

9568

Diag. Cht. No. 1215-3

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT (HYDROGRAPHIC)	
Type of Survey	HYDROGRAPHIC
Field No.	PE 20-1-75
Office No.	H-9568
LOCALITY	
State	NEW YORK
General Locality	SOUTH SHORE OF LONG ISLAND
Locality	VICINITY OF TOBAY BEACH
1975	
CHIEF OF PARTY J. W. DROPP	
LIBRARY & ARCHIVES	
DATE	4-20-77

9568

H-9568

HYDROGRAPHIC TITLE SHEET

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.

20-1-75
PE-20-1-75

State NEW YORK

General locality S. SHORE OF LONG ISLAND
~~NORTH ATLANTIC - NEW YORK BIGHT~~

Locality VICINITY OF TOBAY BEACH
~~SUFFOLK COUNTY OUTFALL AREA~~

Scale 1 : ²⁰10,000 Date of survey 17 SEP...⁷OCT, 1975

Instructions dated 27 MARCH, 1975 Project No. OPR-517

Vessel NOAA Ship PEIRCE (2830) and Launches FA-3 and FA-5

Chief of party JOSEPH W. DROPP, CDR NOAA

Surveyed by LT K.J. SCHNEBELE, LTJG B.B. JOHNSON, LTJG D.A. DREVES

Soundings taken by echo sounder, hand lead, pole (See remarks below)

Graphic record scaled by HYDROPLOT and SURVEY PERSONNEL

Graphic record checked by SHIP'S OFFICERS and SURVEY PERSONNEL

Protracted by HYDROPLOT SYSTEM Automated plot by CALCOMP 618 AMC

Verified by: F.L. Saunders and R.G. Roberson
Soundings penciled by AMC CALCOMP 618

Soundings in fathoms feet at MLW MLLW

REMARKS: Fathometers used for this survey were: Ross model 5000, s/n/1078....

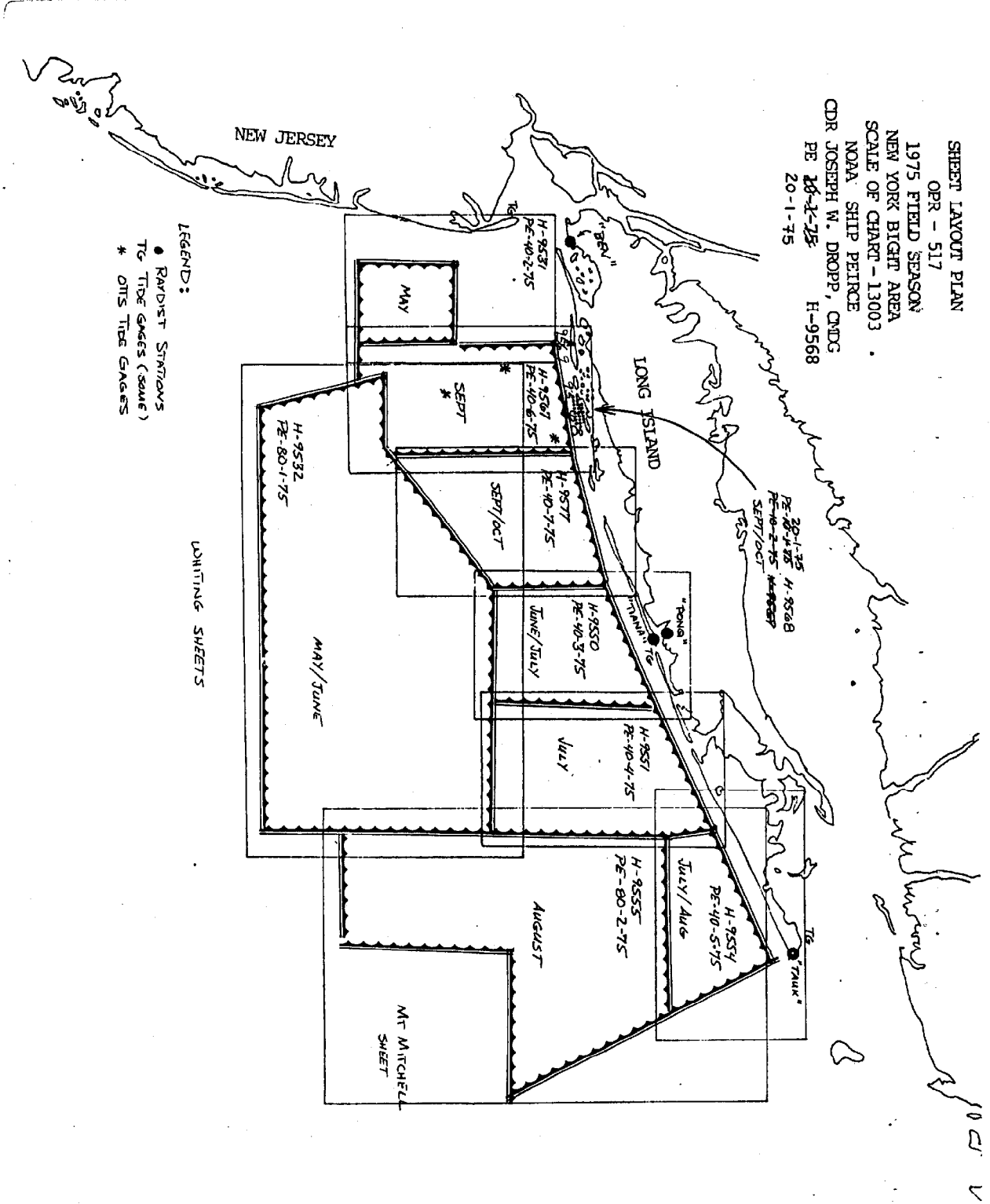
Ross model 200A, s/n C537-1039-S....Raytheon model 723D, s/n/37018

ALL TIMES USED IN SURVEY ARE GREENWICH MEAN TIME (GMT)

All notes in red made at AMC. on MSD.

Applied to stds 8/5/77
[Signature]

SHEET LAYOUT PLAN
 OPR - 517
 1975 FIELD SEASON
 NEW YORK BIGHT AREA
 SCALE OF CHART - 13003
 NOAA SHIP PEIRCE
 CDR JOSEPH W. DROPP, COMD
 PE 16-1-75 H-9568
 20-1-75



LEGEND:
 ● RAVINIST STATIONS
 Tg TIDE GAUGES (SAME)
 * OTIS TIDE GAUGES

LIGHTING SHEETS

DESCRIPTIVE REPORT

To Accompany

Hydrographic Survey H-9568

Field Number PE-~~10-1-75~~²⁰⁻¹⁻⁷⁵

OPR-517-PE-75

Atlantic Seaboard Area Project

New York Bight Phase

1975 Field Season

NOAA Ship PEIRCE (CSS-28)

JOSEPH W. DROPP, CDR, NOAA

Chief of Party

A. PROJECT

This survey is a special part of the Atlantic Seaboard Area Project, New York Bight Phase, performed according to Project Instructions OPR 517-PE-75 dated 27 March 1975, Change No. 1 to Project Instructions dated 14 April 1975, and Change No. 2 to Project Instructions dated 13 August 1975.

B. AREA SURVEYED

H-9568 ~~and the adjoining survey, H-9569~~, includes the area south of Tobay Beach on Long Island, New York covering the area around the proposed Suffolk County Outfall Area (SCOA). Specifically, the survey area of H-9568 is bounded by straight lines connecting the following points:

Lat 40/36/39N	Long 73/24/39W
Lat 40/30/51N	Long 73/24/39W
Lat 40/31/30N	Long 73/20/48W
Lat 40/37/36N	Long 73/20/48W

The survey extended from approximately the eleven-fathom curve to the beach. The survey was conducted between 17 September 1975 and 7 October 1975.

C. SOUNDING VESSEL

Soundings were obtained by the NOAA Ship PEIRCE (VesNo 2830) and launches FA-3 (VesNo 2833) and FA-5 (VesNo 2835). These launches are usually assigned to the NOAA Ship WHITING (CSS-29) but were loaned to the PEIRCE for this survey.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following echo sounding equipment was used:

- (1) Ross Model 200-A, S/N C537-1039-5
Water depth ranged from 39 to 76 feet
- (2) Ross Model 5000, S/N 1078
Water depth ranged from 6 to 55 feet
- (3) Raytheon Model 723D, S/N 37018
Water depth ranged from 6 to 45 feet

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS (Cont'd)

The following indicates when each unit was used:

<u>Vessel</u>	<u>Echo Sounder</u>	<u>Day</u>	<u>Position</u>
2830	(1)	260	001-084
2830	(1)	261	085-112
2830	(1)	264	113-374
2830	(2)	267	375-445
2830	(1)	275	448-586
2830	(1)	279	587-657
2835	(2)	264	1000-1194
2833	(3)	265	1195-1278
2835	(2)	265	1279-1301
2835	(2)	266	1302-1321
2835	(2)	273	1322-1334

Aboard the PEIRCE (VesNo 2830), the Ross Model 200A had been modified to operate as a Model 5000. It was used continuously except when repairs were necessary and then the Model 5000 was installed.

1. Initial:

The Ross units were maintained at zero initial by their built-in calibration circuitry. The Raytheon had to be manually maintained at zero initial. This was done at regular intervals, normally at the end of each line.

There were no unusual problems encountered with any of the echo sounder units.

2. Velocity Corrections:

Note that no velocity corrections were applied to the field sheet of this survey. Tables are included with field records for use in smooth plotting at AMC.

There were two velocity correction tables computed for this survey, one for the ship and one for the launches.

A MARTEK TDC cast was performed to determine the velocity of sound in the area survey by the Ship PEIRCE. A station was occupied on 11 September 1975 at 40/22/00N, 73/34/00W from which temperature and conductivity data were taken. Layer corrections were calculated in the usual manner using Program RK 530 (25 June 1974).

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS (Cont'd)

From the plotted results, a velocity table was obtained using 0.2 foot intervals.

The velocity correction for the launches (2833 and 2835) were computed using vertical cast data. The data from both launches and the other SOA sheet (H-9569) were combined and plotted. From this graph, a table of velocity correctors was derived using 0.2 foot intervals. A listing of the velocity tables is included following the text of this report. *Bar checks not made on launches*

3. Settlement and Squat Corrections:

Two separate TC/TI tapes were computed for this survey. One for the ship and one for the launches. Ship settlement and squat corrections and draft corrections are applied on the TC/TI tape. The draft was measured at the beginning and end of each trip and the difference linearly apportioned for each day of the trip. The draft was measured by subtracting the taped rail-to-water distance from the previously determined rail-to-transducer distance. S&S correctors were measured for the PEIRCE off Point Comfort, Virginia in April 1974. The appropriate correction was applied for the different speeds used during survey operations. An estimated correction of 11.0 feet was applied to the field sheets, hence, the TC/TI tape shows the difference between the actual TRA correction and 11.0 feet.

The TRA correction abstract and TC/TI tape listings are included following this text. Settlement and squat were again measured on 4 November 1975 at Floyd Bennett Field, New York and agreed well with April 1974 S/S data.

Launch settlement and squat and draft corrections are applied on the TC/TI tape. The draft was considered constant for all launch hydro since their weight change was negligible for one day's run. (Each launch was refueled after each time it was used). S/S correctors were measured for the launches at Floyd Bennett Field, New York on 4 November 1975. The appropriate correction was applied for the different speeds used during survey operations. An estimated correction of 2.7 feet was applied to the field sheet, hence, the TC/TI tape shows the difference between the actual TRA correction and 2.7 feet.

F. CONTROL STATIONS

The two Raydist stations used were established by the Atlantic Marine Center using third order triangulation and are described in attached Recovery Notes. Raydist station locations:

Slave 1 Ben Lat 40/34/58.430N (Red)
 Long 73/52/45.107W

Slave 2 Tiana Lat 40/50/13.970N (Green)
 Long 72/29/40.176W

The following Del Norte stations were located by AMC specifically for this survey. No description is available at this time:

Bud (004) Lat 40/36/14.368N
 Long 73/28/40.196W

Tobay (005) Lat 40/36/51.844N
 Long 73/25/34.103W

Cedar (006) Lat 40/38/07.474N
 Long 73/20/30.996W

Signals on shore, which were used in calibrating the Raydist system and checking the Del Norte equipment, were all third order stations described in the published horizontal control. The stations were recovered by a party from the Atlantic Marine Center or by ship's personnel as part of the work for OPR-517-PE-75.

G. HYDROGRAPHIC POSITION CONTROL

The hydrography was controlled by Range/Range positioning techniques. Ship hydrography (position numbers 0001-0657) was controlled by a third-party Raydist chain operating at a frequency of 3295.495 khz. The shore stations were located at the sites mentioned previously. An on board hydroplot system was used to acquire the data in real-time.

Launch hydrography (position numbers 1000-1334) also was controlled by Range/Range positioning. Del Norte equipment located at the shore stations mentioned previously, provided the range data. Time, depth and position data were manually recorded and subsequently computer processed off line. Sounding lines were run along arcs of constant range.

G. HYDROGRAPHIC POSITION CONTROL (Cont'd)

The following equipment was used for electronic control:

<u>Equipment</u>	<u>Location</u>	<u>Serial Number</u>
Hastings-Raydist:		
TA-96 Mobile Transmitter	PEIRCE	85
ZA-75 Navigator	PEIRCE	69
AA 60 Relay Station	BEN (002)	121
AA 60 Relay Station	TIANA (003)	120

Del Norte:

#202 Distance Measuring Unit	Launch	181
#212 Trisponder (Master)	Launch	277
#202 Distance Measuring Unit	Launch	179
#212 Trisponder (Remote A)	(Shore Station)	217
#212 Trisponder (Remote B)	(Location)	218
#212 Trisponder (Remote D)	(Varied)	219

The Raydist system for the ship hydrography was calibrated by three-point sextant fixes with check angles to known shore objects. Calibrations were performed at least daily during hydrography.

On several occasions, a series of calibrations were taken in succession across the survey area (offshore to onshore). These revealed a substantial shift in the Pattern II correction over the survey area. The data suggests that the Pattern II partial lane correction decreases by about 0.45 lanes from the northern (near-shore) limit of the ship hydrography to the southern (offshore) limit of the survey area. For example, a Pattern II corrector of +0.50 lanes observed near-shore would reduce to about +0.05 lanes when observed offshore. The calibrations indicate that Pattern I corrections remained constant over the survey area.

The shift in Pattern II probably results from the increased land path over which the signal had to travel to reach the near-shore portion of the survey area. In the offshore portion of the survey area, the signal path was almost entirely over water. Note the relation of Station Tiana (003), Fire Island and survey area. In planning the control for this survey, the magnitude of the corrector shift due to land path unfortunately was not anticipated. Because the NOAA Ship WHITING (CSS-29) was sharing the same Raydist chain, it is doubtful that the stations could have been shifted in any event.

G. HYDROGRAPHIC POSITION CONTROL (Cont'd)

After examining several processing schemes, it was decided not to attempt to zone the Raydist pattern correctors geographically. The correctors applied for each day's hydrography were taken from the one or two calibrations made each day at the near-shore end of the survey area. The near-shore calibrations were used (1) because many more of these were observed -- offshore calibrations were limited to a few days with sufficient visibility; and (2) because the smaller intersection angle of the Raydist patterns near-shore make the positions in this area more sensitive to shifts in the partial lane correctors than further offshore. Estimates of the resulting accuracy of horizontal position control are discussed under Section M, Adequacy of the Survey.

Del Norte equipment was used to control all launch hydrography. The units were calibrated at a mid-range distance (4000 meters) for the survey area by observing the distance over a known baseline (between two described horizontal control stations on Fire Island). The units were adjusted to give a true reading at the mid-range distance. This procedure was repeated at the completion of the survey operations. No significant error or drift was observed. In addition, the Del Norte equipment was checked daily on board the launch (weather permitting) against three-point sextant fixes.

Appended following the text of this report are the Electronic Control Parameters, the Electronic Corrector Abstracts, and a Signal Listing.

H. SHORELINE

The shoreline was not surveyed nor was any photogrammetry available.
PH 16(47) T 5612

I. CROSSLINES

Crosslines constituted 8.2% of the miles of electronic hydrography run. In most cases, the crosslines were run within one foot of the time of predicted Mean Low Water. All crossings were in good agreement (one to two feet) with the main scheme hydrography.

J. JUNCTIONS

No attempt was made to junction this survey with adjoining prior surveys. It does border the north limit of sheet H-9567, 1:40,000, 1975, which was also surveyed by the PEIRCE as part of OPR-517-PE-75; however, a copy of H-9567 was not available for comparison.

J. JUNCTIONS (Cont'd)

The north/south junction between this sheet, H-9568, ~~and the adjoining SCA sheet, H-9569~~, was good. No displacement of contours was observed between the two sheets.

K. COMPARISON WITH PRIOR SURVEYS

This sheet, H-9568, was compared with two prior surveys; namely:

H-7947, 1951, 1:20,000
H-6189, (no date given), 1:40,000
1936

Note that for this comparison, the field sheet did not have velocity corrections applied; consequently, the magnitude of the discrepancies mentioned below will be reduced by two to three feet.

The agreement between H-7947 and this survey is generally good with the following exceptions:

<u>At Position</u>	<u>H-9568 is:</u>
40/35/20, 73/20/45	5 feet shoaler
40/31/07, 73/24/10	3 feet shoaler
40/29/57, 73/24/10	3 feet shoaler
41/31/30, 73/21/10	5 feet deeper
40/35/00, 73/21/10	5 feet shoaler
40/36/40, 73/22/10	5 feet shoaler
40/36/48, 73/21/30	5 feet shoaler
40/36/48, 73/21/07	3.5 feet shoaler
40/35/55, 73/20/55 to 40/36/50, 73/20/55	4 feet shoaler
40/36/00, 73/22/00	3.5 feet shoaler
40/35/00, 73/21/00	4.5 feet shoaler

K. COMPARISON WITH PRIOR SURVEYS (Cont'd)

<u>At Position</u>	<u>H-9568 is:</u>
40/32/45, 73/23/48	4 feet shoaler
40/31/32, 73/21/10	5 feet deeper
40/32/45, 73/23/48	3.5 feet shoaler
40/33/00, 73/20/45	4 sheet shoaler
40/34/18, 73/21/30	5 feet shoaler
40/32/20, 73/24/10	5 feet shoaler

Most discrepancies with H-6189 are concentrated in the central portion of the sheet where the depths range from 40 to 65 feet. The present survey (with velocity corrections) shows this area to be generally shoaler by 1 to 3 feet than is shown on the prior survey H-6189. There is no apparent reason for the observed shoaling. A comparison of the present survey with the two prior surveys suggests that the shoaling occurred between the times when H-6189 and H-7947 were performed.

There were no presurvey review items for this survey.

L. COMPARISON WITH THE CHART

The field sheet was compared with Chart 12326 (C&GS 1215), 28th edition, 5 October 1974, scale 1:80,000. In general, the comparison was good. Approximately ten percent of the compared soundings are two to four feet shoaler on the present survey. Since the field sheet does not have velocity corrections applied, most of this discrepancy will be resolved when the smooth sheet is plotted.

M. ADEQUACY OF SURVEY

This survey is adequate to supercede prior surveys for charting purposes except as noted below.

The specified spacing of sounding lines -- 200 meters over most of the area -- is not really adequate for a 1:10,000 scale basic survey.

The shoreline was not delineated as part of this survey.

M. ADEQUACY OF SURVEY (Cont'd)

The offshore portion of the survey which was controlled by Raydist has a systematic error in horizontal positioning as a result of the shift in the Pattern II correctors as described in Section G of this report. Because the correctors applied were observed in the near-shore area, the offshore area is shifted away from the Pattern II station by varying amounts of up to twenty meters (generally shifted toward the southwest). Consequently, it is felt that the offshore portion of the survey marginally satisfies the horizontal control requirements for a 1:20,000 scale survey. The near-shore Raydist-controlled and Del Norte-controlled hydrography are adequate for 1:20,000 scale work; that is, the estimated random positioning error is less than or equal to ten meters.

Considering that the survey area is typified by a gently sloping, regular bottom, the above mentioned problems do not significantly affect the adequacy of this survey for charting purposes. It is felt that the survey is adequate for charting at scales of 1:40,000 or smaller.

N. AIDS TO NAVIGATION

There were no fixed or floating aids located in the survey area.

O. STATISTICS

Number of Positions	993
Miles of Sounding Lines	257 NM
Miles of Crosslines	19.5 NM
Square Miles Surveyed	22.5 Sq. NM
TDC Casts	3
Leadline Comparisons	23
Bottom Samples	0

P. MISCELLANEOUS

The ~~two~~ SCOA surveys, H-9568 ~~and H-9569~~ covers an area which contains one major sewer outfall operated by Nassau County and is the proposed location of the Suffolk County sewer outfall. Construction of the latter is to begin in the near future pending legal action by environmental groups. The Nassau County outfall is already charted accurately. A specific location for the Suffolk County outfall was not available.

Q. RECOMMENDATIONS

It is recommended that unless the 1:10,000 scale hydrography is needed for engineering purposes, these sheets be down-graded to 1:20,000 scale basic surveys. This has several advantages. First, the sheet is more suited to 1:20,000 scale line spacing and horizontal control accuracy. Second, the two surveys, H-9568 and H-9569 could be combined on a single boatsheet (note that the two surveys were run nearly simultaneously and that the position numbers were not duplicated to facilitate processing).

The field party does not recommend any additional field work in the area. If further work is required, it is recommended that it be delayed until the Suffolk County outfall is completed so that the results of the dredging and construction activity can be accurately charted.

R. AUTOMATED DATA PROCESSING

The following programs were used in collecting, processing, and plotting the data presented on the field sheet:

RK 111	Range/Range Real-Time Hydroplot	8/7/74
RK 201	Grid, Signal, Lattice Plot	4/18/75
RK 211	Range/Range Non-Real-Time Plot	8/16/74
RK 300	Utility Computations	5/22/75
PM 360	Electronic Corrector Abstract	3/31/74
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocity	6/25/74
RK 561	H/R Geodetic Calibration	2/19/75
AM 602	Elinore Line Editor	5/21/75

S. REFERENCE TO REPORTS

All data and field records are transmitted as part of this survey. Sheet H-9569 was surveyed simultaneously with this survey and may easily be reviewed at the same time.

Respectfully submitted for approval:



Kurt J. Schnebele
LCDR., NOAA



George A. Baisley
LT., NOAA

DESCRIPTIVE REPORT

To Accompany

Hydrographic Survey H-~~9569~~ 9568

Field Number PE-²⁰⁻¹⁻⁷⁵~~10-2-75~~

OPR-517-PE-75

Atlantic Seaboard Area Project

New York Bight Phase

1975 Field Season

NOAA Ship PEIRCE (CSS-28)

JOSEPH W. DROPP, CDR, NOAA

Chief of Party

A. PROJECT

This survey is a special part of the Atlantic Seaboard Area Project, New York Bight Phase, performed according to Project Instructions OPR 517-PE-75 dated 27 March 1975, Change No. 1 to Project Instructions dated 14 April 1975, and Change No. 2 to Project Instructions dated 13 August 1975.

B. AREA SURVEYED

H-~~9569~~⁹⁵⁶⁸ and the adjoining survey, H-9568, include the area south of Tobay Beach on Long Island, New York covering the area around the proposed Suffolk County Outfall Area (SCOA). Specifically, the survey area of H-9569 is bounded by straight lines connecting the following points:

Lat 40/35/50N	Long 73/28/30W
Lat 40/30/03N	Long 73/28/30W
Lat 40/31/06N	Long 73/24/39W
Lat 40/36/42	Long 73/24/39W

The survey extended from approximately the eleven-fathom curve to the beach. The survey was conducted between 21 September 1975 and 6 October 1975.

C. SOUNDING VESSEL

Soundings were obtained by the NOAA Ship PEIRCE (VesNo 2830) and Launch FA-5 (VesNo 2835). This launch is usually assigned to the NOAA Ship WHITING (CSS-29) but was loaned to the PEIRCE for this survey.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following echo sounding equipment was used:

- (1) Ross Model 200-A, S/N C537-1039-5
Water depth ranged from 36 to 70 feet
- (2) Ross Model 5000, S/N 1078
Water depth ranged from 3 to 63 feet
- (3) Raytheon Model 723D, S/N 37018
Water depth ranged from 6 to 45 feet

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS (Cont'd)

The following indicates when each unit was used:

<u>Vessel</u>	<u>Echo Sounder</u>	<u>Day</u>	<u>Position</u>
2830	(1)	267	3000-3148
2830	(1)	273	3149-3291
2830	(1)	274	3292-3326
2830	(1)	279-280	3327-3526
2835	(2)	265	2001-2052
2835	(2)	266	2053-2098
2835	(2)	266	2099-2230
2835	(2)	267	2231-2235
2835	(2)	273	2239-2249
2835	(2)	274	2250-2300
2835	(2)	275	2301-2311

Aboard the PEIRCE (VesNo 2830), the Ross Model 200A had been modified to operate as a Model 5000. It was used continuously except when repairs were necessary and then the Model 5000 was installed.

1. Initial:

The Ross units were maintained at zero initial by their built-in calibration circuitry. The Raytheon had to be manually maintained at zero initial. This was done at regular intervals, normally at the end of each line.

There were no unusual problems encountered with any of the echo sounder units.

2. Velocity Corrections:

There were two velocity correction tables computed for this survey, one for the ship and one for the launch.

A MARTEK TDC cast was performed to determine the velocity of sound in the area survey by the Ship PEIRCE. A station was occupied on 11 September 1975 at 40/22/00N, 73/34/00W from which temperature and conductivity data were taken. Layer corrections were calculated in the usual manner using Program RK 530 (25 June 1974).

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS (Cont'd)

From the plotted results, a velocity table was obtained using 0.2 foot intervals.

The velocity correction for the launch (2835) was computed using vertical cast data. The data from the launch and the other SCOA sheet (H-9568) were combined and plotted. From this graph, a table of velocity correctors was derived using 0.2 foot intervals. A listing of the velocity tables is included following the text of this report.

3. Settlement and Dquat Corrections:

Two separate TC/TI tapes were computed for this survey. One for the ship and one for the launch. Ship settlement and squat corrections and draft corrections are applied on the TC/TI tape. The draft was measured at the beginning and end of each trip and the difference linearly apportioned for each day of the trip. The draft was measured by subtracting the taped rail-to-water distance from the previously determined rail-to-transducer distance. S&S correctors were measured for the PEIRCE off Point Comfort, Virginia in April 1974. The appropriate correction was applied for the different speeds used during survey operations. An estimated correction of 11.0 feet was applied to the field sheets, hence, the TC/TI tape shows the difference between the actual TRA correction and 11.0 feet.

The TRA correction abstract and TC/TI tape listings are included following this text. Settlement and squat were again measured on 4 November 1975 at Floyd Bennett Field, New York and agreed well with April 1974 S/S data.

Launch settlement and squat and draft corrections are applied on the TC/TI tape. The draft was considered constant for all launch hydro since their weight change was negligible for one day's run. (The launch was refueled after each time it was used). S/S correctors were measured for the launch at Floyd Bennett Field, New York on 4 November 1975. The appropriate correction was applied for the different speeds used during survey operations. An estimated correction of 2.7 feet was applied to the field sheet, hence, the TC/TI tape shows the difference between the actual TRA correction and 2.7 feet.

F. CONTROL STATIONS

The two Raydist stations used were established by the Atlantic Marine Center using third order triangulation and are described in attached Recovery Notes. Raydist station locations:

Slave 1 Ben Lat 40/34/58.430N (Red)
 Long 73/52/45.107W

Slave 2 Tiana Lat 40/50/13.970N (Green)
 Long 72/29/40.176W

The following Del Norte stations were located by AMC specifically for this survey. No description is available at this time:

Bud (004) Lat 40/36/14.368N
 Long 73/28/40.196W

Tobay (005) Lat 40/36/51.844N
 Long 73/25/34.103W

Cedar (006) Lat 40/38/07.474N
 Long 73/20/30.996W

Signals on shore, which were used in calibrating the Raydist system and checking the Del Norte equipment, were all third order stations described in the published horizontal control. The stations were recovered by a party from the Atlantic Marine Center or by ship's personnel as part of the work for OPR-517-PE-75.

G. HYDROGRAPHIC POSITION CONTROL

The hydrography was controlled by Range/Range positioning techniques. Ship hydrography (position numbers 3000-3526) was controlled by a third party Raydist chain operating at a frequency of 3295.495 khz. The shore stations were located at the sites mentioned previously. An on board hydroplot system was used to acquire the data in real-time.

Launch hydrography (position numbers 2001-2311) also was controlled by Range/Range positioning. Del Norte equipment located at the shore stations mentioned previously, provided the range data. Time, depth and position data were manually recorded and subsequently computer processed off line. Sounding lines were run along arcs of constant range.

G. HYDROGRAPHIC POSITION CONTROL (Cont'd)

The following equipment was used for electronic control:

<u>Equipment</u>	<u>Location</u>	<u>Ser No.</u>
Hastings-Raydist:		
TA-96 Mobile Transmitter	PEIRCE	85
ZA-75 Navigator	PEIRCE	69
AA 60 Relay Station	BEN (002)	121
AA 60 Relay Station	TIANA (003)	120

Del Norte:

#202 Distance Measuring Unit	Launch	181
#212 Trisponder (Master)	Launch	277
#202 Distance Measuring Unit	Launch	179
#212 Trisponder (Remote A)	(Shore Station)	217
#212 Trisponder (Remote B)	(Location)	218
#212 Trisponder (Remote D)	Varied)	219

The Raydist system for the ship hydrography was calibrated by three point sextant fixes with check angles to known shore objects. Calibrations were performed at least daily during hydrography.

On several occasions, a series of calibrations were taken in succession across the survey area (offshore to onshore). These revealed a substantial shift in the Pattern II correction over the survey area. The data suggests that the Pattern II partial lane correction decreases by about 0.45 lanes from the northern (near-shore) limit of the ship hydrography to the southern (offshore) limit of the survey area. For example, a Pattern II corrector of +0.50 lanes observed near-shore would reduce to about +0.05 lanes when observed offshore. The calibrations indicate that Pattern I corrections remained constant over the survey area.

The shift in Pattern II probably results from the increased land path over which the signal had to travel to reach the near-shore portion of the survey area. In the offshore portion of the survey area, the signal path was almost entirely over water. Note the relation of Station Tiana (003), Fire Island and survey area. In planning the control for this survey, the magnitude of the corrector shift due to land path unfortunately was not anticipated. Because the NOAA Ship WHITING (CSS-29) was sharing the same Raydist chain, it is doubtful that the stations could have been sifted in any event.

4

G. HYDROGRAPHIC POSITION CONTROL (Cont'd)

After examining several processing schemes, it was decided not to attempt to zone the Raydist pattern correctors geographically. The correctors applied for each day's hydrography were taken from the one or two calibrations made each day at the near-shore end of the survey area. The near-shore calibrations were used (1) because many more of these were observed -- offshore calibrations were limited to a few days with sufficient visibility; and (2) because the smaller intersection angle of the Raydist patterns near-shore make the positions in this area more sensitive to shifts in the partial lane correctors than further offshore. Estimates of the resulting accuracy of horizontal position control are discussed under Section M, Adequacy of the Survey.

Del Norte equipment was used to control all launch hydrography. The units were calibrated at a mid-range distance (4000 meters) for the survey area by observing the distance over a known baseline (between two described horizontal control stations on Fire Island). The units were adjusted to give a true reading at the mid-range distance. This procedure was repeated at the completion of the survey operations. No significant error or drift was observed. In addition, the Del Norte equipment was checked daily on board the launch (weather permitting) against three-point sextant fixes.

Appended following the text of this report are the Electronic Control Parameters, the Electronic Corrector Abstracts, and a Signal Listing.

H. SHORELINE

The shoreline was not surveyed nor was any photogrammetry available.

I. CROSSLINES

Crosslines constituted 8.4% of the miles of electronic hydrography run. In most cases, the crosslines were run within one foot of the time of predicted Mean Low Water. All crossings were in good agreement (one to two feet) with the main scheme hydrography.

J. JUNCTIONS

No attempt was made to junction this survey with adjoining prior surveys. It does border the north limit of sheet H-9567, 1:40,000, 1975, which was also surveyed by the PEIRCE as part of OPR-517-PE-75; however, a copy of H-9567 was not available for comparison.

J. JUNCTIONS (Cont'd)

The north/south junction between this sheet, H-9569, and the adjoining SCOA sheet, H-9568, was good. No displacement of contours was observed between the two sheets.

K. COMPARISON WITH PRIOR SURVEYS

SCOA survey H-9569, was compared with two prior surveys. They were:

1. H-7947, 1951, 1:20,000
2. H-6189, no date given, 1:40,000

The comparison between H-9569 and H-7947 was good except where the dredge line was encountered.

Though the SCOA survey and H-6189 compared fairly well, these discrepancies were noted:

40/32/00, 73/25/00, SCOA is 3-5 feet shoaler than H -6189
40/32/15-40/32/45, 73/24/40, SCOA is 1-6 feet shoaler than H-6189
40/35/15, 73/25/00, SCOA is 5 feet shoaler than H-6189
40/33/20, 73/25/00, SCOA is 3 feet shoaler than H-6189
40/33/15-40/34/07, 73/28/30, SCOA is 2.5 feet shoaler than H-6189
40/32/20-40/32/38, 73/24/40, SCOA is 3-6 feet deeper than H-6189
40/33/48, 73/25/10, SCOA is 3.5 feet deeper than H-6189
40/34/45, 73/25/00, SCOA is 2.5 feet deeper than H-6189
40/34/55, 73/25/00, SCOA is 3 feet deeper than H-6189

L. COMPARISON WITH THE CHART

SCOA survey H-~~9569~~⁹⁵⁶⁸ was compared with Chart 12326 (1215), edition 28, 5 October 1974, scale 1:80,000.

The general trend of the chart was that SCOA got deeper by 2 to 3 feet throughout the whole area surveyed. This was substantiated by the fact that almost 50% of the soundings compared showed SCOA data to be deeper. It was also noted that the 60 foot contour has shifted a small amount to the west, but its general shape stayed the same.

M. ADEQUACY OF SURVEY

This survey is adequate to supercede prior surveys for charting purposes except as noted below.

The specified spacing of sounding lines -- 200 meters over most of the area -- is not really adequate for a 1:10,000 scale basic survey.

The shoreline was not delineated as part of this survey.

M. ADEQUACY OF SURVEY (Cont'd)

The offshore portion of the survey which was controlled by Raydist has a systematic error in horizontal positioning as a result of the shift in the Pattern II correctors as described in Section G of this report. Because the correctors applied were observed in the near-shore area, the offshore area is shifted away from the Pattern II station by varying amounts of up to twenty meters (generally shifted toward the southwest). Consequently, it is felt that the offshore portion of the survey marginally satisfies the horizontal control requirements for a 1:20,000 scale survey. The near-shore Raydis-controlled and Del Norte-controlled hydrography are adequate for 1:20,000 scale work; that is, the estimated random positioning error is less than or equal to ten meters.

Considering that the survey area is typified by a gently sloping, regular bottom, the above mentioned problems do not significantly affect the adequacy of this survey for charting purposes. It is felt that the survey is adequate for charting at scales of 1:40,000 or smaller.

N. AIDS TO NAVIGATION

There were no fixed or floating aids located in the survey area.

O. STATISTICS

Number of Positions	776
Miles of Sounding Lines	236.5 NM
Miles of Crosslines	18.3 NM
Number of Square Miles	19.5 SNM
Number of Martex TDC's	3
Number of Leadline Comparisons	23
Bottom Samples	0

P. MISCELLANEOUS

The ~~two~~ SCOA surveys, H-9568 ~~and H-9569~~ covers an area which contains one major sewer outfall operated by Nassau County and is the proposed location of the Suffolk County sewer outfall. Construction of the latter is to begin in the near future pending legal action by environmental groups. The Nassau County outfall is already charted accurately. A specific location for the Suffolk County outfall was not available.

*Charted position of sewer
construction revised from
subsequent information.
CL-587/76*

Q. RECOMMENDATIONS

It is recommended that unless the 1:10,000 scale hydrography is needed for engineering purposes, these sheets be downgraded to 1:20,000 scale basic surveys. This has several advantages. First, the sheet is more suited to 1:20,000 scale line spacing and horizontal control accuracy. Second, the two surveys, H-9568 and H-9569 could be combined on a single boatsheet (note that the two surveys were run nearly simultaneously and that the position numbers were not duplicated to facilitate processing).

The field party does not recommend any additional field work in the area. If further work is required, it is recommended that it be delayed until the Suffolk County outfall is completed so that the results of the dredging and construction activity can be accurately charted.

R. AUTOMATED DATA PROCESSING

The following programs were used in collecting, processing, and plotting the data presented on the field sheet:

RK 111	Range/Range Real-Time Hydroplot	8/7/74
RK 201	Grid, Signal, Lattice Plot	4/18/75
RK 211	Range/Range Non-Real-Time Plot	8/16/74
RK 300	Utility Computations	5/22/75
PM 360	Electronic Corrector Abstract	3/31/74
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocity	6/25/74
RK 561	H/R Geodetic Calibration	2/19/75
AM 602	Elinore Line Editor	5/21/75

S. REFERENCE TO REPORTS

All data and field records are transmitted as part of this survey. Sheet H-9568 was surveyed simultaneously with this survey and may easily be reviewed at the same time.

Respectfully submitted for approval:


Kurt J. Schnebele
LCDR., NOAA


George A. Baisley
LT., NOAA

2/2/76

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): Sandy Hook

Period: September 17 - October 7, 1975

HYDROGRAPHIC SHEET: H-9568

OPR: 517

Locality: New York Bight

Plane of reference (mean lower low water): 2.26 ft.

Height of Mean High Water above Plane of Reference:
4.2 ft.

Remarks: Recommended zoning:

Time correction
-40 min.

Range ratio
x0.91

James R. Hubbard
for Chief, Tides Branch

OPR-517

VELOCITY TABLE # 1

(SCOA, H-~~9569~~⁹⁵⁶⁸, PE-~~10-2-70~~²⁰⁻¹⁻⁷⁵, Vessel 2830)

000164 0 0002 0001 000 283000 009569

000220 0 0004

000275 0 0006

000330 0 0008

000385 0 0010

000440 0 0012

000495 0 0014

000550 0 0016

000610 0 0018

000665 0 0020

000720 0 0022

000775 0 0024

000840 0 0026

000890 0 0028

999999 0 0030

OPR-517

Velocity Table # 2

(SCOA, H-~~9569~~⁹⁵⁶⁸, PE-~~10-2-78~~²⁰⁻¹⁻⁷⁵, Vessel 2835)

000015 1 0013 0002 000 283500 009569
000053 1 0011
000090 1 0009
000130 1 0007
000170 1 0005
000210 1 0003
000250 1 0001
000290 0 0001
000330 0 0003
000368 0 0005
000405 0 0007
000445 0 0009
000484 0 0011
000522 0 0013
000560 0 0015
000600 0 0017
000638 0 0019
999999 0 0019

31.6 31.4 29.3
2.2 2.1
32.0

CAM3-12
2-22-74

OPR -517

TRA. CORRECTION ABSTRACT

SHEET PE-28-2-75

REGISTRY NO. H- 9568

VESSEL 2830

Vol.	Jul. Day	GMT From	Time To	Velocity Table ft/ fms	Draft	Instru- ment Error Corr.	Initial Corr.	S&S Corr. ft/fms	TRA Corr. ft/fms	Remarks
1	267	1744:43	2024:02		10.0			0.55	-0.45	11 ft. TRA corr.
1	267	2024:03	2046:31		10.0			0.4	-0.6	maintained on the Hydroplot controller
1	267	2046:32	2210:51		10.0			0.55	-0.45	Controller
1	267	22210:52	2216:51		10.0			0.4	-0.6	
1	267	2217:51	2252:15		10.0			0.55	-0.45	
1	273	1416:44	1535:15		10.3			0.8	+0.1	
1	273	1535:30	1539:15		10.3			0.4	-0.3	
1	273	1544:03	1554:33		10.3			0.8	+0.1	
1	273	1604:03	1608:33		10.3			0.4	-0.3	
1	273	1617:42	1934:35		10.3			0.8	+0.1	
1	274	2043:38	2233:57		10.2			0.8	0.0	
1	279	1954:35	2347:24		9.8			0.8	-0.4	
1	280	0003:47	0346:11		9.8			0.8	-0.4	
										✓ K/S

OPR-517

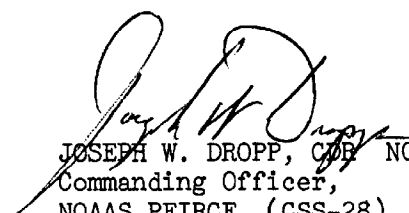
Signal Tape Listing for SCOA 1975

H-9568 (PE-²⁰⁻¹⁻⁷⁵~~20-1-73~~) & ~~H-9569 (PE-10-2-75)~~

002	7	40	34	58430	073	52	45107	250	0000	329649
003	7	40	50	13969	072	29	40176	250	0000	329649
004	7	40	36	14368	073	28	40196	250	0000	000000
005	7	40	36	51844	073	25	34103	250	0000	000000
006	7	40	38	07474	073	20	30996	250	0000	000000
030	7	40	37	24672	073	15	43692	139	0000	000000
031	7	40	37	56442	073	13	08442	139	0000	000000
032	7	40	38	46702	073	09	30246	139	0000	000000
033	7	40	38	39253	073	09	23135	139	0000	000000
034	7	40	38	48910	073	08	55875	139	0000	000000
035	7	40	38	59331	073	07	52447	139	0000	000000
040	7	40	35	46814	073	30	30626	139	0000	000000
041	7	40	37	12759	073	23	08964	139	0000	000000
042	7	40	40	50303	073	23	24573	139	0000	000000
043	7	40	37	55065	073	12	59781	139	0000	000000


APPROVAL SHEET

Field work on H-⁹⁵⁶⁸~~9569~~ (PE-²⁰⁻¹⁻⁷⁵~~10-2-75~~) was done under my immediate daily supervision. The Boat Sheet and all records have been reviewed and are approved by me.


JOSEPH W. DROPP, CDE NOAA
Commanding Officer,
NOAAS PEIRCE (CSS-28)

APPROVAL SHEET

Field work on H-9568 (PE-~~20-2-75~~²⁰⁻¹⁻⁷⁵) was done under my immediate daily supervision. The Boat Sheet and all records have been reviewed and are approved by me.

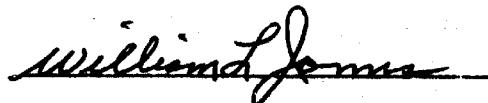

JOSEPH W. DROPP, CDR NOAA
Commanding Officer
NOAAS PEIRCE (CSS-28)

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H-9568

- 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/~~XXXXXXXX~~ been made. A new final sounding printout has/~~XXXXXXXX~~ been made.

Date: March 24, 1977

Signed:

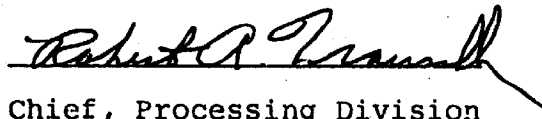


Title: Chief, Verification Branch

- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: March 24, 1977

Signed:



Title: Chief, Processing Division

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9568

PE-20-1-75

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET with smooth PNO & excess overlay		1	BOAT SHEETS (2 parts)		1	
DESCRIPTIVE REPORT		1	OVERLAYS (preliminary)		3	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
Accordian ENVELOPES	XXX		1-misc.			1
CAHIERS	2 bathograms & printouts		K			
VOLUMES	2 4					
BOXES			1-smooth P/O, sawtooth reb. & misc. data			
T-SHEET PRINTS (List) T-5212 (reduced copies of T-5212 & T-5213 incl.)						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			TOTALS
	PRE-VERIFICATION	VERIFICATION	REVIEW	
POSITIONS ON SHEET				1779
POSITIONS CHECKED		200		
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED		40		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		4		
JUNCTIONS		2		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS	5			
SPECIAL ADJUSTMENTS		0		
ALL OTHER WORK		85		
TOTALS	5	94		
PRE-VERIFICATION BY D. V. Mason	BEGINNING DATE 11/08/76	ENDING DATE 11/08/76		
VERIFICATION BY F. L. Saunders and R. G. Roberson	BEGINNING DATE 12/08/76	ENDING DATE 03/19/77		
REVIEW BY R. G. Roberson	BEGINNING DATE 03/20/77	ENDING DATE 03/23/77		

Quality Control: J.H. Meyer 22 hrs 5/6/77 * U.S. G.P.O. 1972-769-562/439 REG.#6

REGISTRY NO. 9568

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

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

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. _____

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:

H-9568

Items for Future Presurvey Reviews

The 20 ft rep charted at latitude 40°33.6', longitude 73°26.8' from CL 918/72 should be investigated at an opportune time.

The sunken wreck "Mast PA" charted at latitude 40°35', longitude 73°24' from NM 41/62 should be investigated to verify its present charted position and condition.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
403	0733	4	6	25 years

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9568

FIELD NO. PE-20-1-75

Atlantic Ocean, New York Bight, Suffolk County Outfall Area

SURVEYED: September 17 through October 6, 1975

SCALE: 1:20,000

PROJECT NO.: OPR-517

SOUNDINGS: Ross Model 200A,
s/n C537-1039-S
Ross Model 5,000,
s/n 1078
Raytheon Model 723D,
s/n 37018

CONTROL: Raydist
(Range-Range)
Del-Norte
(Range-Range)

Chief of Party CDR J. W. Dropp
Surveyed by LT K. J. Schnebele
..... LTJG B. B. Johnson
..... LTJG D. A. Dreves
Automated Plot by Calcomp Plotter #618 (AMC)
Verified and Inked by R. G. Roberson

1. Introduction

This survey is a composite of two 1:10,000 scale surveys that were merged after their arrival at AMC. The two previous registry and field numbers were rescinded and a new registry and field number assigned by the Rockville office.

The separate Descriptive Reports have been put in a single jacket and the sheet parameters have been changed.

2. Control and Shoreline

a. Control is adequately discussed in Sections F and G of the Descriptive Report. This office concurs with the statements made in Section M of the Descriptive Report regarding irregularities in control.

b. Shoreline for the Smooth Sheet was taken from Chart 1215, 1:80,000. The shoreline was drawn in brown. No current photogrammetric sheets of the area are available. T-5612 (1947) was made available, but shoreline from the chart was sufficient and covered the entire area.

3. Hydrography

a. Crosslines are in good agreement with the main scheme hydrography.

b. The standard depth curves adequately delineated the bottom topography.

c. There is one holiday on the survey (between positions 2213 and 2214). This was caused by a dredge being in the survey area.

4. Condition of Survey

The Smooth Sheet and accompanying overlays, hydrographic records, and reports are adequate to conform to the requirements of the Provisional Hydrographic Manual, with the following exceptions:

There were only two bottom samples for the survey area. Samples were taken by the NOAA Ship KELEZ.

5. Junctions

This survey is joined on the south by H-9567 (1975); no other contemporary surveys joined this survey. Comparison was good.

6. Comparison with Prior Surveys

H-5369 (1933) 1:10,000
H-5371 (1933) 1:20,000
H-6189 (1936) 1:40,000
H-7947 (1951) 1:20,000

Comparison with each of the above prior surveys is good with discrepancies of one to two feet.

Discrepancies mentioned in Section K of the Descriptive Report were checked with the Smooth Sheet and found to be not as severe as mentioned in the Descriptive Report. The reason for the original discrepancies stemmed from not having all correctors applied to the survey.

This survey is adequate to supersede prior surveys in all areas except south of a line from latitude 40° 32' 30", longitude 73° 20' 45" to latitude 40° 31' 30", longitude 73° 28' 30", the offshore portion of the survey. A more detailed explanation of this is found in Sections G and K of the Descriptive Report.

7. Comparison with Chart 1215, 29th Edition, September 6, 1975

a. Comparison with the chart was very good with the majority of soundings coming from H-5371, H-6189, and H-7947.

The present survey is adequate to supersede the charted information.

b. There are no aids to navigation in the area surveyed.

c. The "Mast PA" at $40^{\circ} 35.0'$, $73^{\circ} 24.0'$ was not investigated; however, a 43 foot sounding between positions 3367 and 3368 ($40^{\circ} 34' 01.15$, $73^{\circ} 25' 47.93"$) is five feet shoaler than the surrounding area. This could be the "Mast PA". It is recommended that the "Mast PA" be retained on the chart until adequately proved or disproved. *Source: N444/62*

8. Compliance with Instructions

This survey is in compliance with the applicable portions of the Project Instructions.

9. Additional Field Work

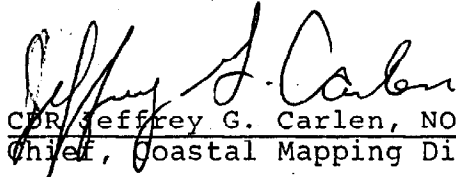
This is an adequate basic survey with no additional field work recommended, except wire drag investigation of the 43 foot sounding found at $40^{\circ} 34' 01.15"$, $73^{\circ} 25' 47.93"$.

Approval Sheet for H-9568

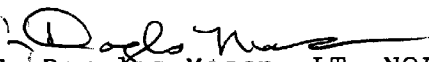
Examined and Approved:
Hydrographic Inspection Team
Date: March 24, 1977



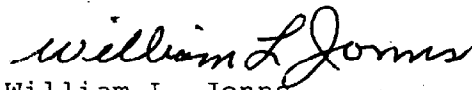
CDR Robert A. Trauschke, NOAA
Chief, Processing Division



CDR Jeffrey G. Carlen, NOAA
Chief, Coastal Mapping Division



C. Douglas Mason, LT, NOAA
Chief, EDP Branch

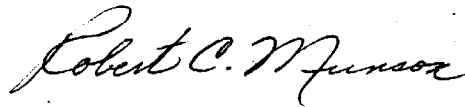


William L. Jonns
Chief, Verification Branch



Guy F. Trefethen
Verification Branch

Approved/ Forwarded



Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center



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

C352

May 6, 1977

a J Patrick
TO: A. J. Patrick
Chief, Marine Surveys Division
G.K. Myers
FROM: G. K. Myers
Chief, Quality Control Branch

SUBJECT: Quality Control Report, H-9568 (1975), New York, South Shore
of Long Island, Vicinity of Tobay Beach

A quality inspection of H-9568 (1975) has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, transfer of shoreline, decisions and actions by the verifier, and cartographic presentation of data.

The present survey was found to conform to National Ocean Survey standards except for the following deficiencies.

1. The sunken wreck charted at latitude $40^{\circ}36.35'$, longitude $73^{\circ}25.67'$ from H-5371 (1933) was verified on the present survey. The wreck was brought forward to the present survey and properly shown with additional fathogram information during quality evaluation.
2. The sunken wrecks charted at latitude $40^{\circ}36.3'$, longitude $73^{\circ}25.66'$ and latitude $40^{\circ}37.6'$, longitude $73^{\circ}21.3'$, originating with LNM 33/75 and an unknown source prior to 1952, respectively, were not proved or disproved on the present survey and should be retained on the chart.
3. The sewer (under construction) and reported shoaling charted in the vicinity of latitude $40^{\circ}35.0'$, longitude $73^{\circ}27.4'$ originate with CL 918/72. This feature was verified on the present survey. The 20 ft rep charted at latitude $40^{\circ}33.6'$, longitude $73^{\circ}26.8'$ on the south end of the construction was not mentioned by the hydrographer and should be retained on the chart.
4. No contemporary surveys junction with the present survey on the east and west. However, present depths here are in general harmony with charted depths.
5. The charted landmark at latitude $40^{\circ}37.21'$, longitude $73^{\circ}23.15'$ originates with T-5613 (1947-50).



H-9568

2

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

cc:
C351

