

# FE325

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NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

Type of Survey .. ~~Field Examination~~ .....

Field No. .... ~~HE-10-5-89~~ .....

Registry No. ... ~~FE-325~~ .....

### LOCALITY

State ..... ~~Connecticut~~ - New York .....

General Locality ~~2 Miles N. of Old Field Point..~~  
to 3 Miles NW of Crane Neck

Sublocality .... ~~Point~~ .....

19 89

### CHIEF OF PARTY

..... ~~CDR C.B. Lawrence & S.R. Iwanoto~~ .....

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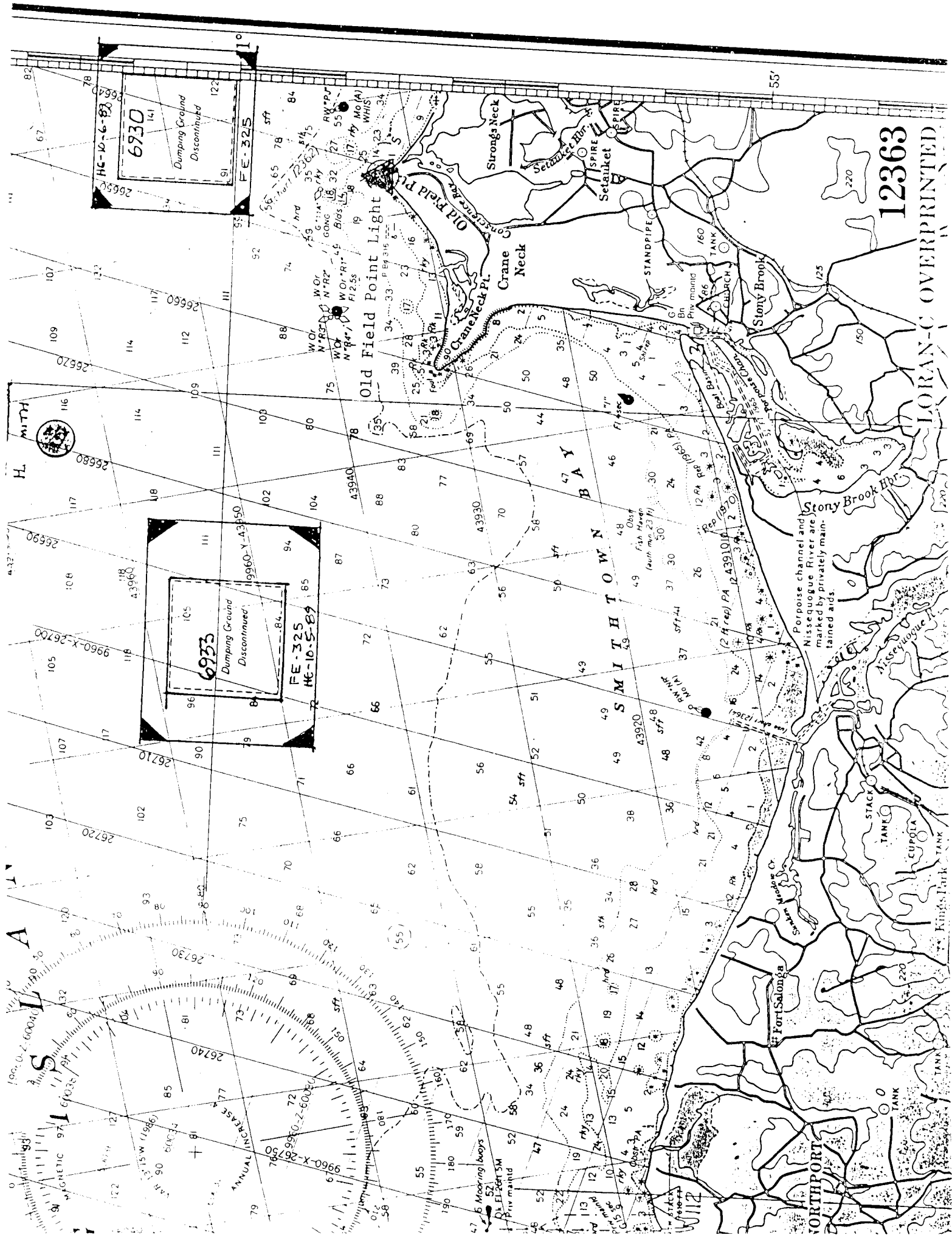
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ON FORM 11  
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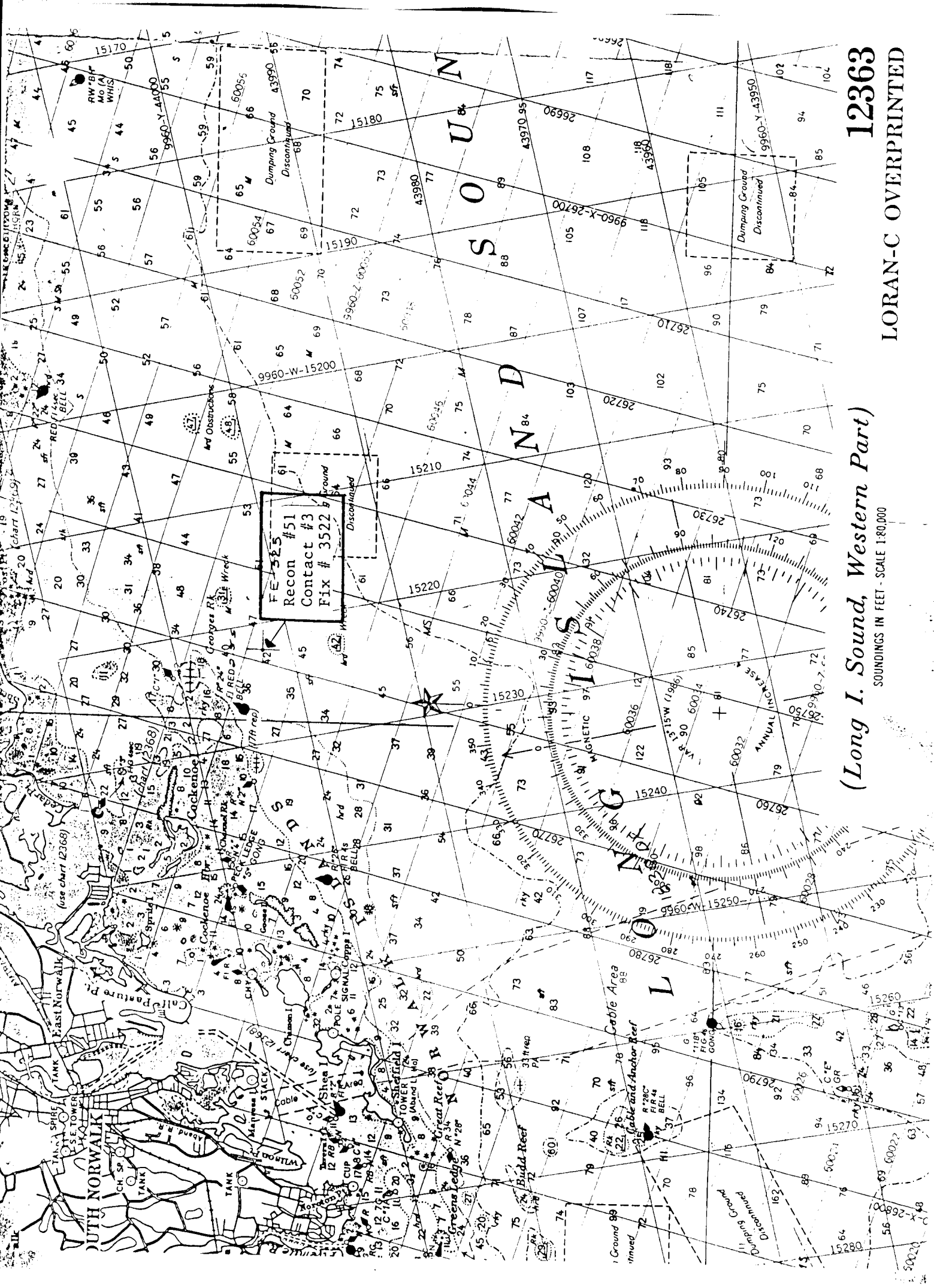
## HYDROGRAPHIC TITLE SHEET

FE-325

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

FIELD NO.  
HE-10-5-89State Connecticut and New YorkGeneral locality Long Island SoundLocality Two Miles N of Old Field Point and Three Miles NW of Crane Neck PointScale 1:10000 Date of survey 06JUN89 to 20JUN89Instructions dated May 26, 1988 Project No. OPR-B660-HE-89Vessel NOAA Ship Heck S-591, EDPN 9140Chief of party CDR Christopher B. Lawrence  
LCDR Stanley R. Iwamoto, Commanding Officer HECKSurveyed by Grady H. Tuell, LT; Harrie W. Bonnah, ENS; Lee D. Weiner, ENS;  
Walter R. Morris, STSoundings taken by echo sounder, ~~and~~ DSF6000 Echo Sounder, DUAL BEAMGraphic record scaled by Automated HDAPS SystemGraphic record checked by LT Tuell, ENS Bonnah, ENS Weiner, and ST MorrisProtracted by \_\_\_\_\_ Automated plot by HDAPSVerification by Atlantic Hydrographic Section personnel XYNETICS 1201 Plotter (AHS)Soundings in ~~xxxxxx~~ feet at ~~xxxx~~ MLLWREMARKS: This survey addresses AWOIS items 6930 and 6933CDR Christopher B. Lawrence was the Chief of Partyuntil 09JUN89Notes in the Descriptive Report were made in red  
during office processing.AWOIS/SUPF MIM 4/27/90[4-30-90 J. Whit]





(Long I. Sound, Western Part)

12363

LORAN-C OVERPRINTED

SOUNDINGS IN FEET - SCALE 1:80,000



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- V. HDAPS PROJECT AND PLOTTER SHEET PARAMETERS \*
- VI. DIVING OPERATION LOG \*

*\* Removed from the original Descriptive Report and filed  
the field records.*

DESCRIPTIVE REPORT TO ACCOMPANY  
SURVEY FE-325  
FIELD NUMBER HE-10-5-89  
CONNECTICUT AND NEW YORK  
LONG ISLAND SOUND  
TWO MILES NORTH OF OLD FIELD AND  
THREE MILES NORTHWEST OF CRANE NECK POINT  
Scale 1:10000  
NOAA SHIP HECK S-591  
LCDR Stanley R. Iwamoto, CMDG

A. PROJECT DESCRIPTION

A1. Project Authorization

This survey was conducted in accordance with Hydrographic Project Instructions OPR-B660-RU/HE, Southern New England Coast, Connecticut and New York, dated May 26, 1988; CHANGE NO. 1 dated July 6, 1988; CHANGE NO. 2 dated September 26, 1988; CHANGE NO. 3 dated November 22, 1988; CHANGE NO. 4 dated December 8, 1988; and CHANGE NO. 5, dated February 22, 1989.

A2. Project Purpose

The project purpose was to respond to requests from the Northeast Marine Pilots Inc., of Newport, Rhode Island, to verify or disprove and determine least depths for certain wrecks and obstructions in western Long Island Sound. The data from this project will supplement a basic hydrographic survey (OPR-B285) which is scheduled for this area in 1989-1991. The U.S. Navy, as well as state and local governments, have requested updated bathymetric and hydrographic survey data for western Long Island Sound and vicinity to aid in proposed biological, chemical, environmental, and coastal zone management studies in this region.

B. PROJECT OVERVIEW

B1. General

This report includes all work performed on the following AWOIS items: 6930 and 6933. Also, the investigation report for a side scan sonar contact which was found near Cockenoe Island is submitted. This contact was originally located while conducting chart evaluation hydrography during survey D-95, HE-40-1-89.

Horizontal control recovery and installation of navigation units began on March 17, 1989. Hydrographic survey operations began on June 06, 1989, and continued until June 20, 1989.

## B2. METHODOLOGY

The survey requirements for each AWOIS item were specified by the Hydrographic Surveys Branch (N/CG24) in an AWOIS listing. This listing was included as a Presurvey Review (PSR) in CHANGE No. 5 to the Project Instructions.

Two types of AWOIS items were specified in the PSR : discrete point hazards to navigation, usually wrecks, and area hydrographic surveys of discontinued dump sites. Two dump sites were completed during this survey.

This survey was conducted according to procedures dictated in the Hydrographic Manual Fourth Edition; the Field Procedures Manual for Hydrographic Surveying; the Side Scan Sonar Manual; and the Hydrographic Guidelines.

Hydrographic soundings were taken over the discontinued dumping grounds using 50 meter line spacing as specified in CHANGE No. 5 to the Project Instructions. (When depths exceeded 120 feet 100 meter line spacing was used. This decision was discussed verbally with personnel from N/CG24.) There were however, areas where the fifty meter line spacing was slightly exceeded; these were not deemed significant. Any significant contacts noted were listed on SSS contact abstracts which are included in Appendix IV. Additional hydrography or side scan imagery was run over the fathometer contacts.

Survey data acquisition and processing were accomplished utilizing the HDAPS system and the latest version of the NAVITRONIC NAVISOFT 300 software provided to the ship by N/CG24. The specific survey instrumentation utilized is discussed in Sections F through H of this text.

## C. AREA SURVEYED

This report covers survey operations performed to resolve AWOIS items located in Long Island Sound, along the New York shore, in the vicinity of Crane Neck and Old Field Points.

## D. SURVEY VESSELS

All hydrographic and side scan sonar data were collected by the NOAA Ship HECK (EDPN 9140).

A 17 foot Boston Whaler skiff was used for installation and maintenance of MiniRanger shore stations and for general utility work.

A 23 foot SISU launch was used as a dive support boat. The pneumofathometer was mounted in this launch and all diver least depths were measured from the SISU.

## E. SURVEY SHEETS (FIELD)

All survey sheets submitted in this report were generated using the Preplot Plotter Sheet utility of the Presurvey menu of the NAVISOFT 300 software on the HDAPS system. A Brunning 824 CS Plotter (S/N 15237) was used as the plotting device. All sheets are Modified Transverse Mercator projections and are plotted on the North American Datum of 1983 (NAD 83).

Due to the very humid weather experienced during this survey, the paper plotter sheets often expanded to the point where they would no longer stay in the plotter. This problem was solved by using mylar field survey sheets. Therefore, some AWOIS items have part of the field data on a paper sheet and another part on a mylar sheet.

Three survey sheets are submitted in this survey. Each sheet is briefly described in the following text. See APPENDIX V, PROJECT and PLOTTER SHEET PARAMETERS,\* for the technical specifications on each sheet. A raw data and edited data tape are submitted for each survey sheet.

### E1. HE-10-5-89

This sheet is a 1:10000 plot oriented EAST/WEST and covers the one mile by one mile discontinued dumping grounds located approximately five miles north of Smithtown Bay. The only AWOIS item on this sheet is 6933. The raw data for this sheet are logged on tape 15710 and edited data are logged on tape 15720.

Three copies of HE-10-5-89 are submitted:

- 1 smooth contoured depthplot on mylar
- 1 smooth trackplot on mylar
- 1 field depthplot on mylar

### E2. HE-10-6-89

This sheet is a 1:10000 scale plot oriented EAST/WEST and is centered on the one mile by one mile discontinued dumping grounds which lie about two miles north of Old Field Point. AWOIS 6930 is the only AWOIS item on the sheet. Raw data is logged on tape 16310. Edited data is logged on tape 16320.

Five copies of HE-10-6-89 are submitted:

- 1 smooth contour depthplot on mylar
- 1 smooth track/swathplot on mylar with contacts
- 1 smooth development depthplot on paper
- 1 field depthplot on mylar
- 1 field development depth/swathplot on paper

*Removed from the original Descriptive Report; Filed with Field records.*

### E3. HE-10-1-89

This is a 1:10000 scale plot oriented east/west and is centered on SSS contact 2727.0 P. The contact was found while conducting chart evaluation hydrography during survey D-95. Raw Survey records for the contact are submitted in the Descriptive Report to accompany D-95, but the dive investigation report is submitted in this report. Because the contact was found very close to AWOIS items 6912 and 6913 (reference survey FE-323-SS), a smooth swathplot covering contact 2727.0 was generated from the smooth data tapes, and plotted on survey sheet HE-10-1-89. One copy of HE-10-1-89 is submitted.

1 smooth swathplot with contact plot on paper

## **F SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS**

### F1. Raytheon DSF 6000N Echosounder

All hydrographic soundings for this survey were acquired using a Raytheon DSF echosounder. System performance was checked daily with an Electronic Depth Simulator Instrument (EDSI) provided by AMC's EEB. The daily tests are included as part of each day's raw data records.

Both low and high frequency depths were digitized, but only the high frequency depths were used for survey operations. The automatic gain function was utilized. Operations were conducted using both 40 and 80 range scale settings. The auto phase function was used. The digitizing gate was set at 10 percent of depth.

### F2. EG&G Model 260 Side Scan Sonar

The HECK is equipped with an EG&G Model 260 slant corrected Side Scan Sonar recorder (S/N 0011443) and a model 272 dual frequency towfish (S/N 0011591).

The towfish is led through a fairlead block over the stern and towed astern at speeds of 2 to 5 knots. Fish height over bottom is controlled by a combination of cable out and ship speed. Because of shallow water depths on this survey, the 50 meter range and 100 kHz frequency settings were used. The paper speed on the recorder was set manually. The operator made frequent checks of vessel speed and adjusted the paper speed as necessary. This procedure eliminated paper "speed jumps" caused by spikes in the navigation LOPs and insured that targets were depicted in their correct size and shape.

Side scan operations were conducted in accordance with the Side Scan Sonar Manual dated September 1988. Periodic confidence checks were performed by either towing the fish by a previously located contact, or by noting recognizable bottom characteristics at the edges of the sonar range scale in use. The SSS system worked very well for the duration of the survey.

The large number of lobster pots in the project area required frequent jogs to the left and right of intended course lines. Recent improvements to the towfish pigtail connector assembly have proved to be very valuable in protecting the pigtail from the inevitable "hooks" of the lobster pot marker buoys.

### F3. Pneumofathometers

All dive determined least depths were measured with a pneumofathometer. The HECK is equipped with two precision depth gauges, a 0 - 70 FSW depth gauge, and a 0 - 140 FSW gauge. The HECK's pneumofathometer is built and operated according to procedures specified in Hydrographic Guideline 55. Both gauges were most recently calibrated on January 5, 1989. A copy of each of these calibrations is included in APPENDIX I.I, PNEUMOFATHOMETER CALIBRATIONS AND SYSTEM CHECKS.\*

A leadline comparison was performed on DOY 167 as a system check on the pneumofathometer depths. The result of this check are also included in APPENDIX I.I.\*

The system checks values were not applied to the diver determined depths. Weather conditions were not calm enough to yield correctors that HECK personnel felt were more accurate than the calibration of the gauge itself. This policy is a conservative approach in that application of the correctors from the system checks would make diver determined least depths deeper than the depths submitted.

## 6 CORRECTIONS TO ECHO SOUNDINGS

### G1. Velocity Correctors

Velocity correction data for the Raytheon DSF 6000N echosounder were obtained by the MARTEK (S/N 177). The MARTEK instrument was most recently calibrated on March 3, 1989. A copy of the calibration report is included in APPENDIX I.C.\* On May 18 simultaneous casts were conducted with the DIGIBAR and the MARTEK. The DIGIBAR was not used on the later cast since the depth of cast required for these dumping grounds exceeded the amount of available cable for the DIGIBAR.

The following table shows the date, location and instruments used for the cast:

<u>DATE</u>	<u>LOCATION</u>	<u>INSTRUMENT</u>
5/05/89 (DOY 125)	41° 00.6" 073° 08.7'	MARTEK
5/18/89 (DOY 138)	41° 01.8" 073° 10.6'	MARTEK/DIGIBAR
6/13/89 (DOY 164)	41° 01.3" 073° 07.1'	MARTEK

\* Removed From the original Descriptive Report; Filed with field records.



The velocity cast data were reduced and velocity corrections calculated using program VELOCITY. The computed velocity correctors were then applied online to echosounder depths by entering the correction data into the HDAPS sound velocity table. Reference APPENDIX I.A, VELOCITY CORRECTION DATA,\* for listings of the cast data and output from the VELOCITY software. HDAPS velocity table listings are also shown in APPENDIX I.A.\*

Velocity correctors were verified by conducting a dual leadline comparison of echo sounding to leadline depths on DOY 167. Digital depths agreed with leadline depths within one half foot. Results of the comparison are included in APPENDIX I.D., LEADLINE COMPARISONS.\*

After data had been collected, HECK personnel noted that the wrong velocity correctors were used online for DOY 157, 158 and 159. The results from the velocity cast performed on DOY 125 were used instead of the results from DOY 138. After analyzing the data, the HECK determined that the results from the velocity cast performed on DOY 164 would be the appropriate choice since this cast was conducted closer to the actual time of data collection than the velocity casts on DOY 125 or DOY 138. Therefore, all hydrographic soundings were smooth plotted using the velocity cast from DOY 164.

## 62. Tide Corrections

The tidal datum for this project is mean lower low water. The operating tide station at Bridgeport, Connecticut (846-7150) will serve as control for datum determination. This station was also used for predicted tides. No tide stations were established by the HECK in support of this survey.

All hydrographic and diver determined depths have been corrected for predicted tides.\*\* The tidal values were taken from Tide Tables 1989 High and Low Water Predictions, East Coast of North and South America. Correctors for time and height were taken from the nearest tabulated geographic position on Long Island Sound. \*\* *Approved tides were applied to survey data during office processing.*

Tidal correctors were applied online by entering the appropriate values into the HDAPS predicted tide tables. Two predicted tide tables were used. These tables are included in APPENDIX I.E., HDAPS PREDICTED TIDES TABLES.\*

A Request for Approved Tides was mailed to Chief, Sea and Water Levels Branch, on July 31, 1989. A copy of this letter is enclosed in Appendix I.F.\* *All depths shown on the smooth plots are corrected for approved tides.*

## 63. Settlement and Squat Correctors

Settlement and squat correctors for the HECK were determined on March 10, 1989 (DOY 69), at Craney Island fuel pier in Norfolk, Virginia. An observer was put ashore with a level instrument.

and changes in relative height were measured as the ship passed by the observer while running at various speeds. (Reference APPENDIX I.G, SETTLEMENT AND SQUAT DATA)

Settlement and squat values were applied online to hydrographic soundings by entering the observed values into the HDAPS offset table. A copy of this table is included in APPENDIX I.H, HDAPS OFFSET TABLE.\*

#### G4. Heave, Roll, Pitch Sensor and Correctors

Heave is measured by a Datawell B.V. (S/N 19110-C) heave, roll, and pitch sensor (HIPPY) located midships near the transducer. The sensor gathers online data which is applied to the soundings in near real time.

All data acquired in the echosounder mode have been corrected by applying HIPPY correctors.

#### G5. Vessel Draft Corrector

During a February 1988 drydock period, an exact measurement of 19.0 feet was taken from the DSF transducers to a fixed point on each bridge wing of the ship. After refloating the ship, the height above the waterline was determined for this point. The ships static draft was calculated to be exactly 6.9 feet (2.10 meters).

This draft was applied online to hydrographic soundings by entering the value of 2.1 meters as the high frequency transducer height in the HDAPS offset table. See APPENDIX I.H, HDAPS OFFSET TABLE.\*

### H. HORIZONTAL CONTROL

#### H1. Survey Navigation

Vessel survey navigation was accomplished by the range-range method, utilizing the Motorola MiniRanger Falcon 484 system.

The MiniRanger system is interfaced to the HDAPS system in such a way that only the ranges and signal strengths are recorded; the position computation capability of the Falcon system is not utilized. Vessel position is computed by a least squares predictor/corrector algorithm within the NAVITRONIC NAVISOFT 300 software.

The hydrographer must specify each of three interactive parameters which "tune" the positioning algorithm. The following parameters were entered into the Offset Table :

*\*Removed From original Descriptive Report; Filed with Field records.*

- 1) acceleration limit ..... 0.2 meters second<sup>-2</sup>
- 2) angle limit ..... 0.3 degrees second<sup>-1</sup>
- 3) crabbing limit ..... 0.4 degrees

The algorithm simultaneously uses up to four electronic lines of position (LOP's). Additionally, the ship's gyro heading and speed are used to predict a position. Whenever more than two acceptable LOP's are measured, the position computation is mathematically overdetermined. In order to utilize all available information, a least squares adjusted position is computed.

Three measures of the quality of this adjusted position are: the magnitude of the residuals on each range; the size and orientation of the error ellipse; and the radius of the 95% confidence error circle. HDAPS provides the hydrographer with a continuous graphic display of these data as well as a rough graphic of survey geometry. The required survey navigation positional accuracies are specified in terms of the maximum residual and the error circle radius. These requirements are stated in the Project Instructions.

The HECK routinely conducted surveying operations using four MiniRanger LOP's, although occasionally one or more ranges were automatically rejected from the solution due to poor signal strength. At no time during this project did the maximum residual consistently exceed 0.5 mm at the survey scale (5 meters). The 95% confidence error circle radius very rarely exceeded 1.5 mm at the survey scale (15 meters).

A pre-project baseline calibration (BLC) of the MiniRanger system was conducted at Fentress Airforce Base on January 31, 1989. A mid-season BLC was conducted at Port Jefferson, New York, on May 20, 1989. During these calibrations, the range correctors were determined for each combination of transponder and shipboard R/T and RPU. A minimum acceptable signal strength (MASS) was also determined for each transponder. All data in this survey utilized correctors determined during the Baseline Calibration of May 20, 1989. Reference APPENDIX II.C, MINIRANGER BASELINE CALIBRATION DATA,\* for the results of this calibration. BLC raw data, computations, and graphs are included in Electronic Control Report OPR-B660-HE-89, which is submitted under separate cover.

The range corrector and MASS\*\* for each MiniRanger code was entered into the HDAPS system using the Pre-Survey C-O Table Utility. This table provides the mechanism by which HDAPS automatically applies the proper range corrector and removes from the position computation those LOP's with signal strengths below MASS. A new C-O Table was generated each time any change was made to the navigation configuration. Reference APPENDIX II.D, HDAPS C-O TABLES, for the various C-O tables used during this survey.

\* Removed from the original Descriptive Report; filed with field records.

\*\* Minimum Allowable Signal Strength (MASS) PAGE 8

Acceptable MiniRanger navigation system performance was verified by comparing individual range-range fixes to simultaneous sextant three-point-fixes. A critical systems checks was conducted on DOY 143. Non-critical navigation system checks were performed daily to insure that the instrumentation was functioning within specifications. The critical systems check data are included in APPENDIX II.F, RESULTS OF SURVEY NAVIGATION SYSTEMS CHECKS.\* A summary of the critical checks is shown on page II.F.1\*

MiniRanger shore station installations were placed directly over Third Order Class I or better geodetic stations. Control station positions were entered into the HDAPS Control Station Tables using the Pre-Survey menu. (See APPENDIX II.A, LIST OF HORIZONTAL CONTROL STATIONS ). The appropriate MiniRanger codes were attached to the station number on this table. Each time the survey navigation configuration was altered, the control station table was modified so that it reflected the correct MiniRanger code placement. APPENDIX II.E, DAILY ABSTRACT OF HDAPS TABLES,\* correlates control stations, MiniRanger codes, position numbers and dates of use.

The MiniRanger system performed well for the duration of this survey. Survey navigation was excellent.

## H2. GEODETTIC CONTROL

The horizontal datum for this project is the North American Datum of 1983 (NAD 83). The coordinates for all published stations were taken from the NGS publication: Geodetic Control Data, NAD 83 coordinates for New York and Connecticut. Recovery notes for these stations are included in Appendix II.B.\* All stations used as navigation sites were recovered by HECK personnel.

No new stations were established. However, two nonpublished stations were used.

COCKENDES ISLAND 2 RM 3 was established by HECK personnel in October 1988. Field observations and data computations were submitted in the Descriptive Report to Accompany Survey FE-221-SS. Field coordinates computed during FE-221-SS were used for the station during this survey.

EATONS NECK TEMP was positioned by personnel from the NOAA Ship RUDE during the fall of 1988. Field observations and data computations were submitted in support of survey FE-320-SS. Field computed coordinates were provided to the HECK by the RUDE and were used during this survey.

## AUTOMATED DATA PROCESSING

Hydrographic and side scan sonar data acquisition and processing were accomplished using the HDAPS hardware and the most recent version of the Navitronic NAVISOFT 300 software provided to the ship. This software is still under development and some problems do exist:

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- 1) The positioning algorithm occasionally generates a "flyer" which causes the plotter sheet to scroll in an unpredictable manner. HECK personnel tried unsuccessfully to edit these "flyers" in the nightly processing. Therefore, the plotter continued to scroll even in the off-line data processing mode.
- 2) Coordinates for control stations are altered by the software after they have been entered. This problem is most likely caused by rounding errors in the GP > MTM > GP conversion process. The potential errors are quite small (decimeter). However, the reader must be aware that the error is introduced by the software and that the coordinates were originally entered correctly.
- 3) Data transfer problems sometimes created the necessity to reject data because the data could not be transferred to the hard disk from the raw data tape. This problem occurred whenever there was an abnormal interrupt of a survey line; the final data set number (DSN) was not written to the raw data tape. If this interrupt occurred, the entire line was irretrievable. One known source of this problem was the delay in writing HIPPY data to the tape. If the HDAPS system is taken off-line before waiting out the HIPPY delay, then the survey line cannot be written to the hard disk for editing. Not all such problems were caused by HIPPY delay. Occasionally data could not be transferred from the raw tape and the problem could not be identified.

MARTEK and DIGIBAR velocity cast data were processed on the ship's IBM-PC XT using program VELOCITY.

Geodetic computations were performed on the ship's IBM-PC XT using the MTEN ENHANCEMENTS routines which were obtained from the National Geodetic Survey.

#### J. COMPARISON WITH CHARTS AND PRIOR SURVEYS - See also sections 6. and 7. of the Evaluation Report.

Hydrographic soundings from this survey were compared with the largest scale chart of the area:

NOS Chart 12364  
 New Haven Harbor Entrance and Port Jefferson  
 to Throgs Neck  
 1:40000  
 25th Edition January 1987

The survey was also compared against two prior surveys:

- 1) H-8952  
Vicinity of Smithtown Bay  
1:20000 1967
- 2) H-8967  
Stratford Shoal Middle Ground to Herod Point  
1:20000 Aug 1967 - Oct 1968

The chart comparison was conducted by plotting only the fixes of selected sounding lines on 1:40000 overlays. Using this method, the Heck encountered problems caused by steeply sloping bottom in some areas. However much better results were obtained by performing direct comparisons to 1:20000 scale surveys. This was done by hand plotting selected fixes on the prior surveys and comparing the soundings. The approximate 40 meter datum shift between NAD 27 and NAD 83 was compensated for by offsetting the overlay. This technique was considered adequate for purposes of the general comparisons.

Specific details of the comparisons are discussed in Section K of this report, under the Item Investigation Reports for each AWOIS item.

#### K. AWOIS ITEM INVESTIGATION REPORTS

Two AWOIS items were investigated on the sheets covered by this report. Each item is discussed individually in the remaining text. If more than one contact was investigated, each is discussed separately as a subsection of the appropriate AWOIS item.

SSS imagery covering each contact is abstracted on the target abstract for the individual AWOIS item (See APPENDIX IV).<sup>\*</sup> AWOIS items 6930 and 6933 were area hydrographic surveys of discontinued dumpsites. Contacts discovered on the fathometer records are abstracted on SSS target abstracts for ease of analysis. Additionally, section K3 contains the contact investigation report for a significant SSS target found during reconnaissance survey D-95, 2727.0p.

The following table summarizes the results of the investigations.

<u>AWOIS ITEM</u>	<u>STATUS</u>
6930	RESOLVED (Sheet 1 of 3)
6933	RESOLVED (Sheet 2 of 3)
SSS contact 2727.0p	RESOLVED (Sheet 3 of 3)

<sup>\*</sup> Removed from original Descriptive Report; filed with field records.

## K1. INVESTIGATION REPORT FOR AWOIS ITEM 6930

*Item deleted  
from AWOIS  
Contact 1 is  
now AWOIS  
#6930*

### AREA OF INVESTIGATION :

State: New York  
County: Suffolk  
Locality: 2 Miles North of Old Field Point  
Latitude: 41° 00' 34.00"  
Longitude: 73° 06' 40.00"  
Reported Depth: Shoalest Charted Depth = 91 feet

AWOIS ITEM DESCRIPTION : Item is charted as discontinued Port Jefferson Dumping Ground, a one nautical mile square with sides running north-south and east-west. Dumping grounds originally established in 1950 and discontinued in 1977.

### SURVEY PROCEDURES :

Positioning:	Falcon MiniRanger
Side Scan Sonar Search:	14 June 1989 (DOY 165)
Diver Investigations:	None
Echo Sounder Investigation:	12 June 1989 (DOY 163)
	13 June 1989 (DOY 164)
	14 June 1989 (DOY 165)
	16 June 1989 (DOY 167)
Contacts:	Two

The dumpsite was surveyed using 50 meter line spacing when the water depths were shoaler than 120 feet. When the water depths exceeded 120 feet, 100 meter line spacing was used. All hydrographic data are shown on the various copies of sheet HE-10-6-89 submitted in this survey.

Three contacts were located on this dumpsite; two were significant. They were originally noted on the fathometer trace. Subsequent side scan imagery revealed that two contacts were wrecks. Further hydrographic development was conducted for the least depth determination. These contacts were not investigated by divers due to the fact that they were beyond safe diving limits.

### K1.1 INVESTIGATION REPORT

Generally, the soundings that were obtained in this survey agree well with the depths charted on NOS chart 12364, 25th edition. The soundings varied less than two feet from the charted depths. There were, however, two areas of general disagreement. First, a circle with a radius of 700 meters centered on the southeast corner of the dumpsite showed 2 to 5 feet shoaler soundings when compared to previous surveys. Second a circle with a radius of 600 meters centered on the southwest corner of the dumpsite showed 2 to 7 feet shoaler soundings when compared to previous surveys.

The dumping ground is covered by two prior surveys. H-8952, a 1:20000 scale survey completed in 1967 using 200 meter line spacing, and H-8967, a 1:20000 scale survey completed in 1967 using 200 meter line spacing. These surveys appear to be the primary source of charted depths for the dumpsite.

#### K1.2 CONTACT INVESTIGATION REPORT CONTACT #1

CONTACT DESCRIPTION : This contact was initially located by fathometer at fix 3037.7. A very good quality SSS image was obtained at fix 3209.1p. Analysis of the side scan imagery indicates that the contact is a ship that is approximately 40 meters long and is still intact.

LEAST DEPTH DETERMINATION : The least depth was determined by hydrographic soundings. The acoustic shadow from the sidescan imagery extended off of the record and was therefore not useful for exact measurements.

Date of measurement: 13 June (DOY 164)

Time of measurement: 13:33:28 Zulu

Echosounder measurement: 116.0 ✓  
Draft corrector : ~~0.2~~ 7.3  
Velocity corrector : 2.0 ✓  
Predicted tidal corr : ~~-5.0~~ -5.2  
~~HURRY CORR~~ : ~~4.1~~  
Least Depth ~~119.8~~ feet (reduced)  
126.2

#### POSITION DETERMINATION :

Fix Number : 3037.7f  
Number of LOPs : 3  
Max Residual : 1.1 meters  
Error Circle Radius : 6.4 meters

Easting : 147534.0

Northing : 29188.2

Latitude: 41° 00' 41.~~297~~<sup>27</sup>" N  
Longitude: 73° 06' 05.714" W

Loran - C Rates: not taken

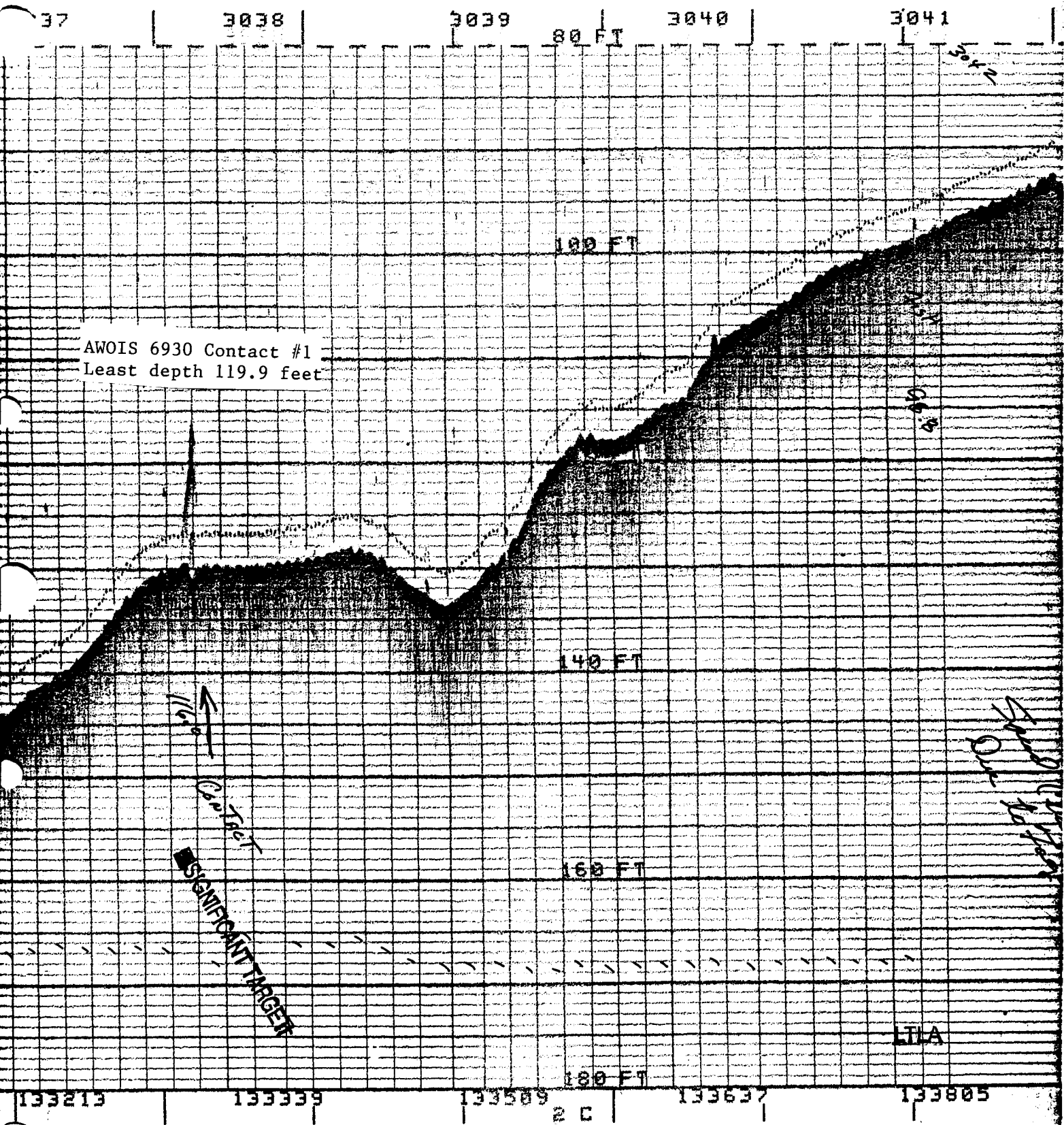
*Now  
AWOIS # 6930*



...ing.....: 147534.0\_  
 ...ning.....: 29188.2  
 Latitude.....: 041:00:41.237  
 Longitude.....: 073:06:05.714

HELP      Dump      Dump      User 1    Caps    Running  
           Alpha    Graphics

Time	Tide	Corr.	Units	FEET
13:00	-5.5			
13:03	-5.5			
13:06	-5.4			
13:09	-5.4			
13:12	-5.3			
13:15	-5.3			
13:18	-5.2			
13:21	-5.2			
13:24	-5.1			
13:27	-5.1			
13:30	-5.0			
13:33	-5.0			
13:36	-4.9			
13:39	-4.9			
13:42	-4.8			
13:45	-4.8			
13:48				



REC 3037.7(F)

AWOIS 6930 Contact #1  
Least depth 119.9 feet

RECEIVED

PAGE 16

SHIP'S RMS 180

### K1.3 CONTACT INVESTIGATION REPORT CONTACT #2

CONTACT DESCRIPTION : The wreck was initially located by fathometer at fix 3065.22. Side scan imagery was later obtained at position 3213.3. Analysis of the side scan imagery, indicates that the contact is a ship that is approximately 22 meters long and is still intact.

LEAST DEPTH DETERMINATION : The least depth was determined by echosounder development. The acoustic shadow from the sidescan imagery extended off of the record and was therefore not useful for exact measurements.

Date of measurement: 16 June (DOY 167)

Time of measurement: 13:56:34 Zulu

Echosounder measurement: 110.2 ✓  
Draft corrector : ~~8.2~~ 7.1  
Velocity corrector : 2.0 ✓  
Predicted tidal corr : ~~-8.3~~ -6.4  
HIPPY CORR : ~~-----~~ +4.2  
Least Depth ~~112.8~~ feet (reduced)  
113.0

#### POSITION DETERMINATION :

Fix Number : 3233.4  
Number of LOPs : 3  
Max Residual : 1.2 meters  
Error Circle Radius : 6.5 meters

Easting : 146461.1

Northing : 28933.7

Latitude: 41° 00' 33.2<sup>4</sup>~~70~~" N  
Longitude: 73° 06' 51.8<sup>70</sup>~~27~~" W  
70

Loran - C Rates: not taken

*Now AWOIS  
#6933*

300 21:27:26

Easting.....: 146461.1  
 Northing.....: 28933.7  
 Latitude.....: 041:00:33.210  
 Longitude.....: 073:06:51.697

User 1 Caps Running

HELP      Dump      Dump  
           Alpha      Graphics

	Time	Tide	Corr.	Units	FEET
167	13:00	-6.0			
167	13:04	-6.0			
167	13:08	-6.1			
167	13:12	-6.1			
167	13:16	-6.1			
167	13:20	-6.2			
167	13:24	-6.2			
167	13:28	-6.2			
167	13:32	-6.3			
167	13:36	-6.3			
167	13:40	-6.3			
167	13:44	-6.3			
167	13:48	-6.3			
167	13:52	-6.3			
167	13:56	-6.3			
167	14:00	-6.3			
167	14:04	-6.3			
167	14:08	-6.3			
167	14:12	-6.3			
167	14:16	-6.3			
167	14:20	-6.3			
167	14:24	-6.3			
167	14:28	-6.3			
167	14:32	-6.2			
167	14:36	-6.2			
167	14:40	-6.2			







RECOMMENDATIONS :

Continuous use of the dumpsite for the twenty seven years that it was active has likely caused some shoaling noted since the prior surveys were completed.

The discontinued dumping ground limits should be removed from the chart. The charted depths should be changed to reflect the soundings acquired during this survey. - *Concur*

The HECK recommends that contact 1 be charted as a sunken wreck, not dangerous to surface navigation, with a known depth of ~~119.9~~ 120 feet. The wreck should be positioned at 41° 00' 41.292" N; 73° 06' 05.711" W. 2427

The HECK recommends that contact 2 be charted as a sunken wreck, not dangerous to surface navigation, with a known depth of ~~118.8~~ 113 feet. The wreck should be positioned at 41° 00' 33.810" N; 73° 06' 51.892" W. 24  
70



## K2. INVESTIGATION REPORT FOR AWOIS ITEM 6933

*Deleted from  
AWOIS - Contact #2  
is now AWOIS #6933*

### AREA OF INVESTIGATION :

State: New York  
County: Suffolk  
Locality: 5 Miles North of Smithtown Bay  
Latitude: 40° 59' 56.00"  
Longitude: 73° 13' 08.00"  
Reported Depth: Shoalest Charted Depth = 84 feet

AWOIS ITEM DESCRIPTION : Item is charted as discontinued Smithtown Dumping Ground, a one nautical mile square with sides running north-south and east-west. Dumping grounds originally established in 1950 and discontinued in 1977.

### SURVEY PROCEDURES :

Positioning:	Falcon MiniRanger
Side Scan Sonar Search:	None
Diver Investigations:	None
Echo Sounder Investigation:	06 June 1989 (DOY 157) 07 June 1989 (DOY 158) 08 June 1989 (DOY 159) 16 June 1989 (DOY 167)
Contacts:	None

The dumpsite was surveyed using fifty meter hydrographic line spacing. All hydrographic data are shown on the various copies of sheet HE-10-5-89 submitted in this survey.

No contacts or unusual protrusions were noted on the fathometer records. No side scan investigation was deemed necessary for this item. No diver investigation was performed. -Concur

### K2.1 INVESTIGATION REPORT

Generally, soundings obtained in this survey agree within 2 feet of charted depths on NOS Chart 12369, 20th Edition.

The dumping grounds is covered by prior survey H-8952, a 1:20000 scale survey completed in 1967 using 200 meter line spacing. This prior survey appears to have been the primary source of charted depths for the dumpsite. Comparisons to the chart and prior surveys were initially conducted by plotting only the fixes

of selected sounding lines on a 1 : 40000 overlay. Using this method problems were encountered since the bottom had such a steep slope in places. Soundings were then directly compared to the prior survey. Survey H-8952 is a 1:20000 scale survey completed in 1967 using 200 meter line spacing. The prior survey soundings agree within two feet of the soundings from this survey.

The fathometer record indicates that the bottom within the dumpsite is very smooth and regular. No significant protrusions above the bottom were found. -Concur

#### RECOMMENDATIONS :

Continuous use of the dumpsite for the twenty seven years that it was active has likely caused some very minor shoaling noted since the prior surveys were completed. No dangers to navigation or significant irregularities were found. -Concur

The discontinued dumping ground limits should be removed from the chart. The charted depths should be changed to reflect the soundings acquired during this survey. -Concur

K3. INVESTIGATION REPORT FOR CONTACT #3

AW015  
#7701

AREA OF INVESTIGATION :

State: Connecticut  
County: Fairfield  
Locality: 2 Miles SE of Cockenoe Is.  
Latitude: 41° 04' 23.15"  
Longitude: 73° 19' 05.88"  
Reported Depth: 42 feet

CONTACT DESCRIPTION : Item is not charted. Contact was located while the HECK was performing chart evaluation studies.

SURVEY PROCEDURES :

Positioning: Falcon MiniRanger  
Side Scan Sonar Search: 05 June 1989 (DOY 156)  
Diver Investigations: 20 June 1989 (DOY 171)  
Echo Sounder Investigation: 05 June 1989 (DOY 156)

K3.1 CONTACT INVESTIGATION REPORT CONTACT PLOT #3

DIVER INVESTIGATION SUMMARY : The contact was investigated by divers on 20 June, 1989 (DOY 171). LT Tuell and ENS Weiner descended a marker buoy line and performed a 30 meter circle search. The location of the least depth was found by visual inspection. Visibility in the location of the contact was 1 to 2 feet. A least depth was measured by pneumofathometer.

CONTACT DESCRIPTION : This contact appeared to be a pile of scrap metal that perhaps a hopper barge dumped. There were numerous sharp objects sticking out of the pile but, overall the pile was very flat on the top. Near the contact visibility was poor. The water was brown from the ferrous oxide from the rusting metal. Using diver depth gauges several depths were measured on the top of the pile; the top seemed to have a uniform least depth.

LEAST DEPTH DETERMINATION :

Date of measurement: 20 June (DOY 171)  
Time of measurement: 18:04:17 Zulu

Pneumofathometer depth : 41.4 ✓  
Predicted tidal corr : ~~-5.4~~ -6.2  
PDG\*corr : ~~4.0~~  
Least Depth : ~~35.0~~ feet (reduced)  
35.2

\* Pneumatic Depth Gauge

POSITION DETERMINATION :

Fix Number : 3255  
Number of LOPs : 3  
Max Residual : 1.7 meters  
Error Circle Radius : 7.4 meters

Easting : 129277.0  
Northing : 35938.4

Latitude: 41° 04' 23.<sup>15</sup>~~149~~" N  
Longitude: 73° 19' 05.<sup>88</sup>~~872~~" W

Loran - C Rates: CHAIN 9960

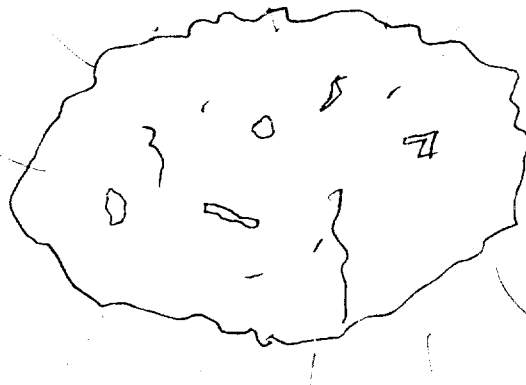
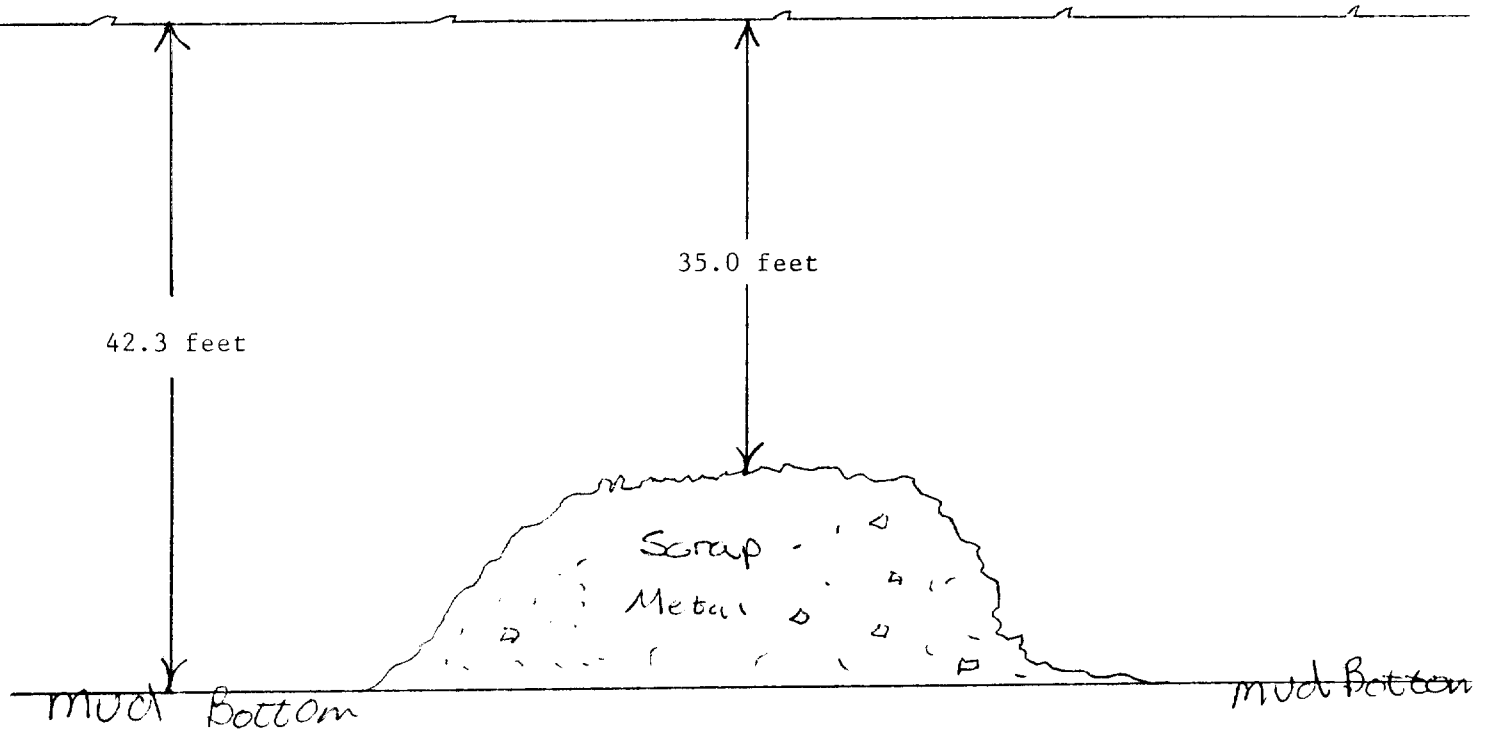
W-15222.2      X-26759.3      Y-44003.5      Z-60050.9

RECOMENDATIONS: This contact is not currently charted. The HECK recommends that this be charted as a danger to navigation at 41° 04' 23.15"N ; 73° 19' 05.88" W having a least depth of 35 feet. - Concur

A danger to navigation report was submitted to The Commander of The 1st Coast Guard District on July 31, 1989.

RECON LINE #51

CONTACT #3



RECON LINE #51 Contact #3  
Least Depth = 35.0 feet on Rock

80 FT

60 FT

20 FT

Core #3  
Bore Hopped on

FALSE  
DP

DP for  
Core #3  
6001

3255

3253

3254

3254

ing..... 129277.0 /  
No ching..... 35938.4 /  
Latitude..... 041:04:23.149  
Longitude..... 073:19:05.877

HELP

Dump  
AlphaDump  
Graphics


User 1 Caps Running

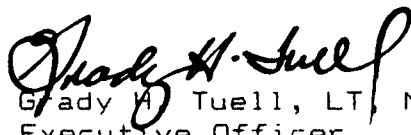
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171	18:02	-6.5			
171	18:04	-6.4			
171	18:06	-6.4			
171	18:08	-6.4			
171	18:10	-6.3			
171	18:12	-6.3			
171	18:14	-6.3			
171	18:16	-6.2			
171	18:18	-6.2			
171	18:20	-6.1			
171	18:22	-6.1			
171	18:24	-6.1			
171	18:26	-6.0			
171	18:28	-6.0			
171	18:30	-5.9			
171	18:32	-5.9			
171	18:34	-5.9			
171	18:36	-5.8			
171	18:38	-5.8			
171	18:40				

[illegible]

PAGE 29

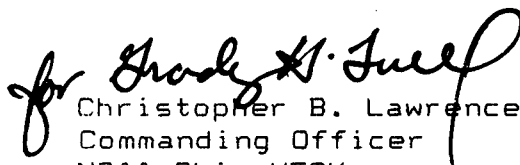


  
Submitted by: Lee D. Weiner, ENS, NOAA  
Survey Officer  
NOAA Ship HECK

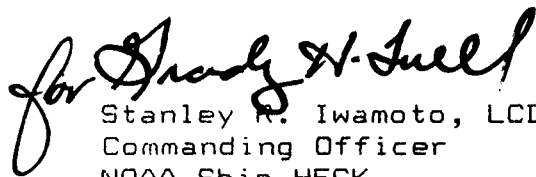
  
Reviewed by: Grady H. Tuell, LT, NOAA  
Executive Officer  
NOAA Ship HECK

L. LETTER OF APPROVAL

During the period March 17, 1989, to June 9, 1989, field operations contributing to the accomplishment of this survey were conducted under my direct supervision with frequent personal checks of progress and data quality. This report, field sheets, and data records have been closely reviewed and are complete and adequate for charting.

  
for Christopher B. Lawrence, CDR, NOAA  
Commanding Officer  
NOAA Ship HECK

During the period June 9, 1989, to June 20, 1989, field operations contributing to the accomplishment of this survey were conducted under my direct supervision with frequent personal checks of progress and data quality. This report, field sheets, and data records have been closely reviewed and are complete and adequate for charting.

  
for Stanley R. Iwamoto, LCDR, NOAA  
Commanding Officer  
NOAA Ship HECK

# LIST OF HORIZONTAL CONTROL STATIONS

<u>NUMBER</u>	<u>NAME</u>	<u>POSITION</u>
122	EATONS NECK TEMP, 1988 (field position)	40° 57' 13.07019" 73° 23' 50.09740"
123	OLD FIELD POINT BEACON, 1967	40° 58' 37.19911" 73° 07' 06.81994"
124	BLACK ROCK HARBOR <sup>BCN</sup> <del>BEACON</del> 1, 1933	41° 08' 13.53627" 73° 13' 02.05538"
125	COCKENDES ISLAND 2 RM 3, 1988	41° 05' 01.40164" 73° 21' 19.64906"
126	STRATFORD SHOAL LTHSE, 1884	41° 03' 35.72832" 73° 06' 40.58926"
127	BRIDGEPORT E <sup>BREAKWATER</sup> <del>BRIDGE</del> LH, 1932	41° 09' 17.35211" 73° 10' 36.45716"
129	<del>STRATFORD POINT LTHSE</del> NOT USED	41° 09' 07.14923" 73° 06' 11.96759"
215	<del>EATONS NECK LIGHTHOUSE</del> NOT USED	40° 57' 14.345" 73° 23' 43.781"
225	PENFIELD REEF LIGHTHOUSE, 1882	41° 07' 01.51228" 73° 13' 19.52621"
226	<del>PECKS LEDGE LIGHTHOUSE</del> NOT USED	41° 04' 38.39376" 73° 22' 11.28969"
227	<del>SOUTHPORT EPISC CHURCH SPIRE</del> NOT USED	41° 08' 00.19506" 73° 17' 15.35859"
228	<del>SAUBATUCK BR BRIDGE S TRANSM TR</del> NOT USED	41° 07' 10.36406" 73° 22' 02.05553"
229	WIDE SOUTH RADIO TOWER, 1933	41° 09' 33.14657" 73° 09' 50.37084"

REFERENCE NO.

N/CG244-25-90

## LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU  
BY (Check):☐ ORDINARY MAIL☐ AIR MAIL☒ REGISTERED MAIL☐ EXPRESS☐ GBL (Give number) \_\_\_\_\_

DATE FORWARDED

18 April 1990

NUMBER OF PACKAGES

three (3)

TO:

Chief, Data Control Section, N/CG243  
NOAA/National Ocean Service  
Room 151, WSC-1  
Rockville, MD 20852

L

**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.

FE-325

(HE-10-6-88) OPR-B660

Connecticut--New York, Long Island Sound

Pkg #1 (envelope): Original Descriptive Report with 3 page size plots appended

Pkg #2 (box): 1 envelope containing "Material Removed From Original Descriptive Report

1 envelope containing position and excess overlays for smooth plots

1 envelope labeled "Sounding Correctors FE-325"

1 envelope containing Control Corrector Data

1 envelope containing echograms, and printouts for the following DOY's: 157, 158, 159, 163, 165, 167, and 171

1 envelope containing sonargrams, echograms, and printouts for DOY 164

Final Position Printout

Final Sounding Printout

FROM: (Signature)

Robert C. Roberson

Return receipted copy to:

Atlantic Hydrographic Section, N/CG244  
439 W. York Street  
Norfolk, VA 23510-1114

L

J

RECEIVED THE ABOVE  
(Name, Division, Date)

Dwayne S. Clark  
April 24, 1990

NOAA FORM 61-29 (12-71)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION		REFERENCE NO.  <b>N/CG244-25-90</b>	
<b>LETTER TRANSMITTING DATA</b>				DATA AS LISTED BELOW WERE FORWARDED TO YOU BY (Check):	
TO: Chief, Data Control Section, N/CG243 NOAA/National Ocean Service Room 151, WSC-1 Rockville, MD 20852 L				<input type="checkbox"/> ORDINARY MAIL <input type="checkbox"/> AIR MAIL	
				<input checked="" type="checkbox"/> REGISTERED MAIL <input type="checkbox"/> EXPRESS	
				<input type="checkbox"/> GBL (Give number) _____	
				DATE FORWARDED  <b>18 April 1990</b>	
				NUMBER OF PACKAGES  <b>three (3)</b>	
<b>NOTE:</b> 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.					
<div style="text-align: center;">           FE-325            (HE-10-6-88) OPR-B660            Connecticut--New York, Long Island Sound             Pkg #3 (tube): 3 mylar and 1 paper smooth field plots (track, swath, sounding)         </div>					
FROM: (Signature)  <b>Robert G. Roberson</b>				RECEIVED THE ABOVE (Name, Division, Date)	
Return receipted copy to:  Atlantic Hydrographic Section, N/CG244 439 W. York Street Norfolk, VA 23510-1114 L					

04/18/90

HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NUMBER: FE-325

NUMBER OF CONTROL STATIONS	8
NUMBER OF POSITIONS	489
NUMBER OF SOUNDINGS	2859

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	23	09/26/89
VERIFICATION OF FIELD DATA	68	01/23/90
QUALITY CONTROL CHECKS	17	
EVALUATION AND ANALYSIS	25	04/12/90
FINAL INSPECTION	3	04/10/90
TOTAL TIME	113	
MARINE CENTER APPROVAL		04/13/90

## GEOGRAPHIC NAMES

FE-325

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND McNALLY ATLAS	H U.S. LIGHT LIST	K
Connecticut	X								1
Crane Neck Point	X								2
Long Island Sound	X								3
New York	X								4
Old Field Point	X								5
									6
									7
									8
									9
									10
									11
									12
									13
									14
									15
									16
									17
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									24
									25

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: August 29, 1989

MARINE CENTER: Atlantic

OPR: B-660

HYDROGRAPHIC SHEET: FE-325 (HE 10-5-89)

LOCALITY: Two miles north of Old Field Point and three miles NW  
of Crane Neck Point, New York, Long Island Sound

TIME PERIOD: June 6 - June 20, 1989

TIDE STATION USED: 846 7150 Bridgeport, CT.

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = 1.81 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 7.0 ft.

REMARKS: RECOMMENDED ZONING

Zone direct

Note: The hourly heights for this sheet are on magnetic tape  
CLO292, which was forwarded August 1 for FE-323-SS.



CHIEF, TIDAL DATUM QUALITY  
ASSURANCE SECTION

OFFICE OF CHARTING AND GEODETIC SERVICES  
ATLANTIC HYDROGRAPHIC SECTION  
EVALUATION REPORT

SURVEY NO.: FE-325

FIELD NO.: HE-10-5-89

Connecticut--New York, Long Island Sound, 2 Miles N of Old Field Point to 3 Miles NW of Crane Neck Point

SURVEYED: 6 June through 20 June 1989

SCALE: 1:10,000

PROJECT NO.: OPR-B660-HE-89

SOUNDINGS: RAYTHEON DSF-6000N Fathometer and Pneumatic Depth Gauge

CONTROL: MOTOROLA Falcon 484 Mini-Ranger (Range/Range)

Chief of Party..... C. B. Lawrence  
..... S. R. Iwamoto

Surveyed by..... G. H. Tuell  
..... H. W. Bonnah  
..... L. D. Weiner  
..... W. R. Morris

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

1. INTRODUCTION

a. This survey was conducted to examine two (2) charted discontinued dumping grounds, AWOIS Items #6930 and #6933, respectively, centered in Latitude 41°00'34.0"N, Longitude 73°06'40.0"W and Latitude 40°59'56.0"N, Longitude 73°13'08.0"W, respectively, and a side scan sonar contact seen on prior survey D-95 (1989). A RAYTHEON DSF-6000N Fathometer was used to acquire hydrographic data. An EG&G Model 260 Image Correcting side scan sonar system was employed to identify two significant contacts seen during survey operations on AWOIS Item #6930.

b. This survey is made up of three (3) 1:10,000 scale page size plots. These plots were generated during office processing and have been inserted in the Descriptive Report.

c. No unusual problems were encountered during office processing.



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

## 2. CONTROL AND SHORELINE

a. Control is adequately discussed in section H. of the Descriptive Report. A list of stations is appended to the hydrographer's report.

b. There is no shoreline within the limits of this survey.

c. Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83). Office processing of this survey is based on these values. The smooth sheet has been annotated with ticks showing the computed mean shift between the survey datum and the North American Datum of 1927 (NAD27).

To place the 1:10,000 scale plots 1 and 2 of 3 on the NAD27 move the projection lines 0.354 seconds (10.9 meters or 1.09 mm at the scale of the survey) north in latitude, and 1.599 seconds (37.5 meters or 3.75 mm at the scale of the survey) east in longitude.

To place the 1:10,000 scale plot 3 of 3 on the NAD27 move the projection lines 0.352 seconds (10.9 meters or 1.09 mm at the scale of the survey) north in latitude, and 1.575 seconds (36.9 meters or 3.69 mm at the scale of the survey) east in longitude.

d. AWOIS item geographic positions (GP's) listed in the Descriptive Report and the Evaluation Report are referenced to NAD27. Geographic positions of AWOIS items are converted to the present survey datum, NAD83, before inverse distance computations are made during office processing.

## 3. HYDROGRAPHY

a. Soundings at crossings are in good agreement.

b. The standard depth curves could be drawn in their entirety. Brown curves were drawn to show additional bottom relief.

c. The development of the bottom configuration and determination of least depths of items found and shown on the smooth plots is considered adequate.

#### 4. CONDITION OF SURVEY

The smooth sheets and accompanying overlays, hydrographic records and reports are adequate and conform to the requirements of the HYDROGRAPHIC MANUAL and the PROVISIONAL SIDE SCAN SONAR MANUAL.

#### 5. JUNCTIONS

There are no contemporary junctional surveys. There are no junctional requirements listed in the Project Instructions. The present survey depths are in harmony with charted depths.

#### 6. COMPARISON WITH PRIOR SURVEYS

##### a. Hydrographic

D-95 (1989) 1:40,000  
H-8952 (1967) 1:20,000  
H-8967 (1967) 1:20,000

The above prior surveys taken together cover the present survey areas in their entirety. In general hydrography compared well with prior survey soundings from H-8952 (1967) and H-8967 (1967). Present survey soundings in the common areas are generally 1 to 2 feet shoaler than prior survey depths. Prior survey D-95 (1989) agreed with present survey sounding since they were run during the same field season.

Prior survey D-95 (1989) identified a significant side scan sonar contact (2727.0p) in Latitude 41°04'23.144"N, Longitude 73°19'05.877"W. The side scan sonar contact was assigned as a item for investigation during present survey operations. The present survey located a pile of scrap metal in Latitude 41°04'23.15"N, Longitude 73°19'05.88"W with a pneumatic depth gauge least depth of 35 feet. It is recommended that a dangerous submerged obstruction with a least depth of 35 feet (35 *Obstr*) be charted as shown on sheet 3 of 3.

AWOIS  
#7701

Present survey depths are adequate to supersede the prior surveys in the common areas.

b. Wire DragH-5219WD (1932) 1:20,000

Prior survey H-5219WD (1932) covers the area of the side scan sonar contact located by the present survey. There are no hangs or groundings on the prior survey in the vicinity of the side scan sonar contact. The effective depth shown on the prior survey in the area of the side scan sonar contact is 40 feet. The recommendation found in section 6.a. of this report is appropriate. The scrap metal was probably deposited subsequent to this wire drag survey.

7. COMPARISON WITH CHARTS 12363 (32nd Edition, Oct. 18/86)  
12364 (25th Edition, Jan. 10/87)  
12369 (19th Edition, Mar. 10/86)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and miscellaneous sources. The following should be noted:

1) AWOIS Item #6930, a charted discontinued dumping ground in Latitude 41°00'34.0"N, Longitude 73°06'40.0"W, was established by Chart Letter 929 of 1950 (CL 929/50) and was discontinued by CL 1070/77. The item was investigated during present survey operations. Two obstructions were seen on the fathograms in the dumpsite and the side scan sonar was deployed in an attempt to determine the nature of the obstructions. The hydrographer examined the sonargrams and determined that the obstructions were sunken wrecks. The first wreck was located in Latitude 41°00'41.27"N, Longitude 73°06'05.71"W with an echosounder least depth of 120 feet. The second wreck was located in Latitude 41°00'33.24"N, Longitude 73°06'51.70"W with an echosounder least depth of 113 feet. These wrecks are not considered hazards to surface navigation. It is recommended that the wrecks be charted as sunken wrecks with known depths of 120 feet (120 Wk) and 113 feet (113 Wk) in their respective survey positions. It is also recommended that the present survey soundings be charted in the area of the charted discontinued dumping ground.

*Original AWOIS  
numbers 6930  
and 6933 have  
been deleted -  
these two who  
contacts 1+2, have  
been entered into  
AWOIS and  
numbers 6930 +  
6933 have been  
reissued + assigned  
to these wrecks -*

2) AWOIS Item #6930, a charted discontinued dumping ground in Latitude 40°59'56.0"N, Longitude 73°13'08.0"W, was established by Chart Letter 929 of 1950 (CL 929/50) and was discontinued by CL 1070/77. This item was investigated during present survey operations. No significant contacts

were seen on the fathograms. It is recommended that the present survey soundings be charted in the area of the charted discontinued dumping ground.

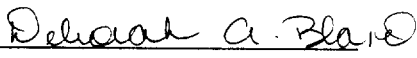
The present survey is adequate to supersede the charted features and/or hydrography in the common areas.


b. Aids to Navigation

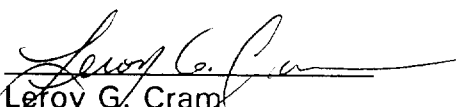
There were no fixed or floating aids to navigation located in the areas surveyed by the field unit.

8. COMPLIANCE WITH INSTRUCTIONS

This is a good survey. This survey complies with the Project Instructions and the changes and supplements to the Project Instructions except as may be noted in this report.

  
Deborah A. Bland  
Cartographic Technician  
Verification of Field Data

  
Robert G. Roberson  
Supervisory Cartographer  
Evaluation and Analysis

  
Leroy G. Cram  
Supervisory Cartographic  
Technician  
Verification Check

INSPECTION REPORT  
FE-325

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The 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: April 13, 1990

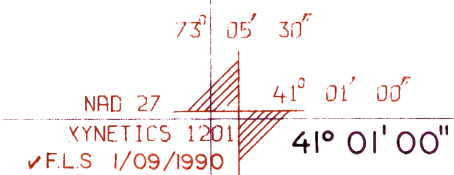
*For* Christopher B. Lawrence  
R. D. Sanocki

Chief, Hydrographic Processing Unit  
Atlantic Hydrographic Section

Christopher B. Lawrence  
Christopher B. Lawrence, CDR, NOAA  
Chief, Atlantic Hydrographic Section

Approved: 4/25/90

Wesley V. Hull  
Wesley V. Hull, RADM, NOAA  
Director, Office of Charting and  
Geodetic Services

$73^{\circ} 05' 30''$ 

FE- 325  
CONNECTICUT--NEW YORK  
LONG ISLAND SOUND  
TWO MI N OF OLD FIELD POINT AND THREE MI NW OF  
CRANE NECK POINT  
JUNE 12-16, 1989  
HORIZONTAL DATUM : NAD 1983  
SOUNDINGS IN FEET AT MLLW  
SCALE: 1:10,000  
SHEET 1 OF 3  
AWOIS ITEM NO. 6930

12362 1110  
12364 1120  
12364 1180

41° 00' 00"

132  
2131131  
131  
131130

41° 00' 30'

5  
133132

5  
135134

8  
137135

5  
135135

3  
131134

7  
125126

4  
123126

2  
123124

1122123

9118119

7115114

3  
111111

1110109

9  
108108

7  
108108

FE-325

CONNECTICUT--NEW YORK

LONG ISLAND SOUND

TWO MI N OF OLD FIELD POINT AND THREE MI NW OF

CRANE NECK POINT

JUNE 12-16, 1989

HORIZONTAL DATUM : NAD 1983

SOUNDINGS IN FEET AT MLLW

SCALE : 1:10,000

SHEET 1 OF 3

AWOIS ITEM NO. 6930

109109

12362 1110

12364 1140

12354 1180

ON ORIGINAL DOCUMENT  
ILLEGIBLE ON PAGE 50 SCAN



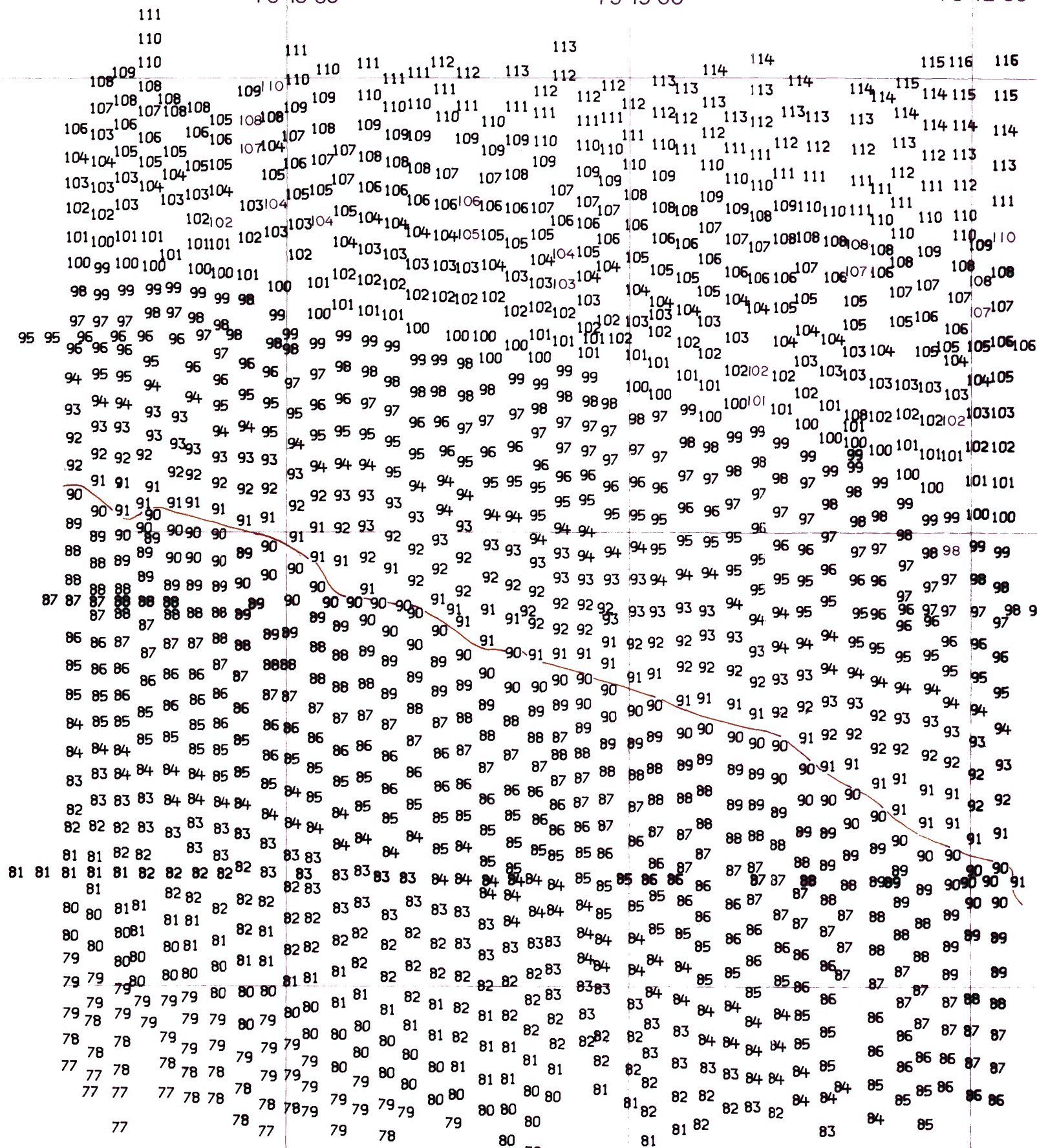
73°14'00"

73°13'30"

73°13'00"

73°12'30"

73°12'00"



FE-325  
CONNECTICUT--NEW YORK  
LONG ISLAND SOUND  
TWO MI N OF OLD FIELD POINT AND THREE MI  
NW OF CRANE NECK POINT  
JUNE 6-16, 1989  
HORIZONTAL DATUM : NAD 1983  
SOUNDINGS IN FEET AT MLLW  
SCALE: 1:10,000  
SHEET 2 OF 3  
AWOIS ITEM NO. 6933

73°12'00"  
41°59'30"  
NAD 27  
SYNETICS 1201  
✓FLS 1/09/1990



73° 19' 30"

73° 19' 00"

73° 18' 30"

41° 05' 00"

FE-325  
CONNECTICUT--NEW YORK  
LONG ISLAND SOUND  
2 MI. N OF OLD FIELD PT. AND 3 MI. NW OF  
CRANE NECK PT.  
JUNE 5 - 20, 1989  
SCALE: 1:10,000  
HORIZONTAL DATUM: NAD 1983  
SOUNDINGS IN FEET AT MLLW  
SHEET 3 OF 3  
SSS CONTACT 2727

41° 04' 30"

35obstr (scrap metal)

73° 19' 00"

NAD 27

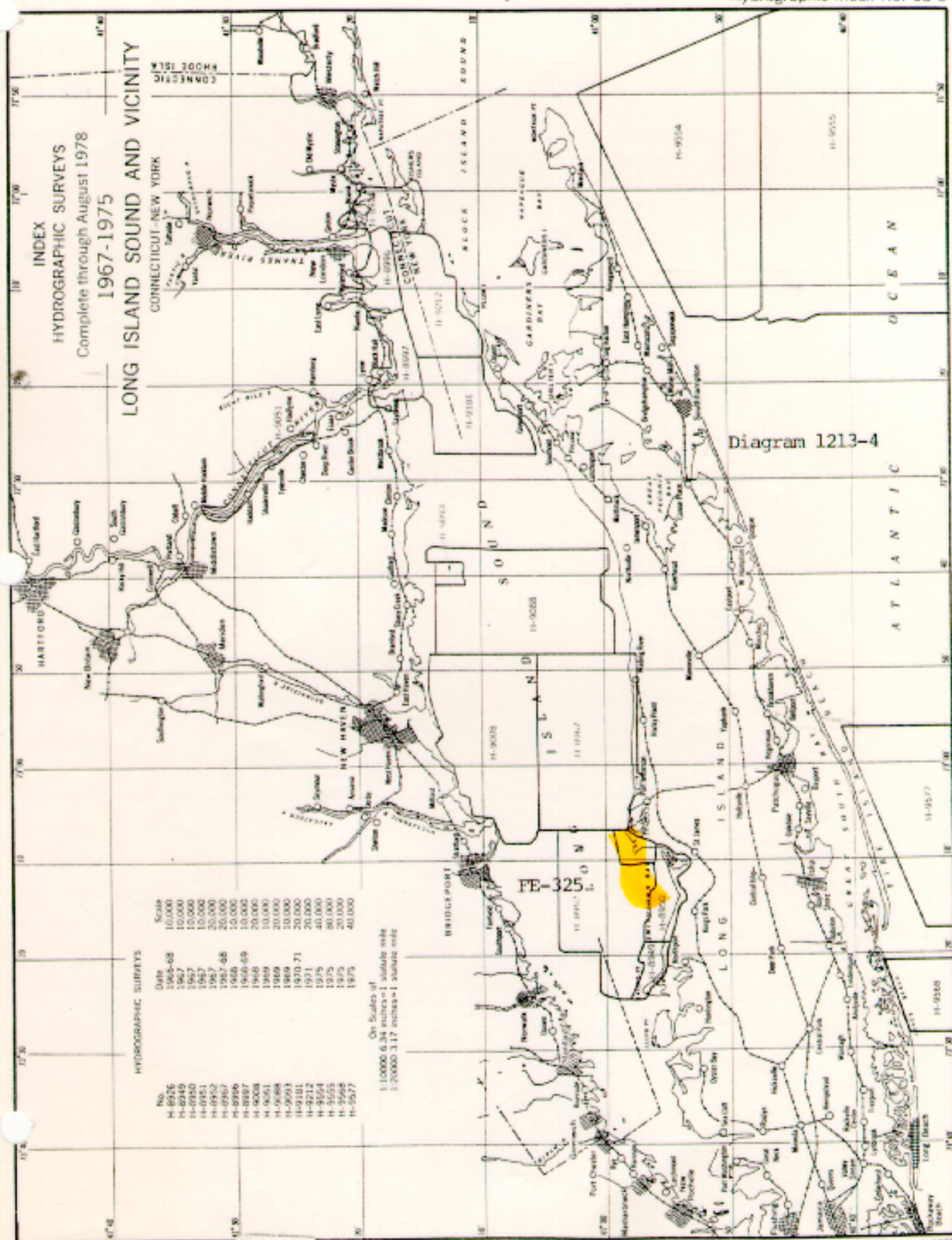
41° 04' 00"

XYNETICS 1201  
✓FLS 12/18/89

41° 04' 00"

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

Hydrographic Index No. 63 L



FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-325

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

- [illegible]