<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Field No.</td>
<td>HSB-10-10-82</td>
</tr>
<tr>
<td>Office No.</td>
<td>H-10049</td>
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</table>

**LOCALITY**

- **State**: New Jersey
- **General Locality**: Lower Bay
- **Locality**: Sandy Hook Bay

**1982**

**CHIEF OF PARTY**

CDR R.K. Matsushige

**LIBRARY & ARCHIVES**

**DATE**

May 6, 1986
**INSTRUCTIONS** - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

<table>
<thead>
<tr>
<th>State</th>
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</tr>
</thead>
<tbody>
<tr>
<td>General locality</td>
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</tr>
<tr>
<td>Locality</td>
<td>Lower Bay, Sandy Hook Bay</td>
</tr>
<tr>
<td>Scale</td>
<td>1:10,000</td>
</tr>
<tr>
<td>Date of survey</td>
<td>13 September – 9 November 82</td>
</tr>
<tr>
<td>Instructions dated</td>
<td>3 May, 30 June, 18 August 1982</td>
</tr>
<tr>
<td>Project No.</td>
<td>OPR-B139-WH-82</td>
</tr>
<tr>
<td>Vessel</td>
<td>NOAA Ship WHITING S-329, HFP-5 personnel</td>
</tr>
<tr>
<td>Chief of party</td>
<td>Commander Roy K. Matsushige, Lt. Comdr. R. L. Jones</td>
</tr>
<tr>
<td>Surveyed by</td>
<td>J. Humphrey, V. Shaffer, P. Kenul, E. Steigerwald, R. Blevins, M. Fetterly</td>
</tr>
</tbody>
</table>

**Soundings taken by echo sounder, hydrophone**

**Graphic record scaled by** JWH, VNS, EAS, PMK, RWB, RCB, GRP, KLG

**Graphic record checked by** WHITING and HFP-5 personnel

**Protracted by** D. V. Mason

**Verification by**

<table>
<thead>
<tr>
<th>Automated plot by</th>
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<tr>
<td>Hydroplot (WHITING)</td>
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<tr>
<td>XNETICS 1261 Plotter (AMC)</td>
</tr>
</tbody>
</table>

**Soundings in feet at MSL MLLW**

**REMARKS:** All times are Coordinated Universal Time.

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

**STANDARDS CRID 5-6/86**

**A015/SHORE MAIN 8/87**

**S129-96**
PROGRESS SKETCH

NEW YORK HARBOR
SANDY HOOK BAY
HSB, NOAA
Sept - Nov 1982
G. W. JAMERSON, LCDR., NOAA

LEGEND

<table>
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<tr>
<th></th>
<th>Sept</th>
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<tr>
<td>Sq. NM Sounding</td>
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<td>LNM Misc Distance</td>
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<td>LNM Chain Drag</td>
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<td>PSR Items Resolved</td>
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<tr>
<td>TDC Cast Site</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Surveyed Area</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Chart No. 12327
Scale 1: 80,000
DESCRIPTIVE REPORT
TO ACCOMPANY
BASIC HYDROGRAPHIC SURVEY
HSB-10-10-82
H-10049
SCALE: 1:10,000
SURVEYED 13 SEPTEMBER - 8 NOVEMBER 1982
BY NOAA SHIP WHITING & HFP-5 PERSONNEL
COMMANDER ROY K. MATSUHIGE
COMMANDING OFFICER
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<th>Page</th>
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<td>*XI. Approval Sheet</td>
<td>116</td>
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</table>

* Removed from Descriptive Report and filed with original survey data.
A. PROJECT

This survey was carried out in accordance with Project Instructions for OPR-B139-82, New York Harbor, Lower Bay, dated 3 May 1982 and amended by Change No. 1, dated 30 June 1982, and Change No. 2, dated 18 August 1982.

B. AREA SURVEYED

This survey was conducted in Sandy Hook Bay, New Jersey and includes the mouth of the Shrewsbury River to Latitude 40°24'10"N. The western shoreline of Sandy Hook was the eastern limit of hydrography and the shoreline bordering the southern limit of Sandy Hook Bay served as the southern limit of hydrography. The northern and western limits were defined by the Project Instructions as:

North 40°27.4'N
West 74°06.0'W

The area surveyed is affected by a mean tidal range of 4.6 feet. (See Tide Note.)

Bottom topography for 90% of the surveyed area is flat with an average depth of 18-feet in the offshore areas. Along the southern end of the survey area the bottom slopes up gradually to the shoreline whereas the bottom rises more abruptly to the western shore of Sandy Hook. The deeper depths averaging 35-feet in the northern portion of the survey area are in the vicinity of the Leonardo Naval Pier and Terminal Channel leading to the pier. At the southeast corner of the survey area (the mouth of the Shrewsbury River) there is considerable shoaling. Within the survey limits are portions of two
navigation approaches -- Terminal Channel and the channel leading to the Shrewsbury River -- and two entire channels, Compton Creek and Leonardo Harbor Channel. There is a security zone around the Leonardo Naval Pier marked by orange and white horizontally-banded nun buoys.

C. SOUNGING VESSELS

Soundings for this survey were obtained using Launch 1015, (Jensen, EDP number 2931) and Launch 1288 (MonArk, EDP number 2933). Additionally, launch 1014 (Jensen, EDP number 2932) was used for one day on JD 312.

D. SOUNGING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following equipment was used to obtain soundings for this survey:

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>VESNO</th>
<th>SERIAL NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ross Model 5000 Fineline Echo Sounder</td>
<td>1014 &amp; 1015</td>
<td>1052</td>
</tr>
<tr>
<td>Raytheon DE-719B</td>
<td>MonArk</td>
<td>6150</td>
</tr>
</tbody>
</table>

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

Echo sounder calibration checks were made at frequent intervals on each day of hydrography. Any necessary adjustments were made and noted on the echogram. Any departure of the trace from the calibration was corrected during the scanning process.
Velocity corrections were derived from bar check data and two TDC cast (JD 260 and JD 294, the positions of which are plotted on the progress sketch) results. Bar checks were taken on each day of hydrography using launches 1014 and 1015, except when time and weather were prohibitive. (See the supplemental data folder for all records and Appendix IV for velocity graphs and velocity correction printouts).

A transducer draft of 1.5 feet and 0.7 feet was applied to all fathometer soundings obtained by launches 1014, 1015 and the MonArk respectively. Settlement and squat correctors for launches 1014 and 1015 were determined on 11 July 1982 using the level method. A copy of the field data and Settlement and Squat vs. RPM's for all launches are included in Appendix IV. Settlement and squat correctors will be applied via the TC/TI tape during the final processing by M0A23.

(This survey was conducted using predicted tides based on daily predictions at Sandy Hook, New Jersey from Tide Tables 1982. Tidal zoning for the area of this survey was direct on Sandy Hook Station (853-1680) as per Project Instructions. Predicted tide correctors generated from the Tide Table 1982 were applied during offline processing. Smooth tides were requested from the Chief, Tides and Water Levels Branch (formerly OA/C23) in a letter dated 26 January 1983. Smooth tides applied to data shown on the smooth sheet.
### E. HYDROGRAPHIC SHEETS (FIELD SHEETS)

All field work was plotted on four (4) mylar field sheets using a DP-35 automated plotter.

<table>
<thead>
<tr>
<th>No. of Sheets</th>
<th>Type</th>
<th>Skew</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Mainscheme, Crossline</td>
<td>90, 21, 30</td>
</tr>
<tr>
<td>2</td>
<td>Bottom Samples, Detached Positions,</td>
<td>90, 21, 30</td>
</tr>
<tr>
<td></td>
<td>Developments</td>
<td></td>
</tr>
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</table>

Soundings on the final field sheet are corrected for draft, predicted tides 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 the Atlantic Marine Center:

- Master Range/Range
- Generated Master Range/Azimuth
- Electronic Corrector Tapes
- Velocity Corrector Tapes
- Parameter Tapes
- ASCII Signal Tapes
- TC/TI Tapes

A listing of predicted tides is included in the supplemental data folder.

### F. CONTROL STATIONS

The horizontal control stations of third order accuracy which were used for this survey are listed on the signal tape listing included in Appendix VI. All data for stations located during the survey have been included with the Horizontal Control Report submitted to MOAll.

### G. HYDROGRAPHIC POSITION CONTROL

Range-range and range-azimuth control methods were used for the positioning for this survey. A Wild T-2 and Del Norte range equipment were used for range-azimuth positioning and Del Norte was used for Range-Range positioning. On JD 270 "See Field Sheet" methods were used for
control in Compton Creek. The equipment used during the survey is listed on the calibration abstract forms included in the supplemental data folder.

Slave unit locations were chosen so that intersection angles between the ranges within the working areas were greater than 30\(^\text{o}\) and less than 150\(^\text{o}\). All range/range data for this survey was recorded in real time using RK112 and the launch computer systems. Range/azimuth data collected by the MonArk was hand-logged at the end of each day.

Calibrations for the Del Norte system were computed in accordance with the Hydrographic Manual, Section 4.4.3.3 and 5.4.3(c). All Del Norte equipment was calibrated over a measured baseline before hydrography began on the survey. The first baseline calibration was performed at the Navy Munitions Pier, Earle, New Jersey on 8 September 1982 (JD 251). WHITING personnel used a Hewlett-Packard EDM (S/N 1929A00355) to measure the baseline at a distance of 1351 meters on 9 July 1982 (JD 190). Another baseline measurement was performed on 28 September 1982 (JD 271) between the Sandy Hook Coast Guard pier and Station FLOTSOM. The distance measured was 2073 meters. The final calibration was performed at the Navy Munitions Pier on 9 November 1982 (JD 313).

Baseline calibrations were conducted using DMU/MASTER pairs used on survey vessels 1014, 1015 and the MonArk during the survey as follows:

<table>
<thead>
<tr>
<th>DATE</th>
<th>DMU/MASTER</th>
<th>BASELINE DESCRIPTION</th>
<th>TRUE DISTANCE</th>
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<tr>
<td>09/08/82</td>
<td>189/291</td>
<td>Navy Munitions Pier</td>
<td>1351 M</td>
</tr>
<tr>
<td>(JD 251)</td>
<td>515/912</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DATE</td>
<td>DMU/MASTER</td>
<td>BASELINE DESCRIPTION</td>
<td>TRUE DISTANCE</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>-------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>09/28/82</td>
<td>189/281</td>
<td>Sandy Hook CG to</td>
<td>2073 M</td>
</tr>
<tr>
<td>(JD 271)</td>
<td>515/912</td>
<td>Station PLOTSOM</td>
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<tr>
<td>11/09/82</td>
<td>189/281</td>
<td>Navy Munitions Pier</td>
<td>1351 M</td>
</tr>
<tr>
<td>(JD 313)</td>
<td>515/912</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DMU S/N 515 could not be checked on this final calibration since it malfunctioned the previous day during hydrography.

Field calibrations were performed twice daily by Launch 1014 and 1015 and the MonArk using fixed calibration points. Stations used for fixed calibration were Station #17, Ammo Pier Cal-L #32, Station #80, East Mile Marker. Baseline and average daily calibrations were not applied during the off-line plot.

The master antenna was brought alongside the fixed point for calibration at the Ammo Pier Cal-L Point 1982. The master unit was removed from the launch and was placed over the fixed point calibration site at station #80 when calibrating at East Mile Marker. An abstract of daily calibrations appears in Appendix V. On 8 November 1982, the last day of hydrography, DMU master 912 unit malfunctioned at the end of the survey and therefore a final baseline calibration could not be accomplished using this unit. There is no evidence to lead the hydrographer to believe that the data collected with DMU 912 is not accurate. All calibration data for this survey is considered adequate and no problems which would degrade position accuracy of this survey were encountered.
H. SHORELINE - See Section 2.b. of the Evaluation Report

Shoreline for this survey was obtained from TP sheets 00757, 00758, 00759 and 00760. During the survey it was found that the shoreline at the southern end of Sandy Hook, especially the area around Plum Island, had experienced drastic changes. During the period extremely high tides flooded this area and washed out the road from 12 October through 26 October - see article included on the next page. The road was rebuilt while the survey was in progress and did not wash out again.

This portion of the Sandy Hook peninsula has been eroding for years. At the time of the survey a major U.S. Army Corps of Engineers project was underway to slow down the eroding process on the eastern shore of Sandy Hook. Hydrography was run alongshore and inside Plum Island to best represent the changes in the topography. Most of the region inside this area was not navigable.

Due to the difficulty of navigation close to obstructions along the western shore of Sandy Hook, most shorelines were run at high tide. This and the fact that tides were unusually high throughout this period of the survey produced soundings which plot on the beach. Appropriate revisions were made in red on the smooth sheet.

The field edit was performed by personnel from the WHITING and AMC in July and August 1982. Changes in shoreline manuscript are noted on TP-00758. All field edit changes have been transferred to the field sheet. The field edit report and accompanying data was forwarded after all hydrography was complete for this project.
Rain tonight
Rain tomorrow.
high in low 60s.
Weather/A4
Complete Index/Page A4

Renewal
Couple refurbishing old
Asbury Park store.
A Closer Look/A4

Monmouth Co

ASBURY PARK

Since 1879
Wednesday October 13, 1982

Wind-driven tides destroy remaining access road section

By SUSAN DE SANCTIS
and EBEN ROGGE
Press Staff Writers

SANDY HOOK — High tides driven by a storm 1,300 miles off shore have destroyed a section of the only access road to this peninsula, closing most of the national park to visitors.

About a half mile of the road on the northern end of Sandy Hook, a unit of the Gateway National Recreation Area, was backed by a high tide almost 4 feet deep yesterday.

Sandy Hook unit supervisor Bill R. Roberts estimates 250-foot stretch of the access road's remaining two lanes has crunched under the impact of tides 4 to 5 feet above normal.

The northbound lane of the original four-lane road was destroyed by Hurricane Agnes a year ago.

The current storm has caused flooding in low-lying areas from North Jersey to the Virginia Beach-Fistric area, said Frank Landauer of the Jersey Weather Center.

The storm is pushing water seaward toward shore, raising tide levels, he said.

Another major storm, which is developing in the Gulf of Mexico, is expected to move near the New Jersey coast by tomorrow morning. Winds will probably not shift out of the west until tomorrow night, Landauer said.

Meanwhile, two four-wheel drive, over-land vehicles and the Coast Guard's amphibious vehicle LARV were used to shuttle employees across the washed-out road to research laboratories at Sandy Hook's tip.

Employees and their families were told to leave Sandy Hook by 2 p.m. or remain there until evening. High tide at 4:30 p.m. began washing over the road about 1:30 p.m.

Park officials won't know the extent of the damage until there is a chance from the high tides and storm activity. Employees warned building action at the northern end of the washover yesterday, but made little headway.

Park officials have called in a private contractor to survey the damage today and discuss the possibility of building a temporary emergency road, Roberts said.

The Army Corps of Engineers signed a

Michael Berrone/Asbury Park Press

Coast Guardsmen head south in a LARV amphibious rescue vehicle yesterday as they negotiate the washed-out section of Gateway National Recreation Area access road while carrying people who work or live on Sandy Hook.

See HIGH TIMES, page A3
I. CROSSLINES - See section 3.3 of the Evaluation Report also.

Nine nautical miles of crosslines were run by Launch 1015 on the East sheet, which is 7% of the mainscheme. The amount of crosslines run is about one mile less than required by the Hydrographic Manual. However, the eastern portion of this sheet was in cove areas and shallow flats where a Jensen launch could not easily be run.

Eleven nautical miles of crosslines were run on the West Sheet, which is 10% of the mainscheme. Agreement of crosslines with mainscheme was found to be very good. On the East sheet, agreement within one foot was 100%. On the West sheet 98% of the crosslines agreed within one foot, while the remaining 2% agreed by more than one foot, with none being more than two feet different.

J. JUNCTIONS - See sections 4.4 and 5 of the Evaluation Report also.

The survey junctioned with H-10031 to the north, a 1:10,000 scale survey completed during the summer of 1982. The junction was very good with 98% agreeing within one foot, and the remaining 2% agreeing to within one to two feet. The comparison meets the criterion stated in Section 1.1.2 of the Hydrographic Manual.

The survey junctioned with H-10016 to the south, a 1:5,000 scale survey completed by HFP-5 during 1982. The junction was good with 100% agreeing within 2 feet. This contemporary survey supersedes the junction survey H-9820 as referenced in the Project Instructions.
K. COMPARISON WITH PRIOR SURVEYS - See sections 4.k. 6.a., 6.b. and 6.e. of the Evaluation Report also. This survey was compared to prior surveys H-5234a (1:10,000, 1932) and H-5234a Ad Wk (1:10,000, 1934) which were overlaid on the same sheet.

Generally, the survey agrees well with the prior surveys except for the following:

Present survey data in the area around Latitude 40°27'45"N and Longitude 74°01'45"W is about three feet shallower than the prior survey.

The inshore area west of Sandy Hook inside the eight-foot contour line is generally deeper on the present survey by approximately three feet in the area north of Latitude 40°26'45"N. South of this latitude the soundings compare better until the area off Spermaceti Cove where the shoreline has changed considerably since the 1934 survey. In this area on the present survey, the six-foot contour appears to have shifted to the west. Two deeps were noted at Latitude 40°26'05"N, Longitude 73°59'75"W (28 feet), and at Latitude 40°26'20"N and Longitude 73°59'75"W (20 feet) were not found on the H-5234a. Soundings varied greatly at the southeastern limits of the survey in an area due south of the Spermaceti Cove. The channel running north-south into the southern inlet of Spermaceti Cove appears to have shifted to the east and is now deeper by as much as ten feet in certain areas. In the southern limits of the survey the soundings are generally as much as three feet deeper than the 1934 survey. The area now enclosed by Atlantic Highlands Marina is shallower by as much as six feet.
Comparison with Prior Survey H-4610 (1:20,000, 1926) was generally in agreement to within one foot. Soundings offshore in the area of 40°26'.1"N and 74°02'.9"W agreed to within 1-2 feet.

**PSR ITEMS**

The following pre-survey items were investigated during this survey:

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>CHARTED POS.</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2447</td>
<td>Wreck</td>
<td>40°25'01.0&quot;N 73°59'59.0&quot;W</td>
<td>CL 1458/73 Chart deficiency survey</td>
</tr>
<tr>
<td>2448</td>
<td>Unidentified submerged obstruction; full investigation</td>
<td>40°25'12.0&quot;N 73°59'45.0&quot;W</td>
<td>Unknown</td>
</tr>
<tr>
<td>2449</td>
<td>Obstruction, submerged pier ruins; miscellaneous</td>
<td>40°26'41.0&quot;N 74°05'14.0&quot;W</td>
<td>Undetermined, CL 1458/73 Chart deficiency survey</td>
</tr>
<tr>
<td>2450</td>
<td>Obstruction, submerged pier ruins; miscellaneous</td>
<td>40°26'39.4&quot;N 74°04'54.1&quot;W</td>
<td>Undetermined, CL 1458/73 Chart deficiency survey</td>
</tr>
<tr>
<td>2451</td>
<td>Obstruction, submerged piles, ED, miscellaneous</td>
<td>40°26'04.0&quot;N 74°04'24.0&quot;W</td>
<td>Not determined, CL 1458/73 Chart deficiency survey</td>
</tr>
<tr>
<td>2460</td>
<td>Half submerged Wreck, PA</td>
<td>40°24'42.0&quot;N 73°59'54.0&quot;W</td>
<td>CL 1792/77, USPS</td>
</tr>
<tr>
<td>2461</td>
<td>Obstruction, REP. miscellaneous investigation</td>
<td>40°26'16.6&quot;N 74°03'21.0&quot;W</td>
<td>Source undetermined CL 1458/73 CES</td>
</tr>
<tr>
<td>2462</td>
<td>Obstruction, 7 ft. REP.</td>
<td>40°26'18.5&quot;N 74°03'33.0&quot;W</td>
<td>NM 18/55</td>
</tr>
</tbody>
</table>

-11-
**ITEM NO.** | **DESCRIPTION** | **CHART POS.** | **SOURCE**
--- | --- | --- | ---
2463 | Submerged obstruction REP, PA, full investigation | 40°25'11.5"N 74°00'23.5"W | LNM 37/79
2470 | Submerged piles; miscellaneous | 40°25'16.0"N 74°02'49.0"W | Undetermined CL1458/73 Chart deficiency survey
2471 | Submerged piles; miscellaneous | 40°25'05.0"N 74°02'27.0"W | Undetermined CL1458/73 Chart deficiency survey
1608 | Trawler reported removed, information | 40°27'18.0"N 74°01'57.0"W | NM 11/28/55

Item number 2447 is described as a sunken boat located inside of Belford Harbor, upstream in Compton Creek. No trace of the wreck was found by visual observation at low tide. This agrees with the field edit results which show no wreck at this location to TP-00758. There are portions of 2 boats approximately 100 meters to the southwest of the wreck symbol as noted on TP-00758. These are stranded boats in the mud flats and do not constitute a danger to navigation. It is recommended that these not be charted. – Concur. Other wrecks should not be plotted because the hydrographer did not locate them.

Item number 2447 was an obstruction found using an otter-board chain sweep with a MonArk at a line spacing interval of 10 meters. A snag was incurred in the vicinity of the charted position. A range-range detached position (position number 3807) was taken over the unidentified snag, presumed to be the sunken barge. A 0.4 foot least depth at was obtained using a sounding pole. The barge lies in 1.8 feet at.

The hydrographer recommends that the charted wreck symbol be shifted to the observed position(40°25'00.1"N, 73°59'59.1"W) with 2.8 feet of water above it at Chart as a wreck awash at MLW. See also section 6.14.2 of the Evaluation Report.
Item number 2448 was found to be a large concrete object measuring approximately 18'x8'x15'. This obstruction was visually inspected from seaward and presumed to be the obstruction. A detached position (#6408) was taken by laying alongside the object. The concrete boulder appears to be a remnant from one of the many bunkers that line the west shore of Sandy Hook. The obstruction observed is not submerged at MHW and is completely uncovered at MLW. The obstruction does not represent a danger to navigation due to the location and visibility of the object. It is recommended that the "obstruction" notation on the chart be replaced with a "rock which does not cover" symbol at the updated detached position Chart at: (40°25'12.64"N, 73°59'44.91"W). Spomaceti, 1934 - found on T-5164(1932-33) - recommend charting obstruction submerged pier ruins. The launch ran through the entire charted area looking for any sign of the ruins. Water clarity was excellent and no signs of the ruins were sighted. However, two rocky shoal areas were observed which could have been remnants of the pier foundation. A headline was taken at each shoal with a least depth of two feet. The shoal at 40°26'48.58"N, 74°05'15.98"W was approximately 70'x30' (position #65, time 151725 GMT, 14SEP82) and the shoal at 40°26'45.78"N, 74°05'12.03"W was approximately 45'x90' (position #66, time 153506 GMT, 14SEP82). The hydrographer recommends that the "ruins of pier" notation already on the chart be removed. It is recommended that the symbol for an obstruction with a 2-foot sounding be included at these positions. The pier ruins originates with T-5164(1932). See sections 4, 5, and 6, etc. of the Evaluation Report for additional comments.
Item Number 2450 is an obstruction of submerged ruins. Visual observation was made on a day when water clarity was excellent during which three passes in a launch were made and no evidence of the remains were discovered at this time, or during the main-scheme hydrography. The hydrographer recommends that the "submerged pier ruins" notation be removed from the chart. Do not concur.

Source: T-S1F1(1932) See section 6.e. of Evaluation Report.

Item Number 2451 is charted as "submerged piles-ED". Visual observation revealed no signs of these piles. The hydrographer recommends no change in the charted symbol.

Item Number 2460 is charted as a partially submerged wreck, PA. A visual inspection of the area was conducted at low water when the bottom was visible. No drag was conducted over the area. Information obtained from personnel at local marinas verified the existence of the wreck and also that the superstructure, a crane that was mounted on the sunken barge, was removed. The barge itself was later broken up by a crane. Debris still remains in the area of the charted position of the wreck.

Considerable shoaling has occurred in this area. The hydrographer recommends that the wreck symbol remain at the charted position.

Item Number 2461 was an unidentified obstruction. A full investigation was carried out by Launch 1015 with 20-meter line spacing and 500 meters east/west. No trace of the obstruction was found on echogram records. The hydrographer recommends that the charted symbol remain on the chart, because no drag of the obstruction was conducted, and that the symbol be amended to ED, existence doubtful. Retain as charted. Ross echo sounder beam width would not provide adequate bottom coverage for disposal. The previous wire sweep is not considered adequate for disposal. The investigation by CL 1458/73 is not considered adequate for disposal of reported obstruction.
Item number 2462 is reported as an obstruction, possibly concrete, covered to 7 feet. A full investigation was conducted for this item in conjunction with Item 2461. No trace of the obstruction was found on any of the echogram records. The hydrographer recommends that the symbol be amended to ED, existence doubtful. Retain as charted - Ross echo sounder does not provide adequate bottom coverage for disproval. - Previous wire sweep is not considered adequate for disproval.

Item number 2463 was a submerged obstruction reported approximately 50 yards west of Shrewsbury River lighted buoy "2". A one boat otter-board chain sweep with 60 feet of deployed line was run at 10-meter spacing, in a 50-meter radius area of the charted position using the MonArk 2933. No hangs were incurred during the drag. The hydrographer recommends that the notation on the charted obstruction be deleted from the chart. Retain as charted. - Investigation covered only the minimum requirements. A more extensive investigation is also recommended.

Item number 2470 is charted as submerged piles. Visual inspection at low tide did not turn up these specified submerged piles (see TP-00758 for field edit definition). A photograph of the marine railway shown on TP-00758 is included). The hydrographer recommends that the charted symbols remain as is. - Retain as charted.

Item number 2471, charted as "submerged piles" were observed during reconnaissance of the shoreline by the field edit party (see TP-00758) at low tide. It is recommended that these remain charted. - See Section 6.2.16 of the Evaluation Report.

Item number 1608 was a trawler located with position accuracy within one mile. The trawler was subsequently reported removed (AWOIS). No evidence
of this wreckage was found during routine hydrographic operations. There is no symbol charted at this time and it is recommended that one not be placed on the chart.

Items To Be Noted from this Survey

Detached positions were determined for as many shoreline features as possible to best represent the charted objects. These are indexed in the front of the sounding volumes, are labeled on the overlays, and are listed on a Detached Position Abstract included in Appendix VII. In addition, photos of the shoreline on the west sheet are included in the Supplemental Data Folder to aid in identifying features. No photographs were taken for the east sheet.

A stranded wreck was located on the east side of Pier 1 of the Navy Munitions Pier. The wreck is an old "Circle Liner", the Alexander Hamilton which was being towed and sank in a storm. It was later towed to the pier where it sank again and has remained since 1977 (photo #10). The U.S. Navy is currently involved in litigation to have the wreck removed. The superstructure and stacks are clearly visible at all stages of the tide. The hydrographer recommends that the symbol for a wreck showing any portion of hull or superstructure be placed on the chart at 40°07'17.40"N, 74°03'27.56"W. The position was scaled from the boat sheet since the entire hull of the vessel was submerged and made it difficult to get close to the vessel.

Two wreck buoys have been placed to delineate a safety zone around the submerged portion of the wreck. A black-over-white buoy was located at
40°26'17.48"N, 74°03'37.5"W and a red buoy was located at 40°26'24.2"N, 74°03'33.3"W. Both wreck buoys were located by hydrographic methods. It is recommended that they be located on the chart at the above specified locations. - See also Section 7.3.2(4) of the Evaluation Report.

Three Navy mooring buoys were also located on the east side of the Navy Munitions Pier by hydrographic methods at the following locations:

- South: 40°26'26.2"N 74°03'19.4"W
- Middle: 40°26'35.8"N 74°03'20.2"W
- North: 40°26'39.0"N 74°03'18.1"W

These should be located on the chart since they are permanent. Master Chief Colvin, USN, Port Services Officer, reports that two more permanent mooring buoys will be placed during the summer of 1983. The exact location of these next two buoys are as yet unknown. - Concur

The shoreline between Pews Creek and Compton Creek agrees with the charted data. The limit of navigation in Compton Creek was determined by the field editor to extend farther inshore than that determined by the hydrographer. It is recommended that the limit of navigation be the swing bridge, because beyond this point the channel is not maintained for navigation.

A concrete pipe was observed just east of Belford Hbr. about 50 feet offshore. This obstruction is completely submerged at high water. The diameter is approximately 4 feet and it is about 6 feet long, laying on its side. At 194100 GMT, 24 Sept 82, 0.5 feet of the object was submerged. The area is not readily accessible and is generally foul. A detached position (Pos. No. 5248) was taken and the hydrographer recommends that a submerged obstruction symbol dangerous to navigation be placed at 40°26'04.60"N, 74°04'49.19"W (see photos #7 and #9). - Chart as shown on present survey. Obstr betwes 3 feet at MLLW.
A wooden wrecked boat is stranded as shown on TP-00758. This should be charted as a wreck showing any portion of hull or superstructure but not a danger to navigation.

A wreck was observed ashore at high water approximately 20 meters offshore (see starred note on TP-00758). A detached position (Pos. No. 5294) was noted at 2042 GMT 24 Sept 82 when the wreck was 1.5 feet out of the water (4 feet above MLW with smooth tide correctors applied) in water 8 feet deep. The position is determined to be 40°25'50.02"N, 74°04'20.75"W. The area is not easily accessible except at high tide.

All that remains is the keel, ribs and engine block. The wreck is approximately 30 feet long. It is recommended that the symbol for a wreck showing any portion of hull or superstructure be placed on the chart. Recommend charting a stranded wreck in the above location.

A privately maintained buoy of homemade construction was located at 40°25'56.51"N, 74°03'27.90"W. It was marked "AHYC" and installed by the Atlantic Highlands Yacht Club. The hydrographer recommends that this buoy not be included on the chart, as stated under the Racing Buoy note on Chart 12330.

No position was determined for the northeasternmost submerged piling at approximately 40°25'17.2"N, 74°02'38.1"W, as shown in photo #14. However, the ruins as plotted on TP-00758 remain in effect. The submerged pipeline shown on TP-00758 parallels the ruins (photo #15) and appears to continue from the tank farm to the platform offshore. Recommend charting submerged ruins to platform as shown on the present survey. See section 6.2.17 of the Evaluation Report.

A detached position (Pos. No. 6506) was determined for a wooden groin ruin west of Atlantic Highlands Marina. The computed location of 40°25'02.9"N, 74°02'29.3"W agrees with the charted groin. Retain as charted.
A detached position (Pos. No. 6498) was determined for one of the line of submerged piles shown on TP-00758. The computed location of 40°25'02.9"N, 74°02'16.7"W agrees with the piles as charted (see photo #17). However, this object as observed at low tide is now a submerged wooden groin and single six-inch diameter pile and should be charted as such. - Chart as shown on the present survey. The pier ruins delineated at 40°25'10"N and 74°02'05"W were located visually (photo: #18). At high water, all but the top one foot of these ruins is submerged. As shown in the photos, and on the TP-00758, there are no ruins between the west end of the breakwater and the pier ruins, and this should be deleted from the chart. The pier ruins should remain as charted. - Chart as shown on the present survey.

Detached positions (Pos. Nos. 2080-2090) confirmed the charted positions of dolphins at the Atlantic Highlands Marina.

A development of the submerged pier ruins was conducted east of the Atlantic Highlands Marina. Evidence of the ruins was found on the echograms (Pos. No. 2000) in the area of 40°24'54.35"N, 74°00'59.43"W. This agrees well with the charted position of the obstruction and the hydrographer recommends it remain charted as is. - Chart as shown on the present survey. See also Section 4.3.11 of the Evaluation Report.

Two dolphins as noted on TP-00760 were located at the southeast corner of "Pier 77" at 40°24'38.581"N, 73°59'58.96"W and at 40°24'38.52"N, 73°59'58.76"W, (Pos. Nos. 6324, 6325). The stranded wreck of a wooden barge was also located on the east side of Pier 77. The wreck is always visible at any stage of the tide and it is accurately located on TP-00760. It should be charted as a wreck always showing a portion of the superstructure. - Chart as shown on the present survey. See also Section 4 of the Evaluation Report.
Sixteen 5-inch diameter poles were found running offshore 3 meters apart at the location charted as ruins. Five were cut off and submerged at low tide inshore and the others were approximately 5 meters above the water at 173130 GMT 1 Nov 82. A detached position (Pos. No. 6326) for the pole farthest offshore was computed by hydrographic means to be at 40°24'37.10"N, 73°59'55.05"W. It is recommended that the symbol for submerged piles be placed on the chart.

Two dolphins were located at the northeast and southeast corners of the Highlands Marina Pier. At 40°24'24.20"N, 73°59'21.23"W and at 40°24'22.44"N, 73°59'19.24"W (Pos. Nos. 6341, 6340). It is recommended that these positions be used to show the boundaries of the marina. T-chart locations were used.

Twenty-five large boulders were located just off the western shore of Sandy Hook (see TP-00760). Detached positions (Pos. Nos. 6307, 6308) were taken on the two outermost rocks which are submerged at low tide. These two outermost boulders are located at 40°24'44.35"N, 73°58'52.54"W and at 40°24'43.99"N, 73°58'52.47"W, and are about 25 meters offshore. There are twenty-three boulders inshore of these; of which probably seventeen are submerged at high tide. The hydrographer recommends that the notation for submerged rocks surrounded by a dotted line to emphasize the limits of danger be placed on the chart from the two outermost boulders up to the shoreline. Area shown as Foul with concrete rubble on the present survey.

A rocky shoal was located at the south entrance of Spermaceti Cove. A least depth was noted by pole depth of approximately 4 feet on 1 Nov 82 at 1604 GMT. It is not known what the origin of this rocky shoal is, whether natural or man-made. The hydrographer recommends that the symbol for a
submerged rocky shoal dangerous to navigation be placed on the chart at 40°25'09.87"N, 73°59'35.86"W (Pos. No. 6409). This corresponds to the location of East Beacon, Spermaceti, 1954 - Source: T-5166 (1932-33) - Chart as shown on present survey.

Two waterfowl nesting poles were located by hydrographic means at the south end of Spermaceti Cove. Each habitat was atop a 15-foot (8-in diameter) post at 140130 GMT 2 Nov 82. These posts are located at 40°25'12.61"N, 73°59'13.46"W (Pos. No. 6396, 6397) and 40°25'19.87"N, 73°59'12.70"W. They do not appear to be hazardous to navigation since the area is not readily accessible and can be reached only at high water. The hydrographer recommends that the symbol for stakes be located on the chart for these two structures.

A single one-foot diameter steel pipe was observed projecting one inch above the water surface at a 45° angle. It was located (Pos. No. 5967) at 40°25'34.33"N, 73°59'41.69"W. The pipe is submerged at high water.

The hydrographer recommends that the pipe be located on the chart with the symbol for a submerged pile. Chart as shown on the present survey.

A 3.5-foot upright pile submerged 8 inches at 183300 GMT 1 Nov 82 (Pos. No. 6342), was located 15 meters west of the three steel pipes mentioned in the next paragraph. The hydrographer recommends that the symbol for a submerged pile be located on the chart at 40°25'39.51"N, 73°59'42.63"W. Covers 1 foot at MLLW - Chart as shown on the present survey.

Three black steel one-foot diameter pipes were located at high water. The tops of the pipes extended 1.5 feet above the surface at 1832 GMT 20 Oct 82.
The two outermost pipes were located by hydrographic means (Pos. Nos. 5965 and 5966) at 40°25'38.93"N, 73°59'39.19"W and at 40°25'39.64"N, 73°59'41.17"W. The hydrographer recommends that the pipes be located on the chart with the symbols for pilings. - Chart as shown on the present survey.

A one-foot diameter pile sticking out of the water at a 45° angle was located (Pos. No. 5920) at 40°25'50.5"N, 73°59'41.55"W. This pile is exposed at high water and is about 50 feet from shore. It is recommended that this pile be located on the chart. - Chart as shown on the present survey.

Several pilings were found in Horseshoe Cove which appear to be the remains of a pier. Detached positions (Pos. Nos. 5891, 5892) were taken on the two end piles farthest offshore, located at 40°26'53.34"N, 73°59'52.36"W and at 40°26'53.22"N, 73°59'51.31"W. Approximately 12 more pilings ran inshore which were visible at high water. Horseshoe Cove is frequently used by small pleasure boats as an overnight anchorage and therefore it is recommended that the symbol for pier ruin be placed on the chart at the previously noted positions leading inshore. - See also sections 6.2.4) and 7.2.4) of the Evaluation Report.

A wooden boat was wrecked on the rocks in Horseshoe Cove during the time of this survey. Extremely high tides pushed the 21-foot boat far back onto the riprap where the boat broke up and it appears not to be a danger to navigation. A position of 40°26'52.7"N, 73°59'50.3"W (Pos. No. 5890) was determined, but it is not recommended that this item be charted. - See Section 4.2.7) of the Evaluation Report.

A wooden block (10'x5'x4') was found on the beach on the west side of Sandy Hook. A detached position (Pos. No. 5861) was obtained from seaward at 40°26'58.18"N, 74°00'12.79"W. This object bared 2.5 feet at 1424 GMT.
20 Oct 82 and was completely uncovered at low water. The obstruction does not represent a danger to navigation due to the location and visibility of the object. However, it is recommended that the obstruction symbol be placed on the chart at this position. - Chart as shown on the present survey.

At the area shown on TP-00758 as subm ruins (the piles PA as shown on Chart 12330), pier ruins remain and should be charted as a submerged pier using 40°26'51.0"N, 74°00'13.5"W (Pos. No. 5866) as the inshore position and the position of the charted pile as the offshore position. The ruins are set three piles abreast approximately 10 meters wide and extending 50 meters offshore. - See sections 6.2.4) and 7.2.5) of the Evaluation Report.
L. COMPARISON TO CHART - See sections 7.a, 7.b, and 7.c of the Evaluation Report.

Survey H-10031 was compared with NOS Chart 12330, 13th edition, June 12, 1982 (1:10,000) and Chart 12327, 78th edition, June 19, 1982 (1:40,000) for the easternmost portion of this survey. Where the bottom topography was regular, the depths agreed very well with 96% agreeing within one foot, and 3% more agreeing within three feet. Agreement was not as good in the Terminal Channel area leading into the Navy Munitions Pier. This area is now one to eight feet deeper, probably due to dredging. The channel adjacent to the east side of the pier is shallower than charted by one to six feet.

The twelve-foot contour line on the southwest portion of the west sheet appears to have shifted to the south. The smooth tides will change the location of this contour line since the bottom topography is gently sloping and a change in tides will alter the curve. On the east sheet in the area of 40°25'15"N, 74°02'10"W, west of the ruins of an old railroad pier (see photographs included) by the Atlantic Highlands Marina, the six-foot contour line has shifted slightly to the north, probably due to scouring around the pilings. The eighteen-foot contour line in the central area of the sheet at 40°25'40"N, 74°00'50"W has shifted considerably to the south.

Again, smooth tide correctors will alter this contour on the smooth sheets.

The six-foot contour line in the area of 40°26'45"N, 74°05'50"W has shifted to the south and the depths are ten to fourteen feet deeper in this area. From both echogram records and the appearance of the area as observed from the water this difference in contours is due to dredging of the entrance to Pews Creek (outside the survey area to the west, see photos included with data) and that these depths are an extension of the dredging effort.
M. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting purposes. The following are the areas where the hydrography is below the standards set forth in the Hydrographic Manual:

There are two holes alongside the Navy Munitions Pier because a Navy Munitions ship and construction barge were tied up alongside the pier for the entire duration of the survey.

Plotting problems were encountered when the Navy Pier was compiled onto the final smooth West sheet. Main scheme hydrography soundings plotted on the pier. This problem was not encountered on the boat sheet or rough plot when compiled in the field. As is the general practice of field parties, daily calibration correctors were not applied to any sheets.

It should be noted that the final smooth West sheet was plotted at AMC on a different Calcomp plotter than the rough sheets plotted in the field. The east sheet was also plotted on a different plotter by personnel of HFP-5 in Savannah, Georgia. It is possible that the plotter used on the West sheet at AMC requires an adjustment. The boat sheet and rough plot will be submitted for comparison to the smooth sheet.
N. AIDS TO NAVIGATION

Floating Aids

All floating aids within the survey area were located and positioned by hydrographic means. The following aids to navigation were located:

**Compton Creek Channel** Chart 12330

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**Terminal Channel** Chart 12330

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### Leonardo Harbor Channel  Chart 12330

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<td>FL R 4sec</td>
<td>40°25'42.3&quot;N 74°03'29.1&quot;W</td>
<td>40°25'42.2&quot;N 74°03'27.1&quot;W</td>
</tr>
<tr>
<td>10 ft &quot;2&quot;</td>
<td>40°25'36.0&quot;N 74°03'30.8&quot;W</td>
<td>40°25'31.7&quot;N 74°03'34.7&quot;W</td>
</tr>
<tr>
<td>C &quot;5&quot;</td>
<td>40°25'39.4&quot;N 74°03'27.0&quot;W</td>
<td>40°25'38.0&quot;N 74°03'29.8&quot;W</td>
</tr>
<tr>
<td>&quot;3&quot;</td>
<td>40°25'41.8&quot;N 74°03'25.9&quot;W</td>
<td>40°25'42.0&quot;N 74°03'26.5&quot;W</td>
</tr>
<tr>
<td>&quot;1&quot;</td>
<td>40°25'26.6&quot;N 74°03'39.4&quot;W</td>
<td>40°25'28.9&quot;N 74°03'37.3&quot;W</td>
</tr>
</tbody>
</table>

### Security Zone Marker Buoys for Navy Pier

<table>
<thead>
<tr>
<th>Description</th>
<th>Charted Position</th>
<th>Surveyed Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>W OR N &quot;p&quot;</td>
<td>40°26'53.7&quot;N 74°03'53.9&quot;W</td>
<td>40°26'53.3&quot;N 74°03'54.9&quot;W</td>
</tr>
<tr>
<td>W OR N &quot;C&quot;</td>
<td>40°26'19.3&quot;N 74°02'53.0&quot;W</td>
<td>40°26'29.9&quot;N 74°02'53.4&quot;W</td>
</tr>
<tr>
<td>W OR N &quot;A&quot;</td>
<td>40°27'28.2&quot;N 74°02'12.7&quot;W</td>
<td>40°27'29.1&quot;N 74°02'12.9&quot;W</td>
</tr>
</tbody>
</table>

### Shrewsbury River Channel  Chart 12330

<table>
<thead>
<tr>
<th>Description</th>
<th>Charted Position</th>
<th>Surveyed Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL R &quot;2&quot;</td>
<td>40°25'18.6&quot;N 74°00'21.1&quot;W</td>
<td>40°25'11.4&quot;N 74°00'20.5&quot;W</td>
</tr>
<tr>
<td>4 sec bell</td>
<td>40°25'18.6&quot;N 74°00'21.1&quot;W</td>
<td>40°25'11.4&quot;N 74°00'20.5&quot;W</td>
</tr>
<tr>
<td>RN &quot;4&quot;</td>
<td>40°24'53.2&quot;N 74°00'13.0&quot;W</td>
<td>40°24'53.5&quot;N 74°00'13.5&quot;W</td>
</tr>
<tr>
<td>R &quot;6&quot;</td>
<td>40°24'42.9&quot;N 74°00'05.8&quot;W</td>
<td>40°24'43.1&quot;N 74°00'06.3&quot;W</td>
</tr>
<tr>
<td>C &quot;3&quot;</td>
<td>40°24'54.6&quot;N 74°00'07.6&quot;W</td>
<td>40°24'54.4&quot;N 74°00'09.5&quot;W</td>
</tr>
<tr>
<td>FL G &quot;5&quot;</td>
<td>40°24'43.4&quot;N 74°00'04.3&quot;W</td>
<td>40°24'45.3&quot;N 74°00'04.2&quot;W</td>
</tr>
</tbody>
</table>

### Chart 12327

<table>
<thead>
<tr>
<th>Description</th>
<th>Charted Position</th>
<th>Surveyed Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>C &quot;7&quot;</td>
<td>40°24'40&quot;N 73°59'54&quot;W</td>
<td>40°24'39.4&quot;N 73°59'53.4&quot;W</td>
</tr>
<tr>
<td>RN &quot;8&quot;</td>
<td>40°24'33&quot;N 73°59'43&quot;W</td>
<td>40°24'32.3&quot;N 73°59'41.2&quot;W</td>
</tr>
<tr>
<td>C &quot;9&quot;</td>
<td>40°24'34&quot;N 73°59'35&quot;W</td>
<td>40°24'34.4&quot;N 73°59'34.4&quot;W</td>
</tr>
<tr>
<td>RN &quot;10&quot;</td>
<td>40°24'24&quot;N 73°59'17&quot;W</td>
<td>40°24'22.5&quot;N 73°59'17.7&quot;W</td>
</tr>
<tr>
<td>FL G &quot;11&quot;4sec</td>
<td>40°24'27&quot;N 73°59'14&quot;W</td>
<td>40°24'25.1&quot;N 73°59'13.4&quot;W</td>
</tr>
<tr>
<td>FL G &quot;13&quot;4sec</td>
<td>40°24'15&quot;N 73°58'55&quot;W</td>
<td>40°24'12.4&quot;N 73°58'54.4&quot;W</td>
</tr>
</tbody>
</table>
### Miscellaneous Buoy

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>C &quot;3FM&quot;</td>
<td>40°27'57.5&quot;N</td>
<td>74°00'38.4&quot;W</td>
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<tr>
<td></td>
<td></td>
<td>40°27'41.8&quot;W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>74°00'37.6&quot;W</td>
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</table>

### Buoys Not On Chart

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>&quot;AHYC&quot;</td>
<td>40°25'56.5&quot;N</td>
</tr>
<tr>
<td></td>
<td>74°03'27.9&quot;W</td>
</tr>
<tr>
<td>South Mooring Buoy</td>
<td>40°26'26.2&quot;N</td>
</tr>
<tr>
<td></td>
<td>74°03'19.4&quot;W</td>
</tr>
<tr>
<td>Middle Mooring Buoy</td>
<td>40°26'35.8&quot;N</td>
</tr>
<tr>
<td></td>
<td>74°03'20.2&quot;W</td>
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<tr>
<td>North Mooring Buoy</td>
<td>40°26'39.0&quot;N</td>
</tr>
<tr>
<td></td>
<td>74°03'18.1&quot;W</td>
</tr>
</tbody>
</table>

### Wreck Buoys

<table>
<thead>
<tr>
<th>Name</th>
<th>Surveyed Position</th>
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</thead>
<tbody>
<tr>
<td>Alexander Hamilton</td>
<td></td>
</tr>
<tr>
<td>B/W Buoy</td>
<td>40°26'17.4&quot;N</td>
</tr>
<tr>
<td></td>
<td>74°03'37.5&quot;W</td>
</tr>
<tr>
<td>40m E of Navy Pier</td>
<td></td>
</tr>
<tr>
<td>Red Marker Buoy</td>
<td>40°26'24.2&quot;N</td>
</tr>
<tr>
<td></td>
<td>74°03'33.3&quot;W</td>
</tr>
</tbody>
</table>
Fixed Aids

In conjunction with Field Edit requirements, fixed aids to navigation were located by WHITING and AMC personnel. NOAA form 76-40, non-floating aids for charts are found in Appendix IX.

The following Channel Range Azimuths were computed and compared with published ranges on NOS Chart 12330:

<table>
<thead>
<tr>
<th>Name</th>
<th>Charted Range</th>
<th>Computed Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapel Hill South Channel</td>
<td>186°</td>
<td>185° 57'</td>
</tr>
<tr>
<td>Terminal Channel</td>
<td>207.5°</td>
<td>Unobtainable because rear range light has been temporarily removed.</td>
</tr>
<tr>
<td>Compton Creek Range</td>
<td>199°</td>
<td>199° 08'</td>
</tr>
</tbody>
</table>

A pipeline is accurately depicted on the chart running from the McConnel Fuel Oil Company Tank Farm to the off-loading facilities located on the chart by the west marker for measured nautical mile. The inshore length of the pipeline is delineated by submerged and exposed pilings on each side of the pipeline. The offshore pilings are submerged, photographs are presented in Appendix X. — See Section 6.8.17 of the Evaluation Report.

All anchorages, security zones, and fish trap areas are in effect as charted.
Information related to the measured nautical mile at 48°25'30"N, 74°02'00"W was not provided to the WHITING and the Coast Guard at the Sandy Hook base had no knowledge of its use. Ens. Steigerwald found a package of data in the NOAA Officers Training School at King's Point files at the Merchant Marine Academy which is included in Appendix IX.

The Atlantic Highlands East Measured Mile Marker 1970 (Station 080) was used as a range/range station during this survey. The Atlantic Highlands West Measured Mile Marker 1970 was searched for but not found, and it appears that a structure has been erected over the station. The orange stripes on the pilings and breakwater have not been maintained. As noted on the Form 76-40's. The markers on shore have been destroyed or not maintained. The hydrographer recommends that this item be deleted from the chart.
O. STATISTICS

<table>
<thead>
<tr>
<th>VESNO</th>
<th>2931</th>
<th>2932</th>
<th>2933</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>Number of Positions</td>
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<td>79</td>
<td>1563</td>
<td>3851</td>
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<tr>
<td>Nautical Miles of Hydrography</td>
<td>314</td>
<td>10</td>
<td>109</td>
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<tr>
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<td>9.0</td>
<td>0.3</td>
<td>1.8</td>
<td>11.1</td>
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<tr>
<td>Bottom Samples</td>
<td>123</td>
<td>0</td>
<td>1</td>
<td>124</td>
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<tr>
<td>Tide Stations</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>TDC Casts</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

P. MISCELLANEOUS

The first and second soundings out of Position Number 6403 are 0.7 feet deeper due to incorrectly applied draft (on the field sheet). Corrected during office processing.

No soundings were recorded inside the Leonardo Harbor Marina located at 40°25'20"N, 74°03'40"W or Pieix77 located at 40°24'23"N, 73°59'29"W.

The "see field sheet" soundings observed inside Compton Creek (Pos. Nos. 5381-5388) and Captain's Cove Marina (Pos. Nos. 6111-6112) are plotted on the field sheet in blue ink. These positions were digitized during office processing.

A letter dated 3 February 1983 was sent to Chief, Local Notice to Mariners, Third Coast Guard District, New York, concerning hazards to navigation which were located during survey operations. A copy of the letter is included in the Appendix. See Section 4.2 of the Evaluation Report.

Survey H-10049 is adequate and no further field work is recommended.
See recommendations in Section K (Comparisons with prior Surveys) and Section L (Comparisons with the chart).

R. **AUTOMATED DATA PROCESSING**

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>RK 112</td>
<td>Range/Range Real Time Hydroplot</td>
<td>08/04/81</td>
</tr>
<tr>
<td>RK 201</td>
<td>Grid, Signal &amp; Lattice Plot</td>
<td>04/18/81</td>
</tr>
<tr>
<td>RK 211</td>
<td>Range/Range Non-Real Time Plot</td>
<td>02/02/81</td>
</tr>
<tr>
<td>RK 300</td>
<td>Utility Computations</td>
<td>10/21/80</td>
</tr>
<tr>
<td>AM 500</td>
<td>Predicted Tide Generator</td>
<td>11/10/72</td>
</tr>
<tr>
<td>AM 530</td>
<td>Layer Corrector for Velocities</td>
<td>05/10/76</td>
</tr>
<tr>
<td>RK 561</td>
<td>Range/Range Geodetic Calibration</td>
<td>05/26/81</td>
</tr>
<tr>
<td>AM 602</td>
<td>Extended Line Oriented Editor</td>
<td>05/21/75</td>
</tr>
</tbody>
</table>
S. Referral to Reports

Tide Station Report submitted to N/OMS 1, 09 September 1982;
Horizontal Control Report to be submitted to N/MOA 1 at the
completion of project; request letter for smooth tides submitted
to N/OMS 1, dated 26 January 1983; Field Edit report to be sub-
mitted to N/MOA 23 at the completion of the project; Coast Pilot

Respectfully Submitted,

Philip M. Kenul
Philip M. Kenul
ENS, NOAA
APPENDICES
COAST PILOT REPORT

PLEASE MAIL TO:

Director
National Ocean Survey
National Oceanic and Atmospheric Administration
ATTENTION: C324
Rockville, Maryland 20852

This report of your experience and observations when coasting, entering port, and/or following inside channels will be used to correct, amplify, or confirm the description now given in the Coast Pilot.

Please use additional sheets if more space is needed.

Additional report forms will be provided upon receipt of each report.

GEOGRAPHIC LOCATION

NEW YORK HARBOR, SANDY Hook BAY

<table>
<thead>
<tr>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>CHART NUMBER</th>
<th>COAST PILOT NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12326, 12327, 12328, 12330</td>
<td>2</td>
</tr>
</tbody>
</table>

VEssel
NOAA Ship WHITING

MASTER/COMMANDING OFFICER
CDR Roy K. Matsushige

DATE OF OBSERVATION
September 1982

OBSERVER
WHITING personnel

I. LANDMARKS: Mention those visible from seaward and useful for navigation (day and/or night); include natural ranges and indicate the pair of marks forming a range. Photographs of landmarks difficult to describe are solicited; each view should be labeled with the distance off and the direction towards which the camera was pointed.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CHARTED</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>DESCRIPTIVE INFORMATION HELPFUL IN IDENTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>(Approximate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II. RADAR: List best radar targets and, if known, give maximum useful radar range at which the object can be positively identified and used. Mention under remarks places you have observed radar returns to be misleading.

<table>
<thead>
<tr>
<th>NAME OR TYPE OF FEATURE</th>
<th>MAXIMUM USEFUL RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Include approximate latitude and longitude if necessary to identify on chart)</td>
<td></td>
</tr>
</tbody>
</table>

III. ROUTES: Where entrance and inside routes are not marked by aids to navigation, show recommended directions for Coast Pilot (latitude and longitude of entrance point, and distances and true courses made good); include natural steering ranges if available.
IV. DANGERS: Mention those of concern to the navigator where special caution should be indicated in the Coast Pilot.

V. CURRENTS: Indicate places you have experienced conditions of current where special caution should be mentioned in the Coast Pilot.

VI. ANCHOR:
LOCATION

TYPE OF BO

HOLDING Q:
PROTECTIO
ACCESSABLE

VIEW FROM INSIDE SANDY HOOK BAY

Sandy Hook Point Light
Radar
Radio
Green Standpipe
Tower
Tower

VII. REMAR

VIII. OTHER COAST PILOT CHANGES
NOTE: Any chart(s) submitted with your report to show conditions will be replaced free of charge.

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>U.S. COAST PILOT</th>
<th>EDITION</th>
<th>PAGE</th>
<th>LINE(S)</th>
<th>STRIKE OUT:</th>
<th>INSERT AFTER:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>16th</td>
<td>230</td>
<td>34-39</td>
<td></td>
<td>(Circle one)</td>
</tr>
</tbody>
</table>

...station, a radar tower, and a radio tower are near the northern extremity of Sandy Hook. Sandy Hook Light is at the extreme north point of Sandy Hook; it is frequently relocated to mark this north tip. These towers, the light and a large green tank to the southeast are the most prominent...
IV. **DANGERS**: Mention those of concern to the navigator where special caution should be indicated in the Coast Pilot.

V. **CURRENTS**: Indicate places you have experienced conditions of current where special caution should be mentioned in the Coast Pilot.

VI. **ANCHORAGES**: Mention best anchorage in the area and other secure anchorages having good holding ground.

**LOCATION** (Include anchorage bearings and natural range if available)

<table>
<thead>
<tr>
<th>TYPE OF BOTTOM OBSERVED</th>
<th>RECOMMENDED FOR VESSELS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EXCEL</td>
</tr>
<tr>
<td>HOLDING QUALITY</td>
<td></td>
</tr>
<tr>
<td>PROTECTION OFFERED</td>
<td></td>
</tr>
<tr>
<td>ACCESSIBILITY</td>
<td></td>
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</tbody>
</table>

VII. **REMARKS**:

VIII. **OTHER COAST PILOT CHANGES**

**NOTE**: Any chart(s) submitted with your report to show conditions will be replaced free of charge.

**U.S. COAST PILOT**

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>EDITION</th>
<th>PAGE</th>
<th>LINE(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>16th</td>
<td>245</td>
<td>60-61 right</td>
</tr>
</tbody>
</table>

**READ**: **STRIKE OUT**

Insert **after**: (Circle one)

Delete description of measured mile in the southern side of Sandy Hook Bay. This measured mile is not being maintained, and the western mile marker has been destroyed (triangulation station). None of the markers are currently in place.
IV. DANGERS: Mention those of concern to the navigator where special caution should be indicated in the Coast Pilot.

V. CURRENTS: Indicate places you have experienced conditions of current where special caution should be mentioned in the Coast Pilot.

VI. ANCHORAGES: Mention best anchorage in the area and other secure anchorages having good holding ground.

LOCATION (Include anchorage bearings and natural ranges if available)

<table>
<thead>
<tr>
<th>TYPE OF BOTTOM OBSERVED</th>
<th>RECOMMENDED FOR VESSELS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EXCEL</td>
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<tr>
<td>HOLDING QUALITY</td>
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<tr>
<td>PROTECTION OFFERED</td>
<td></td>
</tr>
<tr>
<td>ACCESSIBILITY</td>
<td></td>
</tr>
</tbody>
</table>

VII. REMARKS:

VIII. OTHER COAST PILOT CHANGES

NOTE: Any chart(s) submitted with your report to show conditions will be replaced free of charge.

READ: STRIKE OUT: INSERT AFTER: (Circle one)

...Coast Gaurd station, the green standpipe, and...
February 3, 1983

Chief, Local Notice to Mariners
Third Coast Guard District
Governors Island, NY 10004

Dear Sir,

During a survey to revise the nautical charts of New York Harbor, Lower Bay and Sandy Hook Bay, conducted between 9 September and 10 November 1982, the following hazards to navigation were located:

A concrete pipe was observed just east of Belford Harbor about 50 feet offshore. The diameter is 4 feet and it is 6 feet long, laying on its side. It was located at 40°26′04.60"N, 74°04′49.19"W.

A single one-foot diameter steel pipe was observed sticking one inch above the surface of the water at a 45° angle. It is submerged at high water and is located at 40°23′34.33"N, 73°59′41.69"W.

A 3.5-foot upright submerged pile was located at 40°25′39.51"N, 73°56′42.63"W.

Three black steel one-foot diameter pipes were located at high water with the upper 1.5 foot of the pipes exposed. The outer most pipes were located at 40°25′38.93"N, 73°59′39.13"W and 40°25′39.64"N, 73°59′41.17"W.

A one-foot diameter pile sticking one foot out of the water at a 45° angle was located at 40°25′50.50"N, 73°59′41.55"W. This pile is exposed at high water and is about 50 feet from shore.

These hazards were positioned using a Del Norte short-range positioning microwave system. Ranges in meters from known points on shore were recorded and these values were converted to geographic positions.

It is recommended that these obstructions be noted in the Local Notice to Mariners.

The delay in submission of this letter was due to the transfer of the Project's final responsibility from the field party located in the Sandy Hook area to personnel of the NOAA Ship WHITING for final processing. During final processing, we found that this information was not passed on for publication in the Local Notice to Mariners.
Sincerely,

Roy K. Matsushige
Commander Roy K. Matsushige, NOAA
Commanding Officer, NOAA Ship WHITING S-329
VI. LIST OF STATIONS
<table>
<thead>
<tr>
<th>Time</th>
<th>Code</th>
<th>Number</th>
<th>Time</th>
<th>Code</th>
<th>Number</th>
<th>Time</th>
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<td>40 32 16282</td>
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</tr>
<tr>
<td>RANGE F LT (LEONARDO PIER FRONT RANGE LIGHT 1982)</td>
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<tr>
<th>DESCRIPTION</th>
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<tr>
<td>LEONARDO CHANNEL LIGHT 2 - L.L. #1649</td>
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<tr>
<td>ATLANTIC HIGHLANDS BREAKWATER LIGHT - L.L. #1650</td>
</tr>
<tr>
<td>ATLANTIC HIGHLANDS RANGE FRONT LIGHT - L.L. #1651</td>
</tr>
<tr>
<td>ATLANTIC HIGHLANDS RANGE REAR LIGHT - L.L. #1652</td>
</tr>
</tbody>
</table>

| POSITION | |
|-----------|
| Latitude | Longitude | Datum | Method and Date of Location |
|-----------|
| D.M. | D.P. | D.M. | D.P. | |
| 40 25 | 42.53 | 74 03 | 29.11 | V-VIS | 12324 |
| 40 25 | 26.46 | 74 03 | 38.64 | 74E(C)7169 | 12327 |
| 40 25 | 06.85 | 74 01 | 11.94 | 74E(C)7169 | 12330 |
| 40 25 | 02.77 | 74 01 | 57.60 | unverified | 12324 |
| 40 25 | 02.50 | 74 02 | 06.22 | unverified | 12327 |
| 40 27 | 02.49 | 74 03 | 09.19 | 74E(C)7169 | 12330 |
| 40 26 | 41.48 | 74 03 | 23.64 | 74E(C)7169 | 12330 |

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<tr>
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<tr>
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<td>12327</td>
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<td>12327</td>
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SANDY HOOK BAY TERMINAL CHANNEL

Light not in place at time of field edit.
<table>
<thead>
<tr>
<th>TYPE OF ACTION</th>
<th>NAME</th>
<th>ORIGINATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford, WHITING personnel</td>
<td>PHOTO FIELD PARTY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HYDROGRAPHIC PARTY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GEODETIC PARTY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OTHER (Specify)</td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING personnel</td>
<td>FIELD ACTIVITY REPRESENTATIVE</td>
</tr>
<tr>
<td>FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES</td>
<td></td>
<td>OFFICE ACTIVITY REPRESENTATIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>REVIEWER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE</td>
</tr>
</tbody>
</table>

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

OFFICE
1. 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 (Cont'd)

1. 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

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

   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
<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIGHT LIGHT 4116</td>
<td>SANDY HOOK LIGHT L.L. #1616 (SANDY HOOK LIGHTHOUSE FINIAL 1835)</td>
</tr>
<tr>
<td>SWASH CHANNEL</td>
<td></td>
</tr>
<tr>
<td>LIGHT LIGHT 15</td>
<td>Light is moved an average of 6 times per year.</td>
</tr>
<tr>
<td>(SANDY HOOK POINT LIGHT 1940) L.L. #1635</td>
<td></td>
</tr>
<tr>
<td>L.L. #1636 RANGE F</td>
<td>LIGHT is gone, tower is still in place.</td>
</tr>
<tr>
<td>L.L. #1637 RANGE R</td>
<td></td>
</tr>
<tr>
<td>TYPE OF ACTION</td>
<td>NAME</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford, WHITING</td>
</tr>
<tr>
<td></td>
<td>personnel</td>
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</table>

**INSTRUCTIONS FOR ENTRIES UNDER ‘METHOD AND DATE OF LOCATION’**

(Consult Photogrammetric Instructions No. 64, p. 3)

**OFFICE (Cont'd)**

1. 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**

1. NEW POSITION DETERMINED OR VERIFIED
   Enter the applicable data by symbols as follows:
   F - Field
   P - Photogrammetric
   L - Located
   V - Verified
   T - Triangulation
   2 - Traverse
   3 - Intersection
   4 - Resection
   5 - Field identified
   6 - Theodolite
   7 - Planetable
   8 - Sextant

A. Field positions* require entry of method of location and date of field work.
   EXAMPLE: F-2-6-L
   8-12-75

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

I. 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

**PHOTOMGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.**
<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
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<tbody>
<tr>
<td>RANGE F LT</td>
<td>COMPTON CREEK FRONT RANGE LIGHT</td>
<td>40 26</td>
<td>06.66</td>
<td>-74.04</td>
<td>59.27</td>
<td>unverified</td>
</tr>
<tr>
<td>RANGE R LT</td>
<td>COMPTON CREEK REAR RANGE LIGHT</td>
<td>40 26</td>
<td>04.26</td>
<td>74.05</td>
<td>00.36</td>
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<tr>
<td>TYPE OF ACTION</td>
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<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford, WHITING personnel</td>
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<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING personnel</td>
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</tbody>
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**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**

*Consult Photogrammetric Instructions No. 64.*

**OFFICE**

1. **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**

1. **NEW POSITION DETERMINED OR VERIFIED**
   - Enter the applicable data by symbols as follows:
     - F - Field
     - P - Photogrammetric
     - L - Located
     - V - Verified
     - T - Triangulation
     - T - Traverse
     - I - Intersection
     - R - Rection
     - F - Field identified
     - T - Theodolite
     - V - Planetable
     - S - Sextant
   - **EXAMPLE:** F-2-6-L
   - 8-12-75

**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-Vls.' and date.
   - **EXAMPLE:** V-Vls.
   - 8-12-75

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

---

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

---

*NOAA FORM 75-40 (8-74)*

**SUPERSEDES NOAA FORM 75-40 (3-74) WHICH IS OBSOLETE, AND EXISTING STOCK SHOULD BE DESTROYED UPON RECEIPT OF REVISION.*
<table>
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<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
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<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
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<tbody>
<tr>
<td>MARKER</td>
<td>(ATLANTIC HIGHLANDS EAST MEASURED MILE 1970: Triangulation stations, where applicable, in parentheses)</td>
<td>40 25</td>
<td>07.62/74 01</td>
<td>17.44/74</td>
<td>74E(C)7169 10/19/74</td>
<td>V-VIS</td>
</tr>
<tr>
<td>STANDPIPE</td>
<td>(SANDY HOOK STANDPIPE 1930)</td>
<td>40 28</td>
<td>08.59/74 00</td>
<td>28.10/74</td>
<td>74E(C)6964 10/17/74</td>
<td>V-VIS</td>
</tr>
<tr>
<td>FLAGPOLE</td>
<td>(SANDY HOOK FORT HANCOCK PARADE GROUND FLAGPOLE 1930)</td>
<td>40 27</td>
<td>40.17/74 00</td>
<td>17.32/74</td>
<td>74E(C)6964 10/17/74</td>
<td>V-VIS</td>
</tr>
<tr>
<td>TOWER</td>
<td>COMPTON CREEK</td>
<td>40 26</td>
<td>01.49/74 04</td>
<td>57.59/74</td>
<td>74E(C)7169 10/19/74</td>
<td>F-2-6-L</td>
</tr>
<tr>
<td>RADIO TOWER</td>
<td>RED AND WHITE TOWER, SANDY HOOK</td>
<td>40 28</td>
<td>14.50/74 00</td>
<td>44.20/74</td>
<td>-</td>
<td>V-VIS</td>
</tr>
<tr>
<td></td>
<td>Position scaled from 78th ed. Chart #12327</td>
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<tr>
<td>RADAR TOWER</td>
<td>SANDY HOOK</td>
<td>40 28</td>
<td>15.35/74 00</td>
<td>46.46/74</td>
<td>F-2-6-L</td>
<td>8/12/82</td>
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</table>
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 (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

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

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.
## Charting Name and Description

### Marker

- **Name:** Atlantic Highlands West Measured Mile (1970) Triangulator disk not found, measured mile marker no longer maintained.

### Cupola

- **Description:** Not of landmark value.

### Tallest

- **Description:** No longer exists.

### Standpipe

- **Description:** Center of Three Only one standpipe found. Not of landmark value.

### Loran Tower

- **Description:** Antenna is not of landmark value & is being removed by C.G. This antenna does not appear on 78th ed. of Chart #12327.

### Tallest

- **Description:** Tower no longer exists. Position was scaled from old ed. of chart; this tower does not appear on 78th ed. of Chart #12327.

### Tower

- **Description:** Not of landmark value. This tower does not appear on 78th edition of Chart #12327.

### Marker

- **Description:** Pole is still in place, but marker has been destroyed. Measured mile markers no longer maintained.
**RESPONSIBLE PERSONNEL**

<table>
<thead>
<tr>
<th>TYPE OF ACTION</th>
<th>NAME</th>
<th>ORIGINATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objects inspected from seaward</td>
<td>James E. Dunford</td>
<td>PHOTO FIELD PARTY</td>
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<tr>
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<td>WHITING personnel</td>
<td>HYDROGRAPHIC PARTY</td>
</tr>
<tr>
<td>Positions determined and/or verified</td>
<td>James E. Dunford, WHITING personnel</td>
<td>GEOETIC PARTY</td>
</tr>
<tr>
<td>Forms originated by quality control and review group and final review activities</td>
<td>FIELD ACTIVITY REPRESENTATIVE</td>
<td>OTHER (Specify)</td>
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<td></td>
<td>OFFICE ACTIVITY REPRESENTATIVE</td>
<td>REVIEWER</td>
</tr>
<tr>
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<td>QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE</td>
<td>QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE</td>
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</table>

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**

*Consult Photogrammetric Instructions No. 64.*

**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.

**FIELD**

**NEW POSITION DETERMINED OR VERIFIED**

Enter the applicable data by symbols as follows:

- F - Field
- L - Located
- V - Verified
- T - Triangulation
- T - Traverse
- I - Intersection
- R - Resection
- F - Field identified
- P - Photogrammetric
- Vls - Visually
- Theodolite
- Planetable
- 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.

**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-Vls.' and date.

**EXAMPLE:**

- V-Vls.
- 8-12-75

**PHOTOGRAHMETRIC FIELD POSITIONS** are dependent entirely, or in part, upon control established by photogrammetric methods.
<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIGHT Highlands Light (NAVESINK LIGHT NORTH 1940)</td>
<td>40 23 47.25 73 59 10.54</td>
<td>74E(C) 6967</td>
<td>V-VIS</td>
<td>12324 12327 12328</td>
<td></td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>RESPONSIBLE PERSONNEL</td>
<td>ORIGINATOR</td>
<td></td>
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</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------------</td>
<td>------------</td>
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</tr>
<tr>
<td></td>
<td>James E. Dunford WHITING Personnel</td>
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<table>
<thead>
<tr>
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<th>RESPONSIBLE PERSONNEL</th>
<th>ORIGINATOR</th>
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<tbody>
<tr>
<td></td>
<td>James E. Dunford , WHITING Personnel</td>
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</table>

<table>
<thead>
<tr>
<th>FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES</th>
<th>RESPONSIBLE PERSONNEL</th>
<th>ORIGINATOR</th>
</tr>
</thead>
</table>

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**

*(Consult Photogrammetric Instructions No. 64)*

**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:**

- Field: P-8-V
- Date: 8-12-75
- Photograph: 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

**Note:**

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

- PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.
<table>
<thead>
<tr>
<th>Charting Name</th>
<th>Description</th>
<th>Datum</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Office</th>
<th>Field</th>
<th>Charts Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUPOLA</td>
<td>(HIGHLANDS SCHOOL 1934)</td>
<td>NA 1927</td>
<td>40 24</td>
<td>11.25</td>
<td>49.30</td>
<td>74E(C)6967</td>
<td>5/14/82</td>
</tr>
<tr>
<td>TOWER</td>
<td>Abandoned Lighthouse (NAVESINK LIGHT SOUTH 1934)</td>
<td></td>
<td>40 23</td>
<td>45.24</td>
<td>09.20</td>
<td>74E(C)6967</td>
<td>5/13/82</td>
</tr>
<tr>
<td>SPIRE</td>
<td>(RUMSON HOLY CROSS SPIRE 1934)</td>
<td></td>
<td>40 22</td>
<td>00.25</td>
<td>50.73</td>
<td>74E(C)6969</td>
<td>5/16/82</td>
</tr>
<tr>
<td>BLDG</td>
<td>Elevator Shaft</td>
<td></td>
<td>40 24</td>
<td>55.59</td>
<td>12.10</td>
<td>74E(C)7169</td>
<td>5/16/82</td>
</tr>
<tr>
<td>MICRO TOWER</td>
<td>(ATLANTIC HIGHLANDS AT&amp;T MICROWAVE TOWER 1982) Changed from 1962 position.</td>
<td></td>
<td>40 24</td>
<td>11.23</td>
<td>40.05</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOWER</td>
<td>Atlantic Highlands Municipal Yacht Basin Tower</td>
<td></td>
<td>40 24</td>
<td>57.50</td>
<td>56.91</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TYPE OF ACTION</td>
<td>NAME</td>
<td>ORIGINATOR</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>--------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Objects Inspected from Seaward</td>
<td>James E. Dunford, WHITING Personnel</td>
<td>PHOTO FIELD PARTY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions Determined and/or Verified</td>
<td>James E. Dunford, WHITING Personnel</td>
<td>HYDROGRAPHIC PARTY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forms Originated by Quality Control and Review Group and Final Review Activities</td>
<td></td>
<td>OTHER (Specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**

*Consult Photogrammetric Instructions No. 64.*

**OFFICE**

1. **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**

(Cont'd)

1. **NEW POSITION DETERMINED OR VERIFIED**
   - Enter the applicable data by symbols as follows:
     - F - Field
     - L - Located
     - V - Verified
     - 1 - Triangulation
     - 2 - Traverse
     - 3 - Intersection
     - 4 - Resection
     - P - Photogrammetric
     - V - Visually
     - T - Theodolite
     - R - Resection
     - L - Planetary
     - S - 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.

2. **PHOTOGRA MMETRIC FIELD POSITIONS** are dependent entirely, or in part, upon control established by photogrammetric methods.

3. **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

4. **POSITION VERIFIED VISUALLY ON PHOTOGRAPH**
   - Enter 'V-Vis.' and date.
   - **EXAMPLE:** V-Vis. 8-12-75

**FIELD (Cont'd)**

- 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

---

NOAA FORM 76-40 (9-74)

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
### Charting Name

<table>
<thead>
<tr>
<th>Charting Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAS TANK</td>
<td>(ATLANTIC HIGHLANDS COUNTY GAS CO) LARGEST GAS TANK 1930) Delete, not found.</td>
</tr>
<tr>
<td>TOWER</td>
<td>Delete, tower has been removed.</td>
</tr>
<tr>
<td>R TOWER</td>
<td>Delete, tower has been removed.</td>
</tr>
<tr>
<td>MARKER</td>
<td>Delete, marker is covered by trees &amp; bushes, has not been maintained, is in poor condition.</td>
</tr>
</tbody>
</table>

### Datum

- NA 1927

### Position

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 24</td>
<td>38.11</td>
</tr>
<tr>
<td>00 20</td>
<td>32.53</td>
</tr>
<tr>
<td>00 21</td>
<td>41.40</td>
</tr>
<tr>
<td>00 24</td>
<td>49.00</td>
</tr>
</tbody>
</table>

### Method and Date of Location

- 74E(C)7201
- 74E(C)6969
- V-VIS
- 7/31/82
- 5/12/82
- 5/12/82
- V-VIS
- 10/19/74
- 10/17/74
- 10/17/74
- 10/17/74

### Charts Affected

- 12324
- 12327
- 12328
- 12324
- 12328
<table>
<thead>
<tr>
<th>TYPE OF ACTION</th>
<th>RESPONSIBLE PERSONNEL</th>
<th>ORIGINATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td></td>
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</tr>
<tr>
<td>FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 (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

**FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.**
<table>
<thead>
<tr>
<th>OPR PROJECT No.</th>
<th>JOB NUMBER</th>
<th>SURVEY NUMBER</th>
<th>DATE</th>
<th>DATUM</th>
<th>METHOD AND DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPR B139-WH-82</td>
<td>WH-10-1-82</td>
<td>H-10035</td>
<td></td>
<td>NA 1927</td>
<td>V-VIS 8/7/82</td>
<td>12327</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>NA 1927</td>
<td>-</td>
<td>12327</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NA 1927</td>
<td>-</td>
<td>12327</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>OFFICE</th>
<th>FIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>RANGE R. LT</td>
<td>(STATEN ISLAND LIGHTHOUSE 1917) SWASH CHANNEL REAR RANGE LIGHT L.L. #1615</td>
<td>40.34</td>
<td>23.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RANGE F. LT</td>
<td>SWASH CHANNEL FRONT RANGE LIGHT L.L. #1614</td>
<td>40.33</td>
<td>28.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE OF ACTION</td>
<td>RESPONSIBLE PERSONNEL</td>
<td>ORIGINATOR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
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<td>----------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>WHITING personnel</td>
<td>PHOTO FIELD PARTY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>HYDROGRAPHIC PARTY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GEOGRAPHIC PARTY</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>OTHER (Specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>WHITING personnel</td>
<td>FIELD ACTIVITY REPRESENTATIVE</td>
<td></td>
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<td></td>
<td>OFFICE ACTIVITY REPRESENTATIVE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES</td>
<td></td>
<td>REVIEWER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

OFFICE
1. 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)30428
   8-12-75

FIELD
1. NEW POSITION DETERMINED OR VERIFIED
   Enter the applicable data by symbols as follows:
   F - Field
   L - Located
   V - Verified
   T - Triangulation
   T - Traverse
   I - Intersection
   R - Resection
   P - Photogrammetric
   V - Visually
   T - Theodolite
   P - Planetable
   S - Sextant

A. Field positions* require entry of method of location and date of field work.
   EXAMPLE: F-2-6-L
   8-12-75

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

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

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.
The following objects **HAVE NOT** been inspected from seaward to determine their value as landmarks.

<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>METHOD AND DATE OF LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RARITAN BAY SOUTH CHANNEL</td>
<td>Belvedere Beach Light 1</td>
<td>40 27</td>
<td>74 08</td>
<td>74E(C)7166 10/19/74</td>
</tr>
<tr>
<td>LIGHT</td>
<td>Private aid at entrance to Pews Creek</td>
<td>-</td>
<td>-</td>
<td>Not in place at time of field edit</td>
</tr>
</tbody>
</table>

**CHARTS AFFECTED**

- 12327
- 12328
<table>
<thead>
<tr>
<th>TYPE OF ACTION</th>
<th>NAME</th>
<th>ORIGINATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford</td>
<td>PHOTO FIELD PARTY</td>
</tr>
<tr>
<td></td>
<td>WHITING personnel</td>
<td>HYDROGRAPHIC PARTY</td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING personnel</td>
<td>FIELD ACTIVITY REPRESENTATIVE</td>
</tr>
<tr>
<td>FORMS ORIGINATED BY QUALITY CONTROL</td>
<td></td>
<td>OFFICE ACTIVITY REPRESENTATIVE</td>
</tr>
<tr>
<td>AND REVIEW GROUP AND FINAL REVIEW</td>
<td></td>
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</tr>
<tr>
<td>ACTIVITIES</td>
<td></td>
<td>QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE</td>
</tr>
</tbody>
</table>

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

**OFFICE**
1. 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** (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

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

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.*
<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>STACK</td>
<td>Center of Three Tallest</td>
<td>40 26 07.70</td>
<td>74 05 03.62</td>
<td>74E(C)7168</td>
<td>V-VIS</td>
<td>12324</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/19/74</td>
<td>7/31/82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STANPIPE</td>
<td>(KEANSBURG STANPIPE 1929)</td>
<td>40 27 06.35</td>
<td>74 08 18.12</td>
<td>74E(C)7166</td>
<td>V-VIS</td>
<td>12327</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/19/74</td>
<td>7/31/82</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TYPE OF ACTION</td>
<td>NAME</td>
<td>ORIGINATOR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford, WHITING Personnel</td>
<td>PHOTO FIELD PARTY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING Personnel</td>
<td>HYDROGRAPHIC PARTY</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64)

**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.

EXAMPE: 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

**PHOTOGRAHMATIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.**
<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TANK</td>
<td>Searched for, not found.</td>
<td>40 26</td>
<td>29.47</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>74 06</td>
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<td></td>
<td></td>
<td></td>
<td>48.18</td>
</tr>
<tr>
<td>TANK</td>
<td>Searched for, not found.</td>
<td>40 26</td>
<td>20.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>74 07</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>41.93</td>
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</tbody>
</table>

**METHOD AND DATE OF LOCATION**

<table>
<thead>
<tr>
<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V-VIS</td>
<td>74E(C) 7168</td>
</tr>
<tr>
<td>10/19/74</td>
<td>7/31/82</td>
<td>12327</td>
</tr>
<tr>
<td></td>
<td>V-VIS</td>
<td>74E(C) 7166</td>
</tr>
<tr>
<td>10/19/74</td>
<td>7/31/82</td>
<td>12328</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12331</td>
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<tr>
<td>TYPE OF ACTION</td>
<td>RESPONSIBLE PERSONNEL</td>
<td>ORIGINATOR</td>
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<tr>
<td>--------------------------------------------</td>
<td>--------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>WHITING Personnel, James E. Dunford</td>
<td></td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING Personnel</td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**

(Consult Photogrammetric Instructions No. 64)

**OFFICE**

1. **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 (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

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

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

---


---
## Nonfloating Aids or Landmarks for Charts

**NOAA Ship WHITING**  
**NEW JERSEY**  
**SANDY HOOK BAY**  
**8/82**

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

<table>
<thead>
<tr>
<th>OPR PROJECT NO.</th>
<th>JOB NUMBER</th>
<th>SURVEY NUMBER</th>
<th>DATUM</th>
<th>METHOD AND DATE OF LOCATION</th>
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</table>
| OPR B139-WH-82  | CM-7301    | TP-00759      | NA 1927| unverified  

<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SANDY HOOK CHANNEL</td>
<td>This is no longer a fixed aid, it has been replaced with a buoy. L.L.#1619</td>
<td>40°26.5'</td>
<td>73°55.0'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-VIS</td>
<td>8/2/82</td>
<td>12327</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12328</td>
</tr>
<tr>
<td>TYPE OF ACTION</td>
<td>NAME</td>
<td>ORIGINATOR</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford, WHITING personnel</td>
<td></td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING personnel</td>
<td></td>
</tr>
</tbody>
</table>

**RESIDENT PERSONNEL**

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**

*Consult Photogrammetric Instructions No. 64.*

**OFFICE**

1. 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 (Cont'd)**

1. 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

2. POSITION VERIFIED VISUALLY ON PHOTOGRAPH
   Enter 'V-VIs.' and date.
   EXAMPLE: V-VIs. 8-12-75

**FIELD**

1. NEW POSITION DETERMINED OR VERIFIED
   Enter the applicable data by symbols as follows:
   - F - Field
   - L - Located
   - V - Verified
   - T - Triangulation
   - Tr - Traverse
   - Int - Intersection
   - Re - Resection
   - P - Photogrammetric
   - Vis - Visually
   - Th - Theodolite
   - Ph - Planetary
   - Sex - Sextant

A. Field positions* require entry of method of location and date of field work.
   EXAMPLE: F-2-6-L 8-12-75

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

**FIELD POSITIONS** are dependent entirely, or in part, upon control established by photogrammetric methods.
<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOWER</td>
<td>(SPERMACETI COVE COAST GUARD CUPOLA (1926) Charted description should be changed to CUPOLA.</td>
<td>40 25 35.70</td>
<td>73 59 04.77</td>
<td>V-VIS</td>
<td>7/31/82</td>
<td>12324 12327 12328</td>
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<tr>
<td>TYPE OF ACTION</td>
<td>RESPONSIBLE PERSONNEL</td>
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<td></td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford, WHITING personnel</td>
<td>PHOTO FIELD PARTY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING personnel</td>
<td>HYDROGRAPHIC PARTY</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES</td>
<td></td>
<td>GEODESTATE PARTY</td>
<td></td>
<td></td>
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</tbody>
</table>

INSTRUCTIONS FOR ENTRIES UNDER ‘METHOD AND DATE OF LOCATION’

(Consult Photogrammetric Instructions No. 64.)

OFFICE

1. 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

1. NEW POSITION DETERMINED OR VERIFIED
   Enter the applicable data by symbols as follows:
   F - Field
   L - Located
   V - Verified
   1 - Triangulation
   2 - Traverse
   3 - Intersection
   4 - Resection
   P - Photogrammetric
   Vls - Visually
   Theodolite
   Planetable
   Sextant

A. Field positions* require entry of method of location and date of field work.
   EXAMPLE: F-2-5-L
   8-12-75

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

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-Vls.' and date.
    EXAMPLE: V-Vls.
    8-12-75

**PHOTOMGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.
<table>
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<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
</tr>
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<tr>
<td>E4DAR DOME</td>
<td>CENTER OF FOUR Searched for, not found. This does not appear on the latest chart revision, 78th ed. Chart</td>
<td>40 26</td>
<td>56.00 73.59</td>
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</table>

The following objects **HAVEN'T** been inspected from seaward to determine their value as landmarks.

**DATE:** 8/82

**METHOD AND DATE OF LOCATION**

<table>
<thead>
<tr>
<th>OFFICE</th>
<th>FIELD</th>
<th>CHARTS AFFECTED</th>
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</thead>
<tbody>
<tr>
<td>V-VIS</td>
<td>7/31/82</td>
<td>12327</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>12324</td>
</tr>
<tr>
<td>TYPE OF ACTION</td>
<td>NAME</td>
<td>ORIGINATOR</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>OBJECTS INSPECTED FROM SEAWARD</td>
<td>James E. Dunford</td>
<td>PHOTO FIELD PARTY</td>
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<td>GEOGRAPHIC PARTY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OTHER (Specify)</td>
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<tr>
<td>POSITIONS DETERMINED AND/OR VERIFIED</td>
<td>James E. Dunford, WHITING personnel</td>
<td>FIELD ACTIVITY REPRESENTATIVE</td>
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<td>OFFICE ACTIVITY REPRESENTATIVE</td>
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<tr>
<td>FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'**

(Consult Photogrammetric Instructions No. 64.)

**OFFICE**

1. **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 (Cont'd)**

1. **NEW POSITION DETERMINED OR VERIFIED**
   Enter the applicable data by symbols as follows:
   - F = Field
   - P = Photogrammetric
   - L = Located
   - Vls = Visually
   - V = Verified
   - T = Triangulation
   - T = Traverse
   - I = Intersection
   - R = Intersection
   - 1 = Field Identified
   - 6 = Theodolite
   - 7 = Planetary
   - 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.

   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

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

   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=Vls.' and date.
   EXAMPLE: V-Vls.
   8-12-75
X. CURRENT OBSERVATIONS
There were no current anomalies observed during this survey.
XI. APPROVAL SHEET
Because the personnel who monitored the progress of the survey in the field were not the same individuals who ultimately completed the off-line processing, it was difficult to maintain continuity throughout the survey. The transfer of field records from HFP-5 to WHITING personnel for processing explains the large time difference between the completion of field work and office processing. Progress of data collection was monitored closely on a day-to-day basis as was the progress of the processing of the data. All work was completed in accordance with the Project Instructions, Hydrographic Manual, and AMC OP Orders. This survey is considered complete and adequate for charting purposes.

Approved/forwarded

[Signature]

Roy K. Matsushige, CDR NOAA

Commanding Officer, NOAA Ship WHITING
TO: Commander (oan)
Third Coast Guard District
Governor's Island
New York, NY 10004.

FROM: Karl Wm. Klehinger, CDR, NOAA
Chief, Hydrographic Surveys Branch, N/MA23

SUBJECT: Hazards to Navigation New York Harbor Lower Bay and Sandy Hook

REF: (a) Your RAPIDRAFT LETTER, oan 16500, dtd. 25 March 1983
(b) NOAA Ship WHITING Letter, dtd. 03 February 1983

1. Upon receipt of your letter (a) the positions of all of the hazards to navigation mentioned in the NOAA Ship WHITING's letter (b) were reverified by personnel of this office.

2. The findings are as follows:

a. The geographic positions for the hazards in paragraphs 2, 5, and 6 are correct.

b. The geographic positions for the hazards in paragraphs 3 and 4 are:

(1) from the NOAA Ship WHITING's letter (b), Latitude 40°23'34.33"N, Longitude 73°59'41.69"W should be corrected to Latitude 40°25'34.33"N, Longitude 73°59'41.69"W.

(2) from the NOAA Ship WHITING's letter (b), Latitude 40°25'39.51"N, Longitude 73°54'42.63"W should be corrected to Latitude 40°25'39.51"N, Longitude 73°59'42.63"W.

3. The following elevations or depths for each hazard are expressed in feet at Mean Low Water and based on predicted tides from the tide station located at Sandy Hook, New Jersey:

a. The pipe in paragraph 2 is exposed at Mean Low Water.

b. The steel pipe in paragraph 3 is exposed 1.6 feet.

c. The pile in paragraph 4 is wood and is submerged 1.3 feet.
d. The three (3) steel pipes in paragraph 5 are exposed from 1.6 to 3.3 feet.

e. The piling in paragraph 6 is exposed 5.6 feet.

4. Any additional questions you may have regarding these hazards should be addressed to:

Director
Atlantic Marine Center
439 West York Street
Norfolk, Virginia 23510
Attn: N/MOA23

Phone: (FTS) 827-6319

Enclosures

cc: NOAA Ship WHITING
Sirs: Hazard to Navigation New York Harbor Lower Bay and Sandy Hook Bay

Ref: (a) Your letter of 03 February 1983

1. Upon receipt of reference (a), we plotted the positions of the hazards to navigation. All plotted well with the exception of those in paragraph 2 and 3.

2. Request you check the positions given in paragraph 2 and 3 of reference (a) and verify.

3. Enclosed are copies of charts 12324 and 12327 showing where these positions plot.

DA. RAUS
By direction

FROM:
Commander (coah)
Third Coast Guard District
Governor's Island
New York, NY 10004
February 3, 1983

Chief, Local Notice to Mariners
Third Coast Guard District
Governors Island, NY 10004

Dear Sir,

During a survey to revise the nautical charts of New York Harbor, Lower Bay and Sandy Hook Bay, conducted between 9 September and 10 November 1982, the following hazards to navigation were located:

A concrete pipe was observed just east of Belford Harbor about 50 feet offshore. The diameter is 4 feet and it is 6 feet long, laying on its side. It was located at 40°26'04.60"N, 74°00'49.19"W.

A single one-foot diameter steel pipe was observed sticking one inch above the surface of the water at a 45° angle. It is submerged at high water and is located at 40°28'34.33"N, 73°59'41.69"W.

A 3.5-foot upright submerged pile was located at 40°25'39.51"N, 73°54'42.63"W. Three black steel one-foot diameter pipes were located at high water with the upper 1.5 foot of the pipes exposed. The outermost pipes were located at 40°25'38.93"N, 73°59'39.13"W and 40°25'39.64"N, 73°59'41.17"W.

A one-foot diameter pile sticking one foot out of the water at a 45° angle was located at 40°25'50.50"N, 73°59'41.55"W. This pile is exposed at high water and is about 50 feet from shore.

These hazards were positioned using a Del Norte short-range positioning microwave system. Ranges in meters from known points on shore were recorded and these values were converted to geographic positions.

It is recommended that these obstructions be noted in the Local Notice to Mariners.

The delay in submission of this letter was due to the transfer of the Project's final responsibility from the field party located in the Sandy Hook area to personnel of the NOAA Ship WHITING for final processing. During final processing, we found that this information was not passed on for publication in the Local Notice to Mariners.
Dear Admiral Yost:

Portions of two (2) uncharted ruins and an unidentified obstruction have been found during office processing of hydrographic survey H-10049 (1982), New Jersey, Lower Bay, Sandy Hook Bay. Any questions concerning these hazards should be directed to Mr. H. C. Roberson, Evaluation and Analysis Group, telephone (804) 441-6268 (VTS 627-6269).

The following texts are recommended for inclusion in the Local Notice to Mariners:

1. Uncharted submerged obstructions with least depths to one (1) foot at Mean Low Water exist inside an area bounded by the following points from north in a clockwise direction:

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>40°26'58&quot;N</td>
<td>74°25'14&quot;W</td>
</tr>
<tr>
<td>40°26'44&quot;N</td>
<td>74°25'04&quot;W</td>
</tr>
<tr>
<td>40°26'29&quot;N</td>
<td>74°25'12&quot;W</td>
</tr>
<tr>
<td>40°26'29&quot;N</td>
<td>74°05'18&quot;W</td>
</tr>
<tr>
<td>40°26'42&quot;N</td>
<td>74°05'24&quot;W</td>
</tr>
</tbody>
</table>

2. Uncharted submerged ruins exist in an elliptical area that is 300 meters long on a northeast/southwest axis and 200 meters long on a northwest/southeast axis. The center of the ellipse is located in Latitude 40°26'39"N, Longitude 74°04'55"W.

3. An uncharted obstruction awash at Mean Low Water was found in Latitude 40°27'20"N, Longitude 74°05'10.5"W.

Charts affected are 12330, 12324, and 12327.

A xerographic copy of a portion of hydrographic survey H-10049.
showing the two (2) areas mentioned in Sections 1. and 2. of this letter is attached.

Sincerely,

S/Ronald L. Newsom

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

Attachment
cc: N/00222
HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NO.:  H-10049

<table>
<thead>
<tr>
<th>Number of positions</th>
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<tbody>
<tr>
<td>Number of soundings</td>
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<tr>
<td>Number of control stations</td>
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<tr>
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<td>Quality Control Checks</td>
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<tr>
<td>Evaluation and Analysis</td>
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<td>Final Inspection</td>
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<td>TOTAL TIME</td>
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<td>Marine Center Approval</td>
<td></td>
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</tbody>
</table>

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

TO:
CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/C G243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

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-10049 (HSB-10-10-82) OPR-B139

New York Harbor

Package #3 (box)

8-- Sounding Volumes (NOAA form 77-44)

1-- Cahier containing Final Position Printout and Control listing

1-- Cahier containing Final Sounding Printout and L-File listing

1-- Folder containing miscellaneous field edit data for OPR-B139-WH-82, affecting H-10035, 10031, and H-10049

1-- Envelope containing miscellaneous material removed from original Descriptive Report

1-- Envelope containing miscellaneous historical information used during evaluation and analysis

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

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

ATLANTIC MARINE CENTER
HYDROGRAPHIC SURVEYS BRANCH, N/C G243
NOAA, NATIONAL OCEAN SERVICE
439 W. YORK STREET
NORFOLK, VA 23510
LETTER TRANSMITTING DATA

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/CG242
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

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-10049 (HSB-10-10-82) OPR-B139

New York Harbor

Package 1 (tube)

1-- Smooth Sheet
1-- Smooth Position Overlay
2-- Excess Overlays
1-- Smooth Field Sheet (4 parts)
1-- Descriptive Report (original)

FROM: (Signature)

Return receipted copy to:

ATLANTIC MARINE CENTER
HYDROGRAPHIC SURVEYS BRANCH, N/CMA23
NOAA, NATIONAL OCEAN SERVICE
439 W. YORK STREET
NORFOLK, VA 23510

RECEIVED THE ABOVE
(Name, Division, Date)
LETTER TRANSMITTING DATA

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/C G243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

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-10049 (HSB-10-10-82) OPR-B139
New York Harbor

Package 2 (box)

4— Accordion Folders containing fathograms and printouts for the following days: (vessel #2931) 256, 257, 259, 260, 270, 272, 273, 277*, 278, 279, 288, 294, 300, 278, 279, 280, 281, 285, 294, 300, 301, 305, 306, 312 (vessel #2932) 312

1— Notebook containing daily electronic calibration data

FROM: (Signature)

David B. MacFarland, CDR. NOAA

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

ATLANTIC MARINE CENTER
HYDROGRAPHIC SURVEYS BRANCH, N/MA23
NOAA, NATIONAL OCEAN SERVICE
439 W. YORK STREET
NORFOLK, VA 23510
2/28/83

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 1681 Sandy Hook, NJ

Period: September 13-November 9, 1982

HYDROGRAPHIC SHEET: H-10049

OPR: B139

Locality: Sandy Hook Bay, New Jersey

Plane of reference (mean lower low water): 2.47 ft.

Height of Mean High Water above Plane of Reference is 4.7 ft.

REMARKS: Recommended zoning:

1. North of latitude 40°25.0' zone direct.
2. South of latitude 40°25.0'
   a. West of 74°00.0' zone direct.
   b. East of 74°00.0' apply +10 minutes and x 0.94 range ratio.

Chief, Datums and Information Branch
<table>
<thead>
<tr>
<th>Name on Survey</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
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Approved:

Chief Geographer

AUG 1, 1985
1. INTRODUCTION
   a. No unusual problems were encountered during office processing.
   b. Notes in the Descriptive Report were made in red during office processing.

2. CONTROL AND SHORELINE
   b. Shoreline originates with final reviewed Class III photogrammetric manuscripts TP-00757-00760 of 1974/75-78, photorevised with aerial photographs taken in September of 1980. No field edit was performed on the 1974-75 photography. The shoreline is also supplemented by revisions made by the hydrographer and field edit notes. Revisions to the high water line are shown in red on the smooth sheet and field edit notes where appropriate were incorporated into the compilation of the smooth sheet.

3. HYDROGRAPHY
   a. Soundings at crossings are in excellent agreement and meet the criteria found in sections 4.6.1. and 6.3.4.3. of the HYDROGRAPHIC MANUAL.
b. The standard depth curves could be adequately drawn except for the zero (0) curve. The zero (0) curve was not delineated in some cases because of extremely shoal areas and close proximity of the zero (0) curve and the shoreline.

c. Development of the bottom configuration and determination of least depths is considered adequate except for two (2) areas east of Sandy Hook where the lines of hydrography were run parallel to the depth curves. These areas are as follows:

1) Between Latitudes 40°26'55"N and 40°27'51"N approximate in Longitude 74°00'30"W.

2) Between Latitudes 40°25'30"N and 40°26'30"N in approximate Longitude 74°00'06"W.

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports conform to the requirements of the HYDROGRAPHIC MANUAL with the following exceptions:

a. The Notice to Mariners submitted by the hydrographer contained two (2) incorrect geographic positions. A letter from the Third Coast Guard District, dated 25 March 1983, questioned the two (2) positions, and a corrected notice was sent to the Third District by the Hydrographic Surveys Branch of the Atlantic Marine Center. A copy of the correspondence is appended to this report.

b. The Descriptive Report was not properly assembled. The discussion of Sounding Equipment and Corrections to Echo Soundings began on page 2 and was continued on page 6. This was corrected during office processing.

c. Baseline calibrations performed by the field unit did not use the recommended distances for two (2) of the three (3) calibrations performed. AMC OPORDER 79, dated 25 February 1982, states that the baseline used should be 1800 to 2500 meters long. The two (2) short baseline calibrations were over a distance of 1351 meters. The overall survey accuracy is not considered degraded.

d. The hydrographer's reference to a junction with hydrographic survey H-9820 (1979) was not appropriate. H-9820 (1979) does not junction with the present survey.

e. The hydrographer's references to heights of objects in the survey area should not be referenced to a sounding datum. A reference to a sounding datum infers that smooth tide correctors have been applied. The field does not have this capability at the present time. All references to heights of objects should be simply stated in the appropriate units with a time of observation and other appropriate dimensions. Actual reduction of heights will be completed during office processing.
f. The hydrographer's statement on page 5 of the Descriptive Report saying no electronic correctors were applied to the off-line plot is consistent with AMC OPORDER 79, dated 25 February 1982. A conflict arises with the electronic corrector abstracts, Appendix V of the Descriptive Report and the statement made on page 5 of the Descriptive Report. The OPORDER states that when the baseline calibrations have a corrector of less than ten (10) meters a corrector of zero (0) will be applied to the survey data. The data tapes provided by the field were correct; however, the abstracts provided in the Descriptive Report did not reflect the correctors applied to the survey data.

g. The field sheets submitted by the field unit lack descriptive notes which are helpful in office processing of the survey data.

h. The hydrographer located submerged ruins in Latitude 40°26'51.0"W, Longitude 74°00'13.5"W and described the ruins, "...three (3) piles abreast approximately ten (10) meters wide and extending fifty (50) meters offshore." The graphic representation on the final field sheet shows a pier ruin two hundred (200) meters long and thirty (30) meters wide. The hydrographer's description and graphic representation should correspond to one another. The hydrographer did not physically locate the ends of the ruins. That observation would have alleviated any doubt about the actual dimensions of the feature.

i. The hydrographer failed to discuss the adequacy of the aids to navigation located during the survey. A statement of adequacy is required by section 5.3.4.(N) of the HYDROGRAPHIC MANUAL.

j. The hydrographer failed to provide a correct "Index of Sheets." This requirement is found in section 5.3.3. of the HYDROGRAPHIC MANUAL.

k. The hydrographer did not make comparison with all of the prior surveys in the common area of the present survey. The Project Instructions were deficient because they did not list all of the the prior surveys in section 6.10.1. These prior surveys were, however, shown on two (2) sketches that followed the body of the Project Instructions. It is imperative that the hydrographer thoroughly examine the instructions for any and all pertinent information.

l. Prior topographic sheets were provided to the field unit prior to completion of the field work. The sheets were forwarded to the field unit by Hydrographic Surveys Branch, N/MOA23 of the Atlantic Marine Center. There was no comparison made with these two (2) surveys.

m. Twice daily bar checks were not taken as required by sections 1.5.2. and 4.9.5.1.1. of the HYDROGRAPHIC MANUAL. Vessel number 2931 took nine (9) out of a possible forty-six (46) bar checks, vessel number 2932 took zero (0) out of a possible two (2) bar checks, and vessel number 2933 took twelve (12) out of a possible thirty (30) bar checks.

n. The hydrographer failed to provide adequate information for accurate disposition of AWOIS item 2448, a charted obstruction, in Latitude 40°25'12"N, Longitude 73°59'45"W. The hydrographer neglected
to provide information about the height of the obstruction at the time of observation. Data of this nature would have provided input for the computation of depth or elevation of the obstruction. The description given states, "The obstruction observed is not submerged at MHW..." See also section K, page 13 of the Descriptive Report.

o. The hydrographer failed to adequately locate AWOIS item 2460, a partially submerged wreck, PA. The hydrographer inspected the area and did not provide a description of what was observed. Subsequent conversations by the hydrographer with local persons confirmed the existence of wreckage. Upon this discovery, the hydrographer should have made every effort to delineate the wreckage.

p. The hydrographer should have contacted local mariners concerning AWOIS item 2463, an obstruction, in Latitude 40°25'11.5"N, Longitude 74°00'23.5"W. The hydrographer performed the minimum fifty (50) meter chain drag at the charted location; contact with local mariners may have provided confirmation of the items existence or removal.

q. The hydrographer did not obtain an elevation at the time of observation for a stranded wreck in the vicinity of Latitude 40°24'38"N, Longitude 74°00'00"W. The hydrographer states, "It should be charted as a wreck always showing a portion of the superstructure."

r. The depth of a submerged rock located in Latitude 40°24'43.99"N, Longitude 73°58'52.47"W was not obtained. A rock adjacent to it was said to be awash. The omission of this type of information by the field is not a good field procedure. This rock falls in an area that is delineated by a foul limit line on the smooth sheet.

s. On year day 257, a spike on the echogram was seen between positions 140 and 141. The raw depth for this spike was 1.8 feet in surrounding depths of twelve (12) to thirteen (13) feet. This depth reduced to 0.6 feet at Mean Low Water. The hydrographer failed to further investigate this item to verify or disprove the existence of an obstruction in this location. A Notice to Mariners was prepared by Atlantic Marine Center personnel and forwarded to the Third Coast Guard District. The obstruction awash at Mean Low Water should be charted in Latitude 40°27'20.24"N, Longitude 74°05'10.60"W, and is shown on the survey smooth sheet. It is recommended that a constant tension wire drag/side scan sonar investigation be conducted at a convenient time to verify or disprove the existence of this obstruction.

t. A spike found between positions 133 and 134 was noted by the hydrographer. The hydrographer did not investigate this spike. The location of this spike is approximate Latitude 40°26'58"N, Longitude 74°05'14"W, with a reduced echo sounder depth of three (3) feet. This position agrees well with the northern most point of AWOIS item 2449. It is recommended that a constant tension wire drag/side scan sonar investigation be conducted at an opportune time in this area and the area of AWOIS item 2450 to define the areas of submerged obstructions or to disprove them.
5. **JUNCTIONS**

H-10016 (1982) to the southeast
H-10031 (1982) to the north

An adequate junction was effected with H-10016 (1982) and H-10031 (1982).

There are no contemporary junctional surveys to the west of the present survey. Present survey depths are in general harmony with the charted hydrography in the junctional area.

6. **COMPARISON WITH PRIOR SURVEYS**

a. **Hydrographic Surveys**

H-4610 (1926) 1:20,000
H-5234a (1932) and Ad. Wk. 1934 1:10,000
H-5617 (1934) 1:10,000

H-4610 (1926) compares well with the present survey; depths vary from plus or minus (+/-) one (1) to three (3) feet. The following item should be noted:

A rock awash was located on the above prior survey in approximate Latitude 40°26'45"N, Longitude 74°05'18"W. Present survey depths in this area are three (3) to five (5) feet. Two (2) submerged obstructions were located in Latitude 40°26'48.58"N, Longitude 74°05'15.99"W and Latitude 40°26'45.78"N, Longitude 74°05'12.03"W. These obstructions cover two (2) feet at Mean Lower Low Water (MLW). A careful inspection of the bathymetgrams in this area revealed numerous spikes that may be additional rocks. The aforementioned features correspond to the remains of an old charted railroad pier stone and pile crib (BP 12937/1909) and shoreline map T-5101 (1934). See also section 6.C.3 of the Evaluation Report.

H-5234a (1932-34) is in good general agreement with in areas off-shore with depths varying plus or minus (+/-) one (1) to two (2) feet. In the vicinity of Latitude 40°26'06"N, Longitude 73°59'40"W depths on the present survey are twenty-four (24) to twenty-seven (27) feet deeper than the prior survey. These deeper depths appear to have been caused by some type of dredging for borrow material. Other large changes are apparently due to natural processes and cultural development alongshore and nearshore. In addition to the discussion in section K of the Descriptive Report the following should be noted:

1) At the entrance to the Shrewsbury River the channel is now south of the old channel. The old channel ran close to Spermaceti Cove; the present channel is now close to the south shore and the town of Waterwitch.

2) In the area from Latitude 40°27'18"N, Longitude 74°00'45"W to Latitude 40°26'54"N, Longitude 74°00'45"W, the shoreline on the west
side of Sandy Hook has receded from zero (0) to a maximum of approximately 180 meters to sixty (60) meters.

3) A spit of land now extends southward approximately 300 meters from Latitude 40°26'51"N, Longitude 74°00'12"W. Prior survey depths in this area ranged from two (2) feet above Mean Low Water (MLW) to seventeen (17) feet. Revise as shown on the present survey.

4) An uncharted pier ruin approximately fifty (50) meters long by ten (10) meters wide, three (3) piles abreast, was located by the hydrographer in Latitude 40°26'50"N, Longitude 74°00'15"W. There is no evidence of this pier on the prior survey. The pier ruin has been portrayed on the survey smooth sheet as shown on the hydrographer's final field sheet. The pier is therefore shown on the smooth sheet as approximately 200 meters long by thirty (30) meters wide. The ruins extend from inside the High Water line to prior survey depths of nineteen (19) feet. The charting recommendation for this feature is found in section 7.a.5) of this report.

5) A pier in Latitude 40°26'51"N, Longitude 74°00'07"W was not found by the survey. The pier falls inside the High Water line on the present survey. No change in the present charting status is recommended.

6) The hydrographer located a pier ruin in Latitude 40°26'53"N, Longitude 73°59'52"W. There is no pier or pier ruin shown on the prior survey in this location. The pier ruin as shown on the present survey smooth sheet is approximately fifty (50) meters long by twenty-five (25) meters wide. The hydrographer's records state only that detached positions were taken on the NW and SE ends of piles. The Descriptive Report states, "Approximately 12 more pilings ran inshore which were visible at high water. The portrayal on the present smooth sheet was taken from the hydrographer's final field sheet. The two (2) detached positions taken by the hydrographer were rejected during office processing. A charting recommendation for this feature is found in section 7.a.6) of this report.

7) Along the west side of Sandy Hook there has been some shoreline recession up to approximately fifty (50) meters as far south as Latitude 40°25'48"N. South of Latitude 40°25'48"N, there have been dramatic changes to the western shoreline of Sandy Hook. The entire area of Spermaceiti Cove has undergone dramatic changes that can be attributed to both natural and man made causes. South of Spermaceiti Cove, the shoreline along the west side of Sandy Hook has remained relatively stable; however, the configuration of Plum Island, formerly Island Beach, has changed. It is recommended that this area be charted as shown on the smooth sheet.

8) Present survey depths in the channel to the Shrewsbury River, in the vicinity of Latitude 40°24'15"N, Longitude 73°58'57"W, are three (3) to five (5) feet deeper than prior survey depths.

9) On the west shore of the Shrewsbury River from Longitude 73°59'00"W to Longitude 74°00'24"W, there has been extensive cultural
development. Numerous piers, ramps, etc., have been constructed. No change in present charting status is recommended.

10) A sunken wreck, AWOIS item 2447 in Latitude 40°25'01"N, Longitude 74°00'03"W on the prior survey is considered to be the wreck baring one (1) foot at Mean Lower Low Water that was found in Latitude 40°25'00.15"N, Longitude 73°59'59.10"W. It is recommended that the wreck be charted as shown on the present survey.

11) Three (3) submerged pier supports are located in Latitude 40°24'51"N, Longitude 74°01'00"W, Latitude 40°24'53"N, Longitude 74°00'59"W, and Latitude 40°24'54"N, Longitude 74°00'59"W were investigated using reduced line spacing. Three (3) submerged obstructions were found in Latitude 40°24'55.59"N, Longitude 74°00'59.35"W, Latitude 40°24'54.34"N, Longitude 74°00'59.43"W, and Latitude 40°24'52.81"N, Longitude 74°00'59.45"W and are submerged five (5), three (3), and one (1) foot, respectively at Mean Low Water. The southernmost pier support was not found by the hydrographer, and the northernmost pier support was not shown on the prior survey. The southernmost pier support has been brought forward as an obstruction to supplement the present survey. It is recommended that the four (4) pier supports be charted as shown on the present survey.

12) In the vicinity of Atlantic Highlands, west of Longitude 74°01'00"W to Longitude 74°02'30"W, extensive cultural development has occurred with the addition of a substantial breakwater and numerous piers. The shoreline has accreted from approximately zero (0) meters at Longitude 74°01'00"W to approximately 150 meters in Longitude 74°02'00"W. No change in present charting status is recommended.

13) The hydrographer did not find evidence of the piles located in the vicinity of Latitude 40°25'12"N, Longitude 74°02'15"W on the prior survey. These piles were brought forward as submerged piles to supplement the present survey. It is recommended that these piles be charted as shown on the present survey.

14) A large pier, having approximate dimensions of 625 meters long and ten (10) meters wide with an offshore end thirty-five meters square, in the vicinity of Latitude 40°25'12"N, Longitude 74°02'15"W, shown on the prior survey originates with prior shoreline map T-5100 (1932-33). This pier was not investigated by the hydrographer. On year day 179, an indication of the pier was found on the fathogram between positions 1015 and 1016. The pier was brought forward as submerged pier ruins to supplement the present survey. No change in present charting status is recommended.

15) A large pier, having approximate dimensions of 650 meters long and ten (10) meters wide with a large irregularly shaped offshore end, in the vicinity of Latitude 40°25'15"N, Longitude 74°02'33"W and a row of stakes approximately ten (10) meters to the west, shown on the prior survey, originating with T-5100 (1932-33) was not investigated by the hydrographer. No indication of the pier or stakes was found on the present survey records. The present survey is not considered adequate to verify nor disprove the existence of the pier or stakes. These features
have been brought forward to the present survey as submerged pier ruins and submerged stakes and should be charted as shown on the present survey.

A6) Several stakes, AWOIS item 2471, that are shown between the two (2) piers mentioned above in items 14) and 15) have been brought forward as submerged piles on the present survey. The stakes, identified as piles in the AWOIS history, were removed on a subsequent edition of the chart based upon a re-evaluation of Chart Letter 1458 of 1973 (Chart Deficiency Survey, OPR-506-HFP-745-73). This item of the Chart Deficiency Survey is considered discredited by the findings of the present survey. It is recommended that these submerged piles be charted as shown on the present survey.

A7) A pier approximately 730 meters long and ten (10) meters wide with four (4) dolphins at the offshore end was not completely investigated by the hydrographer. The feature shown on the present survey consists of two (2) rows of piles with a submerged pipeline, and is shown in the vicinity of Latitude 40°25'24"N, Longitude 74°02'39"W. Three (3) dolphins and a platform were located by the hydrographer near the location of the offshore end shown on the prior survey. No submerged piles were located between the platform and the last visible piles shown in black on the present survey. A telephone conversation with Mr. Jay Engelken, McConnel Oil Company, Atlantic Highlands, New Jersey, telephone (201) 291-3200, established that the remaining piles have been taken down by ice. The area offshore of the last visible piles has been shown in violet with submerged piles. It is recommended that this area be charted as shown on the present survey.

A8) Several small groins west of Longitude 74°02'45"W were not investigated by the hydrographer and should be retained as charted. A copy of the chart with the groins to be retained encircled is appended to this report.

A9) Two (2) stranded wrecks on the prior survey in Latitude 40°27'27"N, Longitude 74°02'57"W and Latitude 40°25'24"N, Longitude 74°03'02"W were not investigated and were not brought forward to the present survey as submerged wrecks. No evidence of these wrecks was found by the present survey. It is recommended that these wrecks not be charted unless subsequent information indicates otherwise. These wrecks were removed by earlier chart compilation action.

H-5617 (1934) compares well with the present survey. Generally, the depths vary from plus or minus (+/-) two (2) feet in the common area. The following should be noted:

1) The most notable change in the common area since the prior survey is the Naval Munitions Pier at Earle, New Jersey. This pier extends approximately 3640 meters offshore and is generally fifteen (15) meters wide. The offshore end is split to form two (2) pierheads, a third pierhead is approximately 2100 meters from the shore. It is recommended that this pier remain as presently charted.
6) A privately maintained channel east of the navy pier leads to Leonardo Harbor in the vicinity of Latitude 40°25'13"N, Longitude 74°03'40"W, is conspicuous inside the six (6) foot depth curve. The entrance to the harbor has been reconfigured. Charted piles east and west of the entrance to Leonardo Harbor were not searched for by the hydrographe, are not shown on TP-00758, nor were they addressed by the field editor. A conversation with an employee at the Leonardo State Marina, telephone (201) 291-1333, confirmed that these piles do not exist. It is recommended that these piles be removed from the chart. East of the entrance to Leonardo Harbor, the shoreline has accreted up to approximately thirty (30) meters, and west of the entrance, the shoreline has receded up to sixty (60) meters. No change in present charting status is recommended.

3) A small creek east of the navy pier in Latitude 40°25'36"N, Longitude 74°03'59"W is no longer in existence. No change in the present charting status is recommended.

4) West of the navy pier to Ware Creek, the shoreline has receded up to approximately 110 meters. No change in the present charting status is recommended.

5) The entrance to Ware Creek is substantially smaller and the entrance to the smaller creek to the west, Perchol Creek, is now closed. No change in the present charting status is recommended.

6) West of Ware Creek to the entrance of Compton Creek, the shoreline has receded up to approximately ninety (90) meters.

7) The shoreline delineation of the entrance to Belford Harbor/Compton Creek has been reconfigured and should be retained as presently charted.

8) The dredged channel channel to Belford Harbor/Compton Creek is conspicuous by its buoys and dredged depths south of the twelve (12) foot curve shown on the present survey.

9) West of Belford Harbor/Compton Creek, the shoreline has accreted up to 100 meters and should be retained as presently charted.

10) In approximate Latitude 40°26'54"N, Longitude 74°05'57"W, depths of thirteen (13) to twenty (20) feet on the present survey are ten (10) to fourteen (14) feet deeper than prior survey depths. This is a probable result of borrow dredging. It is recommended that the present survey depths be charted in this location.

11) A fish trap extending from Latitude 40°27'24"N, Longitude 74°03'59"W to Latitude 40°28'03"N, Longitude 74°03'20"W on the prior survey was not brought forward to the present survey. No change in present charting status is recommended.

12) The area of Belford Harbor has undergone considerable cultural change and should be retained as charted.
The present survey is considered adequate to supersede the above listed prior surveys except as noted in this report.

b. Wire Drag Survey

H-6994WD (1944) 1:20,000

A comparison between H-6994WD (1944) and the present survey shows four (4) hangs/groundings in the common area. They are discussed below:

1) An 18-foot hang/grounding in Latitude 40°27'45.4"N, Longitude 74°01'04.2"W is considered cleared by 16 feet. This is presently charted as an 18-ft sounding. Present survey depths in the area are 21 feet. The 18-ft has been brought forward to supplement the present survey. No change in the present charting status is recommended.

2) A 17-foot hang/grounding in Latitude 40°27'09.8"N, Longitude 74°02'44.6"W was cleared by 17 feet. No change in the present charting status is recommended.

3) An 18-foot hang/grounding in Latitude 40°27'16.8"N, Longitude 74°02'31.2"W was cleared by 17 feet. No change in the present charting status is recommended.

4) A 13-foot hang/grounding in Latitude 40°27'17.4"N, Longitude 74°02'43.8"W was cleared by 12 feet. This hang/grounding was brought forward to supplement the present survey. No change in present charting status is recommended.

Several conflicts exist between the present survey depths and the prior survey effective depths. These differences, in approximate Latitude 40°27'50"N, Longitude 74°01'33"W, were one (1) to two(2) feet and can be attributed to natural changes.

C. Topographic Surveys

T-5100 (1932-33) 1:10,000
T-5101 (1932) 1:10,000

The shoreline for the two (2) previously discussed prior hydrographic surveys, H-5234a (1932-34) and H-5617 (1934), originates with the two (2) topographic surveys listed above.

The shoreline changes noted in the previous discussions of prior hydrographic surveys are the same as for these prior topographic surveys. Discussions of charting disposition is found in section 6.a of this report.

Specific attention is directed to the following:
1) Several large submerged pier ruins, stakes, etc., have been brought forward to supplement the present survey from the above prior topographic surveys.

2) The charted pier in Latitude 40°25'24"N, Longitude 70°02'39"W, originating with T-5100 (1932-33) was not brought forward to the present survey smooth sheet from the prior topographic survey because of an apparent distortion in its position. The submerged portion of the pier was continued as an extension of the ruin shown on the contemporary photogrammetric manuscript TP-00758. A submerged portion extends to the platform in Latitude 40°25'28.27"N, Longitude 74°02'31.31"W.

3) Two areas of "submerged stone piles" originating with T-5101 (1932) in the vicinity of Latitude 40°26'41"N, Longitude 74°05'14"W and Latitude 40°26'39.4"N, Longitude 74°04'54.1"W were AWOIS items 2449 and 2450, respectively. Area limits for these two (2) features have been removed from subsequent charts of the area. The authority for this removal was Chart Letter 1458 of 1973. An examination of CL 1458/73 revealed that the investigations of these two (2) areas were not sufficient to warrant the removal of the areas of charted submerged ruins. In addition, the hydrography on the present survey found two (2) obstructions and indications of numerous others on the echograms. The present survey is not considered sufficiently extensive enough to disprove the submerged ruins. Considering the present hydrographic survey data and the prior topographic data new area limits for the submerged ruins have been established and a Notice to Mariners forwarded to the Third Coast Guard District. The new area limits for these submerged ruins should be charted. These areas have been delineated by a dashed foul limit line on the present survey and are labeled as "foul with submerged pier ruins."

4) The charted submerged piles in Latitude 40°25'10"N, Longitude 74°02'03"W apparently originate with piles shown on topographic map T-5100 (1932-33) in Latitude 40°25'10.5"N, Longitude 74°02'03.0"W and were subsequently revised to submerged piles. These piles were brought forward as submerged piles to the present survey. They were not considered verified nor disproved by the present survey. They should be charted as shown on the present survey.

Except as noted above the present survey data and the shoreline maps noted in section 2.b of this report are considered adequate to supersede the above prior topographic maps.

7. COMPARISON WITH CHARTS 12327(77th Edition, August 1/81)

   12330(13th Edition, June 12/82)

   a. Hydrography

   The charted hydrography originates with the previously discussed prior surveys, U.S. Army Corps of Engineers surveys, U.S. Navy surveys, and miscellaneous sources. The following is noted in addition to the
items discussed by the hydrographer in section K of the Descriptive Report:

1) A charted 6-ft sounding on chart 12330 in Latitude 40°25'55"N, Longitude 74°02'30"W is not correct. The source of this sounding is survey H-5234a (1932-34). The correct value for the sounding at this location is sixteen (16) feet. It is recommended that the present survey depths be charted.

2) Two (2) large uncharted fish traps west of Sandy Hook, in the vicinity of Latitude 40°27'33"N, Longitude 74°00'45"W were located by the hydrographer. These fish traps fall inside the charted fish trap area. It is recommended that these two (2) fish traps be charted.

3) A large wood float located by the hydrographer in Latitude 40°26'58.18"N, Longitude 74°00'12.79"W, is between the high and low water lines on the present survey and poses no danger to navigation. It is recommended that the float not be charted.

4) An obstruction in Latitude 40°26'54.64"N, Longitude 74°00'13.98"W was located by the hydrographer as the remains of a bunker. This bunker falls inside the Mean High Water line on the chart and the present survey. No change in the present charting status is recommended.

5) The charted piles, PA, in Latitude 40°26'50"N, Longitude 74°00'19"W, were not investigated by the hydrographer. The hydrographer's delineation of pier ruins on the final field sheet covers these piles, PA. See section 6.a.4) of the Evaluation Report and section K, page 23 of the Descriptive Report for additional discussion. It is recommended that this feature be charted as shown on the present survey; however, considering the conflicting information provided by the field, the chart compiler should exercise discretion in application of this feature to the chart.

6) An uncharted pier ruin located by the hydrographer in Latitude 40°26'53"N, Longitude 73°59'52"W, discussed in section 6.a.6) of this report should be charted as shown on the present survey. The chart compiler should exercise discretion considering the conflicting information provided by the field.

7) The wreck located by the hydrographer in Latitude 40°26'52.7"N, Longitude 73°59'50.3"W is not presently charted. This wreck is shown on the survey smooth sheet. Considering the hydrographer's statement in section K, page 22, of the Descriptive Report about the condition of the wreck; it is recommended that the wreck not be charted.

8) Shoreline changes along the western shore of Sandy Hook have been discussed in sections 6.a.1), 6.a.2), 6.a.3), and 6.a.7) in the comparison with survey H-5234a (1932-34) of this report. It is recommended that the shoreline be charted as shown on the photogrammetric manuscripts TP-00757 and TP-00760 except where it has been superseded and shown in dashed red on the smooth sheet.
9) The charted 5 ft rep 1971 in approximate Latitude 40°24'57"N, Longitude 74°00'24"W falls in present survey depths of 5 to 10 feet. Shoaling to 4 feet was found 100 to 200 meters to the northwest of the charted note. It is recommended that present survey depths be charted and the charted note deleted.

10) The charted submerged pier ruin limit in Latitude 40°24'52"N, Longitude 74°01'00"W should be retained; however, the northern limit should be extended to include the northernmost obstruction located on the present survey. See also section 6.a.11) of this report.

11) The charted submerged pile, in Latitude 40°24'50"N, Longitude 74°01'02"W should be retained as charted because it was not considered verified nor disproved by the present survey.

12) Four (4) major pier ruins west of Longitude 74°02'00"W should be retained as charted with the exception of the westernmost of the ruins which should be charted as shown on the present survey. See also sections 6.a.14), 6.a.15), 6.a.16), and 6.a.17) in the discussion of the comparison with survey H-5234a (1932-34) of this report for additional information.

13) A charted row of visible piles, approximately 450 meters long, in the vicinity of Latitude 40°24'45"N, Longitude 74°02'32"W, alongside a pier ruin was not investigated. These piles have been brought forward to the present survey from prior topographic map T-5100 (1932-33) as submerged stakes and should be charted as shown on the present survey. See also section 6.a.15) in the comparison with survey H-5234a (1932-34) of this report.

14) A charted groin in Latitude 40°25'10"N, Longitude 74°02'55"W, was identified as a groin on TP-00758. Both the hydrographer and field editor found this to be a marine railway. It is recommended that a marine railway be charted at the location shown on the present survey.

15) An uncharted fish trap was located in Latitude 40°27'12"N, Longitude 74°04'33"W. This fish trap falls within a charted fish trap area. It is recommended that this fish trap be charted.

16) The uncharted wreck of the "ALEXANDER HAMILTON" laying parallel to the Naval Munitions Pier, in Latitude 40°26'22.2"N, Longitude 74°03'35.8"W was precisely not located by the hydrographer. The wreck is 338.6 feet long with a seventy-seven (77) foot beam. The buoys marking the bow and stern of the wreck were located by the hydrographer and the position above was generated using the buoy locations. The stacks of the wreck are visible at Mean High Water. It is recommended that the wreck be charted as a sunken wreck with funnels visible.

The present survey is adequate to supersede the charted hydrography except as noted in sections 6 and 7.a of this report.
b. **Controlling Depths**

There are no conflicts between controlling depths and present survey depths.

c. **Aids to Navigation**

The aids to navigation on the present survey appear adequate to serve their intended purpose.

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 an adequate basic survey; additional field work at an opportune time is recommended for AWOIS items 2449, 2450, 2460, and 2463, and the items discussed in sections 4.s and 4.t of this report.

Douglas V. Mason  
Cartographic Technician  
Verification of Field Data

Robert G. Roberson  
Supervisory Cartographer  
Evaluation and Analysis

Robert R. Hill, Jr.  
Senior Cartographic Technician  
Verification Check
Inspection Report
H-10049

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts of the survey have been made. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

Inspected

[Signature]
R. D. Sanocki
Chief, Hydrographic Surveys
Processing Section
Hydrographic Surveys Branch

[Signature]
David B. MacFarland, Jr., LCDR, NOAA
Chief, Hydrographic Surveys Branch

Approved 26 September 1985

[Signature]
Wesley V. Hull, RADM, NOAA
Director, Atlantic Marine Center
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*Chain Drag*

*Scale 1:5000*

*Position Overlay*

*To Accompany H-10049*
**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.

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**SUPERSEDES CGS FORM 832 WHICH MAY BE USED**