

6259

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

~~Hydrographic~~ } Sheet No. 82  
Hydrographic

LOCALITY

Off Southern California Coast

~~Santa Barbara Basin.~~

Santa Monica Bay to Anacapa Passage

19 37

CHIEF OF PARTY

H. B. Campbell

6259

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. 88

REGISTER NO. H-6259

State CALIFORNIA

General locality OFF SOUTHERN CALIFORNIA COAST

Locality Monica Bay to Anacapa Passage  
~~SANTA BARBARA BAY~~

Scale 1 : 80,000 Date of survey JUNE 10 TO SEPT. 1, 1937

Vessel PIONEER

Chief of Party H.B. CAMPBELL

Surveyed by H.B. CAMPBELL, R.R. MOORE, W.M. SCAIFE.

Protracted by G.R. FISH

Soundings penciled by G.R. FISH

Soundings in fathoms XXXX

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 and APRIL 19, 1937., 19

Remarks:

DESCRIPTIVE REPORT  
 TO ACCOMPANY HYDROGRAPHIC SHEET  
 NO. 82 H 6259 (1937)  
 Season of 1937.

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

H.B. CAMPBELL, COMMANDING.

LOCALITY

Santa Barbara Basin or area bounded by Santa Barbara, San Nicholas and Anacapa Islands and Pt. Dume. ✓

DATE OF INSTRUCTIONS

Original instructions dated June 23, 1934 and Supplemental Instructions dated April 19, 1937. ✓

SURVEY METHODS.

The entire sheet is controlled by RAR except for a small number of visual fixes and bearings on shore objects in the vicinity of Santa Barbara and Anacapa Islands and in San Pedro Channel at the eastern end of the sheet. The majority of the signals used are triangulation stations while the remainder are objects located by previous surveys and the positions transferred from photostats or charts. Triangulation station 1700 ft. Peak, Signal Seven, is off the N.W. limits of the sheet and a temporary dog-ear was used. The same is true for Saddle Mountain 2, signal "Sad", which was used for 8 positions. Transferred positions checked against original surveys in the office. ✓

The following RAR stations were used for control:-

	N.A. 1927 Datum		
<u>ANACAPA ISLAND</u>	Lat. 33° - 59	+ 1811 meters	✓
	Long. 119° - 24	+ 832 meters	
<u>PT. DUME</u>	Lat. 33° - 59	+ 1636 meters	✓
	Long. 118° - 46	+ 1180 meters	
<u>SANTA ROSA ISLAND</u>	LAT. 33° - 53	+ 855 meters	off sheet ✓
	Long. 120° - 06	+ 22 meters	
<u>SANTA BARBARA ISLAND</u>	Lat. 33° - 28	+ 615 meters	✓
<u>ARB - (Floating)</u>	Long. 119° - 03	+ 184 meters	

The velocity used was  $1482\frac{1}{2}$  M/S; the same as for the 1935 and 1936 season, the work being in approximately the same locality and velocity tests in the vicinity of Pt. Vicente indicating agreement with this value. See special report on velocity tests, season of 1935, Str. PIONEER. Special Report 238 of 1935 (O.W. Swainson) ✓

Bomb reception was good except along the eastern and southern limits of the Sheet. On the eastern end of the Sheet where the bomb reception was only fair, the lines have been adjusted to each other but where the circle intersections are acute, as at the N.E. corner of the Sheet, further adjustment may be necessary. See par. 66, review.

All soundings are fathometer except where wire comparisons were taken and these are noted V.C. A table of fathometer corrections is appended inside the cover of Volume No. 1 of the sounding records. For derivation of the correction tables see "Special Report on Fathometer Corrections, Season of 1937, U.S.C. & G.S.S. PIONEER".

#### DISCREPANCIES

11 - 14 N (Lat. 33-31.5; Long. 119 - 08) ✓ Reject all soundings. Poor control on turns. ✓

52 - 53 P (Lat. 33 - 35.4; Long. 119 - 01.7) ✓ Reject 97 fm. sounding. Appears too deep and no other indications. ✓

48 - 49 P (Lat. 33 - 36.7; Long. 119 - 06.2) ✓ 86 fms. crosses 81 fms. between 92 - 93 T. No adjustment is discernable and the only explanation is error in reading the fathometer. ✓ 86 omitted.

33 - 36 Y (Lat. 33 - <sup>43</sup>36; Long. 119 - <sup>06</sup>09) ✓ Reject all soundings. Adequate coverage, poor control and failure to fit 100 fm. curve. ✓

Small discrepancies and displacements exist at crossings in areas of rapidly changing depths. These were not adjusted but were left as originally plotted for some of the error may be due to reading the fathometer late due to faint echoes. Discrepancies adjusted in office.

#### DANGERS.

None. A minimum depth of 21 fms., position 8 - Y, was found in Lat. 33° - 43.7; Long. 119° - 09.6. Drift soundings were taken using the fathometer and sounding machine, 1 3/4 hours being spent the first day and 1 3/4 hours the following day. In addition the motor sailer was lowered on the second day, a marked buoy planted and drift soundings taken for 1 hour. These last were not satisfactory as the marker buoy towed under toward the end of the period and was adrift when it appeared. There is no fathometer reading less than the depth obtained by the vertical cast and this sounding is probably very close to the minimum depth. No surface indications of a shoal are visible. A 17 fathom fathometer sounding was obtained just after position 8Y but questioned at the time it was recorded. The existence of the 17 is considered probable and it has been inked on the smooth sheet.

#### ANCHORAGES

None except on adjacent sheets contiguous to land. ✓

COMPARISON WITH PREVIOUS SURVEYS

Lat. 33 - 43.7<sup>✓</sup>; Long. 119 - 09.6<sup>✓</sup>, <sup>17</sup> 21 fms. in place of 50 fms. shown on Chart 5102. This shoal is very limited in area and difficult to locate without the assistance of a fathometer. See discussion under "Dangers". Two areas with depths less than 100 fms. adjoin this shoal ✓ on the southeast. The minimum depth of 79 fms. on the S.E.'ly area is shoaler than shown on Chart 5102 and is probably a result of closer development.

The depths within the closed 100 fm. curve north of Santa Barbara Island, Lat. 33 - 37<sup>✓</sup>; Long. 118<sup>9</sup> - 05<sup>✓</sup>, are substantially the same as shown on Chart 5102, the minimum being 63 fms. in place of ✓ 67 fms. as shown on the chart. This spot was closely developed.

Lat. 33 - 28.8<sup>✓</sup>; Long. 119 - 08.1<sup>✓</sup>. A minimum depth of 89 fms. where Chart 5102 shows over 100 fms. This spot was closely developed. ✓

Lat. 33 - <sup>23</sup> 28.8<sup>✓</sup>; Long. 119 - 06.6<sup>✓</sup>. The 103 fms. shown on Chart 5102 was not found; the depth being over 150 fms. This sounding <sup>103</sup> may be displaced from a position to the south on Sheet # 83, H 6260 (1937) <sup>103</sup> The 103 is from H-4447 and falls in 128 fms. on H-6260 with rapidly shoaling depths of Osborn Bank just to the southeast. ~~The 103 should be disregarded in future work.~~

Lat. 33 - 33<sup>✓</sup>; Long. 119 - 12.5<sup>✓</sup>. A minimum depth of 117 fms. in place of 138 fms. on Chart 5102. Extra lines were placed in this area. ✓

Lat. 33 - 30.2<sup>✓</sup>; Long. 118 - 50.5<sup>✓</sup>. A minimum depth of 172 fms. and Lat. 33 - 30.9<sup>✓</sup>; Long. 118 - 47.4<sup>✓</sup>, a minimum depth of 165 fms. in place of 196 fms. shown in this area on Chart 5102. This area was developed with close spaced lines. ✓

JUNCTIONS WITH OTHER SHEETS.

The junctions with adjoining sheets, Registry Nos. <sup>(1934)</sup> 5848, <sup>(1934)</sup> 5507, <sup>(1934-35)</sup> 5851, <sup>(1935)</sup> 5850, <sup>(1932)</sup> 5306, and <sup>(1933-35)</sup> 5653 and Field Sheets Nos. 81 and 83 are satisfactory except for small displacements. <sup>(1937)</sup> H 6258, <sup>(1937)</sup> H 6260, <sup>(1934)</sup> See par. 6. review.

*G.R. Fish*  
G.R. Fish,  
Jr. H. & G. Engineer,  
U.S.C. & G. Survey.

TABLE OF STATISTICS  
Field Sheet No. 82 H 6259(1937)  
1937.

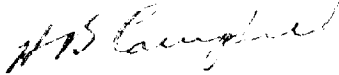
Date :	Day :	Positions :			Soundings :			Statute Miles
:Letter :	Bomb :	Other :	Total :	Fathometer :	V.C.:	Total :	Sounding Lines	
6/10	A	18	0	18	180	0	180	49.0
12	B	15	5	20	245	1	246	56.0
14	C	23	1	24	222	1	223	74.0
18	D	19	1	20	206	1	207	54.0
22	E	19	3	22	204	1	205	54.0
24	F	18	4	22	271	1	272	67.0
25	G	45	16	61	537	2	539	112.0
29	H	40	8	48	363	2	365	90.0
7/ 1	J	29	9	38	276	1	277	52.0
2	K	33	12	45	391	2	393	79.0
6	L	27	10	37	265	2	267	50.0
7	M	9	4	13	96	1	97	23.5
8	N	9	7	16	102	1	103	25.0
9	P	43	35	78	630	1	631	125.0
12	Q	30	8	38	327	2	329	69.0
13	R	17	49	66	422	1	423	79.0
14	S	37	28	65	457	2	459	97.0
15	T	61	40	101	678	3	681	139.0
16	U	46	25	71	857	2	859	106.5
19	V	26	11	37	273	3	276	51.7
20	W	66	22	88	666	1	667	124.0
21	X	62	30	92	474	18	492	86.0
22	Y	27	13	40	196	38	234	35.0
23	Z	63	39	102	573	1	574	120.0
26	AA	35	22	57	398	1	399	76.0
27	BB	69	50	119	607	1	608	118.0
8/ 6	CC	17	4	21	161	0	161	38.0
13	DD	10	0	10	72	1	73	20.0
16	EE	16	12	28	140	1	141	25.0
17	FF	9	3	12	72	2	74	19.0
9/ 1	GG	51	23	74	422	2	424	88.0
<b>TOTALS</b>	<b>31</b>	<b>979</b>	<b>467</b>	<b>1,446</b>	<b>10,783</b>	<b>96</b>	<b>10,879</b>	<b>2,183.7</b>

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 sounding penciled by Lieut. (J.G.) G.R. Fish. Lieut. Fish 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).

H6259 (1937)

HYDROGRAPHIC SHEET NO. ....

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

Number of positions on sheet	1446
Number of positions checked	..52.
Number of positions revised	..31.
Number of soundings recorded	10879
Number of soundings revised	..171.
Number of signals erroneously plotted or transferred	...0..

Date: 18 May, 1938

Verification by G.C. McGlasson

Time: 18 days 1/2 hour

Review by J.A. McCormick, June 20, 1938.

Time: 49 hrs.



HYDROGRAPHIC SURVEY NO. H-6259 (1937)

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 7 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 31; Last Date Sept. 1, 1937

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Remarks

Decisions

	Remarks	Decisions
1		see T-4828
2		see T-4841
3		" "
4		USGB decision
5	Do not ink. Location of L.H. sufficient for this sheet.	" "
6	" " " " "	see T-5034
7		see T-4870
8		" "
9	Do Not Ink Location of L.H. sufficient for this sheet.	see T-4748
10	Developed 1909 Formerly known as San Pedro Hbr. (outer Hbr.) and Wilmington Hbr. (inner harbor)	Location of T.G.
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
M 23+		

GEOGRAPHIC NAMES

Survey No. **H6259**

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
	On Chart No. 5101	On previous survey No.	On U. S. Maps	On U. S. Quadrangle Maps	From local information	Port Series Special Maps No. 13 Part 1	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
<u>Santa Monica Bay</u>	✓									1	
<u>Anacapa Passage</u>	✓									2	
<u>Anacapa Island</u>	✓									3	
<u>Pt. Dume</u>	✓									4	
<u>Pt. Vicente</u>	✓									5	
<u>Pt. Fermin</u>	✓									6	
<u>San Pedro Channel</u>	✓									7	
<u>Santa Catalina I.</u>	✓									8	
<u>Santa Barbara I.</u>	✓									9	
<u>Los Angeles Harbor</u>	chart 5143	✓			✓				✓	10	
										11	
										12	
										13	
										14	
										15	
										16	
										17	
										18	
										19	
										20	
										21	
										22	
										23	
										24	
Names underlined in red approved										25	
by <u>GHE</u> on <u>6/24/38</u>										26	
										27	

# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY  
 DESCRIPTIVE REPORT  
~~PHOTOSTAT OF~~

No. H-6259  
~~No. 1~~

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
----	------------



RAC

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 26, 1938.

Division of Hydrography and Topography:

✓ Division of Charts: *att. Mr. C.P. Ellis*

Plane of reference

~~Tide Reducers are approved in~~  
7 volumes of sounding records for

HYDROGRAPHIC SHEET 6259

Locality Santa Monica Bay to Anacapa Passage, 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)  
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:

*Atty* *Ham*  
Chief, Division of Tides and Currents.

18 May, 1938.

Report on H 6259  
Verifying and Linking

1. The records are neat and legible and conform to the requirements of the General Instructions. However the field party failed to note the log reading, between positions, during the latter part of the survey. Noted in review.
2. The depth curves were omitted on this sheet by direction of Capt. Ellis.
3. The field plotting was completed to the extent prescribed in the Hydrographic Manual.
4. The office draftsman did not have to do over any part of drafting done by the field party except as follows:
  - (a) Changes as noted on the stationer sheet.
  - (b) The verifier found that by plotting the log, as recorded, on many turns of the ship it would improve the crossings

on the sheet. Therefore after tabulating approximately twenty of these turns where the log was recorded, a mean was taken and it was used on the turns of the ship where no log was given. By the above method the cross lines were immensely improved.

The following errors were made in the reduction of soundings:

14 soundings ranging ~~in depths~~ from 1 to 10 fathoms <sup>in error</sup> and 4 soundings in error of exactly 100 fathoms.

5. H 6259 (1937) is an off shore sheet and no shoreline is shown. The entire sheet is controlled by "R A R" except for a small number of visual fixes and bearings on shore objects. Consequently the signals used, consist mostly of triangulation stations and a few topographic stations which were transferred from photostats of H 5306<sup>5</sup> (1932). The original source of these

signals are from T 4748 (1932)  
Signals were checked in the office with T 4748.  
Furthman on H 6259 (1937)

the lighthouse is called "Bar" while on H 5306 (1932) and T 4748 (1932)

it is called "Lit", Topographic station "bull" is spelled with two Ls on H 6259 (1937) while it has only one L on T 4748 (1932).

On the north west corner of the sheet, station "jump" was transferred from Chart 5114 and it was shown as a topographic signal. Cuts were taken on this station consequently it was changed to a hydrographic station.

6. The junctions with the contemporary adjacent sheets H 5850 (1935), H 5851 (1934-35), H 5507 (1934), H 5853 (1933-35), H 5848 (1934), and H 5306 (1932), <sup>and H-6115 (1934-5)</sup> as a whole, were satisfactory. No effort was made to rectify <sup>or</sup> inked curves on inshore sheets adjusted. See par. 6, review. displacements and the curves were not adjusted. This will be done at a later date by direction of Mr Shalowitz.

On H 5653 (1933-35) between positions 25 and 26 R. A 308 <sup>308 not charted. Changed to 300.</sup> fathoms sounding was inked on the smooth sheet and the records prove this sounding to be 300 fathoms which agrees much better with the surrounding hydrography



on H 6259 (1937)

Junctions will be made with H 6260 (1937) and H 6258 (1937) when they have been verified and inked.

7. There are no buoys shown on the smooth sheet and other aids to navigation were located by triangulation or topography.

8. Lat.  $33^{\circ}43.7'$

Long.  $119^{\circ}09.6'$  Volume 5 - page 66.

The fathometer records a 17 fathom sounding which is questioned by the hydrographer. In view of the fact that 21 fathoms is obtained by the wire, it is possible that the 17 fathom fathometer sounding is correct. Therefore, inasmuch as the 21 fathom sounding was inked on the smooth sheet the final disposition of the fathometer sounding is left for the reviewing section.

17 fm. sounding has been inked on the sheet.

Respectfully submitted,  
E. C. McElross

Errors in reduction of soundings for H. 6259

Dist	Fuel	Office	Reduced by	Checked by
C	891	791	WMS	Not checked
F	232	222	"	"
F	352	252	"	"
F	327	227	"	"
L	<u>265</u>	267	Vol. " "	GAN
N	277	270	LSH	WMS
P	451	459	"	"
P	441	449	"	"
P	441	449	"	"
P	441	449	"	"
Q	339	341	"	"
Q	329	331	"	"
R	364	464	"	"
T	326	316	WMS	LSH
U	384	374	"	"
U	384	374	"	"
U	384	374	"	"
V	301	303	LSH	WMS

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6259 (1937) FIELD NO. 82

Santa Monica Bay to Anacapa Passage, Off Southern California  
Coast, California.

Surveyed in June - September 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. R. Fish.  
Soundings plotted by - G. R. Fish.  
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. Log readings were not recorded for much of the dead reckoning portion of the work.
- b. An unnecessarily large number of errors were found in the reduction of soundings by the field party. All of the sounding records were rechecked and 14 soundings were found to be incorrectly reduced by from 1 to 10 fathoms and 4 soundings found to be in error exactly 100 fathoms.

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 station at Santa Rosa Island, which falls a considerable distance off the western limits of the sheet, should have been given.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project.

3. Shoreline and Signals.

- a. This being an offshore survey, no shoreline is shown.
- b. Topographic signals on Santa Barbara Island originate with T-4748 (1932).
- c. Hydrographic signal "lump" in lat.  $34^{\circ} 00.7'$ , long.  $119^{\circ} 22.7'$ , originates with the present survey, the cuts used in its location being recorded and indexed in volume 3 of the sounding records.

- d. Geographic positions of hydrophones used on the survey are given in the descriptive report, page 1. Shore fixes used in their determination are recorded in volume 1, pages 2 and 3, of the sounding records.

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. The junctions with H-5306 (1932) on the south, H-5850 (1935) on the northwest, H-5851 (1934-35) on the north and H-6115 (1934-35) on the east are satisfactory.
- b. Differences of as much as 50 fathoms are noted where sounding lines on the present survey cross those of H-5507 (1934) on the north, H-5653 (1933-35) on the northeast and H-5848 (1934) on the southeast. The discrepancies appear to be due entirely to displacements caused by the difference in methods of control - R.A.R. on the present survey and shore fixes on the others. (See statement on page 2 of Descriptive Report that bomb reception at east end of sheet was not good.) The plotting of the four sheets was investigated and no basis found for adjustments other than those of a purely arbitrary nature. The adjoining surveys being considered better controlled, the burden of the adjustment falls upon the present survey. The overlaps have accordingly been shown on the inshore surveys and depths from the present survey omitted where they conflict with the detailed drawing of depth curves. The overlapping areas should be charted from the inshore surveys.
- c. The junctions with H-6258 (1937) on the west and H-6260 (1937) on the south will be considered in the reviews of those surveys.

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 present work. It is of no current value in charting and should be superseded by the present survey.

- b. H-1341a (1875-76), 1:40,000; H-1403 (1878), 1:40,000.

These surveys overlap a small portion of the present work in the vicinity of Point Dume. Depths are in fair agreement

with those on the present survey. The old surveys contain no information which needs to be retained and should be superseded in future charting.

c. H-1459a (1879) 1:10,000.

A few soundings from the above survey fall within the limits of the present survey in the area northeast of Santa Barbara Island. Depths are considerably deeper than those on the present survey which adequately covers the area and should supersede the older survey for charting purposes.

d. H-4447 (1924-28), 1:120,000; H-4559 (1925-28), 1:120,000; H-4560 (1926), 1:120,000.

The present work falls almost entirely within the combined area of the above surveys. Soundings on these surveys were obtained mostly with pressure tubes and sonic depth finder and the lines controlled by visual fixes and dead reckoning. The agreement with the present survey is, in general, only fair, in some places being rather poor. The present survey, because of its more accurate depths and closer development, should supersede the above surveys in the charting of the common areas. Bottom characteristics from H-4447 and H-4559 have been added to the present survey because of the deficiency of such information on the current work.

8. Comparison with Chart 5101 (New Print dated Oct. 23, 1937).  
Chart 5110 (New Print dated March 7, 1935).  
Chart 5114 (New Print dated July 30, 1937).  
Chart 5143 (New Print dated April 5, 1937).  
Chart 5144 (New Print dated Nov. 15, 1937).  
Chart 5202 (New Print dated Jan. 14, 1938).

a. Hydrography.

Within the area of the present 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 present survey. Fixed aids are covered by the reviews of adjoining inshore surveys.

9. Field Plotting.

The field plotting was satisfactory.

10. Additional Field Work Recommended.

The survey is in general very satisfactory. If possible, however, the 17 fathom fathometer sounding in lat. 33° 43.7', long. 119° 09.6' (see descriptive report, page 2, "Dangers") should be further investigated with a wire drag.

11. Superseded Old Surveys.

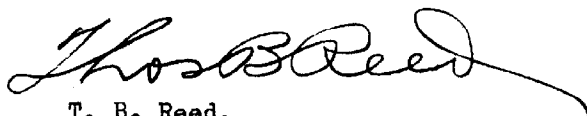
Within the area covered the present survey supersedes the following old surveys for charting purposes:

H-289	(1851)	in part	
H-1341a	(1875-76)	in part	
H-1403	(1878)	in part	
H-1459a	(1879)	in part	
H-4447	(1924-28)	in part	(except for bottom characteristics)
H-4559	(1925-28)	in part	( " " " " )
H-4560	(1926)	in part	

12. Reviewed by - J. A. McCormick, June 20, 1938.

Inspected by - E. P. Ellis.

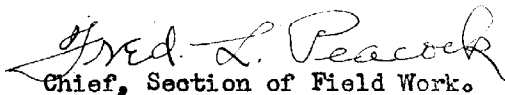
Examined and approved:



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



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

applied to drawing of chart 5101      sept. 1938      J.S.L.  
Applied to compilation of chart 5020      Nov. ~~1938~~ 1939      S.B.M.  
"      to chart 5143 - mar. 8-'39      J.O.B.  
"      "      chart 5114      6/28/40      S.R.  
"      "      "      5142      1950      L.A.M.