10037

Diagram No. 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. HSB-10-8-82

Office No. H-10037

LOCALITY

State New Jersey

General Locality

Locality Shrewsbury River

1982

CHIEF OF PARTY
LCDR G.W. Jamerson

LIBRARY & ARCHIVES

DATE August 6, 1986

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

Area 1
CHT.
12334 A. to sign off see
Record of Application

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-10037

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. HSB-10-8-82

State: New Jersey

General locality: ~~Atlantic Coast~~

Locality: Shrewsbury River

Scale: 1:10000 Date of survey: July 30-October 6, 1982

Instructions dated: 26 March 1982 Project No.: OPR-B259-HSB-82

Vessel: NOAA Launch 0519; NOAA skiff 1279

Chief of party: LCDR George W. Jamerson, NOAA

Surveyed by: Hydrographic Field Party-5 (See Remarks)

Soundings taken by echo sounder, ~~hand lead~~, pole, DE-719B Echo Sounder and Sounding Pole

Graphic record scaled by: JWH, BAL, JMR, KLG, CSW, SRL

Graphic record checked by: JWH, BAL

Protracted by: ---------------------- Automated plot by: ~~Xynetics 1201~~ ~~Field Sheet PDP/8e~~ Plotter (AMC)

Verification by: AMC Verification Branch - R.L. Keene

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ - Feet at MLW

REMARKS: LT(jg) John W Humphrey Jr., Officer-in-Charge

Brian A. Link, Assistant OIC

James M. Robinett

Karen L. Goodman

Charles S. Weisner

Sharon R. Linehan

Notes in red in the Descriptive Report were made during office processing.

Miscellaneous pages have been removed and filed with the survey records.

STANDARDS CK'D 8-6-86 Awois/Surf MSM 9/23/86

KWW 3-18-91

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

U.S. G.P.O. 1972-769-565/519 REG. #6

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10037
HSB-10-8-82

Scale: 1:10,000
Year: 1982
Chief of Party: Lt. Cdr. George W. Jamerson
Officer in Charge: Lt(jg) John W. Humphrey, Jr.
Hydrographic Field Party #5

A. PROJECT

This survey was carried out in accordance with Project Instructions OPR-B259-HSB-82 dated March 26, 1982 and amended by Changes 1 and 2 dated April 1, 1982 and May 7, 1982 respectively.

B. AREA SURVEYED

This survey was conducted in the Shrewsbury River from its junction with contemporary survey H-10016 (HSB-10-5-82) at 40°22'11" to the southern end of the river. This included all navigable creeks connected to the main river. The area surveyed is bounded by the following geographic limits:

North	40°22'21"N
South	40°18'36"N
East	73°58'30'W
West	74°02'00"W

The area surveyed is affected by a mean tidal range of 2.0 feet with an average maximum current of less than 0.5 knots in the southern most creeks (Parker Creek, Pleasure Bay, Troutmans Creek) to 1.6 knots at the Sea Bright Bridge. In Rumson Reach from R N "26" to R N "28" the axis of the river is north/south and this section is most affected by the scouring action of the tidal currents. Bottom topography in the river from R N "26" moving south along the eastern shoreline of the river to Sedge Island is very irregular and jagged. In this area the tide and the current are at their maximum height and flow.

The eastern shoreline from R N "26" at Sea Bright to the township of Monmouth Beach is characterized by numerous private piers, wooden and concrete bulkheads and scattered areas of marsh grass which accounts for the apparent shoreline notation on the chart. The western shoreline from R N "26" in Sea Bright to the eastern side of the opening to Oyster Bay is also characterized by private piers, bulkheads and mooring piles interspersed with small areas of beach and marsh grass. Moving west along the shoreline from the mouth of Oyster Bay to the western limit of Little Silver Creek, excluding the finger creeks off of Little Silver Creek, the shoreline is marsh grass, narrow bands of tidal mud flats scattered private piers and mooring piles (Rumson Yacht Club is located in the creek at position 40°20'45"N, 74°00'27"W with six finger piers and numerous mooring piles). The five finger creeks that extend off Little Silver Creek to the northwest have mostly wooden bulkheads and numerous piles along the shoreline. Some areas of these creeks are characterized by marsh grass and beach.

These creeks are privately maintained. The remainder of the shoreline including Town Neck Creek, Pleasure Bay, Parker Creek, Oceanport Creek, Blackberry Creek, Troutmans Creek, and Manhasset Creek and the area from Racoon Island to Manmouth Beach Township may be described the same as the preceeding areas noted. Two man-made canals, south of Racoon Island are completely lined by wooden bulkheads and finger piers. Throughout the survey area the finger piers for the most part are floating docks secured to mooring piles.

The bottom topography in the main body of the Shrewsbury River outside of the maintained navigable channel is flat and shallow. Some isolated holes were found during the course of the survey which are probably the result of fill dredging operations. Bottom composition is soft mud, broken shells and weeds throughout the survey area.

The maintained navigable channel consisting of Rumson Reach and Long Branch Reach runs from Sea Bright to the town of Branchport in Pleasure Bay. In the eastern portion of the river a privately maintained channel runs from lighted buoy "31", south to the township of Monmouth Beach and then heading northwest again intersects with the maintained channel. The navigable aids in this channel are privately maintained by the State of New Jersey.

C. SOUNDING VESSELS

Soundings for this survey were obtained using Launch 0519 and Skiff 1279.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following equipment was used on Vessel 0519:

Equipment - Raytheon DE719B Fathometer S/N 7727

No unusual problems were encountered with this equipment.

All survey records were scanned and checked by trained field survey personnel. Peaks and deeps considered significant that occurred between soundings were inserted on the generated master tape.

Fathometer calibration checks were made at frequent intervals on each day of hydrography. Any necessary adjustments were made and noted on the fathogram. Any departure of the trace from the calibration was corrected during the scanning process. Velocity correctors were derived from bar check data (see Appendix "D" for velocity correction printout). Bar checks were taken on each day of hydrography, two whenever possible using Launch 0519. Pole soundings only were obtained using Skiff 1279 (see Position Abstract in Appendix "G" for listing by Julian Day). Bar check chains were measured before and after the project. Results indicated no correction need be applied to the bar check chains

A transducer draft of 1.2 feet was applied to all fathometer soundings obtained with Launch 0519. Settlement and squat correctors were determined on May 14, 1982 using a level method. A copy of field data and settlement and squat correctors versus RPM's for Launch 0519 are appended to this report in Section "D". Settlement and squat correctors will be applied via the TC-TI tape during the final processing of data by MOA23, Hydrographic Surveys Branch.

This survey was conducted using predicted tides based on daily predictions at Sandy Hook, New Jersey from the published Tide Table 1982. Tidal zoning was applied to hydrographic areas as provided by OPR-B259-HSB-82 Project Instructions. Smooth tides were requested from the Chief, Tides and Water Levels Branch OA/C23 in a letter dated December 13, 1982.

E. HYDROGRAPHIC SHEETS

All work was plotted on two mylar field sheets using a PDP8/e and a Houston Instrument automated plotter Model DP3-5.

NO OF SHEETS	TYPE	SKEW
1	Main Scheme Crossline	 60,21,54
1	Detached Positions Bottom Samples Channel Lines	 60,21,54

Soundings on the final field sheet are corrected for vessel draft, predicted tide and sound velocity. The final smooth sheet will be plotted at the Atlantic Marine Center, Norfolk, Virginia. All field records and the following tapes have been forwarded to Atlantic Marine Center, Hydrographic Surveys Branch:

Generated Master Range/Azimuth Tapes
Electronic Corrector Tapes
Velocity Corrector Tapes
Parameter Tapes
ASC II Signal Tapes
TC/TI Tapes

F. CONTROL STATIONS

Twenty control stations of third order accuracy were used for this survey. They are signal numbers 032, 033, 034, 035, 036, 037, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, and 081 from Appendix "F" of this report.

Station numbers 032, 034, 036, 067, 068, 069, 070, and 076 were established by AMC Coastal Mapping Division personnel. The following photo points were also used for horizontal control for hydrography:

Signal # and Name	Latitude	Longitude
022 PP 22	40°19'30.915"N	74°00'26.436"W
023 PP 23	40°19'29.374"N	74°00'50.649"W
059 PP 01	40°22'15.395"N	73°58'30.663"W
062 PP 10	40°20'16.231"N	73°58'42.222"W
065 PP 11	40°19'40.438"N	73°59'41.793"W

All photo points except numbers 22 and 23 were checked by third order Class 1 traverse by AMC Coastal Mapping personnel. Positions supplied to the field party were established by photogrammetric methods (See Section "S" Reference to Reports). Signals 079 and 082 are corners of a bulkhead, identified and scaled from manuscript TP-01138. (See sec. P)

G. HYDROGRAPHIC POSITION CONTROL

Range/Azimuth position control was used with Del Norte equipment and a Wild T-1 theodolite for all hydrography except julian days 232, 256, 274, 277, 278, and 279 when See Field Sheet (SFS) methods were also used for control in the narrow creeks within the survey limits.

The following equipment was used:

EQUIPMENT	SERIAL NUMBER
DMU/Master	182/263
DMU/Master	517/263
DMU/Master	517/1060
Remote	180
Remote	222
Remote	188

Baseline calibrations were conducted on the following dates involving DMU/Master pairs used on survey Vessels 0519 and 1279 during the survey.

DATE	DMU/MASTER	BASELINE	TRUE DIST.
07/20/82	182/263	Nauvoo Wharf - "STINKY"	1879m
07/29/82	517/1060	Nauvoo Wharf - "STINKY"	1879m
08/03/82	182/263	Nauvoo Wharf - "STINKY"	1879m
08/11/82	517/263	Nauvoo Wharf - "STINKY"	1879m
09/07/82	182/263	Nauvoo Wharf - "STINKY"	1879m
09/07/82	517/263	Nauvoo Wharf - "STINKY"	1879m
10/07/82	517/263	Nauvoo Wharf - "STINKY"	1879m

A geographic position was not computed for station "Nauvoo Whaft". The geographic position for station "STINKY" is 40°20'18.388"N, 73°59'32.813"W. Baseline distance was determined by repetitive observations using a Hewlett-Packard 3808A EDM.

Static point calibrations for daily checks were made laying alongside various pier corners in the working area. Distances from range-azimuth stations to calibration points were measured in the same manner as the baseline.

H. SHORELINE

Mainscheme lines were carried to the limit of navigation and to the shoreline whenever possible. Positions of shoreline soundings are in good agreement with the shoreline manuscript used for comparison (CM 8107 Shoreline Manuscript Sheet A of A&B TP-01138 1:10,000 scale Shrewsbury River). A shoreline crossline was run 20-30 meters off the shore parallel to it in all possible areas.

In the area of apparent shoreline and uncovers notations on the chart, sounding volumes reference distances at the beginning and end of lines to the shoreline. For hydrography, the shoreline is the seaward edge of the marsh grass in the above instances. Features shown on the shoreline manuscripts were verified by the hydrographic party. Features not shown on the chart but present in the field were located, plotted, and noted on the field sheet. (See Section "P" Miscellaneous, for explanation of discrepancy concerning grid lines and origin point on mainscheme and detached position sheet.)

I. CROSSLINES

Crosslines were run at 45° to 90° to the mainscheme hydrography and accounted for 11.3% of the total sounding line mileage. Comparison of mainscheme and crossline hydrography shows excellent agreement between adjacent soundings and those with the same or nearly the same geographic position over the entire survey area west from the north-south navigable channel in the eastern end of the Shrewsbury River. Through Rumson Reach from Sea Bright to the rivers border with Monmouth Beach Township, adjacent soundings show differences of up to 3 and 4 feet. The bottom throughout this section of the river is jagged and irregular. Inspection of the echograms will show that moving a distance of 5 to 10 meters horizontally on the river (0.5 to 1.0 mm on the boat sheet) yielded recorded depth differences of 2 to 20 feet.

J. JUNCTION SOUNDINGS

This survey junctions with the following contemporary survey:

AREA OF JUNCTION	FIELD NO.	REG. NO.	SCALE	DATE
North	HSB-10-5-82	H-10016	1;10,000	May - Sep, 1982

Comparison of junction soundings between this survey and H-10016 does not appear to show an agreeable junction at first examination of the final field sheet. Adjacent soundings show differences of up to six feet. Closer inspection shows that soundings that are closest together show the best agreement. As explained at the end of the preceeding section, a jagged bottom, such as the one in this junction area makes comparison difficult and less valuable unless they are nearer than five meters apart.

On the west side of the junction area, north of the Sea Bright Bridge, a shoal protrudes from the shoreline. This smooth bottom and gradually sloping shoal shows good agreement between junction soundings. Junction soundings for this survey were obtained on JD 145 (OPR-B259-HSB-82; H-10016). It was discovered during contouring that predicted tides were not applied to JD 145,positions 167-248, Survey H-10016. Junction soundings from H-10016 are 0-5 feet too deep.

K. COMPARISON WITH PRIOR SURVEYS

The following prior survey was used for comparison:

REGISTRY NO.	SCALE	DATE
Hydrographic Survey 5616	1:10,000	Jul - Oct 1934

Areas from the northern survey limit at R N "26", Rumson Reach, south in the maintained channel to lighted buoy "31" and southwest to B C "37c" not addressed in this section because no prior survey soundings from the USE Department survey of 1934 are included on the prior survey furnished to the field party.

The private maintained channel from lighted buoy "31" south of the rivers' border with the township of Monmouth Beach and then junctioning

back with the maintained channel between R N "34" and R N "36" was not present at the time of the prior survey. The following sections that at present are privately maintained channels were not in existence at the time of the prior survey: Oyster Bay, Little Silver Creek, Town Neck Creek, Oceanport Creek, Blackberry Creek, Troutmans Creek and Manhasset Creek. Taking the entire survey area into account, exclusive of the above mentioned channels and creeks, comparison of prior and contemporary survey soundings shows good agreement with 90% of all compared soundings differing by one foot or less. Recently dredged areas adjacent to new marinas (ie. the area where the Shrewsbury River borders the Monmouth Beach Township, vicinity of signals #62 and #81) were not on the prior survey. There is a dredged channel leaving Long Branch Reach at position 40°20'30"N, 74°00'00"W and leading to the sewer plant on Racoon Island (Station #71 "STINKY") used by a tug and barge. Soundings for the maintained channel going into Pleasure Bay and the majority of Pleasure Bay itself were also sounded by U S E Dept., 1934. Soundings adjacent to the private maintained channels in all creeks mentioned above show good agreement with prior soundings.

L. COMPARISON WITH THE CHART

The following charts were used for comparison for this survey:

CHART	EDITION	DATE	SCALE
12324	20	Jan 1982	1:40,000
12326	35	Dec 1981	1:80,000

The shoreline representation of the Shrewsbury River from R N "26", the northern survey limit, to the southern and western survey limits is accurate. All privately maintained channels designated by "Note B" (channel is marked by privately maintained seasonal aids) are accurate.

Chart representation of apparent and approximate shoreline areas, sand and mud uncovers areas is accurate at the 1:40,000 scale. The areas delineated as approximate shoreline are characterized by marsh grass. The new 1:15,000 scale chart of this area will present a less congested representation of the entire survey area and a more detailed shoreline.

No evidence of the piles noted on the chart at postion 40°21'11"N, 73°58'36"W (immediately NW of the eastern tip of Sedge Island) was seen during the survey. There is some debris on the shoreline of Sedge Island in the vicinity of the shoal that extends north from Sedge Island to the navigable channel. The piles shown on the chart should be shown as bordering the eastern end of the island as indicated on the field sheet. do not concur, retain at charted position and revise to awash at MLW

Eight Pre-survey Review Items were located within the survey limits.

PSR Item #8 - Submerged wreck-deficiency survey CL1350/67-SP-AMC-12-67; wreck located at position 40°21'36.6"N, 73°58'43.2"W considered non-hazardous. Wreck was snagged using a one boat otter board chain sweep with 75' of sweep line deployed. The spread of the chain on the snag indicated the wreck to be approximately 10m long lying in a north-south orientation. A least depth of 8.4 ft was obtained by sounding pole on what felt like a 8"X10" timber. The wreck lies in 4.5 ft of water. Above depths are at MLW. It is recommended that the wreck be charted as dangerous to navigation at position 40°21'36.01"N, 73°58'42.82"W. concur

AWOIS #1567

corrected

PSR Item #9 - Submerged wreck - deficiency survey - CL1350/67-SP-AMC 12-67 Wooden barge at position 40°21'32.4'N, 73°58'42.6"W found baring one foot at MLW. Wreck was snagged using a one boat otter board chain sweep with 75' of sweep line deployed. The chain spread over the snag indicated the wreck to be approximately 15 meters long lying in a northwest-southeast orientation. A corrected least depth of 4.7' was obtained by sounding pole. Wreck lies in 6.2 foot of water. Above depths are at MLW. It is recommended that the wreck remain charted at position 40°21'31.38"N, 73°58'40.98"W. concur, chart as 3 WK

AWOIS #1566

PSR Item #10 - Wreck, charted in Lat. 40°21'28.2"N, Long. 73°58'48"W - deficiency survey CL1350/67 SP-AMC-12-67 and CL2232 CG AUX Rep. On JD 264, a one boat otter board chain sweep with 75 foot of sweep line deployed was run at 10-meter spacing in a 50-meter radius area from the charted position. A snag was incurred on the westerly arc of the drag area and was found to be a small object rising 0.5' off the bottom (corrected least depth at MLW over the obstruction was 0.6', ~~lying in 1.1' of water~~). This was not presumed to be the wreck. While running shoreline hydrography on JD 278 in this area, a wreck matching the position and description of Item 10 was found visually. A detached position was taken on a small wooden barge, 3 meters wide by 15 meters long lying in a northeast-southwest orientation extending offshore at most tide levels. It is recommended that ~~the submerged~~ visible wreck be charted at 40°21'28.5"N, 75°58'46.5W; and ~~the~~ obstruction be charted at 40°21'27.9"N, 73°58'51.4"W. concur

AWOIS #1565

PSR Item #11 - Sunken barge, charted as a visible wreck - Deficiency survey CL1350/67-SP-AMC-12-67 CL2232 CG Aux 1975 at position 40°21'28.8"N, 73°58'54"W bares two feet at MLW. A one boat otter board chain sweep was run at 10-meter arc spacing with 75 foot of sweep line deployed in a 50-meter radius area from the AWOIS printout position. Water visibility was good and no snags or visual evidence of the wreck existed in the area. It should also be noted that a sizeable uncovers area with zero foot depths at MLW has developed in this area, it is 75-meters wide by 150-meters long. The orientation and size of this uncovers area gives cause to suspect that sand and mud from tidal action has been deposited over the wreck creating the uncovers areas and burying the wreck. Recommended action - delete the visible wreck symbol but show an area of uncovers in this area (from survey No. H-10037). concur

sweep missed charted position however, water visibility was good.

AWOIS #1564

PSR Item #12 - Obstruction, position approximate, LNM 51/80, charted in Lat. 40°21'16.5"N, Long. 73°58'45"W Detached positions were taken on the center, offshore and east end and westerly end of piling ruins, extending 50-meters offshore and parallel to Sedge Island. A least depth of 0.7' at MLW was obtained by pole sounding. These ruins were presumed to be the reported obstruction and an addition to the piles currently charted at the tip of Sedge Island. Recommended: chart ~~ruins~~ piles at observed position 40°21'15.1"N, 73°58'40.5"W and retain charted ~~also encompass~~ piles at the east tip of Sedge Island ~~with one ruins note. Delete obstruction PA~~. Retain Obstr PA, was not verified or disproved.

AWOIS #1557

Do not concur

PSR Item #13 - Submerged wreck - Deficiency survey BP72733-SP-AMC-12-67 charted ~~located~~ at position 40°21'19.6"N, 73°58'44.5"W; CG Aux 1975. Detached positions were taken on the center offshore, SE

AWOIS #1558

corner, SW corner and most westerly end of barge wreck, found exposed at time of survey. Wreck is 100-meters long lying in an east/west orientation along island north of the channel. Least depths obtained by pole ranged from ~~submerged 0.6~~ awash' at MLW at the westerly end of exposed 2.4' at MLW on the southeast corner. Recommend: Since the offshore portions of the wreck are submerged at most tide levels, the wreck should remain charted as submerged at position 40°21'19.37"N, 73°58'45"W; Do not concur and shown in an east/west orientation. chart present survey wreckage limits

PSR Item #14 - Snag rep. PA (Obstruction) - CL 1087/81 USPS Report - Log stuck in mud. charted in Lat. 40°20'29"N, Long. 73°58'44"W. A snag was incurred on the first line of a one board otter board chain sweep with 75-foot of sweep line deployed. A detached position was taken on an 18" diameter cut off pile, firmly sunk into the bottom. Water visibility was excellent and a least depth of 0.7' was obtained by pole sounding. Recommended: Shift charted snag to position 40°20'31.32"N, 73°58'41.37"W. Delete PA (position approximate). } Do not concur corrected

AWOIS # 1553

Delete Snag rep PA, and chart pile at above position.

PSR Item #15 - Obstruction - LNM 41/81 Subm. obstr. reported in the vicinity of Shrewsbury lighted buoy "39" and lighted buoy "40". charted ~~Located~~ position 40°20'23.0"N, 74°00'06.0"W. A discrepancy existed between the AWOIS listed position and the AWOIS described position (between LB "39" and LB "40"). The listed position was used as the basis for layout of a chain drag sweep in lieu of buoy positions. Buoy positions have changed since 1981 Edition of chart. A one boat otter board chain sweep with 75-foot of sweep line was conducted at 10-meters arc spacing in a radius extending 100-meters from the listed position, on two separate days (JD 266 and 267). The same snag was incurred on both days, lying on the sloping edge of the channel with a least depth of 7.0' in 9.0' of water at MLW. It was concluded that this was not the obstruction reported nor a danger to navigation due to shoaler surrounding depths of 4-6 feet in the immediate vicinity of the snag. Further dragging incurred another snag between buoys "37b" and "37c" (on JD 271) with a least depth of 4.3' in 4.8' of water at MLW. Surrounding depths in this area range from 3-5' making this snag non-hazardous to navigation. On JD 239 an oyster bed was found with a least depth of 0.8' at MLW at 40°20'26.42'N, 73°59'58.91"W. This oyster bed can be seen visually and is a hard mound of shells and is 10-meters in diameter with depths of 1-3 feet at MLW surrounding the bed to the south and depths of 4-10 feet north of the bed. This oyster bed is believed to be the obstruction reported, due to its proximity to the channel and favorable agreement of actual and reported least depths. Recommendation: ~~Replace~~ Delete charted "obstr" ~~with "oys" at 40°20'26.42'N, 73°59'58.91"W~~.

(Lat. 40°20'26" Long. 74°00'04.1")

(Lat. 40°20'20.6"N Long. 74°00'02.6"W)

AWOIS # 1552

M. ADEQUACY OF THE SURVEY

This survey is considered complete and adequate to supersede prior surveys for charting.

N. AIDS TO NAVIGATION

The following fixed lights shown on the chart were not in place during time

of survey:

AID	LATITUDE	LONGITUDE
Fl "2"	40°20'18"N	73°58'48"W
Fl "6"	40°20'27"N	73°59'00"W
Fl "8"	40°20'51"N	73°59'24"W
FL "1"	40°20'13"N	74°00'28"W
Fl "1"	40°20'06"N	74°00'48"W

None of the above lights are listed in the Coast Guard Light List (CG-158). The remaining priv. maintd lights are substantial agreement with their charted positions and adequated mark the features intended.

There are 22 floating aids to navigation included within the limits of this survey. All aids to navigation with the exception of black can No. "37a", "37b" and "37c" are found in the Coast Guard Light List (CG-158, 1982) under New Jersey, Sandy Hook Bay - Shrewsbury River (pp. 237-238). These three buoys mentioned above are Coast Guard maintained, but are new and were not included in the 1982 publication of the Light List, and are not charted.

AID	LATITUDE	LONGITUDE
Bl C "37a"	40°20'36.4"N	73°59'55.7"W
Bl C "37b"	40°20'23.3"N	74°00'05.1"W
Bl C "37c"	40°20'15.9"N	74°00'05.0"W

Lighted buoy "1" at position 40°20'06.6N, 74°00'33.9"W is a State of New Jersey maintained buoy. It is not charted but is in the vicinity of the previously existing fixed light "1" charted at position 40°20'06"N, 74°00'48"W. The following charted landmarks were verified in addition to those listed on the appended NOAA Forms 76-40:

CHARTING NAME	DESCRIPTION	LATITUDE LONGITUDE	(POS SOURCE) METHOD OF VERIFY
SPIRE	(Rumson Holy Cross ~~Church~~ Spire, 1982) Sig 33	40°22'00.244" 73°58'50.532"	~~(NGS)~~ T-2 cuts
STACK	(Long Branch JCP&L Co, Concrete stack, 1934)	40°18'29.025" 73°59'04.371"	(NGS) T-2 cuts
TOWER	WRLB in Long Branch	40°18'16.0" 73°59'07.5"	(Scaled from TP-00138) outside limits of smooth sheet, T-2 cuts

All aids within the limits of this survey adequately serve the apparent purpose for which they were established. (See Section "L" of this report.)

O. STATISTICS

Linear Nautical Miles of Hydrography	95.25
Linear Nautical Miles of Crossline	12.5
Linear Nautical Miles of Development	3.25
Total Linear Miles of Hydrography	111.00
Total Miscellaneous Miles	75.00
Total Miles Run	297.00
Square Miles of Hydrography	5.30
Total Number of Positions	3034.

Bottom Samples	39
Bar Checks	38

P. MISCELLANEOUS

All soundings obtained using Vessel 1279 are pole soundings. Horizontal control established by HFP-5 personnel was based on Third Order station positions and not on photo points.

The Automated Wreck and Obstruction Information System (AWOIS) lists Geographic Positions for items to be investigated. Within a description of one item it has been found that the printout lists more than one GP for an item. Laying out chain drag schemes to cover both listed positions in order to satisfy survey requirements represents a considerable amount of extra area to be covered in 10-meter line spacing. A systematic check of the printouts would reduce extraneous and in some cases, redundant coverage of an item.

Landmarks destroyed or considered not valuable for navigation are addressed on the 76-40 forms found in the appendix of this report.

No soundings were obtained west of the Oceanport R.R. Bridge. At the time of the survey this bridge was not operating and survey vessels were not able to clear the bridge. Contact was made with the owner of the bridge, CONRAIL, and the bridge status is operational for charting purposes (November 1982).

There is a 1mm discrepancy between the grid lines of the detached position final field sheet and the mainscheme final field sheet. This resulted from an undetected pen jog after the origin had been placed on the sheet and before the Grid, Signal and Lattice Plot Program (RK 201) had begun. When overlaying the two sheets the origins should be lined up and not the grid lines. This will show the the features that have been transferred from the manuscript onto the field sheet in their true position in relation to the shoreline and hydrographic data.

Hydrography run in Manhassett Creek was range-azimuth controlled from stations 79 and 82. Both stations were photo points picked off the shoreline manuscript (SM 8107 Shoreline Manuscript Sheet A of A and B TP-01138, 1:10,000 Shrewsbury River). Station #79 would have been used to control the entire creek east of the car bridge but was destroyed by construction crews after the first day of hydrography. The initial used from stations 79 and 82 was a Third Order station established by HFP-5 (Station #81). Manhassett Creek has a small amount of boating activity, limited mostly by the low bridge clearance and hydrography acquired is both accurate and sufficient for this section of Manhassett Creek.

No detached position was obtained on lighted buoy "31". The field party was required to move on short notice and sooner than scheduled. Standard procedure of double checking all navigation aids and landmarks before leaving the project area had to be cut short in lieu of moving to the Delaware River Project. From daily observation of lighted buoy "31" the charted position is accurate, and the scaled position shown on the final field sheet should be used for charting purposes.

Q. RECOMMENDATIONS

See descriptions of individual Pre-survey Review Items for recommendations for each item.

R. AUTOMATED DATA PROCESSING

	PROGRAM	VERSION
RK 201	Grid Signal, Lattice Plot	04/18/75
RK 212	Visual Table Load	04/01/74
RK 216	Range-Azimuth Non-Real Time Plot	02/09/81
RK 300	Utility Computations	02/05/76
RK 330	Data Reformat and Check	05/04/76
AM 401	Transverse Mercator State Plane Coordinate	04/01/73
AM 407	Direct/Inverse Computation	09/25/78
AM 602	Elinor	05/20/75

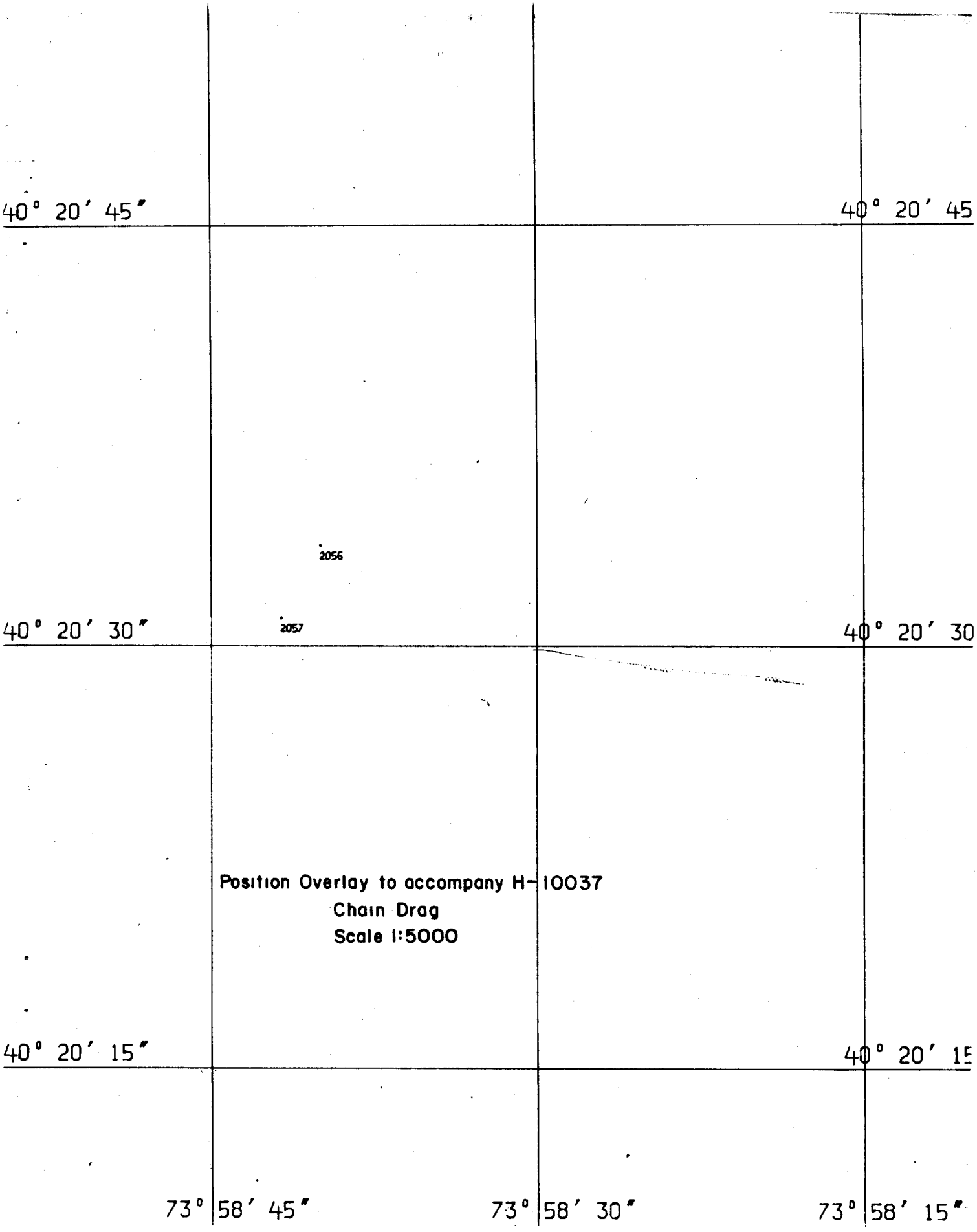
S. REFERENCE TO REPORTS

Descriptive Report for survey H-10016 Navesink River (OPR-B259-HSB-82).

Respectfully submitted,

John W. Humphrey Jr.

John W. Humphrey, Jr.
Lt(jg) NOAA
OIC, HFP-5


40° 20′ 45″
40° 20′ 45
2056
2057
40° 20′ 30″
40° 20′ 30
Position Overlay to accompany H-10037
Chain Drag
Scale 1:5000
40° 20′ 15″
40° 20′ 15
73° 58′ 45″
73° 58′ 30″
73° 58′ 15″

74° 00' 10"

74° 00' 00"

40° 20' 30"

40° 20' 30"

40° 20' 20"

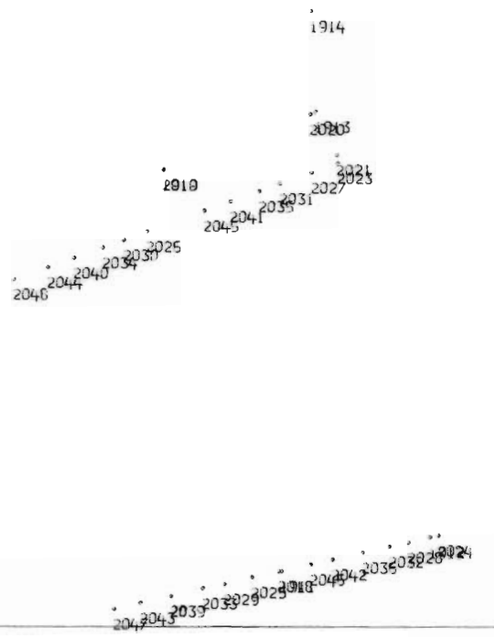
40° 20' 20"

40° 20' 10"

40° 20' 10"

74° 00' 10"

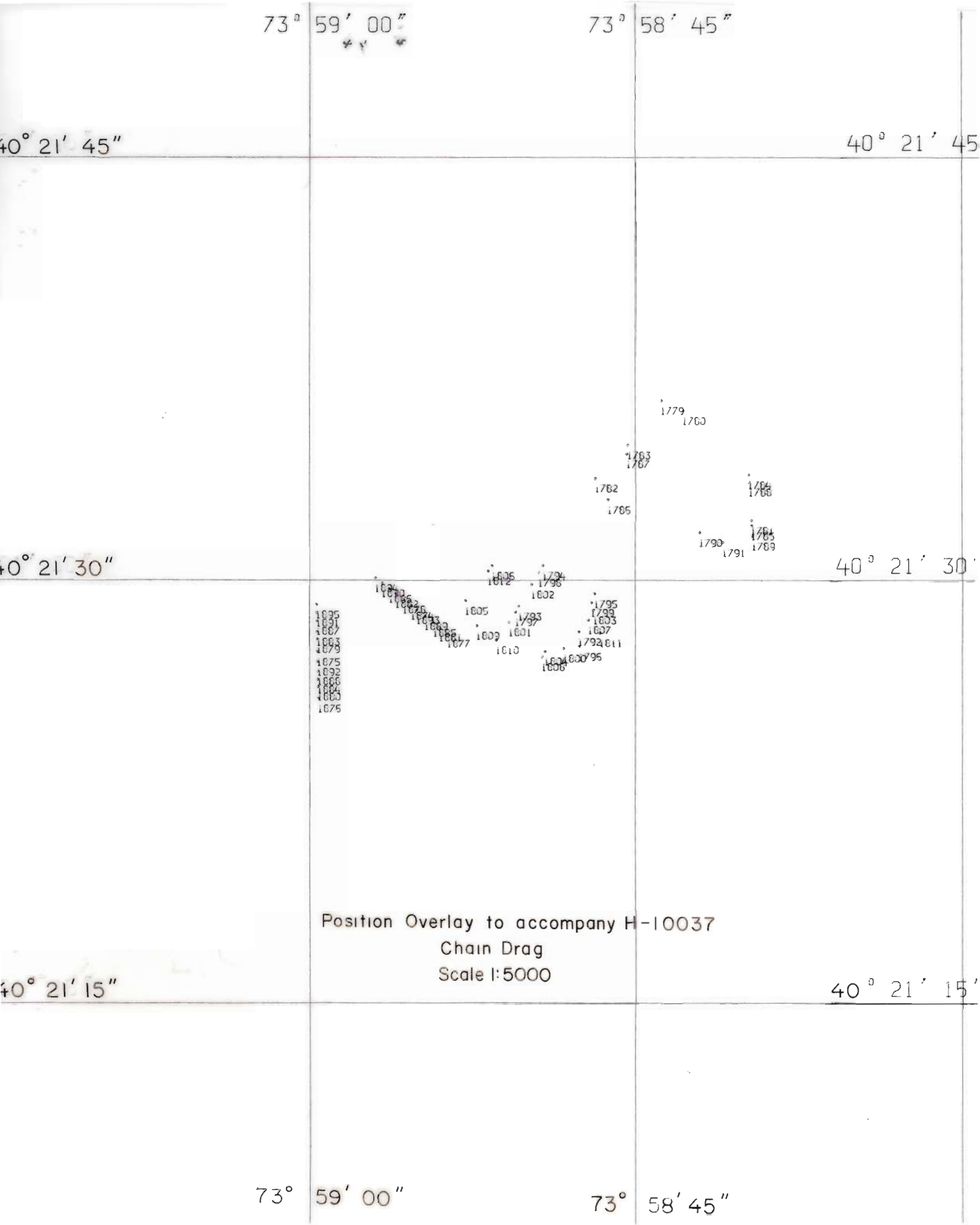
74° 00' 00"



Position Overlay to accompany H-10037

Chain Drag

Scale 1:2500



Position Overlay to accompany H-10037
Chain Drag
Scale 1:5000

DISPROVAL OF AN ITEM

Disproval of an item is time consuming and laborious. It is only attempted when either range/azimuth or range/range position control is available. A typical range/-azimuth disproval scheme is shown in Figure 2.

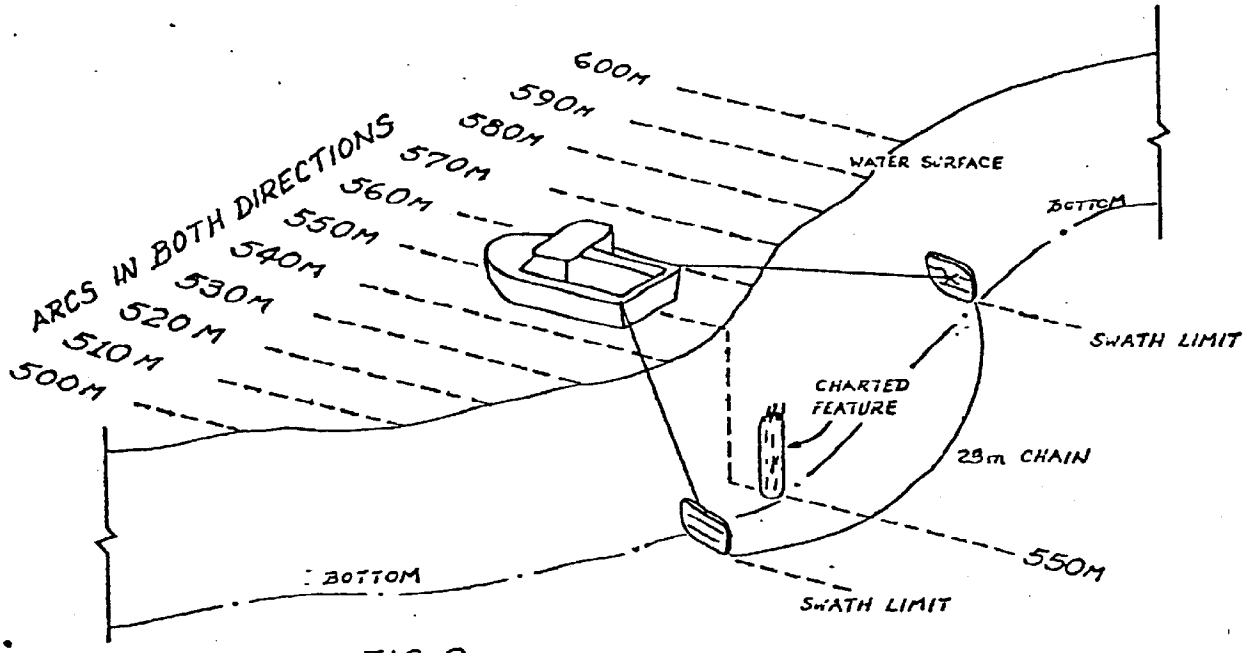


FIG. 2

If the feature is charted a range and azimuth is precomputed from the geodetic position. If the submerged object in Figure 2 has a precomputed range of 550m, controlled arcs between 500m and 600m will be run at 10m spacing in both directions. The 550m arc; for example, will be run in a north and south direction thus reducing the likelihood of the chain slipping over a tilted pile. In 10 feet of water each sweep would cover a 14 meter swath; thus, resulting in a 40% overlap in both directions. This overlap occurs with 30 feet of towline and a tow angle of 45°. Cut off azimuths are precomputed so as to give a total arc length of 200 meters. In this example an area of 200m x 100m would be swept in both directions. If no hangs were encountered during this operation, deletion of the submerged object would be recommended. The operation usually takes 2-3 hours per feature.

LIMITATIONS

The otter board chain sweep can only be utilized under ideal conditions. A regular hard, sandy bottom is most favorable so the boards can skid across the bottom. In areas with soft muddy bottoms, the boards often dig in and rig fouls. The sweep cannot be used in grassy areas or in areas with generally foul bottoms (i.e., stumps, snags, boulders). When any kind of fishing gear is in the area, a sweep is not attempted.

In Figure 1 the tow angle is often less than 45° which effectively reduces the area covered. In theory lengthening the towline would increase the swath with this reduced angle. In practice however a lengthened towline often causes the rig to foul, especially in tight turns. Also fouling of the chain often occurs when the boards are first deployed. The sweep loses effectiveness at depths deeper than 20 feet.

APPROVAL SHEET
SURVEY H-10037 (HSB-10-8-82)

The hydrographic records transmitted with this report are complete and adequate.

No direct supervision was given by me during field work and the field sheet was examined only during routine field inspection of the hydro party by the former Chief of Party, Lt. Cdr. George W. Jamerson.

This survey is complete and adequate with no additional field work recommended.

Ronald W Jones

Ronald W. Jones
Lt. Cdr., NOAA
Chief, Hydrographic Field Parties Section

MASTER SIGNAL TAPE LIST

OPR-B259-HSB-82

N-19007

022	7	40	19	30915	074	00	26436	243	0000	000000	Photo PT. 22 TP-01138 (CDM, 1981)
023	8	40	19	29374	074	00	50649	243	0000	000000	Photo PT. 23 TP-01138 (CMD, 1981)
032	7	40	21	56110	073	58	32081	250	0000	000000	Sea Bright, 1981 (CMD)
033	5	40	22	00244	073	58	50532	139	0000	000000	Rumson Holy Cross ~~Church~~ Spire, ~~1962 (NGS)~~ 1981
034	6	40	21	00194	073	59	03749	250	0000	000000	Gun, 1981 (CMD)
035	5	40	22	31901	073	58	23836	139	0000	000000	Monmouth Beach CG Cupola, 1934 (NGS)
036	3	40	20	12905	074	00	49234	250	0000	000000	Little Silver, 1981 (CMD)
037	4	40	20	04274	073	59	45109	250	0000	000000	Racoon USE, 1934, RM 2 (NGS)
059	4	40	22	15395	073	58	30663	243	0000	000000	Photo PT. 01 TP-01138 (CMD, 1981)
062	7	40	20	16231	073	58	42222	243	0000	000000	Photo PT. 10 TP-01138 (CMD, 1981)
065	7	40	19	43433	073	59	41793	243	0000	000000	Photo PT. 11 TP-01138 (CMD, 1981)
066	3	40	24	11208	074	02	40032	139	0000	000030	Highlands AT&T Micro Tower, 1982 (HSB HFP-5)
067	7	40	19	27295	074	01	09959	250	0000	000000	Goose, 1982 (CMD)
068	4	40	19	12936	073	59	49340	250	0000	000000	Pleasure, 1982 (CMD)
069	3	40	21	41938	073	58	40437	250	0000	000000	Sea Bright, AZMK 1982 (CMD)
070	7	40	24	02711	074	00	05224	139	0000	000000	White Tank, 1982 (CMD)
071	5	40	23	18338	073	59	32815	250	0000	000000	Stinky, 1982 (HSB, HFP-5)
072	7	40	20	55486	073	58	37710	250	0000	000000	McCrane, 1982 (HSB, HFP-5)
073	5	40	21	31748	073	58	59756	250	0000	000000	Oyster, 1982 (HSB, HFP-5)
074	7	40	21	16277	073	58	25248	139	0000	000000	Bamboo Club Vent Stack, 1982 (HSB, HFP-5)
075	2	40	20	42301	073	58	41484	250	0000	000000	Alex, 1982 (HSB, HFP-5)
076	7	40	19	50525	074	00	50468	139	0000	000000	Lt. "2", 1981 (CMD)
077	4	40	19	03252	073	59	45556	250	0000	000000	Pleasure Temp, 1982 (HSB, HFP-5)
078	7	40	20	47578	074	03	15102	139	0000	000000	Red Bank Pres. Church Spire, 198 (HSB, HFP-5)
079	5	40	19	36310	073	59	27530	253	0000	000000	MCPP 1 1982 (HSB, HFP-5)
081	7	40	22	05512	073	58	52098	139	0000	000000	Chan Club Condo NW Cor, 1982 (HSB, HFP-5)
082	5	40	19	34370	073	59	26472	253	0000	000000	MCPP 2 1982 (HSB, HFP-5)

APPENDIX 'F'

NOAA FORM 76-40 (8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS [redacted] FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

[X] TO BE CHARTED [ ] TO BE REVISED [ ] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	HSB, HFP-5	New Jersey	Shrewsbury River	10/82

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
B259-HSB-82	HSB-10-8-82	H-10037	1927 North American

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT "1"	Little Silver Crk. Lt. 1, Priv Maintd (Not listed in USCG LL)	40 20	22.098	74 00	48.564		F-2-6-L 5/24/82	12324
LIGHT "2"	Oceanport Crk. Lt. 2, Priv Maintd (Not listed in USCG LL) Sig 076	40 19	50.526	74 00	50.468		F-2-6-L 5/24/82	12324
LIGHT "4"	Shrewsbury R. Lt. 4, Priv Maintd (Not listed in USCG LL)	40 20	15.644	73 58	59.154		F-2-6-L 5/26/82	12324
LIGHT "2"	Shrewsbury River Lt. 2, Priv Maintd (Not listed in USCG LL)	40 20	17.56	73 58	47.45	GP for ident. only	Not in place at time of survey	12324
LIGHT "6"	Shrewsbury River Lt. 6, Priv Maintd (Not listed in USCG LL)	40 20	26.94	73 59	00.39	GP for ident. only	Not in place at time of survey	12324
LIGHT "8"	Shrewsbury River Lt. 8, Priv Maintd (Not listed in USCG LL)	40 20	49.99	73 59	24.56	GP for ident. only	Not in place at time of survey	12324
LIGHT "1"	Shrewsbury River Lt. 1, Priv Maintd (Replaced by Priv Maintd buoy)	40 20	12.51	74 00	28.23	GP for ident. only	Not in place at time of survey	12324
LIGHT "1"	Town Neck Crk. Lt. 1, Priv Maintd (Not listed in USCG LL)	40 20	05.81	74 00	48.76	GP for ident. only	Not in place at time of survey	12324

(44) 4-13-83

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Lt(jg) John W. Humphrey	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Lt. (jg) John W. Humphrey	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ 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	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	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.

NOAA FORM 76-40 (8-74)

SUPERSEDES NOAA FORM 76-40 (2-71) WHICH IS OBSOLETE, AND EXISTING STOCK SHOULD BE DESTROYED UPON RECEIPT OF REVISION.

☆ U.S. GPO:1975-0-665-080/1155

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

[redacted] LANDMARKS FOR CHARTS

[X] TO BE CHARTED
[ ] TO BE REVISED
[ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
HSB, HFP-5	New Jersey	Shrewsbury River	10/82

ORIGINATING ACTIVITY

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

The following objects HAVE [X] HAVE NOT [ ] *been inspected from seaward to determine their value as landmarks.*

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
B259-HSB-82	H=10037	HSB-10-8-82	

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° '	LATITUDE " D.M. Meters	LONGITUDE ° '	LONGITUDE " D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
SPIRE	(Red Bank Pres. Church Spire, 1982)	40 20	[6] 47.578	74 03	[02] 15.115		F-3-6-L 8/82	12324

45 L-858(86)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Lt(jg) John W. Humphrey	[x] PHOTO FIELD PARTY [ ] HYDROGRAPHIC PARTY [ ] GEODETIC PARTY [ ] OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Lt.(jg) John W. Humphrey	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		[ ] REVIEWER [ ] 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	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	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.

454

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

[redacted] LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [ ] TO BE REVISED
- [X] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): HSB, HFP-5

STATE: New Jersey

LOCALITY: Atlantic Coast
Navesink & Shrewsbury Rvrs

DATE: 8/82

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.: B259-HSB-82

JOB NUMBER: H-10037

SURVEY NUMBER: HSB-10-8-82

DATUM: 1927 North American

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M.Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P.Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
TOWER	Monmouth Beach Coast Guard Radio Tower, 1962 Destroyed	40 20	32.350	73 58	29.95		Destroyed	12324
TANK	Tank Red Bank, Destroyed	40 20	58.693	74 04	33.112	outside survey limits	Destroyed	12324
GAS TANK	Gas Tank Long Branch Destroyed	40 18	27.734	73 59	03.331		Destroyed	12324
FLAGPOLE	(Ft. Monmouth Flagpole, 1934) Moved, not visivle as landmark	40 19	03.054	74 02	06.992		Not visible	12324
RADIO TOWER	Tower has been removed	40 21	41.4	73 58	36.21		Destroyed	12324

46. 1-13-1(83)

RESPONSIBLE PERSONNEL

TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	Lt(jg) John W.Humphrey	[X] PHOTO FIELD PARTY [ ] HYDROGRAPHIC PARTY [ ] GEODETIC PARTY [ ] OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Lt.(jg) John W. Humphrey	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		[ ] REVIEWER [ ] 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	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	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.

☆ U. S. GPO:1975-0-665-080/1155

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: H-10037

Number of positions	2910
Number of soundings	7943
Number of control stations	28

	TIME-HOURS	DATE COMPLETED
Preprocessing Examination	24	19 JUL 1983
Verification of Field Data	623	20 DEC 1985
Quality Control Checks	134	
Evaluation and Analysis	55	05 MAR 1986
Final Inspection	16	17 MAR 1986
TOTAL TIME	852	

Marine Center Approval 23 MAR 1986

Transmittal letter of survey and survey records will be included in the Descriptive Report to identify the records accompanying the survey.

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
MOA-23-83-86

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL

☒ REGISTERED MAIL ☐ EXPRESS

☐ GBL *(Give number)* _____

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/CG243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

DATE FORWARDED
July 30, 1986

NUMBER OF PACKAGES
2 (1 Box 1 tube)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10037 OPR-B259-- SHREWSBURY RIVER

PACKAGE 1 (BOX) --- 2 Cahiers of PRINTOUTS
1 ORIGINAL DESCRIPTIVE REPORT

PACKAGE 2 (TUBE) 1 Smooth Sheet, 1 Final Position Overlay -- 2 excess Overlays

FROM: *(Signature)* David B. MacFarland
DAVID B. MACFARLAND, CDR, NOAA

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

ATLANTIC MARINE CENTER
HYDROGRAPHIC SURVEYS BRANCH, N/MOA23
NOAA, NATIONAL OCEAN SERVICE
439 W. YORK STREET
NORFOLK, VA 23510

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

☆ U.S. G.P.O. 1981-564-008/1048

DATE: May 3, 1983

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): 853-1712 Highland Bridge, NJ
853-1804 Sea Bright, NJ
853-1833 Red Bank, NJ
853-1925 Gooseneck Bridge, NJ

Period: July 30-October 6, 1982

HYDROGRAPHIC SHEET: H-10037

OPR: B259

Locality: Navesink and Shrewsbury Rivers, NJ

Plane of reference (mean ~~lower~~ low water): 853-1712 = 1.56 ft.
853-1804 = 2.61 ft.
853-1833 = 2.35 ft.
853-1925 = 3.09 ft.

Height of Mean High Water above Plane of Reference is
853-1712 = 4.2 ft.
853-1804 = 3.3 ft.
853-1833 = 3.7 ft.
853-1925 = 2.8 ft.

REMARKS: Recommended Zoning:
See Page 2

Chief, Tidal Datums Section, Tides & Water Levels Branch

DATE: May 3, 1983

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

TIDE NOTE FOR HYDROGRAPHIC SHEET
OPR-B259 H-10016, H-10037

I. IN THE SHREWSBURY RIVER, NEW JERSEY

A. East of Longitude 73°58.9'

1 1. North of latitude 40°21.6' zone direct on 853-1804.
2 2. South of 40°21.6' zone on 853-1804 apply +15 minute time correction.

B. West of 73°58.9' to 74°00.0'

3 1. North of 40°19.8' zone on 853-1925 apply -30 minute time correction, x1.09 range ratio on 853-1925.

4 2. South of 40°19.8' to 40°19.4' zone on 853-1925, apply -15 minute time correction.

5 3. South of 40°19.4' zone direct on 853-1925.

C. West of 74°00.0' to 74°00.8'

6 1. North of 40°19.0' zone on 853-1925 apply -15 minute time correction.

7 2. South of 40°19.0' zone direct on 853-1925.

D. West of 74°00.8' zone direct on 853-1925.

May 3, 1983

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

OPR-B259 H-10016, H-10037

II. IN THE NAVESINK RIVER, NEW JERSEY

A. East of Longitude 73°59.0'

1. North of latitude 40°23.1' zone direct on 853-1712.

2. South of 40°23.1' to 40°22.8' zone on 853-1712 apply +15 minute time correction x0.90 range ratio.

3. South of 40°22.8' to 40°22.5' zone on 853-1712, apply +30 minute time correction x0.90 range ratio.

4. South of 40°22.5' to 40°22.2' zone on 853-1712, apply +45 minute time correction x0.83 range ratio.

5. South of 40°22.2' to 40°21.6' zone direct on 853-1804.

B. West of 73°59.0' to 74°00.0' zone on 853-1712, apply +30 minute time correction x0.83 range ratio.

C. West of 74°00.0' to 74°02.0' zone on 853-1833, apply -15 minute time correction.

D. West of 74°02.0' zone direct on 853-1833.

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10037

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
BLACKBERRY CREEK										1
BRANCHPORT										2
BRANCHPORT CREEK										3
GALILEE										4
GOOSENECK POINT										5
GUNNING ISLAND										6
HORSENECK POINT										7
LITTLE SILVER										8
LITTLE SILVER CREEK										9
LITTLE SILVER POINT										10
LOW MOOR (locality)										11
MANHASSETT CREEK										12
MONMOUTH BEACH (locality)										13
NEW JERSEY (title)										14
NORTH LONG BRANCH (locality)										15
OCEANPORT										16
OCEANPORT CREEK										17
OYSTER BAY										18
PARKERS CREEK										19
PORT-AU-PECK										20
RACCOON ISLAND										21
RUMSON NECK										22
SANDS POINT (locality)										23
SEA BRIGHT										24
SEDGE ISLAND										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10037

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
SHREWSBURY RIVER										1
TOWN NECK POINT (locality)										2
PLEASURE BAY										3
TROUTMANS CREEK										4
SHREWSBURY										5
										6
										7
										8
										9
										10
										11
										12
										13
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										18
				Approved:						19
										20
				Charles E. Harrington						21
				Chief Geographer - NOAA						22
				MAR 5 1986						23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: H-10037 FIELD NO.: HSB-10-8-82

New Jersey, Shrewsbury River

SURVEYED: July 30 through October 6, 1982

SCALE: 1:10,000 PROJECT NO.: OPR-B259-HSB-82

SOUNDINGS: Raytheon DE-719B Echo Sounder, Sounding Pole

CONTROL: Range/Azimuth - Del Norte/Theodolite "SEE FIELD SHEET" method

Chief of Party	G. W. Jamerson
Surveyed by	J. W. Humphrey, Jr.
	B. A. Link
	J. M. Robinett
	K. L. Goodman
	C. S. Weisner
	S. R. Linehan
Automated Plot by	Xynetics 1201 Plotter (AMC)

1. INTRODUCTION

a. No unusual problems were encountered during the evaluation of this survey.

b. Changes in the Descriptive Report were made in red ink during office processing.

2. CONTROL AND SHORELINE

a. Control is adequately discussed in sections F and G of the Descriptive Report.

b. Shoreline originates with Class III registered shoreline map TP-01138 of 1981. Shoreline revisions in red are by the hydrographer.

The shoreline map should be used to ascertain the limits of the apparent marsh shoreline for charting. No attempt was made to transfer the apparent marsh shoreline, depicted on the shoreline map, to the present survey.

3. HYDROGRAPHY

a. Depths at crossings are in good agreement.

b. The standard depth curves are adequately delineated except for portions of the 0-, 6-, and 12-foot depth curves because of their proximity to shore. A 3-foot supplemental depth curve and several dashed curves were added to emphasize certain bottom features.

c. The development of the bottom configuration and the determination of least depths are considered adequate. The unsurveyed areas between piers were occupied by moored vessels, as noted by the hydrographer, during the survey.

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records, and reports comply with the requirements of the Hydrographic Manual, with the exceptions listed below.

a. A negative Dangers to Navigation Report was not included in the Descriptive Report as required in section 6.12 of the project instructions.

b. No comparisons were made in section L of the Descriptive Report with the charted centerline depths of the privately maintained channels.

c. Most of the charted piles were neither verified nor disproved as required in section 6.10.2 of the project instructions.

5. JUNCTIONS

The junction with H-10016 (1982) on the north was completed during the evaluation of that survey.

6. COMPARISON WITH PRIOR SURVEYS

a. H-5616 (1934) 1:10,000

This survey covers the area common to the present survey. Cultural development and extensive channel dredging, by the U.S. Army Corps of Engineers and private interests subsequent to the prior survey, preclude a detailed comparison with the present survey. A comparison outside these areas reveals a general shoaling of 1 to 2 feet.

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

b. TP-00760 (1974) 1:10,000

This Class III registered shoreline map covers a portion of the area common to the present survey.

Several piles were brought forward to supplement the present survey. With these additions, the present hydrography is adequate to supersede the prior survey in the common area.

7. COMPARISON WITH CHART 12324 (20th Edition, December 19, 1981)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented by U.S. Army Corps of Engineers surveys and other miscellaneous sources.

Attention is directed to the following items:

(1) The pile symbols, not labeled, charted at the locations listed below, from miscellaneous sources, were neither verified nor disproved by the present survey and should be retained on the chart unless the compiler has information to the contrary.

Items	Latitude (N)	Longitude (W)
two piles	40°19'30"	73°59'50"
two piles	40°19'05"	73°59'47"
two piles	40°21'16"	73°58'34"
one pile	40°21'25"	73°58'38"

(2) The charted reported depth notes and reports of shoaling, at the locations listed below, should be deleted and present survey soundings charted, unless the compiler has information subsequent to the present survey.

Charted item	Latitude (N)	Longitude (W)
5 ft rep 1975	40°20'45"	74°01'30"
5 ft rep 1975	40°20'35"	74°01'40"
5 ft rep 1975	40°20'30"	74°01'55"
Shoaling rep 1979	40°20'20"	74°01'00"
Shoaling rep 1979	40°20'00"	74°01'00"
Shoaling rep 1977	40°19'22"	74°01'18"
Shoaling rep	40°19'40"	74°00'40"
Shoaling rep 1977	40°19'02"	73°59'40"
Shoaling rep 1980	40°19'40"	73°59'35"
Shoaling rep 1976	40°20'25"	73°59'20"

The present survey is adequate to supersede the charted hydrography within the common area.

b. Controlling Depths

(1) The charted controlling depths for the Shrewsbury River originate with U.S. Army Corps of Engineers surveys of July and August 1981. Present depths are in agreement with the tabulated controlling depths.

(2) The following listing is a comparison of the charted privately maintained channel centerline depths with those found on the present survey.

Location	Charted centerline depth label	Present survey centerline depth (feet)
Shrewsbury River (vicinity of Gooseneck Point to Horseneck Point)	5 ft Aug 1967	4
Oceanport Creek	3 ft	4 (channel limits in disagreement)
Parker Creek	4 ft Aug 1967	2
Town Neck Creek	5 ft 1967	3
Little Silver Creek	6 ft 1967	4
Blackberry Creek	5 ft 1965-67	4
Troutmans Creek	6 ft	4
	4 ft	no depth obtained
Manhasset Creek	6 ft 1967	4

c. Aids to Navigation

The aids to navigation listed below are in substantial agreement with their charted positions and adequately mark the features intended.

Buoy Number	Latitude (N)	Longitude (W)
Red nun "32"	40°21'11.1"	73°58'59.4"
Black can "33"	40°21'02.7"	73°59'12.7"
red "34" (lighted)	40°21'03.1"	73°59'16.2"
Black can "41"	40°20'04.4"	73°59'59.5"
Black "43" (lighted)	40°19'49.6"	73°59'51.0"
Red nun "46"	40°19'22.4"	73°59'46.3"

The positions of all other floating aids differ substantially from their charted positions.

See section N of the Descriptive Report for a discussion of the nonfloating privately maintained aids to navigation.

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the project instructions, except as noted in section 4 of this report.

9. ADDITIONAL FIELD WORK

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

R. L. Keene
Cartographic Technician
Verification of Field Data

Stephen R. Baumgardner
Cartographer
Standards Section (N/CG242)
Evaluation and Analysis

Robert R. Hill
Senior Cartographic Technician
Verification Check

Inspection Report
H-10037

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The survey complies with National Ocean Service (NOS) requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

Inspected

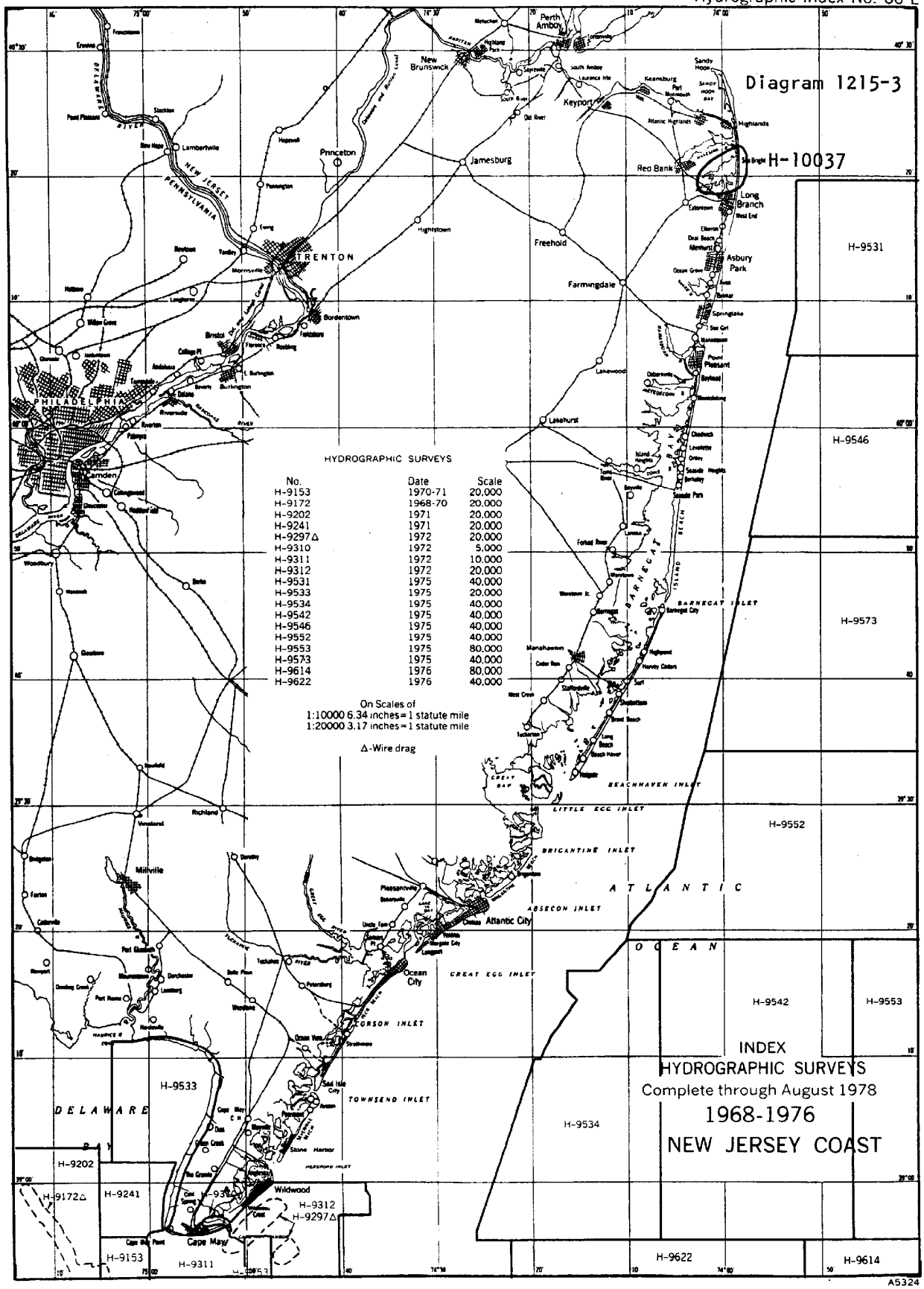
George K. Myers
Chief, Standards Section (N/CG242)
Hydrographic Surveys Branch

Approved

Wesley V. Hull, RADM, NOAA
Director, Atlantic Marine Center

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

Hydrographic Index No. 66 L



NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10037

INSTRUCTIONS

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

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

CHART	DATE	CARTOGRAPHER	REMARKS
12324-A	1982	CORDTS	~~Full Part Before After~~ Marine Center Approval Signed Via
			Drawing No. 25A FWD 2/22/89
12324	4/16/90	[illegible]	Full Part ~~Before After~~ Marine Center Approval Signed Via Full application of
			Drawing No. soundings from SSS.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
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			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.