

9859

Diagrams 369-5 & 1215-3

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey ... Hydrographic  
Field No. ... WH-10-2-79  
Office No. ... H-9859

LOCALITY

State ... New York  
General Locality ... New York Harbor  
Locality ... The Narrows to Norton Pt.

1979-80

CHIEF OF PARTY  
CDR K.W.Kieninger & CDR F.P.Rossi

LIBRARY & ARCHIVES

DATE ... October 27, 1981

Area  
CAF  
1234?  
1234  
12327

**HYDROGRAPHIC TITLE SHEET**

H-9859

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-10-2-79

State New York

General locality New York Harbor

Locality Norton Point to Lower Bay and The Narrows

Scale 1:10,000 Date of survey 4 October - 9 November 1979  
19 March - 1 May 1980

Instructions dated 4 June 1979 Project No. OPR-B139-WH-79

Vessel NOAA Ship WHITING Launches 1015 (2931) and 1014 (2932) April  
CDR Karl Wm. Kieninger 4 October - 9 November 1979, 19 March - 30 April 1980

Chief of party CDR Frank P. Rossi 1 May 1980

Surveyed by N Prah1, CD Mason, RG Mann, FR Diaz, JC Gardner, DA Bland, J Rivera, JB Grant

Soundings taken by echo sounder, hand lead, pole ROSS Model 5000

Graphic record scaled by WHITING Personnel

Graphic record checked by CDM, RGM, FRD, JGC, DAB, JR, JBG

Protracted by \_\_\_\_\_ Automated plot by HYDROPLOT (Field)  
XYNETICS 1201 (AMC)

Soundings penciled by \_\_\_\_\_

Soundings in ~~fathoms~~ feet at MLW MLW

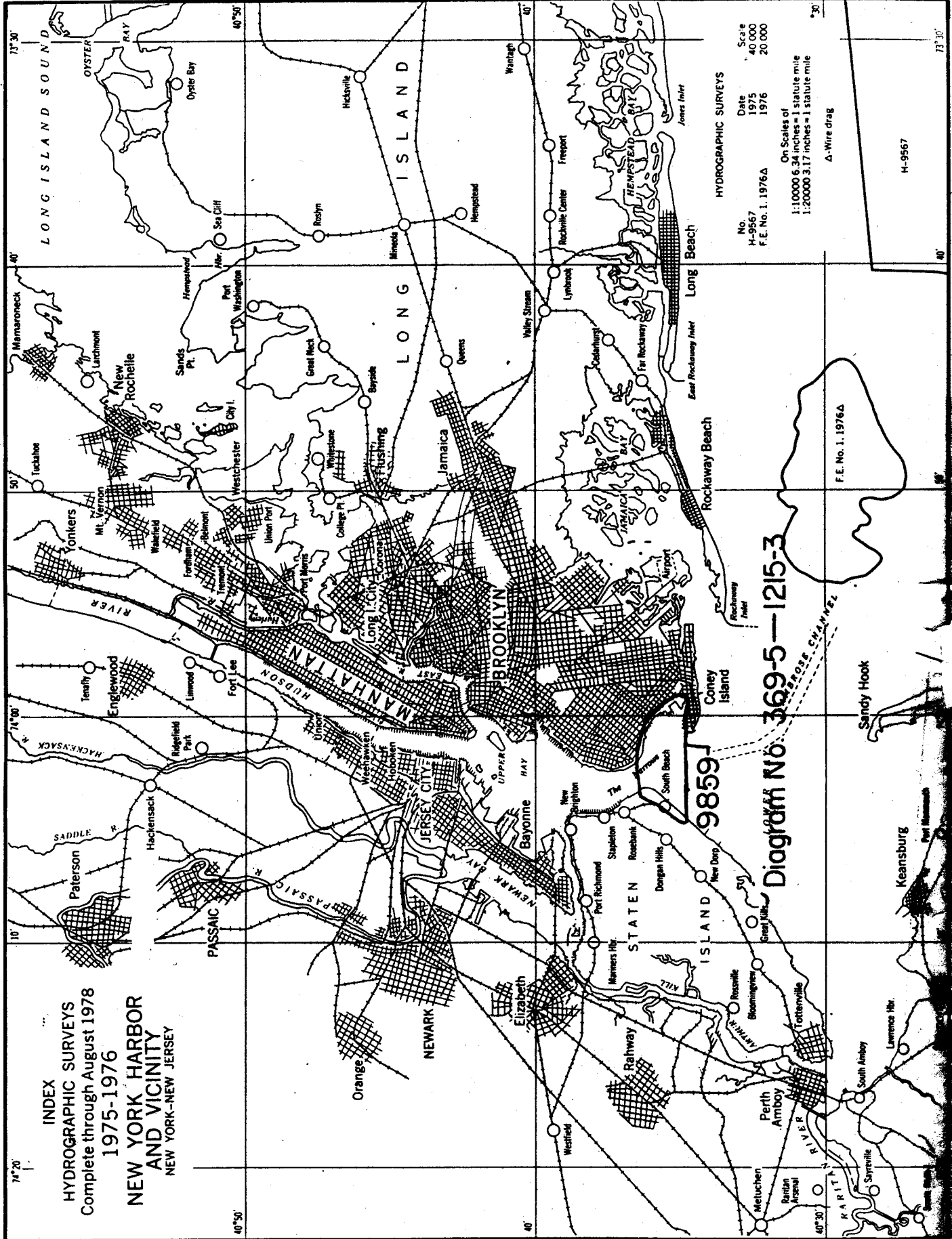
REMARKS: All Times are Coordinated Universal Time.

The following data was removed from the Descriptive Report and filed with the field records:

<u>Projection Parameter Form</u>	<u>Position Data Sheets</u>
<u>Parameter Tape Printouts</u>	<u>Bottom Sediment Data</u>
<u>Request for Smooth Tides</u>	<input checked="" type="checkbox"/> <u>CHARLES D. MEADOR</u>
<u>TCTI Tape Printouts</u>	
<u>Abstract of TRA Corrections</u>	<u>STANDARDS CK'D</u>
<u>Abstract of Electronic Control Correctors</u>	<u>12-1-82</u>
<u>Abstract of Positions</u>	<u>C. L. D. J.</u>

DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Ocean Survey  
Rockville, Maryland

Hydrographic Index No. 65 L



DESCRIPTIVE REPORT  
TO ACCOMPANY SURVEY H-9859

WH-10-2-79

A. PROJECT

Hydrographic Survey H-9859, WH-10-2-79 was conducted under Project Instructions for Operation B139 WH-79 NY Harbor, dated 4 June 1979 as amended by the following changes:

Change #1 - 13 July 1979

Change #2 - 06 August 1979

*Project Instructions DPR-B139-WH-80 were in effect during the 1980 portion of this survey. See section B. of the Verification Report.*

The intent of this project was to identify sounding discrepancies revealed by a recent Chart Evaluation Survey which included this area.

B. AREA SURVEYED

The area surveyed was the New York Harbor, Lower Bay bounded by  $40^{\circ}34'40''$  North Latitude to the South, the Staten Island shoreline to the West,  $40^{\circ}36'44''$  North Latitude to the North, and the Brooklyn shoreline to the East. This area includes the Uppermost Ambrose Channel, Gravesend Bay and Coney Island Creek.

*← not within the limits of the present survey.*

This area was surveyed from 4 October 1979 to 9 November 1979 and completed from 19 March 1980 to 1 May 1980.

### C. SOUNDING VESSELS

Sounding vessels for this survey were WHITING Launches 1015 and 1014, EDP numbers for these vessels are 2931 and 2932 respectively. The launches were equipped with standard hydrographic equipment. Neither of the survey launches encountered major mechanical problems during the survey.

### D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Launches 1014 and 1015 are equipped with a Ross Model 5000 <sup>Echo Sounder</sup> ~~Fathometer~~, serial numbers 1087 and 1052 respectively. Phase check calibrations were performed on the Ross Model 5000 in accordance with the Hydrographic Manual. These calibrations were conducted regularly and are noted on all fathograms. Analog and digital output compared satisfactorily and no instrument errors were observed. Bar checks were taken daily, weather and sea conditions permitting. *(See section 4. of the Verification Reports)* The quality of bar checks varied with wind, sea and current conditions.

Velocity corrections were based on bar check averages checked with TDC casts, taken at various times during the survey with a Martek Model 167 unit (s/n 127). Data from bar checks and TDC casts were compiled in direct comparison logs, and velocity corrections were computed in accordance with the Hydrographic Manual.

Velocity corrections for Table #1 were based on bar check averages only. TDC casts were taken but the unit did not function properly, giving erroneous temperature readings, so the data was rejected. The unit has since been repaired and was used to acquire TDC data used in Velocity Table #II.

Settlement and squat corrections were taken from trials performed by WHITING personnel in November 1979 for VESNO 2931 and June 1979 for VESNO 2932. Graphs and corresponding tables for settlement and squat are in the Appendix and are applied on the TC/TI tape.

All soundings on this sheet were <sup>deep</sup> taken on the 0-100 foot scale. *Soundings on this survey are as ~~much~~ as 110 feet, but the 0-100 foot scale will record to 120 feet on the Ross Model 5000 Echo Sounder.*

#### E. HYDROGRAPHIC SHEETS

The field sheets were prepared by WHITING personnel using a Houston Instruments DP-3 Roll Plotter, s/n 4680-1. The survey area plotter sheet limits are:

North: 040°37'30"

East: 073°57'45"

South: 040°34'30"

West: 074°06'15"

A total of four plotter sheets are submitted with this survey. One sheet covers the survey area showing the main scheme lines and splits. A second sheet shows the crosslines. The third sheet is for the bottom samples, buoys and DP's in the survey area. A final sheet is for the development overlay.

#### F. CONTROL STATIONS

The following signals were used for electronic positioning sites, calibration signals or initial points for range-azimuth.

<u>SIGNAL NO.</u>	<u>DESCRIPTION</u>
105	H-5-NY-79, 1979 (field position)
111	Old Orchard LH Ecc, 1979 (field position)
112	West Bank Lighthouse, 1917, 79
113	Romer Shoal Lighthouse, 1900, 79
114	Sandy Hook Pt. Lt. Ecc., 1979 (field position)
115	Rockaway <del>Point</del> JETTY BEACON, 1934
116	CONEY ISLAND PARACHUTE TOWER, 1945 <del>Parachute Tower (Coney Island)</del>
117	Coney Island Lighthouse, 1903, 62
118	Old Orchard LH, 1900, 79
119	Fort Wadsworth LH, 1903, 79
120	H-4-NY-79, 1979 (field position)
121	Rosebank St. Johns Prot Epis Ch, 1930
122	Brighton Hts Reformed Ch Spire, 1930
123	Rosebank Wrigley Fact N. Chim, 1930
124	Rosebank Wrigley Fact S. Chim, 1930
<del>154</del> 152	H-52-NY, 1980 (field position)

Positions for signals 112, 113, 115, 116, 117, 118, 119, 121, 122, 123 and 124 were obtained from published horizontal control data.

Stations 105, 111, 114 and 120 were established by the WHITING. These are third-order resection stations used as electronic positioning sites or for range-azimuth set-ups. Station 111 is an eccentric from Station Old Orchard Lighthouse. Station 114 is an eccentric from Sandy Hook Point Light. Station <sup>120</sup>105 is set on the northern point of Hoffman Island. Stations 105, 111 and 120 were monumented and are recoverable. Station 114 was not monumented due to lack of a concrete and/or rock foundation to set the mark, therefore it is not recoverable.

Station 152 was established by the Operations Division, Atlantic Marine Center by means of traverse. This station was used as a calibration site.

All computations will be submitted to Operations Division, Atlantic Marine Center, Norfolk, Virginia upon completion of OPR B139 WH-79.

#### G. HYDROGRAPHIC POSITION CONTROL

The range-range hydrography was performed by Launches 1015 and 1014. The range-azimuth hydrography was performed by Launch 1015. Both launches are equipped with Del Norte Systems. The Del Norte systems consisted of a distance measuring unit (DMU), a master station and at least one electronic shore station. The hydroplot system was used in all range-range and range-azimuth work.

Ranges and depths were recorded in real time using RK-111 and RK-181.

Calibrations were taken daily in accordance with the Hydrographic Manual. Three calibration sites were used in this survey.

The first fixed point was cut in by means of a sextant fix with check angle on a pier at West Bank Lighthouse (Station 112). Signals used to cut in this fixed point were; *Entered into the control file as station 204.*

*See section 4p of the Verification Report.*

<u>FIX TYPE</u>	<u>SIGNALS</u>	<u>ANGLES</u>
FIX	117, 113, 118	106°17'30", 101°00'00"
Check Fix	116, 113, 118	086°02'30", 101°00'00"
Mean Fix GP		040°32'16.18"N } <i>Not within the</i> 07 <sup>4</sup> °02'36.28"W } <i>area covered by</i> <i>this survey.</i>



Distances of 5509 meters from Station 111, 7735 meters from Station 114, 4806 meters from Station 120, and 7593 meters from Station 119 were computed between the range stations and the fixed calibration point.

The second fixed point was cut in by means of a sextant fix with a check angle on a concrete pier on the Brooklyn Shoreline, southeast of the eastern abutment of the Verrazano-Narrows Bridge. Signals used to cut in this fixed point are:

*Entered into the control file as station 205.*

*See section 40 of the Verification Report.*

<u>FIX TYPE</u>	<u>SIGNALS</u>	<u>ANGLES</u>
Fix	116, 119, 123	127°51'48", 032°27'48"
Check Fix	116, 119, 122	127°51'48", 055°16'36"
Mean Fix GP		040°36'29.43"N 074°02'07.53"W

Distances of 11,944 meters from Station 111, 15,329 meters from Station 114, 3474 meters from Station 120, 1627 meters from Station 119, and 4299 meters from Station 105 were computed between these range stations and the fixed calibration point.

The third fixed point was cut in by traverse methods by the Operations Division, Atlantic Marine Center. This point is Station 152, located on a ~~municipal~~ <sup>Municipal</sup> pier in Bay-Ridge Channel north of the Verrazano-Narrows Bridge.

*H-52-NY, 1980*

The G.P. of the Station is:

040°38'22.543"N

074°02'20.811"W

*} Not within the area covered by this survey.*

An inverse distance of 3978 meters was computed from Station 119 to Station 152.

In addition to daily calibrations, a baseline calibration was performed every 200 hours of use as prescribed by the Del Norte Manual and Hydrographic Manual. Del Norte Master and Remote units were ~~kept paired~~ <sup>kept paired</sup> between baseline calibrations.

The following Master/DMU pairs were used during the survey:

JD	VESSEL #	MASTER S/N	DMU S/N	REMOTE CODE	REMOTE S/N
277	2931	169	180	78	1316
				76	1137
283-291	2931	250	162	78	1316
				76	1137
293-313	2931	1060	192	78	1316
				76	1137
				74	218
310-311	2932	169	180	72	245
				78	1316
				76	1137
077-092	2931	169	192	72	256
				74	218
099-122	2931	250	180	72	256

#### H. SHORELINE

*See section 2 of the Verification Report.*

No shoreline manuscripts were available for this survey. Shoreline for this sheet was taken from 1:10,000 scale NOS Chart 12349, 7th Ed, and from TP sheet 00744, 1:10,000 scaled blow-up.

#### I. CROSSLINES

Percentage of crosslines run on this survey was 8.0%. The nautical miles of crosslines run were 15.92 nm. Agreement with the mainscheme lines was good throughout the sheet; agreement was within 0-3 feet.

Crosslines were run in a NE-SW direction,  $45^{\circ}$  to the East-West mainscheme. Radials were run NNW-SSE to further delineate the channel area. The radial agreement with crosslines and mainscheme lines was also good. Throughout the sheet, agreement was within 0-3 feet.

#### J. JUNCTIONS

*See section 5. of the Verification Report.*

The survey junctions to the south with H-9820, which was completed in 1979 and with H-9875 to the north, which was completed in 1980. Both surveys were done by the WHITING and are still unverified, but agreement is within 0-3 feet throughout the sheet.

No discrepancies were noted between either sheet.

#### K. COMPARISON WITH PRIOR SURVEYS

*See sections 4. & 6. of the Verification Report.*

Survey H-1719, (1886) 1:5,000 scale.

Comparisons were made in the area bounded by:

North:  $40^{\circ}36'44''N$

East: Brooklyn Shoreline

South:  $40^{\circ}36'06''N$

West:  $074^{\circ}03'00''W$

*relatively good considering the depth of the water and the age of the prior survey.*

In general, mainscheme agreement is ~~poor~~ with discrepancies of as much as six feet noted.

Brooklyn shoreline depths have changed drastically. Filling has apparently taken place all along this shoreline. Shoreline features have changed also. A pier located in the vicinity of  $40^{\circ}36'29.43''$ ,  $074^{\circ}02'07.53''W$  is charted

.03 miles further west on the prior survey than it was found to be on this survey. *Concur*  
*See sections 2, 4, & 7 of the Verification Report for further comments on this pier.*

*Fort La Fayette Island is noted in the Verification Report.*  
 An island centered at  $40^{\circ}36'30''N$ ,  $074^{\circ}02'18''W$  is no longer there. This area  
~~now has an average depth of 16 feet.~~ *Although smaller in size, this island is in*  
*the location of the east Verrazano-Narrows Bridge support.*

Channel depth agreement is within 10-15 feet. ~~Dredging has taken place~~  
 THERE ARE NO INDICATIONS OF DREDGING IN THIS DEEP, NATURAL CHANNEL.  
~~throughout the channel area and depths of as much as 40 feet deeper than those~~  
~~charted~~  
~~charted on this prior survey can now be found in an area centered at  $40^{\circ}36'10''N$ ,~~  
 THE LISTED COORDINATES FALL OUTSIDE THE LIMITS OF THIS PRIOR SURVEY.  
 ~~$074^{\circ}02'30''W$ .~~ *See section 6a. of the Verification Report.*

Survey H-5736, (1934), 1:10,000 scale, ~~see page 10~~

Comparisons were made in the area bounded by:

North: $40^{\circ}36'35''N$	East: Brooklyn Shoreline
South: $40^{\circ}34'40''N$	West: Staten Island Shoreline

*See section 6. of the Verification Report.*  
~~In general, agreement with this prior survey is poor, within 5-10 feet.~~ In the  
 channel area bounded by  $40^{\circ}36'35''N$ ,  $074^{\circ}02'52''W$ , depths generally agree within  
 0-3 feet. There are two areas where large discrepancies are found. One such  
 area centered at  $40^{\circ}35'40.4''N$ ,  $074^{\circ}02'05.8''W$  has depths of as much as 45 feet  
 deeper than those on the prior survey. Another area where discrepancies can be  
 found is centered at  $40^{\circ}35'20''N$ ,  $074^{\circ}03'05.9''W$ . This area has been dredged out  
 and discrepancies of as much as ~~20~~<sup>23</sup> feet were found.

Dredging has taken place on the Staten Island side of the chart leaving  
 depth discrepancies of as much as ~~15~~<sup>27</sup> feet in an area centered at  $40^{\circ}35'17''N$ ,  
 $074^{\circ}03'18''W$ .

The Staten Island shoreline has remained relatively unchanged and the depth agreement is generally within 0-5 feet. *The shoreline from The Narrows to the southern sheet limits has migrated significantly to the east. See section 6. of the Verification Report.*

On the Brooklyn limit of the sheet, filling has taken place along the <sup>shoreline from</sup> ~~southern~~ *The Narrows to Coney Island Creek.* Areas centered at 40°36'05"N, 074°00'40.5"W; 40°35'45"N, 074°00'05.4"W; and 40°35'<sup>08</sup>'~~07~~"N, 073°59'46"W have been filled or are being filled and are thereby altering the shoreline.

Several other discrepancies can be found along this portion of the sheet. There are discrepancies of as much as <sup>27</sup>~~19~~ feet in an area centered at 40°36'07.0"N, 074°01'35.5"W. - *This dredged hole is noted in the Verification Report, Sec. 6a*

Another area centered at 40°35'42.5"N, 074°01'12.5"W has discrepancies of as much as <sup>10</sup>~~9~~ feet throughout. - *The shoal in the area of Gravesend Bay apparently has migrated to the east. It is highly unlikely that the difference in this large flat area was caused by dredging. THE DEPTH CURVES ON H-7046 INDICATE THIS AREA WAS DREDGED FOR FILL.*

A third area with <sup>06</sup>~~10~~ foot discrepancies is centered at 40°35'14"N, 074°01'06"W. *This dredged hole is noted in the Verification Report, Sec. 6a*

~~All three~~ <sup>Two</sup> of these areas are apparent dredge areas. The discrepancies are ones in which the deeper depths were found on this survey.

Survey H-7046 (1945), 1:5,000 scale.  
*Also see section 6a. of the Verification Report.*

Comparisons were made in the area bounded by:

North: 40°36'18"N

East: Brooklyn Shoreline

South: 40°34'40"N

West: 074°02'00"W

*See section 6. of the Verification Report.*

~~In general, comparison is poor.~~ The Brooklyn shoreline has gone through several changes. There are several areas which have been filled in. One such area centered at  $40^{\circ}35'09.7''N$ ,  $073^{\circ}59'45''W$  has been completely filled in and is now unverified shoreline. Another area, centered at  $40^{\circ}35'38''N$ ,  $074^{\circ}00'05''W$  has been partially filled in and no longer has the configuration shown. Another area centered at  $40^{\circ}35'50.1''N$ ,  $074^{\circ}00'09.9''W$  has been filled in completely and is now unverified shoreline.

*However the features remain relatively similar.*

Depth agreement in this area is poor. Depths of as much as 10-feet shoaler than those on the prior survey appear throughout the sheet. *See section 6. of the Verification Report.*

#### L. COMPARISON WITH THE CHART

*See sections 4. & 7. of the Verification Report.*

Survey H-9859 was overlaid and compared with NOS Chart 12334, 51st Edition, April 22, 1978, 1:10,000 scale.

*Not the current edition at the time of the survey. 52nd ed., Aug. 4/79 was the current edition at the time of the survey.*

Comparisons were made in the area bounded by:

North: $40^{\circ}36'44''N$ ✓	East: Brooklyn Shoreline ✓
South: $40^{\circ}36'04''N$ ✓	West: Staten Island Shoreline ✓

Overall comparison is good with depths agreeing within 0-<sup>5</sup> feet in most areas. There are areas with discrepancies. One is centered at  $40^{\circ}36'19.5''N$ ,  $074^{\circ}02'28''W$  and has depths <sup>3-5</sup>~~10~~ feet shoaler than the charted depths.

Another area centered at  $40^{\circ}36'14''N$ ,  $074^{\circ}02'40''W$  has depths <sup>2-5</sup>~~10~~ feet shoaler than the charted depths.

Depths in these areas are shown to be shoaler on the survey than those shown on the chart. It appears that filling has taken place in these areas. *Concur*

It is recommended that the charted depths be changed to agree with the depths found in this survey. *Concur*

NOS Chart 12349, 7th Edition, August 6, 1977, 1:10,000 scale. Comparisons were made in the area bounded by:

North:  $40^{\circ}36'40''N$  ✓

East: Brooklyn Shoreline

South:  $40^{\circ}34'42''N$  ✓

West:  $074^{\circ}04'12''W$

Overall comparison with the chart is good, within 0-5 feet. *Concur*

Dredging has taken place in the West Bank Borrow area which will necessitate changes in the contours in that area. Shoreline features in this area have remained the same. In this area, depths generally agree within 0-5 feet. *Except in the borrow areas where differences are as much as 20 feet.* There are two areas with large discrepancies which suggest that dredging has taken place. *See section 6. of the Verification Report.*

The first area is centered at  $40^{\circ}35'27''N$ ,  $074^{\circ}03'13''W$  with depths from ~~8-24~~<sup>20</sup> feet deeper than those charted. The other area is centered at  $40^{\circ}35'10''N$ ,  $074^{\circ}03'11''W$  and has depths 5-14 feet deeper than those on the chart. *Concur*

In the Gravesend Bay area, few changes have taken place. However, drastic changes have taken place in the shoal area near the shoreline. Extensive filling has taken place in this area and there are several shoreline discrepancies. *Only two areas of land filling were addressed by the hydrographer. See section 4. of the Verification Report.*

An example of this can be found in an area centered at  $40^{\circ}35'27''N$ ,  $074^{\circ}00'08''W$  with actual depths of as much as ~~7~~<sup>13</sup> feet shoaler than the charted depths. *Concur*

Centered at  $40^{\circ}35'21''\text{N}$ ,  $074^{\circ}00'18''\text{W}$  an area can be found with depths of as much as ~~12~~<sup>12</sup> feet shoaler than those on the chart. *Concur*

A third area with depths of as much as 10-feet shoaler than those on the chart can be found in an area centered at  $40^{\circ}35'09''\text{N}$ ,  $074^{\circ}00'16''\text{W}$ . *Concur*

Several shoreline features along the Brooklyn/Gravesend Shoreline are incorrectly charted. A pier charted 0.09 miles southeast of the Verrazano-Narrows Bridge at  $40^{\circ}36'28''\text{N}$ ,  $074^{\circ}02'09''\text{W}$  is incorrectly charted. A three point sextant fix was obtained on the southern edge of the pier and its actual GP was found to be  $40^{\circ}36'29.43''\text{N}$ ,  $074^{\circ}02'07.53''\text{W}$ . The configuration of this pier is not the same as it is charted. See explanation on page 14. Pictures of this pier can be found in the Appendix under List of Stations. *See sections 2, 4, & 7 of the Verification Report.*

Two fill areas in Gravesend Bay are incorrectly charted. DP's were obtained on JD 092 to delineate them as accurately as possible. One area is charted at limits  $40^{\circ}35'28.6''\text{N}$ ,  $074^{\circ}00'04.1''\text{W}$ ;  $40^{\circ}35'25.8''\text{N}$ ,  $074^{\circ}01'03.7''\text{W}$  and it was found that it should be charted at limits  $40^{\circ}35'29.9''\text{N}$ ,  $074^{\circ}00'02.2''\text{W}$ ;  $40^{\circ}35'27.7''\text{N}$ ,  $074^{\circ}00'01.7''\text{W}$ . A second area is charted at limits  $40^{\circ}35'21.2''\text{N}$  to the north,  $40^{\circ}35'20''\text{N}$  to the south and it was determined that it is located at  $40^{\circ}35'27''\text{N}$  to the north,  $40^{\circ}35'26''\text{N}$  to the south, and  $073^{\circ}59'58''\text{W}$  to the west. *The D.P.'s taken by the hydrographer give only rough limits of the areas. See sections 2, 4, & 7 of the Verification Report.*

Few changes have occurred elsewhere on the chart, but it is suggested that the entire area be re-evaluated and the changes noted be made to the chart. *Concur — A complete field edit of the shoreline manuscripts is necessary.*

NOS Chart 12327, 74th Edition, October 27, 1979, 1:40,000 scale.



Comparisons were made in the area bounded by:

North:  $40^{\circ}36'44''\text{N}$

East: Brooklyn Shoreline

South:  $40^{\circ}34'40''\text{N}$

West: Staten Island Shoreline

The survey area covered by this chart has already been compared to 1:10,000 scale NOS Charts 12334, 51st Edition and 12349, 7th Edition. These two charts combined, covered the entire survey area. *The extreme southwestern corner of the present survey is only covered by chart 12327.* The only additional discrepancy to discuss is that of the pier charted 0.09 miles southeast of the Verrazano-Narrows Bridge. *on charts 12334 & 12327 - pier not in ruins on chart 12349* The pier is charted as being in ruins. After looking at the G.P. obtained for this pier and its true configuration, it was decided that the pier ruins most likely have been torn down and that the concrete bulkhead constructed in its place was constructed further inshore than the previous pier was. Since the bulkhead was used as a calibration point for this survey, the pictures of the pier can be found in the Appendix under List of Stations. No other discrepancies, not already discussed were found. *See section 7a. of the Verification Report.*

DEVELOPMENTS:

Prior Surveys

Development 1W

Source: Charts 12349 and 12327

This development is part of a borrow area located 0.47 nm northwest of Hoffman Island. The area was developed on JD 297 from Pos #1203-1252. The area was surveyed north to south to 90 meter spacing and east to west to 45 meter spacing. *ten nine* The least depth found was *355* eight feet at Pos. #1203. *40°35'01.68"N, 074°03'10"W* Gp of the position is  ~~$40^{\circ}35'04.1''\text{N}$ ,  $074^{\circ}03'11.5''\text{W}$~~ . This area is not shown as having

been dredged out on the prior surveys or the charts. *The dredged area developed is near the shoal to the north of Hoffman Island. This shoal has depths less than 6 feet. The shoal is the northern extension of the feature West Bank.*

Comparison with the chart is generally <sup>within</sup> 0-3 feet except in the two areas where dredging has taken place. One area is centered at 40°35'27"N, 074°03'13"W with depths of 16-~~26~~<sup>28</sup> feet compared to those on the chart of 4-26 feet. There <sup>are</sup> depths of as much as ~~22~~<sup>23</sup> feet deeper than the charted depths.

A second area is centered at 40°35'10"N, 074°03'11"W with depths of 7-29 feet compared to those on the chart of 1/2-29 feet. Discrepancies of as much as 10 feet exist in this area. Observed depths should supersede ~~all~~<sup>some</sup> currently charted depths. *Concur*

Development "1E". Source: Charts 12349 and 12327

This development was prompted by depth discrepancies located in the section of the sheet 0.43nm west of the Gravesend Bay limits. The area was developed on JD 297, Pos. #1165-1194. The area was surveyed north to south to 90 meter and east to west to 45-meter spacing. Least depth found was ~~18~~<sup>15</sup> feet as Pos. #~~1165~~<sup>1494 + 1/2</sup>, 40°34'59.1"N, 074°00'~~52.1~~<sup>48.7</sup>"W.

*14-foot depth found at Lat. 46°34'57.36"N Long. 74°00'45.55"W*

Overall depths agree from 0-5 feet, but in the area centered at 40°35'05"N, 074°01'22"W there are depths of 33-49 feet compared to charted depths of 22-31 feet. The depths are from 12-20 feet deeper than those on the chart in this area. Observed depths should supersede ~~currently~~ charted depths. *Concur*

Development "2E". Source: Charts 12349 and 12327

This area development is located in the northern section of Gravesend Bay. This area was developed on JD 293, Pos. #1074-1076 and on JD 312, Pos. #1682-1699. The area was surveyed north to south to 90 meter and east

to west to 45-meter spacing. The least depth found was <sup>14</sup>~~13~~ feet at

Pos. #1697, <sup>1074+1</sup> ~~40°35'54.5"N~~, <sup>3600.66'</sup> ~~074°00'33.4"W~~. <sup>56.5'</sup>

Overall comparison with prior surveys and charts is within 0-5 feet.

The contours in the area have changed due to an apparent shifting of the <sup>bottom material toward</sup> ~~the~~ <sup>the deeper dredged</sup> ~~the~~ <sup>areas,</sup> area north by ~~0.07 nm~~. <sup>What was once an area enclosed by the 18-foot contour</sup> ~~The 18-foot contour in this area has depths of as~~ <sup>now has a trough with depths up to 29 feet, to the south of this development. The trough</sup> ~~much as 25 feet included in it to the north, and the 30-foot contour has~~ <sup>has depths up to 36 feet.</sup> ~~depths less than 17 feet included in it.~~

The contours in this area should be re-evaluated and updated based on the findings of this survey. *Concur*

Development "E". Source: Charts 12349 and 12327

This is a further development of the Gravesend Bay area. It overlaps with Development "1E" to the west and Development "2E" to the <sup>north</sup> ~~south~~.

This development was done to completely saturate the area with soundings so that the depth discrepancies could be fully determined. This area was developed on JD 084, Pos. #2067-2116 and on JD 085, Pos. #2185-2345.

The development was done north to south to 45 meter and east to west to 45-meter line spacing. The least depths found <sup>were several 5-foot soundings in the vicinity of</sup> ~~was 6 feet at~~ Pos. #2340, <sup>40°35'08"</sup> ~~40°34'59.6"N~~, <sup>074°00'06"</sup> ~~074°00'03.3"W~~. Overall depths agree from 0-5 feet, but around the Gravesend shoreline there are large discrepancies. In one area, centered at <sup>40°34'57"N</sup> ~~40°34'57"N~~, <sup>074°00'12"W</sup> ~~074°00'12"W~~, there are depths from 6-25 feet in an area with charted depths of from <sup>8-36</sup> ~~7~~-32 feet. Discrepancies of as much as <sup>10</sup> ~~8~~-feet shoaler than the charted depths can be found at <sup>40°34'56"N</sup> ~~40°34'56"N~~, <sup>074°00'24"W</sup> ~~074°00'24"W~~.

DISREGARD. THE GEOGRAPHIC POSITION IS INCORRECT.

In another area centered at  $40^{\circ}35'07.5''N$ ,  $074^{\circ}00'06''W$  there are depths of from ~~2-27~~ <sup>2-27</sup> feet in an area with charted depths of from 3-33 feet. Depths are on an average three feet deeper than those on the chart, but in an area at  $40^{\circ}35'04''N$ ,  $074^{\circ}00'15''W$  there is a charted depth of 33 feet while the depth was found to actually be ~~24~~ <sup>25</sup> ~~24~~ <sup>23</sup> feet.

An area at  $40^{\circ}35'10''N$ ,  $074^{\circ}00'03''W$  has a charted depth of three feet where the actual depths ~~is 11~~ <sup>are 3-6</sup> feet. Another area with limits  $40^{\circ}35'30''N$ ,  $40^{\circ}35'13''N$ , Gravesend,  $074^{\circ}00'11''W$  has depths of from ~~42~~ <sup>5</sup> to ~~37~~ <sup>35</sup> feet in an area with charted depths of ~~7~~ <sup>5</sup> to ~~34~~ <sup>41</sup> feet.

Bottom structure in these areas remains relatively similar

Depths of as much as ~~15 feet~~ <sup>15 feet shaller to 5 feet</sup> deeper than those charted can be found in the southern part of this area while depths of as much as ~~12 feet~~ <sup>2 feet deeper to 17 feet</sup> shaller than charted depths can be found around the western limits. In this area there is a charted depth of 36 feet in an area where the depth actually is only ~~24~~ <sup>23</sup> feet. This section of the chart should be updated according to the findings of this survey. Concur

#### ITEM INVESTIGATIONS

Item #17, Charted Item: Submerged Wreck, 8 feet reported

Charted Position  $40^{\circ}35.33'N$ ,  $074^{\circ}01.04'W$

VESNO 2931

JD 277, 283 and 084

Investigation into a charted wreck was performed by splitting mainscheme lines to 45-meter spacing on JD 277 and 283. On JD 084, the western limit of Development "E" was run directly across the item. No

NM #19, 1979, DOES NOT MENTION THIS WRECK. IT IS STILL A CHARTED ITEM.

trace of the wreck was found at either time. ~~The wreck was deleted from~~

~~the chart as per the NM #19, 1979.~~

*Item deleted from OPR-B139 investigations in the 1980 Presurvey Review. - No action recommended. Assigned to wire-drag boats. See FE 232 (1980)WB*

Item #38, Charted Item: Submerged Wreck, Source: Survey H-5736

Charted Position 40°35.08'N, 074°03.08'W

Item #39, Charted Item: Submerged Wreck, Source: Survey H-5736 (1934)

Charted Position 40°35.10'N, 074°03.15'W

Investigation into the charted wrecks was performed by splitting main scheme lines to 45-meter spacing on JD 284, and 291 by VESNO 2931. On JD 121 further investigation was done into Items 38 and 39. Forty-five meter arcs were run in the area bounded by 40°35'11"N, 40°35'00"N, 074°02'55"W, 074°03'15"W. The least depth found was 7 feet at Pos. #2734, GP, 40°35'02.3"N, 074°03'10.9"W. No trace of either wreck was found. Least depth is not close to the area of the wrecks.

The charted depths in the vicinity of the wrecks should be updated to agree with depths found in this survey. The submerged wreck symbols should remain until further investigation and wire drag sweep ~~disprove~~ <sup>disprove</sup> their existence. *Concur - See section 4 of the Verification Report.*

*concur  
Though deepening of 4-5 feet has occurred in this area remains of wrecks may exist.*

Item #37, Charted Item: Submerged Wreck, Source: NM 34, 1961

Charted Position 40°35.36'N, 074°00.13'W

Investigation into the charted wreck of the Cabin Cruiser "PAT ROSE" was performed by splitting main scheme lines to 45-meter spacing on JD 305 and 307 and developed to 45-meter spacing north to south on JD 085.

The least depth found was ~~13~~<sup>11</sup> feet and the average depth was ~~15~~<sup>14</sup> feet. The charted least depth in the vicinity of the wreck is ~~7~~<sup>9</sup> feet. ~~No 4-foot depth was found.~~

No suspicious spikes or trace of the wreck was found in that area. The depths in the vicinity should be updated to agree with the findings of this survey. The submerged wreck symbol should remain until further investigation and wire drag sweep disprove its existence. - *Concur - See section 4 of the Verification Report.*

Items #35 and #36, Charted Items: 2 submerged wrecks

Charted Position: <sup>#35</sup> 40°35.17'N, 073°59.99'W and <sup>#36</sup> 40°35.210'N, 073°59.94'W

Source: Survey H-5736 (1934)

No investigation was done ~~into~~<sup>on</sup> these wrecks. On JD 312, VESNO 2931 ran its shoreline lines over the area charted as the location of the wrecks. Least depth over <sup>the location of</sup> Item #36 was 8 feet and least depth over Item #35 was three feet. *Because of the position of the sounding lines, these depths can not be considered to occur over item #35 or item #36.*

No suspicious spikes were detected in the area and no trace of a wreck was found. The submerged wreck symbols should remain until further investigation can disprove their existence. *Concur - See section 4 of the Verification Report. Also see section 6 a. of the Verification Report. Both wrecks were brought forward from H-7046 as dangerous sunken wrecks.*

Item #40, Charted Item: Submerged Wreck, PA

Charted Position: 40°35.5'N, 074°03.6'W

Source: <sup>Chart</sup> Corps of Engineers Letter 1286 of 66

Investigation into Item #40 was performed by VESNO 2931 on JD 277 and 288 by splitting main scheme lines to 45 meters east to west and on JD 291 a controlled fatho<sup>METER</sup> search was performed in the area to look for the wreck.

No trace of a wreck was found at anytime. On JD 121, further investigation was done into item #40, 45-meter arcs were run in an area bounded by north  $40^{\circ}35'37''N$ , south  $40^{\circ}35'25''N$ , east  $074^{\circ}03'30''W$ , west  $074^{\circ}03'45''W$ . The least depth found <sup>in the area</sup> was seven feet at Pos. #~~2697~~<sup>124</sup>, GP  $40^{\circ}35'28.9''N$ ,  $074^{\circ}03'43.9''W$ . <sup>30.9</sup> <sup>36.0</sup>

The least depth in the surrounding area is ~~eight~~<sup>seven</sup> feet, the same as the charted depth. The wreck was neither located nor its existence disproved. It is suggested that the symbol remain on the chart until the wreck can be found or wire drag proves that it does not exist. *Concur - See section 4. of the Verification Report.*

Item #41, Charted Item: Visible Wreck ✓  
Charted Position:  $40^{\circ}36.08'N$ ,  $074^{\circ}03.20'W$

This area was observed several times during low water and several times during spring low water. No wreck or anything other than rocks was ever observed. - *See section 4. (K) of the Verification Report. Charted position falls on HWL delineated on present survey. Expunge charted wreck.*

The charted symbol should be changed to submerged wreck until its existence is disproven. - *Recommend the visible wreck be deleted and the rocks along shore be retained as charted in this area. Do not concur. see above.*

The following Items, "7C" through "12" are located in Coney Island Creek and its entrance. These items were not investigated. See Section Q "RECOMMENDATIONS".

PSI #7C, Charted Item: Pile# - *Recommend retaining as charted until the pile# can be verified or disproved. See section 4. of the Verification Report.*  
Charted Position:  $40^{\circ}34.93'N$ ,  $074^{\circ}00.53'W$   
*Shown as obstr on TP-00752, chart as shown on smooth sheet. See quality control report.*

PSI #7D, Charted Item: Pile# - *Recommend retaining as charted until the pile# can be verified or disproved. See section 4. of the Verification Report.*  
Charted Position:  $40^{\circ}34.99'N$ ,  $074^{\circ}00.32'W$   
*Shown as obstr on TP-00752, chart as shown on smooth sheet. See quality control report.*

- PSI #7E, Charted Item: Pile~~s~~ — *Recommend retaining as charted until the pile~~s~~ can be verified or disproved.*  
 Charted Position: 40°34.93'N, 074°00.17'W *See section 4. of the Verification Report.*  
*Shown as obstr on TP-00752, chart as shown on smooth sheet. See quality control report.*
- PSI #7F, Charted Item: Pile~~s~~ — *Recommend retaining as charted until the pile~~s~~ can be verified or disproved.*  
 Charted Position: 40°34.98'N, 074°00.13'W *Brought forward to the present survey as a submerged pile from H-7046,*  
*Not shown on TP-00744.*
- Item #8, Charted Item: ~~PA~~, Pile, PA — *Not within the present survey limits.*  
 Charted Position: 40°34'N, 073°58'W, Source: LNM 14, 1972  
*See H-9820 (1979)*
- Item #9, Charted Item: Two Visible Wrecks, <sup>PA</sup> — *Recommend retaining as charted until the wrecks can be verified or disproved.*  
 Charted Position: 40°34.87'N, 074°00.0'W, Source: CL 1458, 1971  
*charted position of wrecks at lat. 40°34.87'n, long 74°00.05'w presently falls within shoreline. Chart as shown on smooth sheet. Other wreck retain as charted.*
- Item #10, Charted Item: PA, Obstruction — *Recommend retaining as charted until the obstruction can be verified or disproved.*  
 Charted Position: 40°34.80'N, (074°59.58'W), Source: LNM 42, 1974  
 173?
- Item #11, Charted Item: Obstruction — *Recommend retaining as charted until the obstruction can be verified or disproved.*  
 Charted Position: 40°34.78'N, 073°59.54'W, Source: NM 21, 1960
- Item #12, Charted Item: Submerged Wreck, PA — *Recommend retaining as charted until the wreck can be verified or disproved.*  
 Charted Position: 40°34.81'N, 073°59.53'W, Source: CL 1551, 1973
- Item #13, Charted Item: PA, Visible Wreck  
 Position: 40°35.04'N, 074°00.10'W, Source: CL 1551, 1973

Investigation into Item #13 was performed by VESNO 2931 on JD 307 by splitting main scheme lines to 45 meters and on JD 085 to 45-meter north to south lines in Development "E".



The least depth in the area is six feet and the charted least depth is four feet. The depth found in this survey <sup>near</sup> directly over the wreck is <sup>six</sup> seven feet. No wreck was sighted at MLW. No wreck was found, but the existence of a wreck was not disproven; therefore, it is recommended that the visible wreck symbol, PA be changed to submerged wreck, PA until its existence is verified or disproven. - Concur - ~~See~~ See section 4. of the Verification Report.

Items #14 and #15, Charted Items: Visible Wrecks, PA

Charted Position:  $40^{\circ}35.15'N$ ,  $074^{\circ}00.17'W$ , Source: CL 1458, 1971

Investigation into Items #14 and #15 were performed by VESNO 2931 on JD 307 by splitting main scheme east to west lines to 45-meter spacing and on JD 085 to 45 meter spacing north to south lines in Development "E".

No indications of the wrecks were observed. It is recommended that the symbols remain on the chart until disproven or verified. - Should be charted as submerged wrecks, PA. - See section 4. of the Verification Report.

Item #16, Charted Item: Ruins

Charted Position:  $40^{\circ}35.35'N$ ,  $074^{\circ}00.06'W$ , Source: <sup>H-7046 (1945)</sup> Miscellaneous

Investigation into Item #16 was performed by VESNO 2931, JD 305 and 307 by splitting main scheme lines to 45-meter east to west spacing and on JD 085 in Development "E" to 45 meter north to south spacing.

No indications of the ruins were noted. <sup>The small 11-foot shoal found at the charted ruins location indicates the existence of the ruins.</sup> It is recommended that the symbol remain on the chart until the existence is disproven or verified by wire drag sweep. - Concur - See section 4. of the Verification Report. (See section 6., prior survey H-7046, for comment on this item.)  
 chart as shown on smooth sheet.

Item #18, Charted Item: Submerged Wreck

Charted Position:  $40^{\circ}36.46'N$ ,  $074^{\circ}02.14'W$ , Source: NM 40, 1956

Investigation into the submerged wreck of the 42-foot F/V CHUBBY was performed by splitting main scheme lines to 45 meter spacing on JD 288, 312, and 079. The least depth in the vicinity is ~~six~~<sup>seven</sup> feet. The charted least depth is five feet. This wreck is located in the vicinity of the calibration pier. No indication of a wreck in that area was observed.

It is recommended that the submerged wreck symbol remain on the chart until its existence is disproven. *Concur - See section 4. of the Verification Report.*

*The unnumbered dashed circle item, Shoaling Reported, in the vicinity of Latitude  $40^{\circ}35.0'$ , Longitude  $74^{\circ}00.1'$  is recommended to be deleted and present survey soundings used in the area.*  
 M. ADEQUACY OF THE SURVEY *deleted concur*

*See section 9. of the Verification Report.*

This survey is complete and adequate to supersede prior surveys, except in Coney Island Creek. See Recommendations.

#### N. AIDS TO NAVIGATION

*See sections 4. and 7. of the Verification Report.*

The following is a list of the Aids to Navigation on H-9859.

<u>POSITION</u>		<u>DESCRIPTION</u>
345	$40^{\circ}36'07.145''N$ , $074^{\circ}01'49.815''W$	N "20" R ✓
346	$40^{\circ}35'53.820''N$ , $074^{\circ}01'09.306''W$	WN "A" ✓
347	$40^{\circ}35'28.595''N$ , $074^{\circ}00'58.700''W$	RB "WRG" I QR FL ✓
348	$40^{\circ}35'05.748''N$ , $074^{\circ}00'48.147''W$	C "1" ✓

POSITIONDESCRIPTION

349	40°35'01.942"N, 074°00'46.187"W	WN "B" ✓
350	40°35'06.407"N, 074°02'30.114"W	"19A" Bell Flg 4 sec. ✓
351	40°35'30.641"N, 074°03'02.112"W	C "21" ✓
352	40°35'45.031"N, 074°03'06.176"W	"23" Bell ✓
1286	40°35'13.807"N, 074°03'29.627"W	"3" Gong ✓
1732	40°34'56. <sup>548</sup> <del>652</del> "N, 074°00' <sup>09.060</sup> <del>08.980</del> "W	C "3" ✓
2044	40°35'22.217"N, 074°00'02. <sup>870</sup> <del>906</del> "W	C "9" ✓
2045	40°35'16.712"N, 074°00'01.638"W	N "8" ✓
2046	40°35'14.303"N, 074°00'12.256"W	C "7" ✓
2047	40°35'09.962"N, 074°00'09.259"W	RN "6" ✓
2511	40°35'07.380"N, 074°00'25.226"W	C "3" ✓
2512	40°35'04. <sup>410</sup> <del>618</del> "N, 074°00'20. <sup>230</sup> <del>005</del> "W	N "4" ✓
2755	40°34'57.746"N, 074°00'21.969"W	C "1" ✓

0. STATISTICS

<u>VESNO</u>	<u>NUMBER OF POSITIONS</u>	<u>TOTAL MILES</u>
2931	2540	272.15
2932	31	3.90
TOTALS	2571	276.05

Tide Gages Established: NONE ✓

P. MISCELLANEOUS

Position #1341 (JD 302) is a D.P. on a submerged pile located on the Staten Island shoreline. Position #1342 (JD 302) is a D.P. on the northern end of a sewer outfall on the Staten Island shoreline. Position #1343 (JD 302) is a D.P. on a submerged pier, on the Staten Island shoreline. Position #1345 (JD 302) is a D.P. on the southern end of a pier in ruins on the Staten Island shoreline. Positions #2374-2376 (JD 086) are D.P.'s on the ends of the floating pier slip located in northeast Coney Island Creek.

*at lat. 40°35.02'N long 74°03.15'W upright log about 130 meters east of*  
*at lat. 40°35.28'N long 74°03.86'W*  
*at lat. 40°35.44'N long 74°03.76'W pipe grain (revised to grain by on-site observer).*  
*at lat. 40°35.6'N long 74°03.63'W*  
*located in vicinity of lat. 40°34.7'N long 74°03.3'W*  
*See section 4i of the Verification Report.*

Positions 2504-2507 (JD 092) are D.P.'s on the ends of a fill area in Gravesend Bay. These D.P.'s were prompted by the occurrence of soundings plotting over areas charted as land. The new limits of this fill area are outlined by the series of D.P.'s.

*See G.C. report*  
*Located in vicinity of lat. 40°35.4'N long 74°00'W*

Positions 2508-2509 (JD 092) are D.P.'s on the ends of another area charted as land in which soundings are plotted on the land. The D.P.'s, as adequately as possible, determine the true limit and shape of the area.

*land fill*  
*Located in vicinity of lat. 40°35.4'N long 74°00'W*

Positions 2690-2692 (JD 121) are D.P.'s on Staten Island shoreline features: ~~a rock jetty~~, an outfall, and a pier dolphin respectively.

*Subm. grain rocks*  
*Located in vicinity of lat. 40°34.65'N long 74°04'W*  
*See section 4i of the Verification Report.*

Positions 2756-2759 (JD 122) are D.P.'s taken along the ruin area in the Coney Island Creek entrance. The D.P.'s were taken along each ruin in an effort to determine the limits of the ruins.

*(Piling)*  
*Located in vicinity lat 40°34.9'N long 74°04.6'W*  
*See section 4i of the Verification Report.*

On JD 084 and 085 Development "E" was run. North to south 45-meter spacing lines were run using a range-range set-up with remote units on Station 105

H-5-NY-79 and Station 120, H-4-NY-79. Approximately one mile of soundings were run in the Banana of the two stations. The angles of intersection of these fixes will not be as strong as those in the rest of the development.

*Angles of intersection for this data is weak, however the graphic plot appears satisfactory.*

Q. RECOMMENDATIONS

Refer to Item Investigation Recommendations.

Due to lack of contemporary shoreline manuscript, large number of wrecks lining the area and generally delapidated condition of the area, the Coney Island Creek area was not adequately surveyed. It is recommended that this area be surveyed at a later date with contemporary topographic sheets and at a scale of 1:5000 or larger. — *See section 9. of the Verification Report.*

R. AUTOMATED DATA PROCESSING

<u>PROGRAM NUMBER</u>	<u>DESCRIPTION</u>	<u>VERSION</u>
RK 111	R/R/ Real Time Hydroplot	01/30/76
RK 201	Grid & H/R Lattice Plot	04/18/75
RK 211	Range/Range Non Real Time Plot	01/15/76
RK 212	Visual Station Table Load	04/01/74
RK 216	Range/Azimuth Position and Sounding Plot	02/05/76
RK 300	Utility Computations	02/05/76
RK 330	Reformat and Data Check	05/04/76
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocities	05/10/76
RK 561	Hyperbolic and Range/Range Geodetic Calibration	02/19/75
AM 602	Extended Line Oriented Editor	05/20/75
RK 407	Geodetic Inverse/Direct Computation	10/23/73
RK 410	Geodetic Three-Point Fix	08/23/73

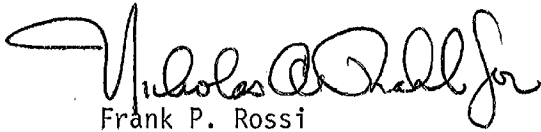
S. REFERENCES TO REPORTS

The write-up for PSI #19 is in the Descriptive Report of Survey H-9820,  
Opr-B139-WH-79.

APPROVAL

Supervision of all field and office work on this hydrographic survey was continuous on a day to day basis to ensure completeness of the survey and that all work was done in accordance with the Project Instructions. The Hydrographic Survey is complete except for those item investigations requiring controlled wire drag sweep and the survey of the Coney Island Creek area. — *See section 9, of the Verification Report.*

Approved/Forwarded



Frank P. Rossi  
CDR, NOAA  
Commanding Officer, NOAA Ship WHITING

Respectfully submitted



Deborah A. Bland, ENS, NOAA

WH-10-2-79  
 SIGNAL TAPE ✓

105	6	40	34	5086 <sup>6</sup>	073	59	582 <sup>85</sup> <del>77</del>	250	0002	000000	H-5-NY-79, 1979
111	6	40	30	43875	074	05	56641	139	0007	000000	Old Orchard L.H. ECC., 1979
112	6	40	32	16282	074	02	35796	139	0012	000000	West Bank L.H., 1917
113	6	40	30	46443	074	00	50175	139	0014	000000	Romer Shoal L.H., 1900
114	6	40	28	14489	074	01	08761	139	0010	000000	Sandy Hook Pt. Lt. ECC., 1979
115	6	40	32	24809	073	56	28331	139	0006	000000	Rockaway <del>Pt.</del> Light Jetty Beacon, 1934
116	6	40	34	22290	073	59	05330	139	0000	000000	<del>Parachute Tower</del> Coney Island Parachute Tower, 1945
117	6	40	34	35373	074	00	43827	139	0000	000000	Coney Island L.H., 1903
118	6	40	30	43892	074	05	56860	139	0007	000000	Old Orchard L.H., 1900
119	6	40	36	20550	074	03	15718	139	0015	000000	Ft. Wadsworth L.H., 1903
120	6	40	34	49198	074	03	14875	139	0004	000000	H-4-NY-79, 1979
121	6	40	36	41083	074	03	50246	139	0000	000000	Rosebank St. John's <sup>Prot. Epis. Ch., 1930</sup> <del>Spire</del>
122	6	40	38	30459	074	04	43200	139	0000	000000	Brighton Hgts. <sup>Reformed</sup> Church Spire, 1930
123	6	40	37	04395	074	03	56846	139	0000	000000	Rosebank Wrigley <sup>Factory</sup> N. Chimney, 1930
124	6	40	37	03982	074	03	56236	139	0000	000000	Rosebank Wrigley <sup>Factory</sup> S. Chimney, 1930
152	6	40	38	22543	074	02	20811	250	0003	000000	H-52-NY, 1980





RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	ORIGINATOR <input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	OFFICE ACTIVITY REPRESENTATIVE <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**  
*(Consult Photogrammetric Instructions No. 64,*

OFFICE	FIELD (Cont'd)
<p><b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b>  Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.  <b>EXAMPLE: 75E(C)6042</b>  8-12-75</p>	<p><b>B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.</b>  <b>EXAMPLE: P-8-V</b>  8-12-75  74L(C)2982</p>
<p><b>FIELD</b></p> <p><b>I. NEW POSITION DETERMINED OR VERIFIED</b>  Enter the applicable data by symbols as follows:  F - Field  L - Located  V - Verified  1 - Triangulation  2 - Traverse  3 - Intersection  4 - Resection  5 - Field identified  6 - Theodolite  7 - Planetable  8 - Sextant</p> <p><b>A. Field positions* require entry of method of location and date of field work.</b>  <b>EXAMPLE: F-2-6-L</b>  8-12-75</p> <p><b>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</b></p>	<p><b>II. TRIANGULATION STATION RECOVERED</b>  When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.  <b>EXAMPLE: Triang. Rec.</b>  8-12-75</p> <p><b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b>  Enter 'V-Vis.' and date.  <b>EXAMPLE: V-Vis.</b>  8-12-75</p> <p><b>**PHOTOGAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.</b></p>

NOAA FORM 76-40  
(8-74)

Replaces C&GS Form 567.

TO BE CHARTED  
 TO BE REVISED  
 TO BE DELETED

REPORTING UNIT  
(Field Party, Ship or Office)

NOAA Ship WHITING

STATE

New York

LOCALITY

Lower Bay and The Narrows

DATE

5/1/80

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY

- HYDROGRAPHIC PARTY
  - GEODETIC PARTY
  - PHOTO FIELD PARTY
  - COMPILATION ACTIVITY
  - FINAL REVIEWER
  - QUALITY CONTROL & REVIEW GRP.
  - COAST PILOT BRANCH
- (See reverse for responsible personnel)

OPR PROJECT NO.

OBR B139

HAVE  HAVE NOT  been inspected from seaward to determine their value as landmarks.

JOB NUMBER

H-9859

DATUM

40 36

DESCRIPTION  
(Record reason for deletion of landmark or aid to navigation.  
Show triangulation station names, where applicable, in parentheses)

Fort Wadsworth LH (Abandoned), 1903  
*This is a land mark, not a non-floating aid to navigation.*

West Bank Lighthouse, 1917

Romer Shoal Lighthouse, 1900

Rockaway ~~Point Light~~ Jetty Beacon, 1934

Coney Island Lighthouse, 1903

METHOD AND DATE OF LOCATION  
(See instructions on reverse side)

OFFICE

FIELD

Published Triangulation Data

Published Triangulation Data

Published Triangulation Data

Published Triangulation Data

Published Triangulation Data

Published Triangulation Data

Published Triangulation Data

LATITUDE

20.550

D.M. Meters

16.282

LONGITUDE

074 03

D.P. Meters

15.718

074 02

35.796

074 00

50.175

073 56

28.331

074 00

43.827

CHARTS AFFECTED

12327

12334

12349

12327

12327

12327

12327

12349

12327

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
ORIGINATOR	<input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	OFFICE ACTIVITY REPRESENTATIVE
	<input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**  
 (Consult Photogrammetric Instructions No. 64.)

**OFFICE**

**I. OFFICE IDENTIFIED AND LOCATED OBJECTS**

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.  
 EXAMPLE: 75E(C)6042  
 8-12-75

**FIELD**

**I. NEW POSITION DETERMINED OR VERIFIED**

Enter the applicable data by symbols as follows:

- F - Field
- L - Located
- V - Verified
- 1 - Triangulation
- 2 - Traverse
- 3 - Intersection
- 4 - Resection
- 5 - Field Identified
- 6 - Theodolite
- 7 - Planetable
- 8 - Sextant

A. Field positions\* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L  
 8-12-75

\*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

**FIELD (Cont'd)**

B. Photogrammetric field positions\*\* require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.  
 EXAMPLE: P-8-V  
 8-12-75  
 74L(C)2982

**II. TRIANGULATION STATION RECOVERED**

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.  
 EXAMPLE: Triang. Rec.  
 8-12-75

**III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH**

Enter 'V-Vis.' and date.  
 EXAMPLE: V-Vis.  
 8-12-75

\*\*PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

VELOCITY TAPE  
VESSELS 2931 and 2932  
J.D. 277-312 1979

000050 0 0000 0001 000 293100 009859  
000120 0 0002  
000188 0 0004  
000252 0 0006  
000320 0 0008  
000388 0 0010  
000452 0 0012  
000520 0 0014  
000588 0 0016  
000651 0 0018  
000720 0 0020  
000788 0 0022  
000852 0 0024  
000919 0 0026  
000986 0 0028  
001051 0 0030  
001120 0 0032  
001185 0 0034  
999999 0 0000

BAR CHECK DATA AVERAGES

VESNOS 2931 AND 2932

J.D. 277-312 1979

<u>DEPTH</u>	<u>CORRECTION</u>
4.9	0.1
9.8	0.2
14.6	0.4
19.4	0.6
24.4	0.6
29.2	0.8
33.9	1.1
39.0	1.0
43.7	1.3
48.58	1.42
53.42	1.58
58.28	1.72
63.12	1.88
67.96	2.04
72.82	2.18
77.66	2.34
82.5	2.5
87.36	2.64
92.2	2.8
97.06	2.94
101.9	3.1
106.76	3.24
111.6	3.4
116.46	3.54

*Velocity Tape revised during Verification.*

VELOCITY TAPE

VESSEL 2931

J.D. 079-122 1980

~~00004-0-0000-0002-000-2931-00-009859~~

~~000099-0-0002~~

~~000130-0-0000~~

~~999999-0-0000~~

000040 0 0000 002 000 2931 009859

000930 0 0002

001300 0 0000

99999 0 0000

BAR CHECK DATA AVERAGES ✓

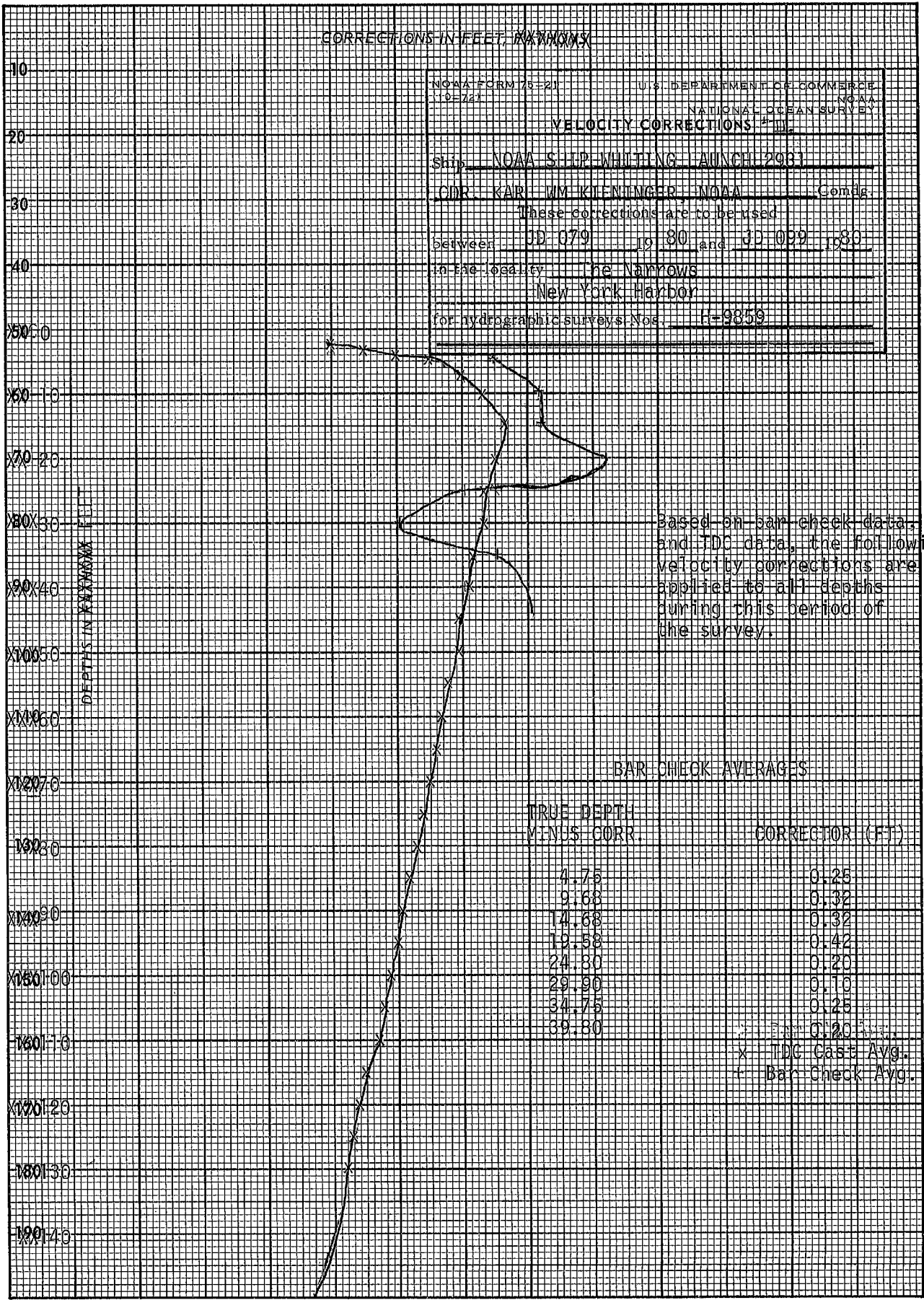
VESNO 2931

J.D. 079-122 1980

<u>DEPTH</u>	<u>CORRECTIONS</u>
4.75	0.25
9.68	0.32
14.68	0.32
19.58	0.42
24.80	0.20
29.90	0.10
34.75	0.25
39.80	0.20



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



DEPTHS IN FATHOMS

CORRECTORS IN FEET

(For deep water add a 0 to these figures)

KE 20 X 20 TO THE INCH 46 1240  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

CORRECTORS IN FEET

☆ U. S. GOVERNMENT PRINTING OFFICE: 1972-761-123



CORRECTIONS IN FEET, FATHOMS

CORRECTIONS IN FEET, FATHOMS

FORM C&GS-117 (11-65) U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

**VELOCITY CORRECTIONS**

Ship NOAA SHIP WHITING LAUNCHES 2931, 2932

KARL WM. KIENINGER Comdg.

These corrections are to be used between 277 1979 and 312 1979 in the locality NY Harbor, Lower Bay for hydrographic surveys Nos. H-9859

FORM C&GS-117 (11-65) U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

**VELOCITY CORRECTIONS**

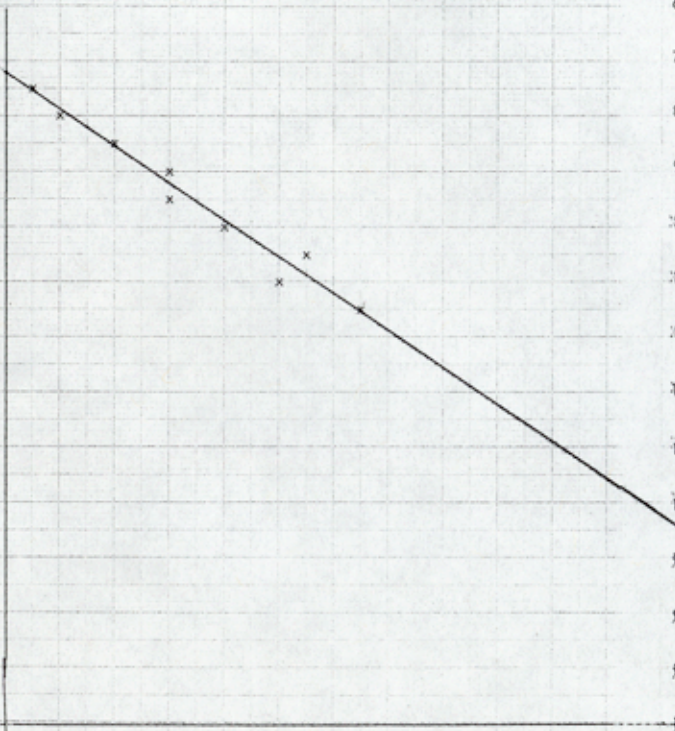
Ship NOAA SHIP WHITING LAUNCHES 2931, 2932

KARL WM. KIENINGER Comdg.

These corrections are to be used between 277 1979 and 312 1979 in the locality NY Harbor, Lower Bay for hydrographic surveys Nos. H-9859

(For deep water add a 0 to these figures)

FT DEPTHS IN FATHOMS



DEPTHS IN FATHOMS

Based on bar check data, the following velocity corrections are applied to all depths during this period of the survey.

No TDC data was used in the computations of velocity corrections. Although data was collected, it was found that the TDC unit, even after repair, was still unreliable at cold water temperatures. Therefore, all velocity corrections are based on bar check data, only.

BAR CHECK AVERAGES

TRUE DEPTH MINUS CORR.	CORRECTOR (FT)
4.9	0.1
9.8	0.2
14.6	0.4
19.4	0.6
24.4	0.6
29.2	0.8
33.9	1.1
39.0	1.0
43.7	1.3
48.58	1.42
53.42	1.58
58.28	1.72
63.12	1.88
67.96	2.04
72.82	2.18
77.66	2.34
82.5	2.5
87.36	2.64
92.2	2.8
97.06	2.94
101.9	3.1
106.76	3.24
111.6	3.4
116.46	3.54

NOE 20 8.20 TO THE INCH 45 12.40  
 105 5.3 IN SQUARE  
 QUARTZ & BRASS CO.

### SETTLEMENT AND SQUAT TRIALS

Settlement and squat trials were run on launcher 1015 and 1014 at Governor's Island, New York in June, 1979 for launch 1014 and November, 1979 for launch 1015. Trials were run using level and rod. The level rod was held over the transducer location. Results are the average of one run towards the observer and one run away from the observer at the speeds listed below.

<u>Speed in RPM</u>	<u>Vesno. = 2932</u> <u>Correction 1014</u>	<u>Vesno. = 2931</u> <u>Correction 1015</u>
700	+0.006 (0.0)	+0.080 (+0.1)
1000	+0.070 (+0.1)	+0.156 (+0.2)
1500	+0.158 (+0.2)	+0.250 (+0.2)
2000	+0.172 (+0.2)	+0.127 (+0.1)
2300	-0.081 (-0.1)	-0.263 (-0.3)
2600	-0.176 (-0.2)	-0.486 (-0.5)

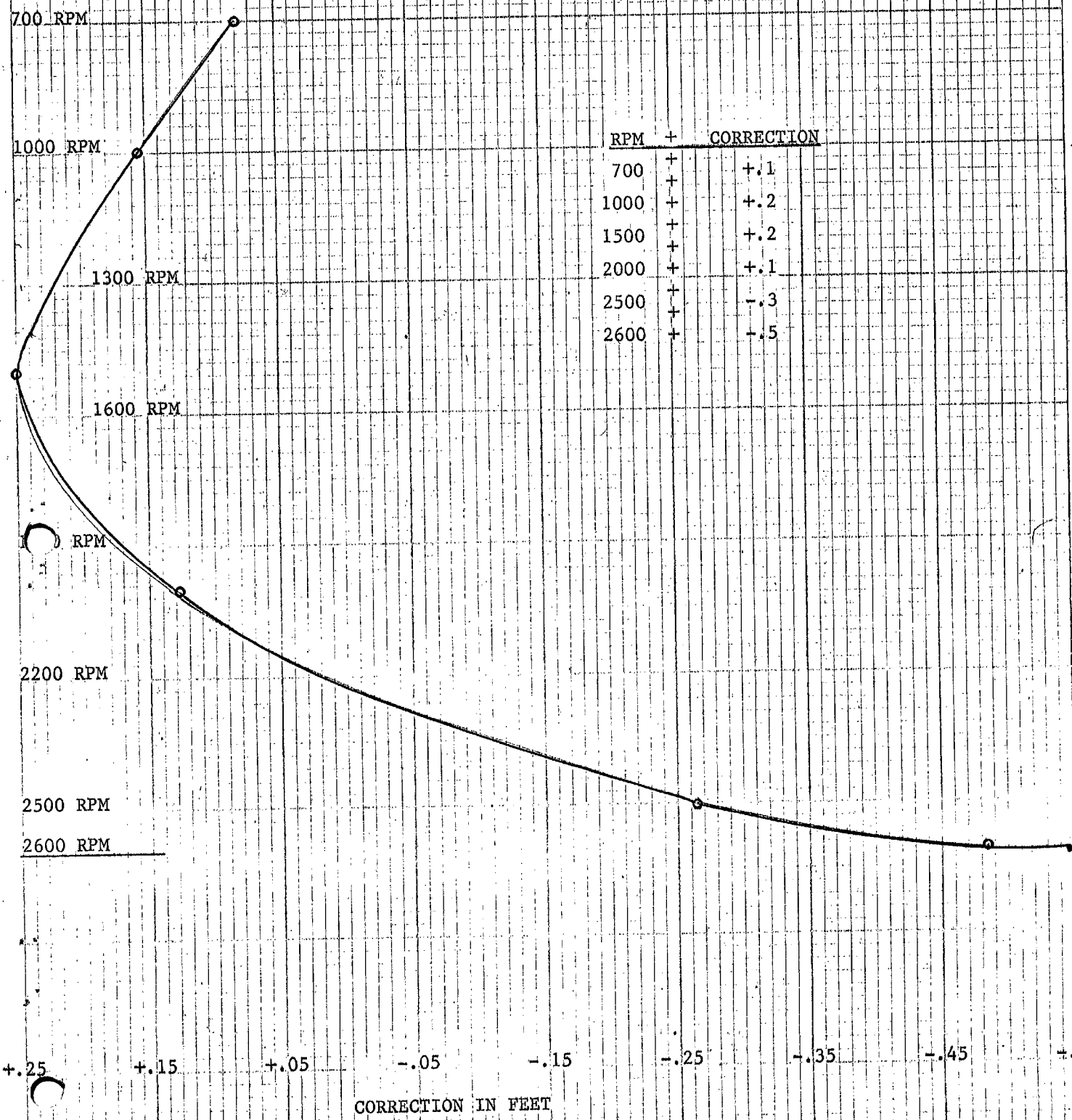
Corrections for settlement and squat are made on the TC/TI Tape. Periods of reduced speed during actual hydrography are noted in the sounding volumes and on the printouts.

See the attached graph of the correctors versus RPM for each vessel.



SETTLEMENT AND SQUAT CURVE

VESNO 2931, LAUNCH 1015



SETTLEMENT AND SQUAT CURVE

VESNO 2932, LAUNCH 1014

BASED ON TRIALS RUN ON JUNE 28, 1979

RPM	CORRECTION (FT)
700	0
1000	0
1500	+1.2
2000	+1.2
2300	0
2600	-1.2

IDLE SPEED 700 RPM

1000 RPM

1500 RPM

2000 RPM

2300 RPM

FULL SPEED 2600 RPM

-0.2

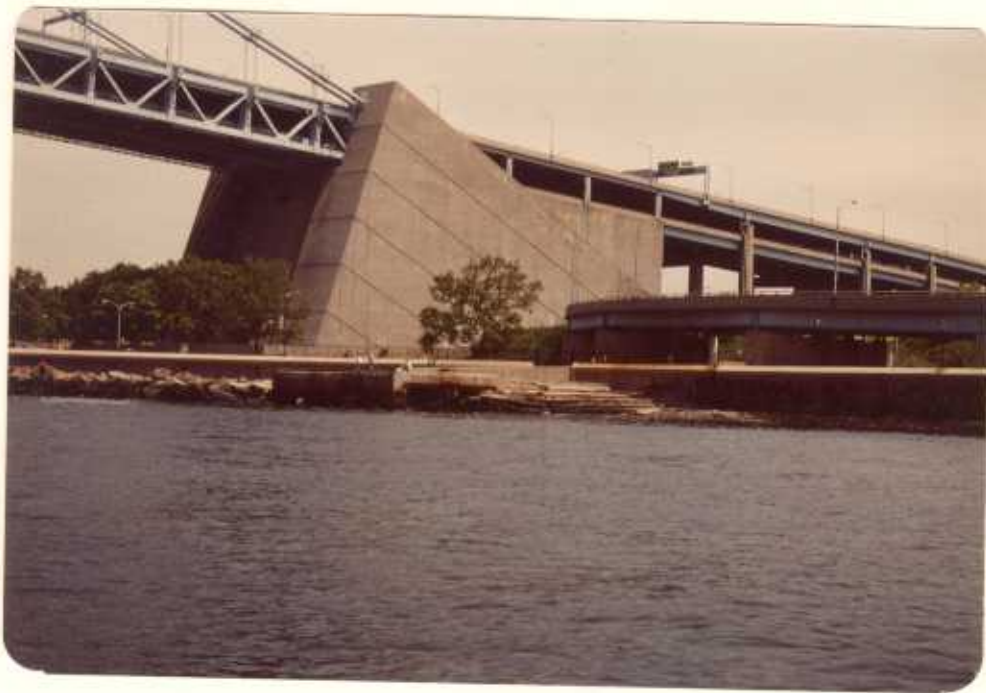
0

+0.2

CORRECTIONS TO SOUNDINGS  
IN FEET

KE 10 X 10 TO 1/2 INCH 46 1470  
7/8 X 10 INCHES  
MADE IN U.S.A.  
KEUFFEL & ESSER CO.

Bulkhead Charted 0.09 miles southeast of the Verrazano-Narrows Bridge

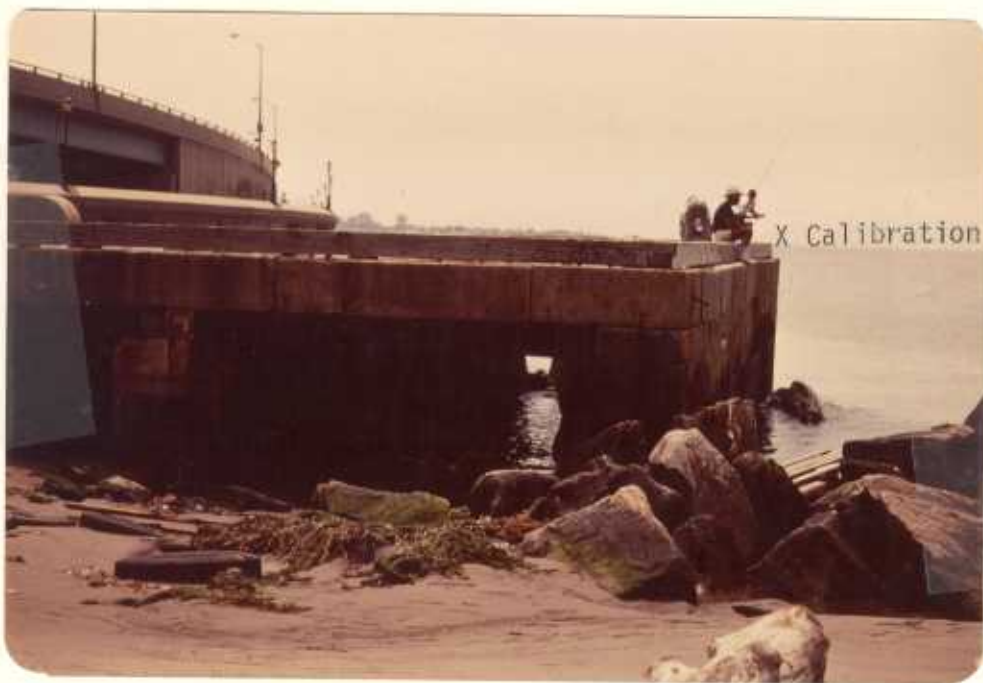


VIEW FROM SOUTHWEST



VIEW FROM WEST

Bulkhead Charted 0.09 miles southeast of the Verrazano-Narrows Bridge



VIEW "A" FROM NORTH

*Note: The rocks in these photos were not mentioned anywhere in this survey.*



VIEW "B" FROM NORTH

APPROVAL SHEET  
FOR  
SURVEY H- 9859

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has ~~been~~ been made. A new final sounding printout has ~~been~~ been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verification Report.

Date: Aug 1981

Signed:

R. D. Samuel  
Chief, Verification Branch



*See Section 4c of the Verification Report.*

FIELD TIDE NOTE

Field Tide reduction of soundings was based on predicted tides from Sandy Hook, New Jersey; (835-1681) S/N 711A3389M-1, LAT.  $40^{\circ}28.0'N$ , LON.  $74^{\circ}00.6'W$ . Whiting personnel monitored the gage throughout the operation and found it in proper working order.

A second gage at Coney Island, New York, was also in operation during this period; (851-7741) S/N 6402A4596M6, LAT.  $40^{\circ}34.0'N$ , LON.  $73^{\circ}59.0'W$ .

A secondary gage at Gravesend Bay, New York; (851-7811), S/N 7004A2112M3, LAT.  $40^{\circ}35.4'N$ , LON.  $73^{\circ}59.9'W$  was in operation from October 10, 1979 through November 9, 1979.

January 22, 1981

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 851-8750 The Battery, New York

Period: October 4, 1979 - May 1, 1980

HYDROGRAPHIC SHEET: H-9859

OPR: .B139

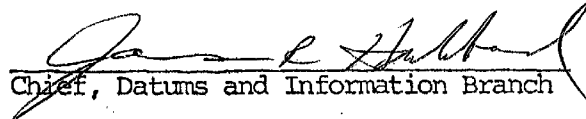
Locality: The Narrows, New York Bay

Plane of reference (mean ~~lower~~ low water): 3.15 ft.

Height of Mean High Water above Plane of Reference is 4.50 ft.

REMARKS: Recommended zoning:

Apply -36 minute time correction.

  
Chief, Datums and Information Branch

GEOGRAPHIC NAMES

H-9859

Name on Survey

ON CHART NO. 1227 & 1234  
ON PREVIOUS SURVEY NO. 1249 & 1234  
A CON 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

Name on Survey	A	B	C	D	E	F	G	H	K
HOFFMAN ISLAND	X								1
NORTON POINT	X								2
CONEY ISLAND	X								3
CONEY ISLAND CREEK	X								4
GRAVESEND BAY	X								5
LOWER BAY	X								6
FORT WADSWORTH	X								7
<del>FORT WADSWORTH L.H.</del>	<del>X</del>								8
FORT HAMILTON	X								9
VERRAZANO-NARROWS BRIDGE	X								10
THE NARROWS	X								11
BROOKLYN	X								12
STATEN ISLAND	X								13
<del>NEW YORK</del>	<del>X</del>								14
<del>NEW YORK HARBOR</del>	<del>X</del>								15
GRAVESEND	X								16
ROSEBANK	X								17
WEST BANK	X								18
MIDLAND BEACH									19
SOUTH BEACH									20
SOUTH BEACH (Pp1)									21
									22
									23
									24
									25

Approved:

*Chas. E. Harrington*

Chief Geographer - C3x5

28 April 1982

## HYDROGRAPHIC SURVEY STATISTICS

H-9859

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT			
SMOOTH SHEET	1	4 BOAT SHEETS & PRELIMINARY OVERLAYS	4			
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	3			
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS			21 - Raw Plo & Fathograms Misc			
VOLUMES						
BOXES			1 - 2 Plo Rose Sound, 3 Envel, 3 Soud Vol, 1 Azimuth Vol			
T-SHEET PRINTS (List) TP-00744, TP-00745, TP-00752, TP-00753						
SPECIAL REPORTS (List)						

## OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			2385
POSITIONS CHECKED	0	477	477
POSITIONS REVISED	0	72	72
SOUNDINGS REVISED	0	303	303
SOUNDINGS ERRONEOUSLY SPACED	0	23	23
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED	0	1	1
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	30	0	30
VERIFICATION OF CONTROL	0	12	12
VERIFICATION OF POSITIONS	0	147	147
VERIFICATION OF SOUNDINGS	0	87	87
COMPILATION OF SMOOTH SHEET	0	123	123
APPLICATION OF TOPOGRAPHY	0	11	11
APPLICATION OF PHOTOBATHYMETRY	0	0	0
JUNCTIONS	0	15	15
COMPARISON WITH PRIOR SURVEYS & CHARTS	0	39	39
VERIFIER'S REPORT	0	21	21
OTHER	0	105	105
<b>TOTALS</b>	<b>30</b>	<b>560</b>	<b>590</b>
Pre-Verification by J. B. Wilson & R. R. Hill	Beginning Date Sept. 14, 1980	Ending Date March 15, 1981	
Verification by D. V. Mason & M. B. Hickson	Beginning Date Nov. 7, 1980	Ending Date Aug. 7, 1981	
Verification Check by G. F. Trefethen	Time (Hours) 8	Date May 8, 1981	
Marine Center Inspection by Hydrographic Inspection Team (AMC)	Time (Hours) 24	Date Aug. 10, 1981	
Quality Control Inspection by Charles B. Meador	Time (Hours) 136	Date 1/27/82	
Requirements Evaluation by Dennis Hill	Time (Hours) 3	Date 11/1/82	

D. Myers 4/27/82 51 hrs

REGISTRY NO. H-9859

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 \_\_\_\_\_ TIME REQUIRED \_\_\_\_\_ INITIALS \_\_\_\_\_

REMARKS:

ATLANTIC MARINE CENTER  
VERIFICATION REPORT

Registry No.: H-9859

Field No.: WH-10-2-79

New York, New York Harbor, The Narrows to Norton Point

Surveyed: October 4 through November 9, 1979 and March 19 through May 1, 1980

Scale: 1:10,000

Project No.: OPR-B139

Soundings: Ross Digital  
Echo Sounder

Control: Del Norte  
(Range-Range and  
Range-Azimuth)

Chief of Party..... (to April 30, 1980) ..... K. Wm. Kieninger  
..... (May 1, 1980), ..... F. P. Rossi

Surveyed by ..... N. E. Prah  
..... C. D. Mason  
..... R. G. Mann  
..... F. R. Diaz  
..... J. C. Gardner, Jr.  
..... D. A. Bland  
..... J. Rivera  
..... J. B. Grant

Automated Plot by ..... Xynetics 1201 Plotter  
(AMC)

1. Introduction

No unusual problems were encountered. Notes in the Descriptive Report made in red were made during verification. Notes in purple were made during Q.C.  
*or black ink*

2. Control and Shoreline

a. The source of control is adequately described in section F. of the Descriptive Report except as noted under section 4<sup>d</sup> of this report.

b. The source of shoreline on the smooth sheet is from shoreline manuscripts TP-00744, TP-00745, TP-00752, and TP-00753. All four shoreline manuscripts are Class III, final reviewed, not field inspected, not field edited, and were compiled from photography dated October 1974 and October 1975. As no field edit is likely to be accomplished on these shoreline manuscripts, they will remain as Class III maps. Since this is the most current shoreline of the area, it was decided that the Class III shoreline should be applied to the smooth sheet. Differences between present and prior shoreline are discussed in section 6. of this report.

13  
126  
151  
190

There are four deficiencies on the current shoreline manuscripts noted by the present survey which are as follows:

1. The Landfill area in the vicinity of Latitude  $40^{\circ}35.48'$ , Longitude  $74^{\circ}00.02'$ .
2. The Landfill area in the vicinity of Latitude  $40^{\circ}35.42'$ , Longitude  $73^{\circ}59.96'$ .
3. The pier at Latitude  $40^{\circ}36.49'$ , Longitude  $74^{\circ}02.16'$ .
4. The outfall under construction at Latitude  $40^{\circ}34.73'$ , Longitude  $74^{\circ}04.56'$ .

All of these deficiencies are discussed in section 7 of this report with the exception of the outfall which is recommended to be charted as defined by the present survey.

### 3. Hydrography

a. Depths at crossings are in good agreement.

b. Depth contours were drawn at the standard intervals. The supplemental 36-foot contour was added for additional delineation of deep water navigational areas. Brown curves were added to portray features not apparent from standard and supplemental contours.

c. The development of the bottom configuration and investigation of least depths is considered adequate with the following exceptions:

1) The development of Coney Island Creek is not considered sufficient to delineate the bottom configurations.

2) The shoal in the vicinity of Latitude  $40^{\circ}36.45'$ , Longitude  $74^{\circ}02.27'$  with present survey depths of 11 feet is not considered sufficiently developed to verify or disprove a charted 10-foot shoal in the area.

3) A six-foot shoal found by the present survey at Latitude  $40^{\circ}34.86'$ , Longitude  $74^{\circ}03.36'$  is not considered sufficiently developed to ascertain that the least depth was obtained.

4) Shoaling of 7 to 9 feet found by the present survey in the vicinity of Latitude  $40^{\circ}36.42'$ , Longitude  $74^{\circ}02.15'$  is not considered sufficiently developed to verify or disprove a charted 6-foot shoal in the area.

### 4. Condition of Survey

The soundings records, smooth sheet and accompanying overlays, hydrographic records, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. Bar checks were not as frequent as prescribed in section 1.5.2. of the Hydrographic Manual. Seventeen out of a possible fifty-two bar checks were taken, also only two T.D.C. casts were made.

b. The Geographic Names List was not complete as prescribed in section 5.3.5. of the Hydrographic Manual.

PSR items

- 7c Pile at 40°34.93'N 74°00.53'W from TP-00752
- 7d Pile at 40°34.99'N 74°00.32'W from TP-00752
- 7e Pile at 40°34.93'N 74°00.17'W from TP-00752
- 7f Pile at 40°34.98'N 74°00.13'W from H-7046(1945)
- 9 Two visible wrecks at 40°34.87'N 74°00.00'W from CL 1458/71
- 10 Obstruction, PA at 40°34.80'N 73°59.58'W from LNM 42/74
- 11 Obstruction at 40°34.78'N 73°59.54'W from NM 21/60
- 12 Submerged wreck, PA at 40°34.81'N 73°59.53'W from CL 1551/73
- 13 Visible wreck, PA at 40°35.04'N 74°00.10'W from CL 1551/73
- 14 and 15 Two visible wrecks, PA at 40°35.15'N 74°00.07'W from CL 1458/71
- 16 Ruins at 40°35.35'N 74°00.06'W from H-7046(1945)
- 18 Submerged wreck at 40°36.46'N 74°02.14'W from NM 40/56
- 19 Submerged piles at 40°34.66'N 74°00.86'W from H-7046(1945) and CL 1458/71
- 35 Submerged wreck at 40°35.17'N 73°59.99'W from H-5736(1934)
- 36 Submerged wreck at 40°35.21'N 73°59.94'W from H-5736(1934)
- 37 Submerged wreck at 40°35.36'N 74°00.13'W from NM 34/61
- 38 Submerged wreck at 40°35.08'N 74°03.08'W from H-5736(1934)
- 39 Submerged wreck at 40°35.10'N 74°03.15'W from H-5736(1934)
- 40 Submerged wreck, PA at 40°35.50'N 74°03.60'W from CL 1286/66
- 41 Visible wreck at 40°36.08'N 74°03.20'W from unknown source



c. The Field Tide Note was not in the proper format as outlined in section 5.3.5. of the Hydrographic Manual.

d. Two control stations were listed incorrectly. The station names used did not correspond to names found in the National Geodetic Survey files for the stations. Stations 115 and 116 were listed incorrectly. See p. 4, Sec. F of D.R.

e. The electronic position corrector abstract in the Descriptive Report differed with values found in the corrector tapes. These discrepancies should be resolved by the field prior to transmittal of data to the Marine Center. The corrector tape values were used as the final correctors.

f. As stated in section D. of the Descriptive Report no usable TDC data was collected during the 1979 field work because of equipment malfunctions, however attempts should have been made to procure a replacement as TDC data is critical in compiling velocity corrections.

g. Both TCTI tapes were not constructed in the proper format. The TCTI tape for vessel 2931 was not separated for the 1979 data and the 1980 data.

h. Velocity Tape #2 as listed in the Descriptive Report contained format errors which were corrected during verification.

i. Reference notes of relative positions to features, line notes and remarks, heading, vessel speed, turns, detached position descriptions, etc. were, in general, poor in the printouts and sounding volumes with some occasional disagreements between printouts and volumes.

j. Bottom sediment sampling was not in accordance with the minimum requirements stated in section 1.6.3. of the Hydrographic Manual. <sup>Some</sup> bottom characteristics were added to the present survey from prior survey H-5736 (1934).

k. Discrepancies regarding disposition of Presurvey Review Items are as follows: Descriptions, GP's and sources for these PSR items are listed on the opposite page.

1) All Presurvey Review Items except items 38, 39, and 41 required the use of an improvised chain drag or wire sweep for positive disposition. No items were investigated by either chain drag or wire sweep on the present survey, only sounding lines of 45 meter line spacing and visual observations.

2) Items 7c, 7d, 7e, 7f, 9, 10, 11, 12, and 19, were not investigated on the present survey. The hydrographer failed to make any recommendations concerning dispositions of these items.

3) Item #19 was neither investigated nor addressed on the present survey, however, this item is addressed by junctional survey H-9820 (1979) as noted in section S. of the Descriptive Report. In survey H-9820 (1979) item #19 was investigated by an uncontrolled fathometer search with negative results. It was recommended to retain as charted until cleared by wire drag. These pilings are shown on the smooth sheet as submerged dolphins from prior survey H-7046 (1945).

4) Items 7c, 7d, and 7e are charted as visible piles and are shown on shoreline manuscript TP-00752. Although no specific investigations were made by the hydrographer, sufficient sounding lines were run in the area for the hydrographer to have made a statement as to whether these piles were visible and to recommend some charting action. Since no recommendations or statements concerning these items were made, they are shown on the smooth sheet as visible obstructions. ~~as described~~

~~on TP-00752. Charting disposition is forward to compiler.~~

\* Do not concur - See QIC.  
Chart as shown on smooth sheet.

5) In the item #41 investigation, as noted in the Descriptive Report, mention is made of visible rocks in the area. Detached Positions and descriptions should have been obtained on these rocks by the hydrographer. *See D.R., pg 20.*

6) Items 35, 36, and 40 were investigated on the present survey but not as required by the Project Instructions.

7) The unnumbered dashed circle item, shoaling reported, in the vicinity of Latitude  $40^{\circ}35.0'$ , Longitude  $74^{\circ}00.1'$  was not investigated or addressed by the hydrographer.

l. Landfill areas in the Gravesend Harbor were poorly defined by the hydrographer. Approximate limits of these areas are shown in dashed red on the smooth sheet.

m. The edition of chart #12334 used by the hydrographer for comparisons was not the current edition at the time of the survey as required by section 5.3.4. of the Hydrographic Manual. Correct chart, 52nd. ed., Aug. 4/79, was used by verifier.

n. The hydrographer failed to compare surveyed aids to navigation with the charts or the U.S. Coast Guard Light List and no statements were made on the adequacy of the aids to navigation. Additionally the Verrazano-Narrows Bridge Fog Signal should have been located and described.

o. The hydrographer should have surveyed any shoreline changes and graphically shown them on the boatsheet. There were no shoreline corrections drawn on the boatsheet although several changes are mentioned in the Descriptive Report such as the pier (Latitude  $40^{\circ}36'28''$ , Longitude  $74^{\circ}02'09''$ ) noted in section L. which the hydrographer notes as being incorrectly charted.

p. Section G of the Descriptive Report lists three calibration stations that were used for Del Norte calibrations. Two of these stations were located by less than third order methods (located by sextant cuts), and were not included in the signal listing. These stations were entered into the automated control file during verification. The computed distances used for calibrations from these stations should have been verified by use of a range measuring instrument such as a geodimeter. Section 1.3.1 of the Hydrographic Manual refers to specifications for horizontal control.

q. Numerous charted features (wrecks, rocks, piles, ruins, etc.) were neither investigated nor addressed by the hydrographer as required by section 4.11 of the Project Instructions.

r. Section K of the D.R. does not include a comparison with prior survey H-7864 (1950).

## 5. Junctions

Adequate junctions have been effected with the following surveys:

H-9820 (1979) to the south  
H-9875 (1980) to the north

## 6. Comparison With Prior Surveys

a.	H-7864	(1950)	1:10,000
	H-7046	(1945)	1: 5,000
	H-5736	(1934)	1:10,000
	H-1719	(1886)	1: 5,000

Prior hydrographic survey H-7864 (1950) covers a very small area of the present survey in the vicinity of Norton Point on Coney Island. Differences between present and prior hydrography are relatively minor ranging + or - 1 to 2 feet. The shoreline on the prior survey is in close agreement in the area of Norton Point but an area on the north side of Coney Island in the vicinity of Latitude  $40^{\circ}34.85'$ , Longitude  $74^{\circ}00.35'$  has been filled in by as much as 90 meters toward Gravesend Bay.

Prior hydrographic <sup>survey</sup> H-7046 (1945) covers approximately 25% of the present survey in the Gravesend Bay area. In the undredged areas agreement is good with differences generally ranging approximately + or - 1 to 3 feet. In the dredged areas there is generally a shoaling trend as the dredged holes have apparently filled in to some degree ~~at~~ the areas in the vicinity of the following positions:

Latitude $40^{\circ}36.1'$ ,	Longitude $74^{\circ}01.7'$
Latitude $40^{\circ}35.55'$ ,	Longitude $74^{\circ}00.2'$
Latitude $40^{\circ}36.35'$ ,	Longitude $74^{\circ}00.3'$
Latitude $40^{\circ}36.4'$ ,	Longitude $74^{\circ}00'$
Latitude $40^{\circ}36.15'$ ,	Longitude $74^{\circ}00.25'$
Latitude $40^{\circ}35'$ ,	Longitude $74^{\circ}00.2'$
Latitude $40^{\circ}34.95'$ ,	Longitude $74^{\circ}00.4'$
Latitude $40^{\circ}34.95'$ ,	Longitude $74^{\circ}00.5'$

Some of these dredged areas create a feature resembling a channel which is very similar in shape to the prior data and runs parallel to the shoreline from buoy W N"A" to the Gravesend Harbor area. Features such as shoals and troughs existing on the prior survey generally still exist on the present survey in ~~similar structure~~ with some differences in shape, size, placement, and depths with the exception of the Gravesend Harbor area and Coney Island Creek which display great differences due to Landfilling as the shoreline has been extended into the bay area by as much as 300 meters. An area at the north of the harbor has been filled in by as much as 300 meters into the bay area. On the north side of Coney Island an area in the vicinity of Latitude  $40^{\circ}34.85'$ , Longitude  $74^{\circ}00.35'$  has been filled in 40 to 50 meters into the bay area. The Presurvey Review Item #16 on the present survey is shown as a small island on the prior survey and the ruins presently charted should be charted as submerged. \*A spar located on the prior survey (Latitude  $40^{\circ}35.36'$ , Longitude  $74^{\circ}00.04'$ ) 20 meters east of the small island was not located by the present survey and was brought through to the smooth sheet as a submerged obstruction. Numerous visible pilings on the prior survey in the vicinity of Coney Island and Coney Island Creek have been brought through and noted on the smooth sheet as submerged pilings. The area around Norton Point and east of the 18-foot contour is notably deeper by up to 4 feet possibly due to currents washing out bottom material around the point. There is a 21 to 22-foot hole located by the present survey near the submerged groin in the vicinity of Latitude  $40^{\circ}34.67'$ , Longitude  $74^{\circ}00.86'$  that did not exist on the prior survey. Possibly the hole was caused by scouring around the end of the groin. The two dolphins on the prior survey denoted as NET, 1945 and DOL, 1945 are presently charted as submerged piles (see hydrographic survey H-9820, Presurvey Review Item #19 for investigations). These dolphins were brought through to the present survey as submerged dolphins. Present soundings show Coney Island Creek and entrance is 1 to 2 feet shoaler than prior hydrography. The prior survey shows an area along the Brooklyn shoreline as having a rock breakwater along the seawall. This rock breakwater area is presently charted and should be retained. Presurvey Review items 35 and 36 originated on this prior survey as visible wrecks but are charted as submerged wrecks. These wrecks were brought through to the present survey as submerged wrecks as they have not been verified or disproved.

*\* The spar is not charted and was deleted during G.C. An obstr. rep. at lat.  $40^{\circ}34.33'N$ , long.  $74^{\circ}00.03'W$  should be retained on the chart. See V.R., Sect. 7a (ii).*

Differences between the present and prior survey are largely attributed to naturally occurring changes such as the shoaling of dredged holes and currents washing around points of land, and in part to a more detailed and sophisticated present survey.

Prior hydrographic survey H-5736 (1934) covers approximately 98% of the present survey but approximately 1/3 of this prior survey was superseded by H-7046 (1945). Major differences in hydrography exist between the present and prior survey. These major differences are largely attributed to dredging for fill material which shows areas deeper by as much as 26 feet on the present survey. In shoal areas not dredged agreement is relatively good with differences ranging generally + or - 2 to 3 feet. In deep areas not dredged agreement is fair to poor with differences ranging up to 21 feet but averaging + or - 2 to 10 feet. Features in undredged areas such as shoals and troughs existing on the prior survey generally still exist on the present survey in similar structure and depths with some differences in size, shape, and placement. A small dredged area of depths up to 38 feet exists in the vicinity of Latitude  $40^{\circ}35.1'$ , Longitude  $74^{\circ}01.2'$  where prior soundings were 23 to 25 feet. The entire northwestern end of a shoal area in Gravesend Bay is now a smaller feature, as defined by the 18-foot contour, <sup>and</sup> present depths are approximately 10 feet deeper than prior soundings in the vicinity of Latitude  $40^{\circ}35.7'$ , Longitude  $74^{\circ}01.3'$ . Significant scouring has occurred between the east Verrazano - Narrows bridge support and the shore with depths up to 32 feet. Additionally an 11 to 12-foot shoal <sup>has</sup> enlarged just south of this bridge support <sup>and</sup> as has an 11 to 12-foot shoal <sup>formed</sup> just south of the west bridge support. The major navigational area, as defined by the 60-foot contour, remains relatively unchanged as does the large deep trough extending from under the center of the Verrazano - Narrows bridge to the southeast approximately 1400 meters. To the north and west of Hoffman Island there exists one large and five small dredged or "borrow" areas where present depths differ by as much as 26 feet with prior soundings. This dredging has significantly decreased the size of the shoal known as West Bank to the north of Hoffman Island, however to the east of Hoffman Island the feature remains relatively unchanged. The shoreline of Staten Island from The Narrows to the southern sheet limit has migrated eastward by as much as 190 meters. The majority of the piers and groins on Staten Island shown by the prior survey no longer exist but the bulkhead ruins at Latitude  $40^{\circ}35.9'$ , Longitude  $74^{\circ}03.2'$  <sup>are</sup> still in existence. The Verrazano - Narrows Bridge did not exist on the prior survey and the east bridge support is in the location of a small island identified as Fort Lafayette on the prior survey. Differences between the present and prior survey are largely attributed to the dredging of fill material and the filling in of shoreline areas, naturally occurring changes due to currents and washing of bottom material, and in part to a more detailed and sophisticated present survey.

Prior hydrographic survey H-1719 (1886) covers approximately 15% of the present survey in the northern area. Agreement between present and prior hydrography is relatively good with differences averaging + or - 5 feet. Major differences exist between present and prior hydrography in the along-shore areas to the east due to shoreline changes. Agreement down the center of The Narrows is very good with differences ranging approximately + or - 2 to 3 feet. The Narrows is a relatively stable area as evidenced by the agreement between the present and prior survey. The shoreline to the east of The Narrows has been built up significantly and has decreased the width of The Narrows by up to 150 meters and the shoreline extending toward Gravesend Bay has also been filled in and extends up to 240 meters into the bay area. The shoreline to the west of The Narrows remains relatively unchanged. The Verrazano

- Narrows Bridge was not in existence at the time of the prior survey and what is presently the east bridge support was shown as a small island identified as Fort Lafayette on the prior survey. Differences between the present and prior survey are largely attributed to naturally occurring changes of 93 years difference in survey dates and a filling in of shoreline along the eastern side of The Narrows, and in part to a more detailed and sophisticated present survey.

b. F.E.-29 (F.E. No. 1, 1941) 1:2,000

Prior survey F.E.-29 (F.E. No. 1, 1941) contains hydrography common to the surveyed area apparently in the vicinity of the Marine Basin of Gravesend extending across Gravesend Bay in the buoyed channel to buoy C "I". Available data of this field examination is contained on xerox copied sheets without any grid system (Latitude - Longitude) affixed and with no indication of plotting scale. This field examination is not a source of charted data and since the data cannot be accurately transferred due to the lack of a grid system, no comparisons were made.

c. H-8330 W.D. (1956) 1:25,000

Prior wire drag survey H-8330 (1956) covers an area from Ambrose Channel to the south of the present survey to The Narrows. There are no conflicts between prior wire drag effective depths and present hydrographic data.

The present survey is considered adequate to supersede all prior surveys within the common area with the exception of the prior data that has been transferred to the smooth sheet.

7. Comparison With Charts      #12327, 74th Edition, October 27, 1979  
   #12334, 52nd Edition, August 4, 1979  
   #12349, 7th Edition, August 6, 1977

---

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and soundings from sources not readily ascertainable. The previously discussed prior surveys require no further consideration.

Comparison of charted hydrography with the present survey is adequately accomplished under section 6. of this report for soundings which the source has been identified. In comparison of charted hydrography of unknown sources (which comprise over 35% of the common area) areas of close agreement and areas of some disagreement are revealed. In the large area bounded on the north by the Verrazano-Narrows Bridge, on the south by the survey limits, on the west by the 18-foot contour, and on the east by the Gravesend Bay shoal, agreement between charted hydrography and the present survey is generally excellent with the majority of soundings agreeing within two feet. To the north and west of Hoffman Island there are some areas of disagreement as there are several dredged areas that are also charted as active borrow areas. The greatest area of disagreement is north of Hoffman Island where the dredged area has extended into the northern part of the shoal feature, West Bank, where differences are as much as 23 feet. In these dredge or borrow areas there is notable instability

in bottom configurations as bottom material from shoal areas will move to fill in the dredged holes thus making the shoal areas deeper and decreasing the depths of the dredged holes, additionally as this is charted as an active borrow area future dredging is likely. Coney Island Creek is an area with minor disagreements between present and charted hydrography. This is an area where considerable landfilling has taken place which restricts the area of natural flow in the creek. Apparently as a result the creek has shoaled 1 to 2 feet. The area north of the Verrazano - Narrows Bridge is a very stable area with excellent agreement between present and charted hydrography. The few minor differences in this area can be attributed to naturally occurring changes possibly caused by currents.

Recommendations pertaining to charted wrecks, rocks, obstructions, piles, ruins, shoal soundings, etc. are contained in the Item Investigations section of the Descriptive Report for assigned items. For all other charted features attention is directed the following:

- 1) The two piles charted at Latitude  $40^{\circ}36.70'$ , Longitude  $74^{\circ}03.59'$  should be retained as charted. *Piles are from a miscellaneous source and are deferred to compiler for resolution.*
- 2) The ruins charted at Latitude  $40^{\circ}36.60'$ , Longitude  $74^{\circ}03.52'$  should be retained as charted. *Chart as shown on smooth sheet.*
- 3) The ruins charted at Latitude  $40^{\circ}36.50'$ , Longitude  $74^{\circ}03.44'$  should be retained as charted. *Chart as shown on smooth sheet.*
- 4) The pier ruins charted at Latitude  $40^{\circ}36.39'$ , Longitude  $74^{\circ}03.32'$  should be retained as charted. *Ruins are charted where a pier exists on H-5736 (1934), however evidence of change in respect to extent has occurred.*
- 5) The charted riprap and shoal limits around the bridge supports of the Verrazano-Narrows Bridge should be retained as charted. *Concur*
- 6) The pier (chart 12349) or pier ruins (charts 12334 & 12327) charted at Latitude  $40^{\circ}36.49'$ , Longitude  $74^{\circ}02.16'$  is noted as being in error on all charts in section L. of the Descriptive Report, additionally the shoreline manuscript (TP-00744) is in error. It is recommended that a field edit or investigation be conducted to adequately delineate this pier or, in lieu of an investigation, to retain as charted as ruins as on chart 12334. *Do not concur. Chart as shown on smooth sheet.*
- 7) The 10-foot sounding charted at Latitude  $40^{\circ}36.46'$ , Longitude  $74^{\circ}02.34'$  should be retained to supplement present survey depths in the vicinity. *Do not concur Evidence of deepening in this area. Chart as shown on S.S.*
- 8) The 6-foot sounding charted at Latitude  $40^{\circ}36.44'$ , Longitude  $74^{\circ}02.15'$  should be retained to supplement present survey depths in the vicinity. *Do not concur. Chart as shown on S.S.*
- 9) The charted rocks extending along the Brooklyn shoreline from Latitude  $40^{\circ}36.27'$ , Longitude  $74^{\circ}01.76'$  to Latitude  $40^{\circ}35.65'$ , Longitude  $74^{\circ}00.16'$  should be retained as charted. *noted to be carried forward from H-7046 (1934) on S.S. Concur*
- 10) The Landfill areas noted by the hydrographer in the vicinity of Latitude  $40^{\circ}35.48'$ , Longitude  $74^{\circ}00.02'$  and Latitude  $40^{\circ}35.42'$ , Longitude  $73^{\circ}59.96'$  should be charted as approximately defined by the present survey unless a field edit or investigation can be conducted to delineate these areas. *Concur*

11) The obstruction <sup>reported</sup> charted at Latitude ~~40°35.44'~~<sup>33'</sup>, Longitude 74°00.03' should be retained as charted. <sup>concur</sup>

12) The pilings charted along the north side of Coney Island Creek originated with prior survey H-7046 (1945). The pilings were brought forward to the smooth sheet as submerged as neither the present survey nor the present shoreline manuscripts indicate any piling in the area. It is recommended that the pilings be charted as submerged. <sup>concur</sup>

13) The stranded wreck<sup>PA</sup> charted at Latitude 40°34.87', Longitude 74°00.04' is located on shoreline manuscript TP-00752 and should be charted from this source. <sup>concur</sup>

14) The submerged wreck<sup>PA</sup> charted at Latitude 40°34.68', Longitude 74°00.90' should be retained as charted. <sup>concur</sup>

15) The rocks charted along the Staten Island shoreline from Latitude 40°36.63', Longitude 74°03.57' to Latitude 40°36.50', Longitude 74°03.45' and from Latitude 40°36.26', Longitude 74°03.25' to Latitude 40°36.05', Longitude 74°03.22' should be retained as charted. <sup>Noted on smooth sheet to be foul with rocks from H-5736(1934).</sup>

16) The submerged wreck charted at Latitude 40°34.68', Longitude 74°04.54' should be retained as charted. <sup>Carried forward from H-5736(1934) concur</sup>

17) Depths immediately west of the 18 foot curve in Gravesend Bay have shoaled as much as 7 feet and the soundings from this survey should be charted to show this change.

All Presurvey Review Items common to the surveyed area are discussed and recommendations made in either the Item Investigation section of the Descriptive Report or section 6. of this report. The adequacy of these investigations is discussed in section 4. of this report.

Charted shoreline in the common area of the present survey should be corrected to reflect the shoreline manuscripts TP-00744, TP-00745, TP-00752, and TP-00753 except as noted in this report.

The present survey is considered adequate to supersede the charted hydrography, both of known and unknown sources, within the common area except as noted above and in section 9. of this report.

#### b. Controlling Depths of Maintained Channels

There is one charted dredged channel in the vicinity of Latitude 40°35.6', Longitude 74°03.2' for access to the borrow areas charted to the north and west of Hoffman Island. The present survey indicates no shoaler depths than that listed in the tabulation.

<sup>charted</sup>

#### c. Aids to Navigation

The one fixed aid to navigation. (Coney Island Light) <sup>at lat. 40°34.58' N, long. 74°00.72' W</sup> common to the surveyed area is located by third order or higher accuracy. All floating aids to navigation common to the surveyed area serve their intended purposes and are properly charted and substantially agree with their charted positions except the following:

Buoy RB "WRG" - 270 meters northeast of the charted position <sup>at lat. 40°35.34' N</sup>  
Buoy C "7" - 90 meters west of the charted position <sup>long. 74°01.02' W</sup>  
<sup>104</sup>  
<sup>at lat. 40°35.25' N</sup>  
<sup>long. 74°01.14' W.</sup>

The Verrazano-Narrows Bridge Fog Signal is a privately maintained aid to navigation which is listed in the U.S. Coast Guard Light List and is common to the surveyed area but was not located by the present survey. (lat.  $40^{\circ}36.51'N$ , long.  $74^{\circ}02.35'W$ )

All of the aids to navigation located on the present survey, fixed and floating, are identified properly in the U.S. Coast Guard Light List, Volume 1, 1980; except buoy GONG "3" (Latitude  $40^{\circ}35.23'$ , Longitude  $74^{\circ}03.50'$ ) which is charted and was located by the present survey but is not listed.


Consideration should be given to channel demarkation of the dredged feature extending from the white nun anchorage buoy "A" to the Gravesend Harbor area as this would provide the safest navigation route to the harbor area.

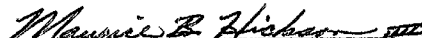
#### 8. Compliance With Instructions

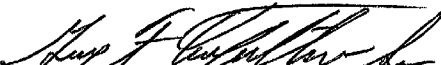
This survey adequately complies with the 1979 Project Instructions except as noted in section 4. of this report. The 1980 issuance of OPR-B139 Project Instructions apparently was not used by the field for this survey, therefore adequate compliance cannot be noted.

#### 9. Additional Field Work

This is an adequate basic hydrographic survey. The area from Norton Point to the end of the bulkhead at Latitude  $40^{\circ}35.05'$ , Longitude  $74^{\circ}00.1'$  and to the east including Coney Island Creek should be resurveyed at 1:5,000 scale and all unresolved Presurvey Review Items in the area investigated. The shoreline should be recompiled in this area using up-to-date photography and field edited as part of a requirement for resurvey in this area.

  
Douglas V. Mason  
Cartographic Technician

  
Maurice B. Hickson, III  
Cartographer

  
Guy F. Trefethen  
Senior Cartographic Technician



INSPECTION REPORT  
H-9859

The completed survey has been inspected by the Hydrographic Inspection Team with regard to survey coverage, delineation of depth contours, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The Verification Report has presented the facts accurately and properly, the procedures used were appropriate, and the recommendations are logical and justifiable. The survey complies with National Ocean Survey requirements except as noted. It should also be noted that the Descriptive Report did not explain the hydrographer's reasons for not investigating several Presurvey Review Items required by the Project Instructions. The survey records comply with NOS requirements except where noted in the Verification Report. The Hydrographic Inspection Team concurs with the verifier's findings, actions, and recommendations.

Examined and Approved  
Hydrographic Inspection Team

*Karl Wm. Kieninger*

Karl Wm. Kieninger, CDR, NOAA  
Chief, Processing Division

*Ronald W. Jones*

Ronald W. Jones, LCDR, NOAA  
Field Procedures Officer  
Operations Division

*R. D. Sanocki*

R. D. Sanocki  
Chief, Verification Branch  
Processing Division

Approved/Forwarded  
August 14, 1981

*Richard H. Houlder*

Richard H. Houlder, RADM, NOAA  
Director, Atlantic Marine Center



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SURVEY  
Rockville, Md. 20852

C352:CDM

January 29, 1982

TO: Glen R. Schaefer *GS*  
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch *gm*  
*Charles D. Meador / gm*

FROM: Charles D. Meador  
Quality Evaluator (temporary assignment)

SUBJECT: Quality Control Report for H-9859 (1979-80), New York, New York  
Harbor, The Narrows to Norton Point

A quality control inspection of H-9859 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, shoreline transfer, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a one-half scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report, the HIT Report, and as follows:

1. Specific locations of floating piers mentioned by the hydrographer to exist in the vicinity of latitude  $40^{\circ}34.75'N$ , longitude  $73^{\circ}59.35'W$  were not determined during the survey. The positions and extent of these features should have been obtained by field personnel.
2. The wreckage, swept to a cleared depth of 36 feet, charted at latitude  $40^{\circ}35'38''N$ , longitude  $74^{\circ}02'49''W$  originates with a U.S. Corps of Engineers survey of 1938 (BP-32291). This survey was done after the reported removal of the SS MANDALAY. The existence of this wreck was not proved or disproved on the present survey; and therefore, should be retained on the chart.
3. The four submerged wrecks charted seaward of a row of piles in the vicinity of latitude  $40^{\circ}34.88'N$ , longitude  $73^{\circ}59.6'W$ , originating with miscellaneous sources, have not been proved or disproved on the present survey and should be retained on the chart.
4. The visible wreck charted at latitude  $40^{\circ}34.85'N$ , longitude  $73^{\circ}59.51'W$  from a miscellaneous source was not mentioned by the hydrographer. Inasmuch as a



single line of soundings was run over the wreck near the time of high water, it is considered remains of this feature may uncover at low water. Therefore, this item should be retained as charted.

5. The two submerged dangerous wrecks charted in the vicinity of latitude  $40^{\circ}34.85'N$ , longitude  $73^{\circ}59.43'W$  from a miscellaneous source were not investigated by the hydrographer. These features should remain on the chart.

6. The two hulks of visible wrecks charted in the vicinity of latitude  $40^{\circ}34.79'N$ , longitude  $73^{\circ}59.42'W$  from a miscellaneous source were not investigated by the hydrographer. However, a line of soundings was run close by near the time of low water. It is recommended that these features be shown as submerged dangerous wrecks.

7. Several pile-like structures that uncover at MLW are charted at latitude  $40^{\circ}35.47'N$ , longitude  $73^{\circ}59.91'W$  and latitude  $40^{\circ}35.48'N$ , longitude  $73^{\circ}59.95'W$  from miscellaneous sources. These features, which fall in an unsurveyed area on the present survey, do not appear on TP-00744 but should remain on the chart.

8. The finger piers charted in the vicinity of latitude  $40^{\circ}35.3'N$ , longitude  $73^{\circ}59.85'W$  from a miscellaneous source were not investigated by the hydrographer. These structures fall in an area where a comparison between the survey and chart reveals extensive alterations to shoreside facilities. The disposition of these items is referred to the compiler for consideration.

9. The three piles addressed in Presurvey Review items 7C, 7D, and 7E originate as visible obstructions from TP-00752. Though these features are not mentioned by the hydrographer, an examination of 1974 color transparencies during quality control revealed the probable existence of objects at the charted locations. Inasmuch as several sounding lines were run in the area near the time of high water, it is considered that obstructions which pose a hazard to navigation may exist at low water. Therefore, the items should be charted as shown on the present survey, unless subsequent information discredits the existence of these features.

cc:  
C351



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SURVEY  
Rockville, Md. 20852

NOV 10 1982

C351 :DJH

TO: CAM - Richard H. Houlder  
FROM: C3 - C. William Hayes *C. William Hayes*  
SUBJECT: H-9859 (1979-80), OPR-B139, New York, New York Harbor, The Narrows  
to Norton Point, Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated January 29, 1982 (copy attached), and the Verifier's Report, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-B139-WH-79 and OPR-B139-WH-80, dated June 4, 1979, and November 30, 1979, respectively.

Attachment

cc:  
C352 w/o att.





