefore when the sounding was entered on the smooth sheet, the shoaler fathometer sounding was selected because it agrees better with the T.C. and the surrounding hydrography.

Respectfully submitted,
E. C. McClosson

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. H-6260 (1937) FIELD NO. 83

Outer Santa Barbara Passage to San Nicolas Island, Off
Southern California Coast, California.

Surveyed in September - October 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.
Protracted by - G. A. Nelson.
Soundings plotted by - G. A. Nelson.
Verified and inked by - G. C. McGlasson.

1. Condition of Records.

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

- a. 20 errors ranging from 1/2 to 100 fathoms were found in the reduction of soundings. These were corrected in the office.
- b. Log distances were not recorded in 70% of the work. Those are necessary for checking and adjusting R.A.R. work.
- c. Bottom characteristics were omitted in 45% of the vertical casts. The omissions have been partially supplied by carrying forward characteristics from prior surveys.

The Descriptive Report is complete and satisfactorily covers all items of importance except that the method used in plotting the time circles on the sheet for the hydrophone at Anacapa Island which falls a considerable distance off the sheet, should have been given.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project except that discrepancies in depths at crossings with lines of three of the inshore surveys (see par. 6b and c, this review) should have been investigated. In view of these discrepancies, further velocity tests would have been desirable, the velocity used on the present survey having been determined in 1935.

3. Shoreline and Signals.

- a. As this is an offshore survey, no shoreline is shown.
- b. Topographic signals originate with T-4748 (1932) and T-4869 (1933-34).

- c. Hydrophone locations were determined by shore fixes recorded in volume 1, pages 2 and 3 of the sounding records. Geographic positions of the hydrophones are listed in the descriptive Report, pages 1 and 2.

4. Sounding Line Crossings.

Sounding line crossings are satisfactory.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

- a. Junctions with the following surveys are satisfactory:
H-5306 (1932), H-5332 (1932), H-5646 (1934), H-5848 (1934),
H-6206 (1936), H-6208 (1936), H-6211 (1936), H-6258 (1937),
H-6259 (1937), and H-6261 (1937).
- b. The junctions with H-5646 (1932-33) to the east of San Nicolas Island and with H-5600 (1933-34) off San Clemente Island show poor agreement of depths in the overlaps, differences running as high as 200 fathoms in places. The control of the inshore surveys is weak in places because of small angles and some dead reckoning, but on the whole cannot be considered inferior to the R.A.R. on the present work. Soundings on all three surveys were obtained with the fathometer. It is probable that the differences in any one overlap are due almost entirely to additive errors in control of the two surveys involved, and also to erroneous fathometer soundings on one or both of the surveys. Considerable time was spent in attempts at adjustment, but so many factors are involved in each case that improvements at one crossing resulted in wider discrepancies at another. Adjustments failing, soundings from the present survey were not inked in the overlaps shown on the inshore surveys where the agreement was not satisfactory. The overlapping areas should be charted from the inshore surveys.
- c. The junction with H-5304 (1932) to the east of San Nicolas Island shows differences as marked as those discussed in the preceding paragraph. Soundings on the inshore survey were obtained with the wire and the shore control is fairly good. The greater portion of the error undoubtedly lies in the control of the present survey and, as no reasonable adjustment could be made, the conflicting soundings from the present survey have not been inked in the overlap shown on H-5304. The overlapping area should be charted from H-5304.

7. Comparison with Prior Surveys.a. H-289 (1851) 1:380,000.

This reconnaissance survey contains only a few soundings within the area of the current hydrography. It is of no current value in charting and should be superseded by the present survey.

b. H-1459a (1879), 1:10,000; H-1459b (1879), 1:20,000.

These inshore surveys in the vicinity of Santa Barbara and San Nicolas Islands overlap small portions of the present survey at its inshore limits. The present survey adequately covers the common areas and should supersede the 1879 surveys for charting.

c. H-2314 (1897), 1:40,000; H-4447a (1925-26), 1:60,000.

These surveys are developments of Osborn Bank which falls entirely within the limits of the present survey. The bank was not closely developed on the present survey but on a separate 1:20,000 scale sheet, H-6261 (1937). The above surveys are discussed in the review of H-6261 and contain no information outside the limits of that survey which requires discussion. They should be superseded by the present survey in future charting.

d. H-4447 (1924-28), 1:120,000; H-4549a (1925), 1:140,000; H-4551a (1926), 1:100,000; H-4559 (1925-28), 1:120,000.

The present survey falls entirely within the combined area of the above offshore surveys. Soundings were obtained by sonic depth finder and tubes and controlled by shore fixes and dead reckoning. The present survey was made because the sonic and tube soundings were not considered as reliable as fathometer soundings. Depths on the old surveys are, in general, only in fair agreement with those on the present work and in some places are rather poor. Bottom characteristics on H-4447 have ~~been~~ been carried forward in order to remedy the deficiency of such information on the present work. The old surveys contain no other information which needs to be retained and should be superseded by the present survey in future charting.

8. Comparison with Chart 5101 (New Print dated Oct. 23, 1937).
Chart 5110 (New Print dated March 7, 1936).
Chart 5111 (New Print dated June 7, 1937).
Chart 5113 (New Print dated March 30, 1936).
Chart 5202 (New Print dated Jan. 14, 1938).

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.

The survey is complete except as noted in par. 2 this review.

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-1459a (1879) in part
H-1459b (1879) in part
H-2314 (1879) in part
H-4447a (1925-26) in part
H-4447 (1924-28) in part
H-4549a (1925) in part
H-4551a (1926) in part
H-4559 (1925-28) in part


12. Reviewed by - J. A. McCormick, July 7, 1938.

Inspected by - E. P. Ellis.

Examined and approved:


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


K. T. Adams
Chief, Division of Charts.


Fred L. Bacon
Chief, Section of Field Work.


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

applied to ^{drawing} chart 5101 sept. 19. 1938

J. G. L.

Applied to Compilation of New Chart No. 5020

Nov. 1938

S. B. Mainje

Applied to Cht. 5113, 2-10-39 K.P.

" " 5111, 2-20-39 K.P.