

6673

6673

Form 504  
Rev. April 1938

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

**DESCRIPTIVE REPORT**

Topographic }  
Hydrographic } Sheet No. H - 6673

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U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES  
MAR 31 1942  
Acc. No. \_\_\_\_\_

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State MAINE

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LOCALITY  
~~GASCO BAY, MAINE~~

---

PORTLAND HARBOR - FORE RIVER

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193 <sup>41</sup>

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CHIEF OF PARTY  
Lieut. Comdr. Fred. L. Peacock

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET

H6673

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. 502

REGISTER NO. H - 6673

State Maine

General locality ~~Portland, Maine~~ Portland Harbor

Locality ~~Portland Harbor~~ Fore River

Scale 1:5,000 Date of survey Sept. 9-Oct. 18, 19 41

Vessel U.S.C. & G.S.S. OCEANOGRAPHER

Chief of Party Fred. L. Peacock

Surveyed by Ship's Officers

Protracted by A. Kaupa

Soundings penciled by A. Kaupa

Soundings in ~~athous feet~~ and 1/2 feet

Plane of reference M.L.W.

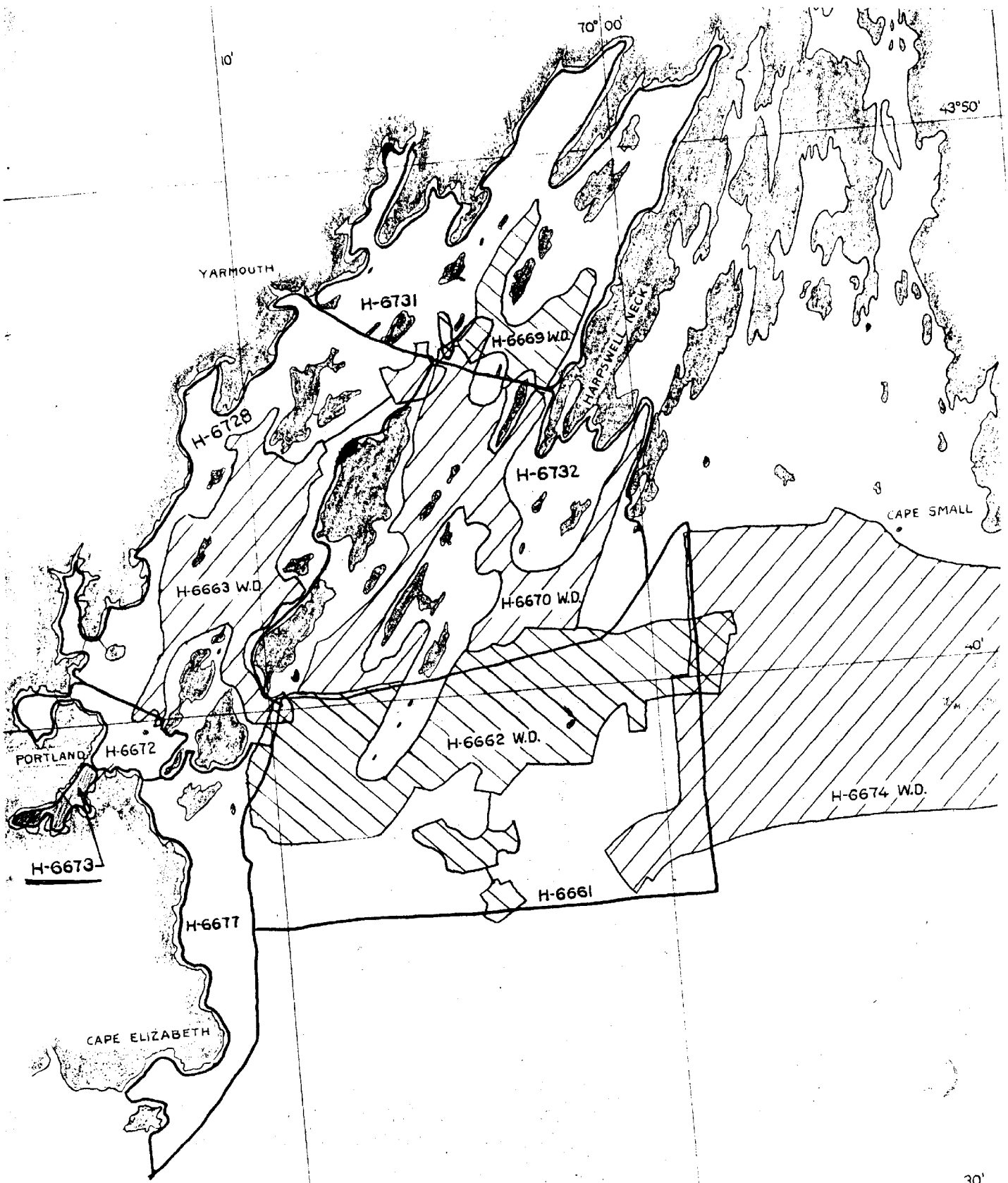
Subdivision of wire dragged areas by

Inked by A. R. STIRNI

Verified by A. R. STIRNI

Instructions dated May 7, 1941, 19

Remarks:



INDEX  
PROJECT CS-265  
70° 00' CASCO BAY, MAINE

DESCRIPTIVE REPORT  
to accompany  
HYDROGRAPHIC SURVEY NO.-6673 (FIELD NO. 502)  
Scale 1:5,000

Project No. CS-265                      Portland, Maine  
U.S.C. & G.S.S. OCEANOGRAPHER        Fred. L. Peacock, Chief of Party

INSTRUCTIONS:

This survey was executed under authority of Director's Instructions for Project No. C. S. 265, dated May 7, 1941.

LOCALITY:

This survey covers the Southwest area of Portland Harbor including the main water front, and Fore River.

CONTROL and SIGNALS:

Triangulation control previously established furnished the primary control. Natural objects, banners, flags, and tripods established by the 1941 topographic parties furnished additional control for this survey.

SURVEY METHODS:

The usual visual control method of three-point fixes was used throughout this survey. The Submarine Signal Company 808-A type fathometer was used. Fixes were obtained between one and two minute intervals. The 15 U type, fifteen second interval chart fathogram was used, and soundings were scaled to the nearest half foot, every seven and one-half seconds. The depth was of such a nature that only the feet scales on the fathogram were used.

The fish of the 808-A fathometer was rigged by means of two by four (2x4) braces and brass tubing to the outer hull of the launch, and set at a depth of two feet below the surface of the water, which was the initial used throughout this survey.

The party consisted of a coxswain, engineer, right and left angle man, recorder and fathometer man, whose sole duty was to see that the fathometer ran correctly and to record all fixes, beneficial matter, and irregularities that might happen to the machine. Angles were taken close by the fish, in order to correlate the correct positions for recorded depths.

The main system of lines were run in a Northeasterly and Southwesterly direction with a maximum spacing of fifty meters. In closer development twenty-five meter or closer spacing was used.

Hand lead soundings were taken alongside the faces of the main piers four feet out from the face and spaced ten meters apart.

*Only on piers on north side of harbor and east of long. 70-15.0'*

SURVEY METHODS: (Cont'd)

No enlarged detail drawings of the above mentioned piers were made, as it was thought that the scale of the present survey was large enough not to warrant the time spent to make enlarged detail drawings.

DANGERS and SHOALS:

No new obstruction which would be dangerous to navigation was found on this sheet.

No new shoal areas of any importance were found on this survey. The shoal indications are penciled on the smooth sheet.

CHANNELS:

No new channels, that were different from what was found on U.S.C. & G.S. Chart No. 325, were observed on this survey.

ANCHORAGES:

Anchorage are as shown on U.S.C. & G.S. Chart No. 325.

GEOGRAPHIC NAMES:

The geographic names remain the same as shown on U.S.C. & G.S. Charts Nos. 325, 315, and 201.

JUNCTIONS WITH CONTEMPORARY AND PREVIOUS SURVEYS:

This survey forms a junction with Hydrographic Survey (1941) H - 6672 on the northeast. It is believed that few discrepancies occur which are greater than one or two feet at the most.

COMPARISON WITH PREVIOUS SURVEYS:

A comparison was only made with Chart No. 325. No discrepancies of any importance were noted.

DISCREPANCIES:

In general the soundings agreed very well. Crossings only varied by about a foot in any case. The following discrepancies are listed:-

In latitude  $43^{\circ} 38.67$  and longitude  $70^{\circ} 15.50$  a four foot sounding between positions 35 - 36c (red). From appearance of fathogram this sounding might have been a cone sounding from bridge abutment or from the side of the steep slope in this vicinity. sdy ok.

DISCREPANCIES: (Cont'd)

In latitude  $43^{\circ} 38.93$  and longitude  $70^{\circ} 15.03$  between positions 4 - 5a (purple) and 6 - 7b (red) soundings do not check by six to eight feet. However, there is a steep gradient close by and in all probability the 4 - 5a line is misplaced a little, for if moved to the eastward the soundings would fit in properly. *slope very steep. steeper soundings plotted*

In latitude  $43^{\circ} 39.17$ , longitude  $70^{\circ} 00.80$  between positions 14 - 15d (red) the 12 foot sounding appears to be either a stray or cone sounding on fathogram. Probably should be a 16 foot sounding. *12' sdg appears to be cone.*

In latitude  $43^{\circ} 38.56$ , longitude  $70^{\circ} 16.23$  between fixes 40 - 41a (red) the 15 and 21 foot soundings could be cone soundings. In examining the fathogram these soundings could be  $28\frac{1}{2}$  and 26 feet, respectively, which would fit in with the other soundings. *15 & 21 appear O.K. sdgs are near inshore of sheet*

MISCELLANEOUS:

This survey was surveyed by the Ship's Officers. ✓

For discussion of methods, see descriptive report for hydrographic survey No. H - 6672. (1941) ✓

The area marked "D" on Chart No. 325 was undergoing extensive dredging activities, so this area was not thoroughly surveyed. ✓

The area between the last two bridges to the westward, could have a few more sounding lines to give a better determination of the depth curves. This is especially true of the area between signals MOLE and GIN in this same vicinity.

All fathograms were re-scaled, but corrections, alterations and additions were not re-checked in this office. ✓

Bottom characteristics were taken separately by hand-lead from a dinghy, amounting to about 24 to the square mile. ✓

All soundings were plotted to  $\frac{1}{2}$  feet.

The heights of the rocks as shown on the boat sheet at Lat.  $43^{\circ} 38.80$ , Long.  $70^{\circ} 14.80$  were apparently taken from the topographic survey covering this area

T-6852 a (1941)

MISCELLANEOUS: (Cont'd)

Several signal names were duplicated on this sheet, but spread out so that no confusion was encountered while plotting positions. ✓

This sheet is not a satisfactory smooth sheet, due to the distortion, and bad paper for erasing and inking.

Distortion uniform  
in both directions.  
Inking qualities very  
poor. ✓

Respectfully submitted,

*Henry O. Fortin*  
Henry O. Fortin,  
Lieutenant (jg), C&GS.

Respectfully forwarded:

*3/27/42*  
*W. J. Dawid*  
*O.C. - N.P.O.*

H6673

STATISTICS

SHEET FIELD NO. 502

DATE	VOL. NO.	DAY LETTER	STAT. MI.	SDGS.	POSITIONS	BOAT
SEPT. 9	1	a(BLUE)	4.8	663	57	82
OCT. 18	1	b	8.1	442	71	"
SEPT. 22	2	a(RED)	19.0	1683	165	81
23	2 & 3	b	15.4	1694	170	"
24	3	c	8.8	824	103	"
25	4	d	5.1	469	64	"
26	4	e	2.3	252	43	"
29	4	f	.8	136	27	"
OCT. 8	4	f'	1.0	160	26	"
16	4	g	4.3	493	49	"
OCT. 8	5	a(PURPLE)	2.5	231	27	75
14	5	b	3.8	263	46	"
18	5 & 6	c	21.2	1828	166	"
OCT. 10	7	a (GREEN)	3.8	264	38	DINGHY
11	7	b	3.1	210	48	"
17	7	c	0.0	45	45	"
	<u>7</u>		<u>104.0</u>	<u>9,257</u>	<u>1,145</u>	

AREA IN SQ. STAT. MI.---2.0



Remarks

Decisions

	Remarks	Decisions
1		436702
2		"
3		"
4		
5	Location of tide staff	436702
6		
7		
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27		
W 234		

GEOGRAPHIC NAMES  
 Survey No. **H6673**

Name on Survey	A. On Chart No.	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.
<u>Fore River</u>									1
<u>Portland Harbor</u>									2
<u>Long creek</u>									3
									4
<u>Portland</u>									5
									6
									7
									8
									9
									10
									11
									12
									13
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									25
									26
									27

Names underlined in red approved  
 by L. Heaton 6/5/42

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. **H.6673**

Records accompanying survey:

Boat sheets <sup>two</sup>.; sounding vols. (7)...; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls (11)...;  
 special reports, etc. ..1 cahier of Temperatures & Salinities,.....  
 Bar Check Computations & Reducers:.....

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

Number of positions on sheet		.1145.	
Number of positions checked		.94..	
Number of positions revised		.None.	
Number of soundings recorded		.9,257	
Number of soundings revised (refers to depth only)		..17..	
Number of soundings erroneously spaced		.None	
Number of signals erroneously plotted or transferred		.None.	
Topographic details	Time	.28..hrs	
Junctions	Time	..4.."	
Verification of soundings from graphic record	Time	..8.."	
Verification by...A.P...STIRNI...	Total time	..100.."	Date May. 21, 1942
Review by <i>R.H. Casoteno</i> .....	Time	51..hrs	Date July 9, 1942

# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY  
 DESCRIPTIVE REPORT } No. H **H6673**  
~~PHOTOSTATIC OF~~ } ~~No. H~~

{ received March 31 , 1942  
 { registered April 2, 1942  
 { 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	R. W. Knox
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*✓Pawc.*

200  
7/12

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 6, 1942

~~Division of Hydrography and Topography:~~

Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in  
7 volumes of sounding records for

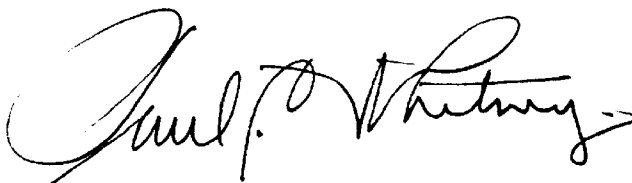
HYDROGRAPHIC SHEET 6673

Locality Fore River, Portland Harbor, Maine

Chief of Party: F. L. Peacock in 1941  
Plane of reference is mean low water reading  
8.6 ft. on tide staff at Portland  
19.0 ft. below B. M. 31

Height of mean high water above plane of reference is 8.9 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

DIVISION OF CHARTS

SURVEYS SECTION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTER NO. 6673

Field No. 502

Maine, Portland Harbor, Fore River  
Surveyed in September - October 1941, Scale 1:5,000  
Instructions dated May 7, 1941

Soundings: Portable  
Depth Recorder 808-A

Control: Visual Fixes on Shore  
Signals

Chief of Party - F. L. Peacock  
Surveyed by - Officers of OCEANOGRAPHER  
Protracted by - A. Kaupa  
Soundings plotted by - A. Kaupa  
Verified and inked by - A. R. Stirni  
Reviewed by - R. H. Carstens  
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The shoreline and topographic signals originate with T-6847b (1941), T-6852a&b (1941) and T-5957 (1941). One hydrographic signal was located. The fix locating this signal is recorded in Vol. II, page 2, of the sounding records.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

Satisfactory except as mentioned on page 3 of the Descriptive Report.

4. Junctions with Contemporary Surveys

A satisfactory junction was made with H-6672 (1941) at the mouth of the river.

5. Comparison with Prior Surveys

H-404 (1853) 1:10,000  
H-600 (1857) 1: 5,000  
H-684 (1859) 1: 5,000  
H-949 (1867) 1: 5,000  
H-1033  
a&b(1869) 1: 2,400

These surveys cover the area of the present survey east of the Portland Terminal Bridge in Lat.  $43^{\circ}38.6'$ , Long.  $70^{\circ}17.0'$ . The depth of water in the main channel of the river has been changed considerably by extensive dredging operations since these early surveys were accomplished. Where formerly the least depth was 16 to 17 feet it is now 29 to 30 feet. The width of the channel has been increased slightly and in several places side channels have been dredged to the piers on the south shore of the river. The agreement in depth in areas not changed by dredging is good. The present survey should supersede the earlier surveys in the common area.

6. Comparison with Chart 325 (Latest Print date 1-26-42)

a. Hydrography

The major portion of hydrography on the chart within the area of the present survey originates with U. S. Engineer blueprints 29442 to 29444, 25500, 25501, 19153 and 13908. The agreement in general is very good. With the following exceptions the present survey is adequate to supersede the previously mentioned blueprints in the common area.

1. The 3-ft. sounding charted in Lat.  $43^{\circ}38.97'$ , Long.  $70^{\circ}14.94'$  and originating with blueprint 13908 falls in depths of 5-6 feet on the present survey. The sounding has not been disproved and should be retained on the chart.
2. Hydrography from blueprint 25500 should be used to supplement the sparse development of the present survey between the bridges in Lat.  $43^{\circ}38.5'$ , Long.  $70^{\circ}17.0'$ .

It is to be noted that considerable change in depths will have been made in the area in Lat.  $43^{\circ}39.2'$ , Long.  $70^{\circ}14.5'$  after dredging operations have been completed. Only a few widely spaced lines were run on the present survey in this vicinity.

The origin of the hydrography to the west of the Portland Terminal Bridge could not be found. These soundings appear on very early editions of the chart and are still in good agreement with depths of the present survey.

b. Controlling Depths

The present survey depth in the dredged channel in Lat.  $43^{\circ}38.8'$ , Long.  $70^{\circ}15.0'$  is 15 feet. The three beacons marking this channel are shown on the present survey as dolphins. The charted depth is 16 feet.

c. Aids to Navigation

With the following exceptions the aids to navigation located by this survey are in agreement in position and notation with those charted and satisfactorily mark the features intended:

1. Buoy C"1" Lat.  $43^{\circ}38.45'$ , Long.  $70^{\circ}16.5'$  is charted as FLG"5". The type of buoy was changed since the survey was accomplished.
2. Two can buoys, C"3" REF Lat.  $43^{\circ}38.5'$ , Long.  $70^{\circ}16.15'$  and C"1" REF Lat.  $43^{\circ}38.5'$ , Long.  $70^{\circ}16.0'$ , have been added since the date of the survey.
3. Buoy WS"E" Lat.  $43^{\circ}39.2'$ , Long.  $70^{\circ}14.8'$  was located 185 meters southwest of its charted position. However, it still satisfactorily marks the anchorage area for which it was intended.

7. Condition of Survey

Satisfactory.

8. Compliance with Instructions for the Project

Satisfactory. Compliance with paragraph 18 of the instructions regarding bottom characteristics is noted with satisfaction.

9. Additional Field Work Recommended

None.

10. Superseded Surveys

H- 404	(1853)	in part
H- 600	(1857)	
H- 684	(1859)	
H- 949	(1867)	in part
H-1033a	(1869)	in part
H-1033b	(1869)	



Examined and approved:



Chief, Surveys Section



Chief, Division of Charts



Chief, Section of Hydrography



Chief, Division of Coastal Surveys

Applied to new chart Comp. 201 4/13/42 W.S.M.  
" " chart 315 thru chart 201 10/8/42 " "  
Review consulted for chart correction 201 12/16/42 W.S.M.

Applied to Chart 3201 1/11/43 - JTW