

# 8952

Diag. Cht. No. 1213-3.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey **Hydrographic**

Field No. **WH-20-2-67** Office No. **H-8952**

### LOCALITY

State **New York**

General locality **Long Island Sound**

Locality **Vicinity of Smithtown Bay**

19 67

CHIEF OF PARTY

**S. C. Miller**

LIBRARY & ARCHIVES

DATE **1/15/71**

# 8952

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR-474
- 2. Reg. No. H-8952
- 3. Field No. WH 20-2-67
- 4. Requested By H. L. P.
- 5. Ship or Office Vec. Branch, RMC.
- 6. Date Required ASAP.

7. Polyconic  Modified Transverse Mercator

8. Central Meridian of Projection 73 ° 15 ' 00 "

9. Survey Scale: 1: 20,000

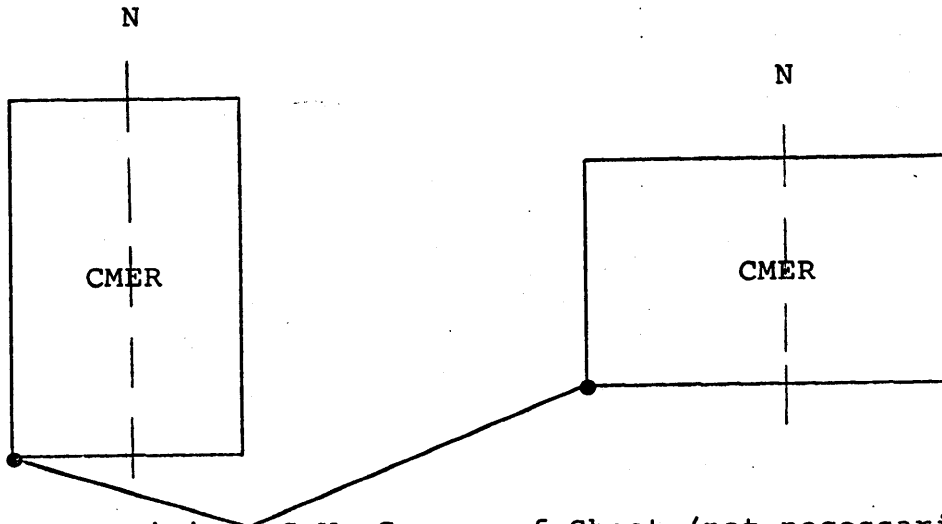
10. Size of Sheet (check one):

36 x 54  36 x 60  Other  Specify \_\_\_\_\_

11. Sheet Orientation (check one):

NYX = 1

NYX = 0



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)

Latitude 40 ° 55 ' 15 "

Longitude 73 ° 24 ' 55 "

13. G.P.'s of triangulation and/or signals attached

14. Material Desired: Tracing Paper  Mylar

Smooth Sheet  Other  Specify \_\_\_\_\_

15. Remarks: This projection + Control lattice will be used as an overlay for the smooth sheet for H-8952

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-474 2. Reg. # H-8952 3. Field # WH 20-2-67  
 4. Type of Control: Hi-Fix (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency 1799.6 (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range One (R<sub>1</sub>)  
 Station I.D. \_\_\_\_\_  
 Range Two (R<sub>2</sub>)  
 Station I.D. \_\_\_\_\_

Range-Visual

Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

Hyperbolic (3-station)

Slave One 022  
 Station I.D. Lloyd } Red  
 Master 021 } Blue  
 Station I.D. Yacht  
 Slave Two 023  
 Station I.D. Strat } Blue

Hyper-Visual

Lat. 40 ° 56 ' 41.22 "  
 Long. 73 ° 29 ' 15.99 "  
 Lat. 41 ° 05 ' 56.81 "  
 Long. 73 ° 22 ' 01.18 "  
 Lat. 41 ° 09 ' 07.77 "  
 Long. 73 ° 06 ' 12.57 "

7. Location of Survey:

Range-Range

Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey. *Arcs only*

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____

9. Remarks: Maximum distance between arcs should  
Not exceed 9.25 cm or 3 5/8"

ATLANTIC MARINE CENTER

ATLANTIC PORTAL

1. Project Title
2. Type of Report
3. Priority
4. Period of Conversion
5. Mode of Operation

Project Name

STRT

Project No.

Location

Slave No. \_\_\_\_\_  
 Master No. \_\_\_\_\_  
 Slave No. \_\_\_\_\_  
 Slave No. \_\_\_\_\_  
 Slave No. \_\_\_\_\_

6-1-71  
A

40y

A

ATLANTIC MARINE CENTER  
 ATLANTIC PORTAL

HYDROGRAPHIC TITLE SHEET

H-8952

INSTRUCTIONS - 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.

WH-20-2-67

State New York

General locality Long Island Sound

Locality Vicinity of Smithtown Bay

Scale 1:20,000 Date of survey 30 June thru 29 Aug. 1967

Instructions dated 18 May 1967 Project No. OPR-174

Vessel USC&GSS WHITING and Launch 1

Chief of party CDR. Sidney C. Miller  
CDR. S.C. Miller, LT. J.C. Carlen, ENS P.M. Hall, ENS D. McCall.

Surveyed by ENS J.R. Avampato, and ENS C.L. Hardt

Soundings taken by echo sounder, ~~hand read, type~~ DE-723 Raytheon Fathometer

Graphic record scaled by Ship's Force

Graphic record checked by Ship's Force

Protracted by Computer-Plotter System Automated plot by PMC

Soundings penciled by Computer-Plotter System

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXXX~~ and are true depths.

REMARKS: Whiting Computer-Plotter System was used to plot boat sheet.

Smooth sheet will be plotted in Seattle, Wash.

Note: A separate area overlay plot is included with this survey.

*Applied to sheet  
2-23-71  
To Aid Section  
2-26-71  
WR*

**A. PROJECT:**

Authorization for this project is contained in Instructions - ✓  
Project OPR-474 - Long Island Sound, dated May 18, 1967.

**B. AREA SURVEYED:**

The area covered by this survey is in Smithtown Bay, Long Island ✓  
Sound, off the north shore of Long Island, New York. The  
approximate limits are the 73°-07' meridian on the East; the See review for  
73°-24' meridian on the West; the 41°-03.5' parallel on the area description.  
North; and the 30-foot depth curve on the south. See the  
attached project limits sketch. The survey was conducted  
between 30 June 1967 and 29 August 1967.

Junctions were made as follows:

<u>Prior Surveys</u>	<u>Contemporary Surveys</u>
H-5220 1:20,000 1932	WH-10-1-67 H-8949 (1967)
H-6125 1:20,000 1934	WH-10-2-67 H-8950 (1967)
H-7938 1:10,000 1951	WH-10-3-67 H-8951 (1967)
	<u>Unverified as of Review date.</u>
	H-8967 (1967)

**C. SOUNDING VESSELS:**

All hydrography for this survey was accomplished by the Ship ✓  
WHITING except for a small shoal area of Eaton's Neck (at  
41°N lat., 73°24'W long.), which was surveyed by Launch I. North  
40°59.5' 23.7'

Ship WHITING hydrography is plotted in black, and Launch I ✓  
hydrography is plotted in red. *on boat sheet*

**D. SOUNDING EQUIPMENT:**

The Ship WHITING used a Raytheon DE-723 survey fathometer, ✓  
S/N 262, for hydrography. Depths measured by this fathometer  
ranged between 38 feet and 160 feet. Corrections for the fath-  
ometer were determined by leadline comparisons, temperature and  
salinity observations, and previously obtained settlement and  
squat data.

← DE-723  
#250  
USED ON  
DAY 193  
SHIP WHITING

**DESCRIPTIVE REPORT**

**To Accompany**

**HYDROGRAPHIC SURVEY**

**H-8952 (1967)**

**WH-20-2-67**

**June to August 1967**

**USC&GS Ship WHITING**

**LCDR Sidney C. Miller, USN, Commanding**

In addition to the Raytheon DE-723 fathometer the Ship WHITING had on board a Ross Digital Depth Sounder, S/N 1, which fed depth directly into the ship's computer-plotter system. Also, a fathogram was produced. Due to the fact that this new digital depth sounder was being tested, the Raytheon DE-723 was operated simultaneously. Some problems were encountered and reference is made to the separate Fathometer Report.

Launch I used a Raytheon DE-723 fathometer S/N 251, for all hydrography. Depths measured ranged from <sup>20</sup>4 feet to 160 feet. Corrections for this fathometer were determined by bar checks, and previously obtained settlement and squat data. See separate Fathometer Report.

E. SMOOTH SHEET:

Because of the use of the computer-plotter system on this survey the size of the boat sheet is necessarily limited by the size of the plotter table. Since the largest sheet usable on the plotting table is 34 inches by 31.4 inches, two sheets were required to cover the area. They are WH-20-2A-67 and WH-20-2B-67.

combined they form H-8952 (1967)

The computer plotter system constructed the sheets, plotting latitude, longitude, X and Y grid, and the hyperbolic Hi-Fix arcs. Day letters can not be plotted with this system and so positions were numbered consecutively from 1 for both sheets.

Positions for:  
Whiting  
1-3501

All the ship's hydrography was accomplished on-line. That is, the position, time and depth data were entered into the computer automatically while the hydrography was being run. The computer system then punched a tape and printed out on the ASR-35 teletype all that data plus additional information. An example of the printout is shown. Simultaneously the plotter tracked the ship's position and plotted the uncorrected depths. This was done on an overlay. The hydrography was plotted on the boat sheets after the fathograms were scanned and the predicted tide corrections applied. Settlement and squat, and Hi-Fix corrections were not applied.

Launch #1  
9500-9553

← No example



Spacing of sounding lines on this survey are 180 meters apart, and for depths under 60 feet the lines are 90 meters apart. ✓

H-8952 (1967)

The regular system of sounding lines on the WH-20-2A-67 sheet were surveyed on different days than the splits, and certain of these days were considerably windier than others. It is believed that the winds caused atypical tide conditions on various days and therefore the tide corrections applied may not be valid for those days. It will be noted that the 60-foot depth curve between latitude  $73^{\circ}19'W$  and longitude  $73^{\circ}14'W$  is somewhat irregular. This is probably because of the above mentioned conditions, and the depth curve has been smoothed in places to show what is considered to be the general trend of the bottom.

F. CONTROL:

Hyperbolic mode Hi-Fix was used to control this survey. Three stations were required and they were located by triangulation by ship's personnel and a photogrammetrist assigned for photo-hydro support. ✓

The three Hi-Fix stations were:

021	YACHT (Master)	lat. $41^{\circ}05'56.81N$ long. $73 22 01.18W$	} Do not fall on this sheet
022	LLOYD (Slave 1)	lat. $40^{\circ}56'41.22$ long. $73 29 15.99$	
023	STRAT (Slave 2)	lat. $41^{\circ}09'07.77$ long. $73 06 12.57$	

H-8952 (1967)

Hyperbolic Hi-Fix control was used in two ways during this survey. ✓  
In the western section of sheet WH-20-2A-67 the ship followed hyperbolic arcs for control, using a bridge mounted left/right indicator for steering. When it became possible to run longer lines, a feature of the computer was utilized which computed straight lines from the hyperbolic Hi-Fix. Again a left/right indicator on the bridge was used to keep the ship on the line. See separate Hi-Fix report for more detail on this mode.

G. SHORELINE:

No shoreline appeared on this survey. ✓

H. CROSSLINES:

Approximately 6% of the sounding lines were run as crosslines, and they agree with the regular system of sounding lines to within one foot. ✓

I. JUNCTIONS:

Junctions were as follows:

H-5220 1:20,000 1932

Agreement is good, generally between 0 and 2 feet except in the vicinity of lat.  $41^{\circ}01'N$  and long.  $73^{\circ}19'5W$ . Here a few soundings disagree 4 to 10 feet. Note that this is in one of the deepest of the survey and that the prior survey, in every case here, was deeper. This may be resolved with the application of corrections to the velocity of sound in sea water and the smooth tides, but it probably indicates that the bottom here is somewhat shoaler than it was.

H-6125 1:20,000 1934

Agreement is generally good, between 2 to 4 feet. This discrepancy should be resolved by the application of the smooth tides and the corrections to the velocity of sound in sea water.

See review par 6c.

H-7938 1:10,000 1951

Agreement is good, generally between one and three feet and will probably be resolved in the same manner as above.

WH-10-1-67 H-8949 (1967) See review par 5

Junction soundings agree within approximately 2 to 3 feet, and will probably be resolved with the application of the smooth tides. ✓

WH-10-2-67 H-8950 (1967) unverified at date of review

Agreement is excellent, about 0 to 1-foot.

WH-10-3-67 H-8951 (1967)

Agreement is excellent, about 0 to 1-foot. ✓

J. COMPARISON WITH PRIOR SURVEYS:

There are no pre-survey review items on this survey. ✓

K. COMPARISON WITH THE CHART:

This survey was compared with chart 117-90, November 1966. ✓  
The comparison was good, with no major discrepancies. A sounding of 35 feet was recorded in position latitude 40-58-33.6N, longitude 73-10-15.3W and is probably a boulder. This sounding should be charted, as it appears in an area of deeper water.

L. ADEQUACY OF SURVEY:

This survey is complete and adequate to supersede prior surveys and for the purpose of making a new chart. ✓

M. AIDS TO NAVIGATION:

Only one aid to navigation exists within the limits of this survey. It is Eaton's Point Lighted Bell Buoy "11B", Light List #970, in position latitude 41-00-02.6N, longitude 73-23-53.0W. (This aid agrees with the Light List of July 30, 1966 and chart 117-90, November 1966.) It adequately serves the purpose for which it was established. ✓

See review Par. 7 B

N. STATISTICS:

Statistics for this survey are as follows: ✓

<u>Launch I</u>	
Number of Positions	55
Nautical miles of sounding lines	9.0
<u>Ship WHITING</u>	
Number of Positions	3485
N. Miles of Sounding lines	1213.9
<u>TOTALS</u>	
Number of positions	3540
N. Miles of Sounding lines	1222.9
Bottom Samples	54

Area of Survey in Square Nautical Miles: 86.4

9. REFERENCE TO REPORTS:

Reference is made to the following reports: ✓

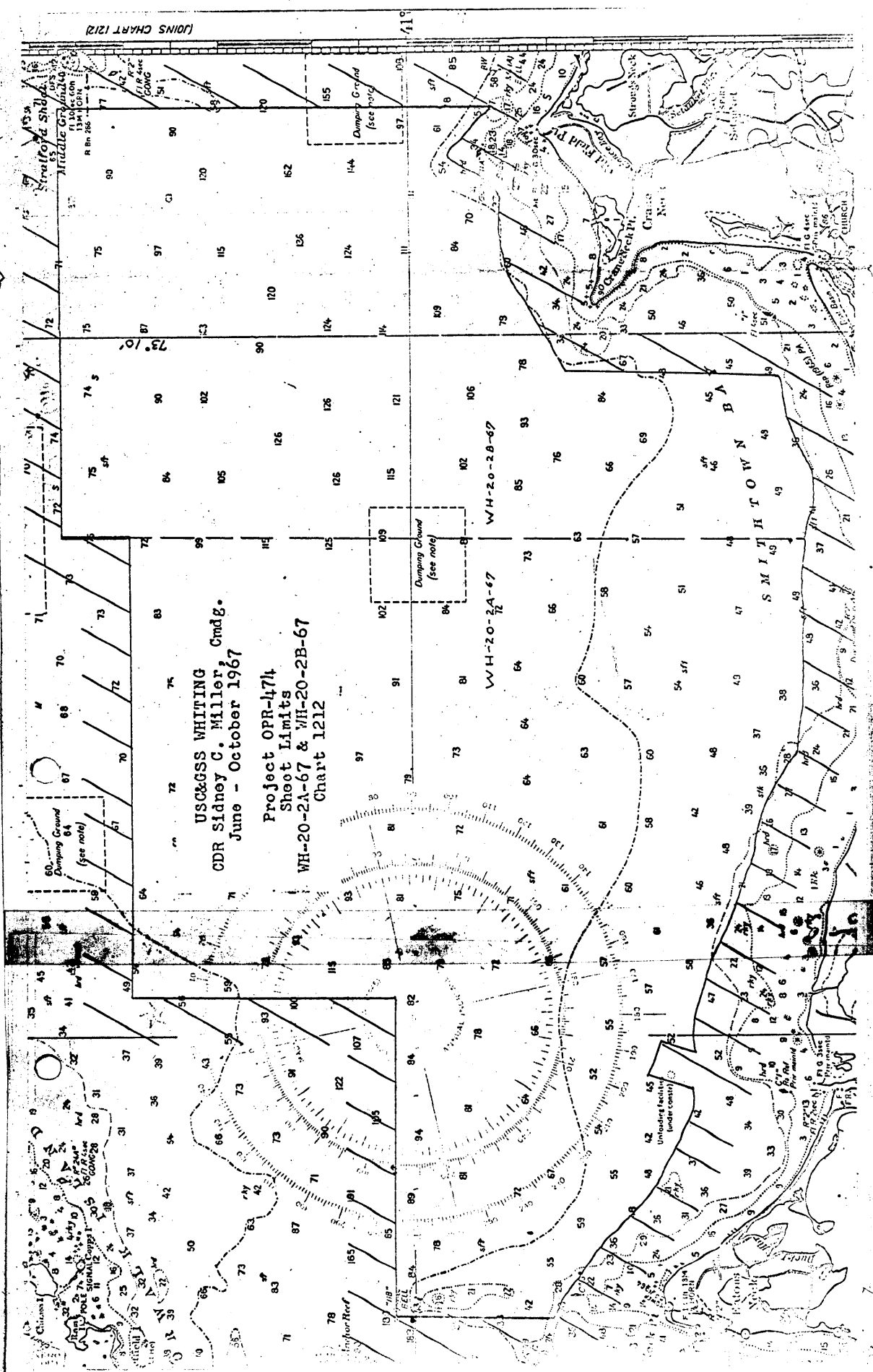
Fathometer Report  
Hi-Fix Report  
Computer-Plotter Report ✓

Respectfully submitted:

LTjg. J.C.Carlen

Approved and forwarded:

LCDR. Sidney C. Miller, USESSA  
Commanding USC&GSS WHITING



JOINS CHART 1212

Sturford Shoals  
 Middle Shoals  
 R. No. 206

Dumping Ground  
 (see note)

WH-20-2A-67

WH-20-2B-67

S M I T H T O W N B A

60  
 Dumping Ground  
 (see note)

Unloading Facility  
 (under const)

H-8952  
WH-20-2-67

Launch # 1

Fathometer # 251

1 2 3 4 5

Vel Tab Ind. (15)

From July 16, thru Aug. 15, 1967

Day 201

10'  
20'  
30'  
40'  
50'  
60'  
70'  
80'  
90'  
100'  
110'  
120'  
130'  
140'  
150'  
160'

T#5 8-1-67

2.0 - 3.5	-0.6
5.0	-0.4
6.5	-0.2
8.0	0.0
10.0	+0.2
12.0	+0.4
14.0	+0.6
16.0	+0.8
20.0	+1.0
27.0	+1.2
33.0	+1.4
40.0	+1.6
46.0	+1.8
53.0	+2.0
61.0	+2.2
70.0	+2.4
77.0	+2.6
84.0	+2.8
92.0	+3.0
100.0	+3.2
108.0	+3.4
115.0	+3.6
122.0	+3.8
130.0	+4.0
136.0	+4.2
145.0	+4.4
152.0	+4.6
160.0	+4.8
167.0	+5.0

Tab Ind. (16)

0.0 Pole & Leadline

Comp. by G.F.T.  
✓ by W.W.F.

CORRECTIONS IN FEET, FATHOMS

VELOCITY CORRECTIONS

U.S. Coast and Geodetic Survey  
 Ship *Whiting*  
*Sidney C. Miller* Comdg.  
 These corrections are to be used  
 between *July 16, 1917* and *Aug 15, 1917*  
 in the locality *Long Island Sound*  
*FATH # 264*  
 for hydrographic surveys Nos.

Vel. Tab. Ind. (12)

H-8952 Days (10) 201, (11) 203, (12) 204, (13) 205,  
 (14) 206, (15) 207, (16) 208, (17) 210, (18) 215, (19) 216, (20) 217, (21) 218, (22) 219,  
 (23) 221,

(For deep water add a 0 to these figures)

DEPTH IN

*7.5 miles*

10.0	-17.0	-0.6
	25.0	-0.4
	31.0	-0.2
	33.0	0.0
	46.0	+0.2
	53.0	+0.4
	60.0	+0.6
	67.0	+0.8
	74.0	+1.0
	81.0	+1.2
	88.0	+1.4
	96.0	+1.6
	103.0	+1.8
	110.0	+2.0
	117.0	+2.2
	124.0	+2.4
	131.0	+2.6
	138.0	+2.8
	146.0	+3.0
	152.0	+3.2
	160.0	+3.4
	167.0	+3.6
	174.0	+3.8
	181.0	+4.0
	189.0	+4.2
	196.0	+4.4

Drawn by H.L.P.  
 by G.F.T.

Comd. G.F.T.  
 M.A.F.

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

VELOCITY CORRECTIONS

U.S. Coast and Geodetic Survey

Ship W.M.I.F. Comdg. W.M.I.F.

These corrections are to be used between July 12 1967 and 19

in the locality Long Island Sound -  
FATH. # 250  
 for hydrographic surveys Nos. H-8952  
July 1967

(For deep water add a 0 to these figures)

10  
20  
30  
40  
50  
60  
70  
80  
90  
100  
110  
120  
130  
140  
150  
160  
170  
180  
190

FEET  
DEPTH IN FATHOMS

*Handwritten:* 27/12/67 5:15

Vel. Tab Ind.	(14)
10.0 - 16.0	-0.6
27.0	-0.4
37.0	-0.2
48.0	0.0
58.0	+0.2
68.0	+0.4
78.0	+0.6
88.0	+0.8
98.0	+1.0
109.0	+1.2
119.0	+1.4
129.0	+1.6
139.0	+1.8
149.0	+2.0
159.0	+2.2
169.0	+2.4
180.0	+2.6
190.0	+2.8

Drawn by H.L.P.  
 by G.F.T.

Comp. by G.F.T.  
 by W.M.I.F.



CORRECTIONS IN FEET FATHOMS

VELOCITY CORRECTIONS

U.S. Coast and Geodetic Survey

Ship *WHITING*

*Sidney C. Miller*

Comdg.

These corrections are to be used between *June 27, 1967* and *July 15, 1967*

in the locality *Long Island Sound*

*FATH. # 262*

for hydrographic surveys Nos. *H-8752*

Days <sup>(1)</sup> 181, <sup>(2)</sup> 187, <sup>(3)</sup> 188, <sup>(4)</sup> 189, <sup>(5)</sup> 190, <sup>(6)</sup> 191, <sup>(7)</sup> 192, <sup>(8)</sup> 194

10.0	-16.0	-0.4	Vel. Tab. Ind. (1)
	26.0	-0.2	
	36.0	0.0	
	46.0	+0.2	
	56.0	+0.4	
	66.0	+0.6	
	76.0	+0.8	
	85.0	+1.0	
	96.0	+1.2	
	105.0	+1.4	
	115.0	+1.6	
	125.0	+1.8	
	135.0	+2.0	
	145.0	+2.2	
	155.0	+2.4	
	165.0	+2.6	
	175.0	+2.8	
	185.0	+3.0	
	195.0	+3.2	

(For deep water add 0.0 to these figures)

F.F.T. DEPT'S IN FEET

*715 6/27/67*

Drawn by *HLP*

Comp by *G.F.C.*

CORRECTIONS IN FEET, FATHOMS

VELOCITY CORRECTIONS

U.S. Coast and Geodetic Survey

Ship *Hull No.*  
*Sidney C. Miller* Comdg.

These corrections are to be used  
 between *Aug. 16, 1967* and *Oct. 5, 1967*  
 in the locality *Long Island Sound*  
*FATH = 2.62*  
 for hydrographic surveys Nos. *H-8952*

Days <sup>(2)</sup> 235, <sup>(1A)</sup> 236, <sup>(3A)</sup> 238, <sup>(CA)</sup> 240, <sup>(2A)</sup> 241, <sup>(2A)</sup> 284,

H-8967 Days <sup>(1)</sup> 242, <sup>(B)</sup> 254, <sup>(C)</sup> 255, <sup>(D)</sup> 256, <sup>(E)</sup> 257, <sup>(F)</sup> 262,

10.0 - 16.0 -0.8 Vel Tab Ind (13)

22.0 -0.6

28.0 -0.4

34.0 -0.2

39.0 0.0

45.0 +0.2

51.0 +0.4

57.0 +0.6

63.0 +0.8

69.0 +1.0

75.0 +1.2

81.0 +1.4

87.0 +1.6

92.0 +1.8

98.0 +2.0

104.0 +2.2

110.0 +2.4

116.0 +2.6

122.0 +2.8

128.0 +3.0

133.0 +3.2

140.0 +3.4

145.0 +3.6

151.0 +3.8

157.0 +4.0

163.0 +4.2

169.0 +4.4

175.0 +4.6

181.0 +4.8

186.0 +5.0

193.0 +5.2

(For deep water add a 0 to these figures)

FEET  
 DEPTHS IN FATHOMS

*115*  
*9/19/67*

*Lat 40° 15'*  
*Long 74° 25'*  
*255*  
*226'*

*H.L.P.*  
*G.F.T.*

Comp by *G.F.T.*  
 by *N.W.F.*

190

H-8952

WH-20-2-67

DESCRIPTIVE REPORT DATA RECORD		
PART I SMOOTH SHEET PREPARATION		
	PREPARED BY/OPERATOR	DATE
A. PLOTTER OPERATOR	EDAT	
B. DISTORTION MARKS PLOTTED	EDAT	
C. PROJECTION INTERSECTIONS PLOTTED	EDAT	
D. POINTS OF ELECTRONIC CONTROL ARCS PLOTTED		
E. OVERLAYS PREPARED BY	EDAT	
1. POSITION NUMBER	EDAT	
2. EXCESS SOUNDINGS	EDAT	
3. PRELIMINARY SMOOTH PLOT		
4. LIST OTHERS		
A.		
B.		
F. SOUNDING SELECTION BY	EDAT	
G. PLOTTER INPUT	PREPARED	EDAT
H.	CHECKED	EDAT
I. DESCRIPTIVE REPORT ADDENDUMS		
PART II SMOOTH SHEET COMPLETION		
	CARTOGRAPHER	DATE
A. DISTORTION SCALE TICKS IDENTIFIED BY NOTE	H.R. Smith	11/2/70
B. PROJECTION INTERSECTIONS VERIFIED BY	H.R. Smith	11/2/70
C. PROJECTION LINES RULED BY	H.R. Smith	11/4/70
D. ELECTRONIC CONTROL ARCS RULED AND LOCATION VERIFIED		
E. OVERLAYS COMPLETED BY		
1. POSITION NUMBER LEADERS ADDED	H.R. Smith	12/7/70
2. EXCESS SOUNDING OVERLAY COMPARED	H.R. Smith	12/4/70
3. PRELIMINARY SMOOTH PLOTS COMPARED	H.R. Smith	12/7/70
4. OTHERS UTILIZED		
A.		
B.		
F. DESCRIPTIVE REPORT ADDENDUM		
G. CONTROL STATIONS VERIFIED		
H. POSITIONS MANUALLY PLOTTED	NONE	
I. MANUAL PLOT VERIFIED	NONE	
J. SHORELINE APPLIED	NONE	
K. BOTTOM CHARACTERISTICS ADDED	H.R. Smith	12/7/70
L. NOTES AND DEPTH CURVES ADDED	H.R. Smith	12/7/70

H- 8952

A. Additions and corrections have been furnished the plotter  
center by the verification unit. <sup>Except those marked for correction</sup> by Review  
Date Jan. 6, 1971 Signed *Hugh J. Puffin*  
Title Chief, Verification Br., AMC

B. Additions and corrections have been added to the survey  
records and the final smooth sheet forwarded to the ~~verification~~  
~~unit~~ <sup>Review</sup> unit.

Date Jan. 6, 1971

Signed *Hugh J. Puffin*  
Title Chief, Verification Br., AMC

C. The smooth sheet has been inspected, is complete, and  
meets the requirements of the General Instructions for  
automated surveys and the Hydrographic Manual. (Note:  
All exceptions are listed in the verifier's report).

Date Jan. 6, 1971

Signed *Hugh J. Puffin*  
Title Chief, Verification Br., AMC

D. Smooth sheet and records forwarded to Rockville, Maryland  
Office.

Date Jan. 7, 1971

VERIFIER: Dan R. Munford


Norfolk, Va.  
Oct. 1, 1969

AMC PLOTTER NOTE TO EDAT  
SURVEY H-8952

Verification of the position overlay for this survey has been completed. Only one positional error was found and it should be corrected as follows:

08952 3470 105500 241 67 40583050' 073103850' 008795 014030

When this correction has been made please furnish this office a sounding overlay.

  
Hugh L. Proffitt  
Chief, Hydro Branch, AMC

VERIFIER: Fred Bean

Norfolk, Va.  
April 24, 1970

AMC PLOTTER NOTE TO EDAT  
SURVEY H-8952

This office started the verification of the sounding overlay for this survey and we found many soundings to be 10 feet too shoal. The soundings affected were recorded on a Ross Digitized fathometer which has no provisions for adjusting the initial trace to compensate for the depth of the sounding ~~unit~~ unit. The field party failed to apply a correction to eliminate the discrepancy.


Listed below are the Julian Days and position numbers of the affected soundings. . Please apply a plus (+) ten (10) foot correction to all of these depths and furnish us a new sounding and excess sounding overlays. A new edit will be required.

JULIAN DAY

POSITION NUMBERS

221	2877 thru 2932
235	2933 " 3040
236	3041 " 3189
238	3190 " 3279
241	3449 " 3463

We are returning the sounding card printout as we have done some rescanning of the fathograms. The corrected depths are marked on the printout in red pencil. Please incorporate these changes on the new sounding overlays.



Hugh L. Proffitt  
Chief, Hydro Branch, AMC

VERIFIER: Harry R. Smith

Norfolk, Va.  
August 24, 1970

AMC PLOTTER NOTE TO EDAT  
SURVEY H-8952

This office has completed the verification of the preliminary position and sounding overlays.

We are returning the position printout for changes in position numbers 4 thru 9 as marked in black pencil.

The sounding printout is being returned with applicable changes marked in red. However, soundings on Day 201 have been completely relogged and we are forwarding the tape and printout. For some unaccountable reason this day was scanned about one foot too shoal for the entire day. It is possible that the tape furnished you had its origin in Ross fathometer data which was not supposed to have been used on this survey. At any rate, you should destroy the sounding data you have on hand for Day 201 and substitute that ~~xx~~ logged on the enclosed tape.

When the above corrections and changes have been made, please furnish this office a smooth plot of this survey.

  
Hugh L. Proffitt  
Chief, Verification Br., AMC

VERIFICATION NOTES  
SURVEY H-8952

GENERAL

This appears to be an excellent basic survey. Soundings are in good agreement at crossings and depth curves form natural configurations in an area of fairly irregular bottom.

Problems encountered during verification and the methods used to resolve them are explained in the accompanying AMC Plotter Notes To EDAT.

VELOCITY CORRECTIONS

Velocity corrections for this survey were compiled in this Verification Branch and are the subject of a special report.



Hugh L. Proffitt  
Chief, Verification BR., AMC

Norfolk, Va.  
Jan. 6, 1971



GEOGRAPHIC NAMES

Survey No. H-8952

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
Long Island Sound												1
Smithtown Bay												2
Eatons Neck Pt 12-13												3
Crane Neck Pt 12-13												4
Old Field Pt 12-13												5
Stratford Shoal Middle Ground 12-13												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

PREPARED BY

*Frank W. Pickett*  
CARTOGRAPHIC TECHNICIAN

APPROVED BY

*A. J. Wright*  
CHIEF GEOGRAPHER



TIDE NOTE FOR HYDROGRAPHIC SHEET

February 11, 1969

~~Nautical Chart Division~~ Pacific Marine Center

Plane of reference approved in  
~~notices of sounding records~~ for

HYDROGRAPHIC SHEETS 8949-52 and 8967

Locality: North shore of Long Island

Chief of Party: S. C. Miller, 1967

Plane of reference is mean low water

Tide Station Used (Form C&GS-681):

Port Jefferson

Height of Mean High Water above Plane of Reference is as follows:

East of Long. 73°13'	= 6.6 feet
Stonybrook Harbor	= 5.9 "
West of Long. 73°13'	= 7.3 "

Remarks

*J. M. Symons*  
Chief, Tides and Currents Branch

FORM C&GS-946  
(REV. 11-65)  
(PRESC. BY  
HYDROGRAPHIC  
MANUAL 20-2,  
6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY  
NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS  
HYDROGRAPHIC SURVEY NO. H-8952

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & PNO <sup>Position number overlay</sup>		1	BOAT SHEETS <sup>TO BE DESTROYED →</sup>		2	
DESCRIPTIVE REPORT		1	OVERLAYS <sup>Electronic arc overlay</sup>		1 <del>6+8</del>	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	3					
CAMERS	2					
VOLUMES	3	<u>FILED IN BOX 2</u>				
BOXES			12			

T-SHEET PRINTS (LINE)

NONE -

SPECIAL REPORTS (LINE)

Velocity Corr., HI-Fix & Computer/Plotter Reports -

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				3485
POSITIONS CHECKED		50	89	
POSITIONS REVISED		1	89	
DEPTH SOUNDINGS REVISED		400	475	
DEPTH SOUNDINGS ERRONEOUSLY SPACED			445	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS			8	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		34	3	
SPECIAL ADJUSTMENTS			15	
ALL OTHER WORK		243	103	
TOTALS		277	129	
PRE-VERIFICATION BY	D. R. Munford & Fred Bean -		BEGINNING DATE	ENDING DATE
VERIFICATION BY	H. R. Smith		BEGINNING DATE	ENDING DATE
REVIEW BY	Dennis J. Romesburg		BEGINNING DATE	ENDING DATE
			5/21/69	12/9/70
			3-24-71	4-26-71

Inspected by D.E. Nantz 5/12/72

Reg. No. H-8952

The Computer and Excess Sounding cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey the following shall be completed:

CARDS CORRECTED

DATE \_\_\_\_\_ TIME REQ'D \_\_\_\_\_ INITIALS \_\_\_\_\_

REMARKS:

Reg. No. H-8952

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 8/29/75 TIME REQ'D. 3.5 hrs. INITIALS WGL

REMARKS:

H-8952

Information for Future Pre-Survey Reviews

The following soundings on the present survey indicate the presence of two features which may warrant extra development on a future survey of this area:

A. The 55-ft. sounding in lat.  $40^{\circ}58.16'$ , long.  $73^{\circ}16.91'$   
(Position 573-574, Day 189).

B. The 35-ft. sounding in lat.  $40^{\circ}58.56'$ , long.  $73^{\circ}10.24'$   
(Position 2904-2905, Day 221).

<u>Position Index</u> (Lat.)	<u>(Long.)</u>	<u>Bottom</u> <u>Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
410	0733	2	5	25 yrs.
410	0732	2	5	25 yrs.
410	0731	2	5	25 yrs.
405	0733	2	5	25 yrs.
405	0732	2	5	25 yrs.
405	0731	2	5	25 yrs.

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8952

FIELD NO. WH-20-2-67

New York, Long Island Sound, Vicinity of Smithtown Bay

SURVEYED: June 30, 1967 through August 29, 1967

SCALED: 1:20,000

PROJECT NO.: OPR-474

SOUNDINGS: Raytheon DE-723 and Ross  
Digital Depth Recorders

CONTROL: Hi-Fix (Hyperbolic  
Mode)

Chief of Party .....	S. C. Miller
Surveyed by .....	S. C. Miller
.....	J. C. Carlen
.....	P. M. Hall
.....	D. McCall
.....	J. R. Avampato
.....	C. L. Hardt
Protracted by .....	Gerber Digital Plotter
Soundings Plotted by .....	Gerber Digital Plotter
Verified by .....	D. R. Munford
.....	F. Bean
.....	H. R. Smith
Reviewed by .....	D. J. Romesburg
.....	Date: April 26, 1971
Inspected by .....	D. E. Westbrook

1. Description of the Area

This survey covers a portion of Smithtown Bay and Long Island Sound between Old Field Pt. and Eatons Neck Pt. The northern limit extends to Stratford Shoal Middle Ground. The southern limit of the survey is about a mile off Long Island.

In this area, Long Island Sound and Smithtown Bay possess a predominately mud covered bottom with sand and shell. Near the 30-ft curve on the survey's southern limit, isolated rocks or rock outcrops protrude from the bottom.

The bottom configuration in the survey area is shaped like a shallow bowl with depths of 46 to 73 feet on the north and depths of 26-50 feet on the south sloping uniformly to the center of the survey where maximum depths over 100 feet are recorded. On the extreme western limits of the survey a shoal rises from the bottom having several peaks with least depths ranging from 16 to 24 feet.

2.

2. Control and Shoreline

The origin of the control is given in the Descriptive Report.

There is no shoreline within the limits of this survey.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves were adequately delineated. Supplemental depth curves of 24 and 36 feet were added to help delineate isolated shoal areas on the survey.

C. The development of the bottom configuration and the investigation of least depths are considered adequate.

4. Condition of the Survey

The survey records, automated plotting, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, as amended by instructions promulgating the Hydrographic Digital Recording System except as follows:

A. The Tide Correction Printout was not included in the survey records.

B. A separate arc overlay plot drawn by the CALCOMP plotter at Atlantic Marine Center is included with this survey.

C. The raw soundings on the Raw Data Printouts appear to be the digitally stored sounding minus the predicted tide correction for purposes of boat sheet plotting. Therefore, this must be taken into account when checking the Raw Data Printout against the graphic depth records.

D. The Julian Day number for August 24, 1967, (236) was entered erroneously as 235 on the Raw Data Printouts.

E. The original soundings recorded by the Ross Digital Fathometer were found to be 10 feet too shoal. The field party failed to add a correction which would have resolved this discrepancy introduced by the inability to adjust the initial of the Ross Digital Fathometer as necessary to compensate for the depth of the transducer unit. A correction of plus 10 feet was applied to the affected soundings by the Atlantic Marine Center. However, after the correction was added the velocity correctors were not revised to accommodate the new soundings. This was done as a processing expedient, and does not critically affect the basic

3.

accuracy of the survey. As a result, all the reduced soundings for the following Julian Days and associated positions were shoal by .2 to .4 of a foot:

<u>Day</u>	<u>Positions</u>
221	2877-2932
235	2933-3040
236	3041-3189
238	3190-3279
241	3449-3463

F. The Hi-Fix corrections tabulated in the Hi-Fix Report for the 1967 field season were not applied to the  $R_1$  and  $R_2$  positional values. Apparently it was decided that the error introduced by omitting the Hi-Fix correction would not be significant enough to adversely affect the quality of the survey. The maximum lane divergence of the hyperbolic arcs on the survey was 275 meters. The greatest Hi-Fix correction listed was +.06 of a lane. Therefore, the maximum error in the plotted position which could occur would be 16.5 meters. It should be noted that the +.06 lane correction occurred on one day only. The corrections for the remaining days on the survey averaged near +.02 of a lane correction for the  $R_1$  and  $R_2$  values.

G. An additional calibration correction of minus one lane (-1) was applied by the reviewer to the  $R_1$  values for positions 1121 thru 1190 on Julian Day 194 to resolve a discrepancy in the hydrography.

### 5. Junctions

Adequate junctions were effected with H-8967 (1967) on the east and H-8951 (1967) on the southeast. The junction with unverified survey H-8950 (1967) on the south will be discussed in the review of that survey.

No contemporary surveys exist on the west and north sides of the present survey. However, the charted soundings are in harmony with the present survey in those areas.

In attempting to make junction between the present survey and H-8949 (1967) on the south, it was found that a difference of up to 2-ft. was obvious between the two surveys in the vicinity of the 60-ft. curve near the easterly end of the junctional area. An analysis of the discrepancy indicated that the launch fathometer #251 on H-8949 contained a short stylus arm for five work days (Days #189-193).



4.

The result of that error in the junctional area amounts to a maximum correction to the launch work of about +0.75 to +1.0 foot. It is probable that the remainder of the discrepancy resulted when the verifier at Atlantic Marine Center had to use simultaneous comparisons taken in Puerto Rico to correct the present survey ship work in Long Island Sound, due to a lack of information furnished by the ship.

As a satisfactory expedient at this late stage of processing it was decided not to correct the launch work on H-8949 that was affected by the stylus arm error, but still accept it as being more correct than the ship work on the present survey. Therefore, a partial butt junction was made, superseding the ship work on the present survey where it overlapped work done by the launch on H-8949 in those areas where the discrepancy was apparent.

A partial butt junction was effected with H-7938 (1951) on the southeast.

#### 6. Comparison with Prior Surveys

- A. H-18 (1835) 1:10,000
- H-19 (1835) 1:10,000
- H-21 (1837) 1:20,000
- H-22 (1837) 1:10,000
- H-26 (1837) 1:10,000
- H-27 (1837) 1:10,000

These early prior surveys can be considered little more than reconnaissance because of their sparse development. An adequate comparison with the present survey could not be made. Most of the depths in common areas agree only within 5-10 feet. These disagreements can be attributed to the surveying methods employed on the prior survey versus the methods used on the present survey.

The present survey adequately supersedes the above prior surveys within the common area.

- B. H-1708 (1886) 1:10,000
- H-1709 (1886) 1:10,000
- H-1731 (1886) 1:40,000
- H-1732 (1886) 1:20,000
- H-1734 (1886) 1:10,000

Agreement between these prior surveys and the present survey was very good. Slight differences of 1 to 2 feet were noted except in the comparison with survey H-1731 (1886). This survey covers the entire area of the present survey and the differences between the surveys varied according to depth.

5.

In the shoaler areas, some recorded depths disagreed by 5 feet or less. In depths of 100 feet or deeper, the sounding differences were 10 feet or more. As with the previously discussed 1835-37 surveys, these discrepancies can be attributed to the differences between the survey techniques and equipment employed on the prior surveys and those used on the present survey.

A 22-ft. sounding in lat.  $40^{\circ}59.0'$ , long.  $73^{\circ}23.65'$  and a 21-ft. sounding in lat.  $40^{\circ}59.40'$ , long.  $73^{\circ}23.69'$  were brought forward from H-1732 (1886) to supplement the present survey.

With the addition of the two soundings noted above, the present survey is adequate to supersede these prior surveys.

C. H-3944 (1916) 1:10,000  
H-5136 (1931) 1:10,000  
H-5220 (1932) 1:20,000  
H-6125 (1934) 1:20,000

Only small areas of these prior surveys are common with the present survey. Some sounding differences were noted. All disagreements between soundings were less than 5 feet and most soundings differed by only 1 or 2 feet.

The present survey is adequate to supersede the above prior surveys within the common area.

D. H-5142 WD (1931) 1:20,000  
H-5219 WD (1932) 1:20,000

There are no conflicts between the effective wire-drag depths from these prior surveys and depths on the present survey. The following soundings have been brought forward from H-5142 WD (1931) to supplement the present survey:

1. A 16-ft. sounding in lat.  $40^{\circ}59.73'$ , long.  $73^{\circ}23.74'$ .
2. A 19-ft. sounding in lat.  $40^{\circ}59.64'$ , long.  $73^{\circ}23.66'$ .
3. Two 28-ft. soundings one in lat.  $40^{\circ}58.97'$ , long.  $73^{\circ}23.63'$  and the other in lat.  $40^{\circ}58.49'$ , long.  $73^{\circ}23.56'$ .
4. A 27-ft. sounding in lat.  $40^{\circ}58.32'$ , long.  $73^{\circ}23.41'$ .

Two bottom samples on the shoal centered in lat.  $40^{\circ}59.5'$ , long.  $73^{\circ}23.7'$  were also carried forward from H-5142.

A 44-ft. sounding on Wreckage in lat.  $41^{\circ}03.64'$ , long.  $73^{\circ}18.98'$  was brought forward from H-5219 WD (1932) to supplement the present survey.

6.

7. Comparison with Charts

Chart 361 (latest print date 11th Ed., April 14, 1969)  
Chart 220 (latest print date 13th Ed., December 19, 1970)  
Chart 221 (latest print date 12th Ed., November 21, 1970)  
Chart 224 (latest print date 10th Ed., September 19, 1970)  
Chart 117-SC (latest print date 10th Ed., September 19, 1970)  
Chart 1213 (latest print date 20th Ed., November 7, 1970)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented by partial application of depths from the boat sheet and verified smooth sheet of the present survey.

Attention is directed to the following:

1. The 25-ft. sounding on Chart 117-SC in lat  $40^{\circ}58.41'$ , long.  $73^{\circ}23.94'$  originates with Bp 73305, a bromide copy of the boat sheet of the contemporary junctional survey, H-8949 (1967). During verification, the 25-ft sounding was revised to 27 feet. The chart should be revised to reflect this change.
2. The Wreckage cleared by 42-ft. on Chart 220 in lat.  $41^{\circ}03.64'$ , long.  $73^{\circ}18.98'$  falls on the northern limits of the present survey. Initially recorded as a 44-ft. sounding on wreckage on H-5219 WD (1932), it was subsequently charted as cleared by 42-ft. by authority of Chart Letter 338 of 1943. The Wreckage cleared by 42-ft. should be retained on the chart.
3. The 41-ft. sounding on Chart 361 in lat.  $40^{\circ}59'23.6''$ , long.  $73^{\circ}07'03.0''$  originates with the boat sheet of the present survey. The sounding is erroneous, as the digital fathometer locked on a stray, and should be deleted from the chart.
4. The 33-ft. sounding on Chart 117-SC in lat.  $40^{\circ}56'40''$ , long.  $73^{\circ}16'00''$  originates with the boat sheet of the present survey and was subsequently interpreted as a stray on the fathogram. This sounding should be deleted from the chart.
5. The 31-ft. sounding on Chart 117-SC in lat.  $40^{\circ}57'00''$ , long.  $73^{\circ}18'32''$  originates with the boat sheet of the present survey. This sounding has been interpreted as a stray and should be deleted from the chart.

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area.

7.

B. Aids to Navigation

Eatons Point Lighted Bell Buoy No. "11B" positioned on the present survey in lat.  $41^{\circ}00.05'$ , long.  $73^{\circ}23.89'$  falls approximately 215 meters northwest of its charted position but continues adequately to mark the feature intended.


8. Compliance with Instructions

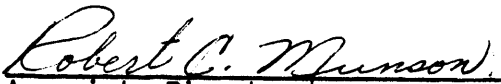
The survey adequately complies with the Project Instructions.

9. Additional Field Work

This survey is considered to be a good basic survey and no additional field work is recommended.

Examined and Approved:

  
\_\_\_\_\_  
Chief  
Marine Chart Division

  
\_\_\_\_\_  
Associate Director  
Office of Marine Surveys and Maps

Reg. No. H-8952

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE 9/28/82 TIME REQ'D \_\_\_\_\_ INITIALS JAC

REMARKS:

Micro film approved 7-19-79 JAC

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8952

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
1213	2-26-71	H. Ladder	<del>Part Before</del> After Verification <sup>before</sup> Review Inspection Signed Via Drawing No. 38 <i>Added to soundings and revised 30 and 60 foot curves.</i>
220	2-26-71	H. Ladder	<del>Part Before</del> After Verification <sup>before</sup> Review Inspection Signed Via Drawing No. <i>Revised 60 foot curve, &amp; added 2 sbs</i>
361	2-26-71	H. Ladder	<del>Part Before</del> After Verification <sup>before</sup> Review Inspection Signed Via Drawing No. <i>Exam. No Corr.</i>
117-5C	2-26-71	H. Ladder	<del>Part Before</del> After Verification <sup>before</sup> Review Inspection Signed Via Drawing No. <i>Added a few soundings</i>
117-5C	8-11-71	Joe Edmund	<del>Part Before</del> After Verification <sup>before Insp</sup> Review <del>Inspected</del> Signed Via Drawing No. 11 <i>No additional critical corrections</i>
1213	9-13-71	Roger J. Durack	<del>Part Before</del> After Verification <sup>Before</sup> Review Inspection Signed Via Drawing No. 38 <i>CRITICAL CORR ONLY</i>
1212	9-29-71	Roger J. Durack	<del>Part Before</del> After Verification <sup>Before</sup> Review Inspection Signed Via Drawing No. 43 <i>EXAM FOR CRITICAL CORR. ONLY ADDED ONE SOUNDING</i>
220	Feb 1972	R. O. Sanschi	<del>Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. 25 <i>Applied to chart extension southward in lieu of qualified data.</i>
1213	JULY 1972	DL Pattilore	<del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. 39 <i>thru 1175C "H" &amp; 220</i>
117-5C	JULY 1972	DL Pattilore	<del>Part Before</del> After Verification Review Inspection <del>Signed</del> Via Drawing No. 12
220	JULY 1972	DL Pattilore	<i>Part after inspection, drawing No 25</i>
361	JULY 1972	DL Pattilore	<i>Part after inspection, drawing No 17</i>
1212	11-24-72	C B Samuel	<i>Fully app'd after Inspection</i>
361	2/22/73	K. Gean D. Kannon	<i>Applied Fully after Var. Review, and Inspection.</i>

