

F00457

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic/Side Scan Sonar

Field No. NRT2-10-1-99

Registry No. F00457

LOCALITY

State South Carolina

General Locality Charleston

Locality Ashley River

1999

CHIEF OF PARTY
David B. Elliott

LIBRARY & ARCHIVES

DATE JAN 29 2001

FIELD EXAMINATION REPORT
F00457
OPR-G428-NRT2
1999-2000
NAVIGATION SERVICES DIVISION
Navigation Response Team 2
Capt. John Wilder, Chief - NOAA

PROJECT

This examination was conducted according to Port Instructions OPR-G428-NRT2, Charleston, SC, dated February 9, 2000. The area includes Approaches to Charleston Harbor, Ashley, Cooper, and Wando Rivers, in South Carolina.

The purpose of Field Examination F00457 is to provide information for nautical chart updates and ENC data capture for the inclusion to vector charts.

AREA SURVEYED

The sheet letter for this project was defined as: "A" for the entire area surveyed.

The approximate survey area limits are:

North - 33°00'00"N
South - 32°44'00"N
East - 079°48'00"W
West - 080°00'00"W

This survey was conducted from: November 1, 1999 to February 8, 2000. This time frame includes hydrographic and ENC data capture.

SURVEY VESSEL

NOAA launch 1210, a 27-foot SeaArk, was used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel.

AUTOMATED DATA ACQUISITION AND PROCESSING *SEE ALSO THE EVALUATION REPORT*

HYPACK version 7.1A was used for on-line data acquisition. HPS version 9.8 program, HP Tools version 10.3.1 were used for data processing, and MapInfo Professional Ver. 5.0, with Vertical Mapper Ver. 2.5, were used to support processing and plotting. The NOS program Velocity Ver. 5.0, Micro Station 95 and MS Word 97 Ver. 7.0 were also used during this survey.

*HANDWRITTEN NOTES IN THE DESCRIPTIVE REPORT WERE MADE
DURING OFFICE PROCESSING.*

*AWWIS/SURF 10/12/00
mcl*

SONAR EQUIPMENT

An Edge Tech model 260-TH image correcting side scan sonar recorder (S/N 020417) with a model 272-TD towfish (S/N 020892), was used throughout this survey. The side scan sonar equipment was used to conduct dual beam surveying and investigate AWOIS items using NOAA launch 1210. The system frequency used was 100 & 500 kHz. The recorder was set on one of either 50/75/100-meter range scales. There were no water depths greater than 25 meters. The confidence checks were performed daily at 100kHz.

A coverage of 200% was obtained in all the required survey areas and AWOIS items where water depth and/or hazards permitted. Side scan sonar coverage was conducted to the 12-foot depth curve and single beam reduced line spacing was performed in other areas where warranted. The towfish was deployed off the starboard quarter of the vessel, which proved very stable. Distorted images caused by strong tidal currents were seen periodically. All contacts and shadows were manually scaled and entered into a HPS contact table to determine the height off the bottom. The significant contacts were then compared by position, as well as common depth and relationship to channels to determine if further investigations were needed. All areas surveyed were track line/swath line plotted to insure complete coverage.

SOUNDING EQUIPMENT

An Innerspace model 448 depth sounder, S/Ns 188 was used to collect all echo soundings on this survey. A standard lead line calibrated in meters, S/N 1210, was used during this survey for comparison with the echo sounder. No problems were encountered with any of the sounding equipment.

CORRECTIONS TO ECHO SOUNDINGS

Correctors for the velocity of sound through water were determined from the casts listed below:

<u>Cast No.</u>	<u>Table No.</u>	<u>Deepest * Depth(m)</u>	<u>Applicable DN(s)</u>	<u>Cast Position</u>		<u>Day Taken</u>
1	1	8.6	305-312	32°45'46"N	079°52'19"W	308
2	2	15.1	322	32°50'06"N	079°58'07"W	322
3	3	17.6	347	32°47'04"N	079°58'29"W	347

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler, model 19-03, S/N 192472-284. The

manufacturer calibrated this unit on August 16, 1999. Data quality assurance tests were performed after each cast. Program VELOCITY was used for computing the correctors. Corrections were applied to the sounding plot using the HPS REAPPLY program. Copies of the velocity tables* are included with this report.

The lead line for launch 1210 was calibrated using a steel tape on January 6, 1999. No corrections were necessary. A static draft of 0.5 meters was applied to the sounding plots by the HPS REAPPLY program. The draft was measured by subtracting the difference from a punch mark on the side of launch 1210, 0.6 meter above the transducer, to the water surface.

Settlement and squat measurements for launch 1210 were taken on September 23, 1997 (DN: 266). These measurements were conducted in Cooper River, Charleston, SC using the level method. Settlement and squat correctors were applied to the sounding plots using the HPS REAPPLY program.

Field tide reduction of soundings is based on unverified actual heights from the Internet from station 866-5530, Charleston, SC. The values were downloaded from: http://www.opsd.nos.noaa.gov/data_retrieve.shtml?input_code=101011111pwl. Values and correctors were applied at the perspective locations of hydrography.

All elevations and soundings on survey F00457 are based on MLLW unless otherwise specified.

Approved tide levels were requested from the Product and Services Branch, Datums Section, N/OES23, in a letter dated April 17, 2000. A copy is included with this report.

APPROVED TIDES AND ZONING HAVE BEEN APPLIED DURING OFFICE PROCESSING

CONTROL STATIONS *SEE ALSO THE EVALUATION REPORT*

The horizontal control datum for this project is the North American Datum (NAD) of 1983. The control reference station used for this survey was the USCG DGPS Charleston beacon (Station ID #808), located at 32°45.45357'N, 079°50.57225'W.

HYDROGRAPHIC POSITION CONTROL

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. A Starlink DGPS Beacon Receiver (S/N 795) and antenna (S/N 4132) were used as the remote station on launch 1210. DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to the position of the following calibration point:

Opening / Closing: Mt. Pleasant Rear Range Lt. 32°45.45357'N 079°50.57225'W

All of the observed differences fell well within the allowable limit.

ITEM INVESTIGATION REPORTS

There were 18*AWOIS items assigned within this examination survey. All items were addressed and electronically transmitted to HSD, the hard copy results are included with this report. 17 ITEMS WERE ADDRESSED IN THIS REPORT

SUPPLEMENTAL SURVEY DATA

Micro Station page plots, ENC data worksheet, velocity tables, copy of Coast Pilot Report and a CD with all survey data are included with this report.

REFERRAL TO REPORTS

Title

Transmittal Information

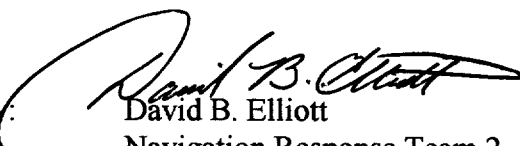
Descriptive Reports for
H-10744, H-10784, H-10801
H-10842, H-10856, H-10857,
H-10858, & H-10863.

Atlantic Hydrographic Branch
N/CS331, Norfolk, VA (1997-1999)

Coast Pilot Report

Coast Pilot Branch
Silver Spring, MD (2000)

Submitted by:


David B. Elliott
Navigation Response Team 2

Submitted via
e-mail 1/1/2000

RECRD **7587** VESSLTERMS **OBSTRUCTION** CHART **11524** AREA **G**
CARTOCODE **0284** SONDINGCODE **0** DEPTH **0**

LAT83 **32/50/06.00** LONG83 **079/58/42.00** NATVDATUM **31**
LATDEC: **32.836** LONDEC: **79.978333333333** GPQUALITY **Poor**
GPSOURCE **Scaled**

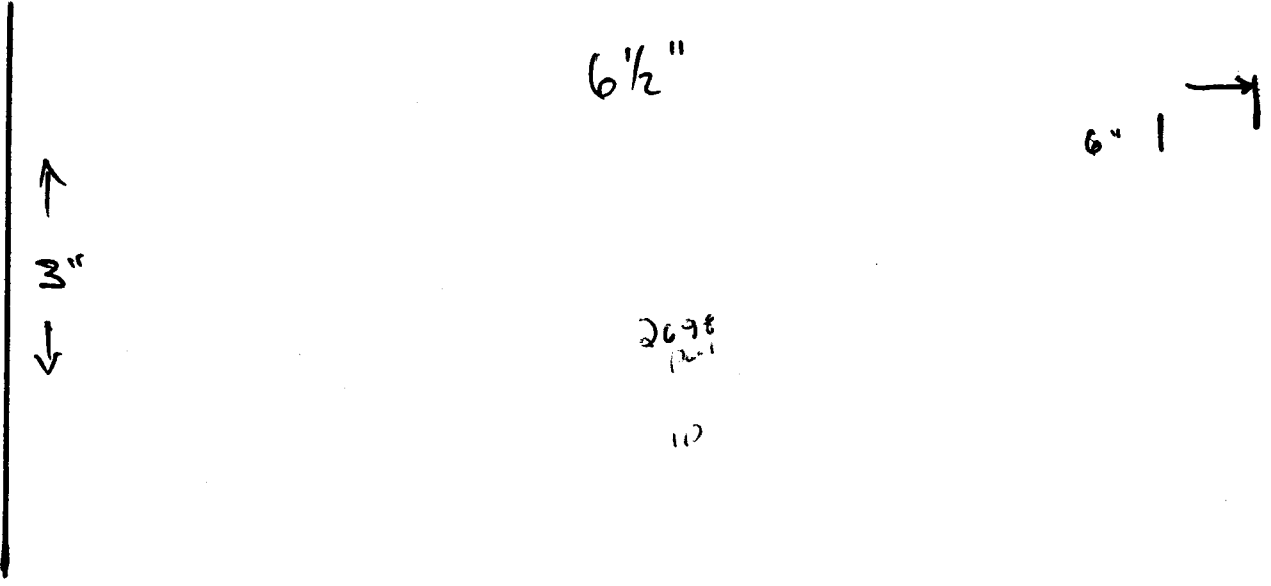
PROJECT **OPR-G428** ITEMSTATUS **Assigned** SEARCHTYPE **Full**
RADIUS **0** INIT **MCR** ASSIGNED **8/5/1999**
TECNIQ **ES**

Techniqnote **DEVELOP SHOAL AREA 50M OUT FROM AN AXIS BETWEEN POSITIONS 32-50-04.94 N 079-58-31.98 W AND 32-50-07.59 N 079-58-52.13 W. SEE AWOIS RADIUS GRAPHIC**

History HISTORY
CL1123/85-USPS REPORT DATED SEPT, 1995; SAND BAR INVESTIGATED IN THE VICINITY OF LAT.32-50-06N, LONG.79-58-42W (NAD 83). DEPTHS PLOTTED ON ENCLOSED CHART MARKUP INDICATE SHOALING TO ONE FOOT. (ENTERED 1/90 MCR)
LNMA/86-REFERENCE

Fieldnote INVESTIGATION
DATE(S): 11/18/99 (DN:322).
POSITION NUMBERS: 621 - 723
INVESTIGATION USED: ECHO SOUNDER
SURVEYED POSITION: LAT. LON. As per requested search area.
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: Reduced line spacing development was conducted over the request area. No soundings were acquired that support the charted 1 foot sounding in this area. The currently charted 6 and 12 foot contours in this area were found to be supported by current data.
CHARTING RECOMMENDATION (HYDROGRAPHER) Remove the 1 foot shoaling remark , and reflect the newly acquired sounding data on the charts.
EVALUATOR COMMENTS: *CONCUR* *DELETE "SHOALING TO 1ft rep JUN 1985"*
PLOT 2

Proprietary YEARSUNK **0** NIMANUM **0** **Plot Report**



RECRD VESSLTERMS CHART AREA
 CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
 LATDEC: LONDEC: GPQUALITY
 GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED
 TECNIQ

Techniqnote

History HISTORY
 CL697/78--USPS REPORT: A SIGN OBSERVED ON 5/6/78 IN APPROX. POS. LAT.32-45-57N, LONG.79-51-32W.
 CL1020/82 - USPS REPORT STATES THAT CHARTED "SIGN" CHARTED IN POS. LAT.32-45-57N, LONG.79-51-31.5 NO
 LONGER EXIST. POS. SCALED FROM NOS CHART 11524 36ED. (ENTERED 12/89 MCR)

Fieldnote INVESTIGATION
 DATE(S): 11/01/1999 (DN:305)
 POSITION NUMBERS: 14-40
 INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) : 200% SSS
 SURVEYED POSITION: LAT. LON. Requested search area.
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: No contacts were identified during the search for this item.
 CHARTING RECOMMENDATION (HYDROGRAPHER) : Recommend removal from the charts.
 EVALUATOR COMMENTS: *CONCUR & CLARIFICATION* *SEE ALSO THE*
Plot 4 *EVALUATION REPORT #1*

Proprietary YEARSUNK NIMANUM

DELETE Subm piles PA °

RECRD **7598** VESSLTERMS **UNKNOWN** CHART **11524** AREA **G**
 CARTOCODE **0100** SENDINGCODE DEPTH **0**

LAT83 **32/48/19.50** LONG83 **079/50/34.50** NATIVDATUM **31**
 LATDEC: **32.7720833333333** LONDEC: **79.8429166666667** GPQUALITY **Poor**
 GPSOURCE **Scaled**

PROJECT **OPR-G428** ITEMSTATUS **Assigned** SEARCHTYPE **Full**
 RADIUS **50** INIT **MCR** ASSIGNED **8/5/1999**
 TECHNIQ **DLS.VS.SD**

Techniqnote

History **HISTORY**
 CL513/75--USPS REPORT DATED MARCH 1975.; REPORTING THE WRECK OF A BOAT 45 FT LONG AND VISIBLE ABOVE THE WATER. WRECK LOCATED IN SULLIVANS ISLAND NARROWS, 100 YDS SOUTH OF BEN SAWYER BRIDGE AND 25 YDS EAST OF CHANNEL. POS. SCALED FROM NOS CHART 11524 36ED. (ENTERED 12/89 MCR)
 CL1106/78 -- USPS REPORT, DATED JUNE 1978 STATES THAT WRECK COULD NOT BE LOCATED VISUALLY. THREE BOATERS AT LOCAL MARINA HAD NO KNOWLEDGE OF THIS WRECK. (ENTERED 12/89 MCR)

Fieldnote **INVESTIGATION**
 DATE(S): 11/01/1999 (DN:305)
 POSITION NUMBERS: 2-13
 INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) : 200% SSS
 SURVEYED POSITION: LAT. LON. Requested survey limits.
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: No visual contacts were made, this wreck has most likely been salvage, as the reported area has a mean depth to shallow to hide. 200% SSS coverage was likewise accomplished.
 CHARTING RECOMMENDATION (HYDROGRAPHER) : Recommend removal from the charts.
 EVALUATOR COMMENTS: *CONCUR* *DELETE* *PA*

Proprietary

YEARSUNK NIMANUM **Print Record**

RECRD 7609 VESSLTERMS OBSTRUCTION CHART 11524 AREA G
 CARTOCODE 0067 SNDINGCODE DEPTH 0

LAT83 32/47/48.63 LONG83 079/58/22.32 NATIVDATUM 6
 LATDEC: 32.796841666667 LONDEC: 79.972666666667 GPQUALITY Med
 GPSOURCE Direct

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
 RADIUS 30 INIT MCR ASSIGNED 8/5/1999
 TECHNIQ S2,DLS,ES,DI

Techniqnote

History HISTORY
 CL116/78--NOS INVESTIGATION FOR USCG. SUBMERGED OBSTRUCTION WITH A LEAST DEPTH OF 3.1 FT AT MLW LOCATED IN POS. LAT.32-47-48N, LONG 79-58-23W. THE OBSTRUCTION APPEARS TO BE THE REMAINS OF A RAILROAD TRESTLE. (ENTERED 1/90 MCR)

Fieldnote INVESTIGATION
 DATE(S): 12/13/1999 (DN:347)
 POSITION NUMBERS: 836-897
 INVESTIGATION USED: 200% SIDE SCAN SONAR, ECHO SOUNDER
 SURVEYED POSITION: LAT. 32-47-48.⁸⁰~~63~~N LON. 079-58-^{21.60}~~22.32~~W
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: Side Scan SONAR and Echo sounder verify the existance of a subm obstr with a least depth of 5ft mlw (~~unverified real tides~~ *APPROVED TIDES* applied) located at the above position. This position is now marked by a fixed aid dbn 6A.
 CHARTING RECOMMENDATION (HYDROGRAPHER) : Retain as charted.
 EVALUATOR COMMENTS: *CONCUR W/CLARIFICATION*

Proprietary

YEARSUNK NIMANUM *Delete (3) Obstr* Print Record
ADD (5) Obstr AT SURVEY POSITION

RECRD 7610 VESSLTERMS UNKNOWN CHART 11524 AREA G
CARTOCODE 0098 SNDINGCODE DEPTH 0

LAT83 32/49/26.00 LONG83 079/57/49.00 NATIVDATUM 31
LATDEC: 32.82388888888888 LONDEC: 79.96361111111111 GPQUALITY Low
GPSOURCE Scaled

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 50 INIT MCR ASSIGNED 8/5/1999
TECNIQ VS.DLS.DI.SD

Techniqnote SEARCH FOR TWO CHARTED DOLHINS (PA) IN THE FOLLOWING POSITION 32-49-26.35 N 079-57-49.81 W INCLUDED WITHIN SEARCH RADIUS

History HISTORY
CL110678--USPS REPORT DATED JUNE 1978; REPORT OF A BARGE WRECK IN APPROX. POS. LAT.32-49-34N, LONG.79-57-50W. WRECK LOCATED JUST SHOREWARD OF TWO CHARTED DOLPHINS. PHOTOGRAPH ATTACHED TO ORIGINAL LETTER. THE GP WAS ADJUSTED BY THE COMPILER TO LAT.32-49-26N, LONG.79-57-49W TO AGREE WITH THE GRAPHIC DESCRIPTION. (ENTERED 1/90)

Fieldnote INVESTIGATION
DATE(S): 12/13/1999 (DN:347)
POSITION NUMBERS: 782-802
INVESTIGATION USED: (200% SIDE SCAN SONAR, ECHO SOUNDER)
SURVEYED POSITION: LAT. LON. Area requested. 32/49/26N 079/57/49W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: No contacts in this area to support this feature either SSS nor Vis.
CHARTING RECOMMENDATION (HYDROGRAPHER) Remove from the charts.
EVALUATOR COMMENTS: CONCUR SEE ALSO THE EVALUATION REPORT

Proprietary PLOT 2
YEARSUNK NIMANUM Print Record

DELETE ~~PA~~
RETAIN OO DOLS

RECRD 7611 VESSLTERMS UNKNOWN CHART 11524 AREA G
CARTOCODE 0100 SNDINGCODE DEPTH 0

LAT83 32/49/42.00 LONG83 079/58/01.00 NATIVDATUM 31
LATDEC: 32.8283333333333 LONDEC: 79.9669444444445 GPQUALITY Med
GPSOURCE Scaled

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS INIT MCR ASSIGNED 8/5/1999
TECNIQ S2,ES,SD

Techniqnote CONDUCT SEARCH 30M OUT FROM AN AXIS BETWEEN POSITIONS 32-49-39.2 N 079-57-59.4 W AND 32-49-44.6 N 079-58-02.4 W. SEE AWOIS RADIUS GRAPHIC

History HISTORY
LNM48/78--A 75 X 200 FT BARGE IS SUNK IN APPROX. POS. LAT.32-49.7N. LONG.79-58.0W, ABOUT 20FT OUTSIDE THE CHANNEL. THE BARGE IS MARKED BY UNLIGHTED FLOATS AND IS COVERED AT HIGH TIDE. POSITION WAS ADJUSTED BY THE COMPILER TO PLACE WRECK OUTSIDE KNOWN CHANNEL LIMITS. (ENTERED 1/90 MCR)

Fieldnote INVESTIGATION
DATE(S): 12/13/1999 (DN:347)
POSITION NUMBERS: 752-781
INVESTIGATION USED: (200% SIDE SCAN SONAR, ECHO SOUNDER)
SURVEYED POSITION: LAT. LON. As Requested 32/49/42N 079/58/01W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: No contacts in this area to support this feature either SSS nor Vis.
CHARTING RECOMMENDATION (HYDROGRAPHER) Remove from the charts.
EVALUATOR COMMENTS: CONCUR DELETE PA

Proprietary YEARSUNK NIMANUM Print Record

RECRD **7612** VESSLTERMS **OBSTRUCTION** CHART **11524** AREA **G**
 CARTOCODE **0067** SNDINGCODE DEPTH **0**

LAT83 **32/50/03.00** LONG83 **079/59/40.00** NATIVDATUM **31**
 LATDEC: **32.834166666667** LONDEC: **79.994444444444** GPQUALITY **High**
 GPSOURCE **Scaled**

PROJECT **OPR-G428** ITEMSTATUS **Assigned** SEARCHTYPE **Full**
 RADIUS INIT **MCR** ASSIGNED **8/5/1999**
 TECHNIQ **ES**

Techniqnote **CONDUCT AN ECHO SOUNDER INVEST. 50M FROM AN AXIS RUNNING FROM POS. 32-50-06.7 N 079-59-19.5 W TO 32-49-57.6 N 079-59-52.8 W. SEE AWOIS RADIUS GRAPHIC**

History **HISTORY**
L1123/85--USPS REPORT DATED SEPT, 1985, SAND BAR INVESTIGATED IN THE VICINITY OF LAT.32-50-03N, LONG.79-59-40W (NAD 83). DEPTHS PLOTTED ON CHART MARKUP INDICATE SHOALING OF 1-2 FT. (ENTERED 1/90 MCR) LNM4/86--REFERENCE.

Fieldnote **INVESTIGATION**
DATE(S): 11/19/99 (DN:322)
POSITION NUMBERS: 304 -- 620
INVESTIGATION USED: ECHO SOUNDER
SURVEYED POSITION: LAT. LON. Area as requested.
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: Reduced sounding data was acquired over the requested area. The charted shoal has diminished in size, reseading from the east 850 meters, shoaling to 2 feet mlw (~~unverified~~) at 32-49-59N 079-59-52W.
APPROVED
CHARTING RECOMMENDATION (HYDROGRAPHER): Update the charts to reflect the surveyed soundings in this area redefining the limits of the shoal.
EVALUATOR COMMENTS: *Concur Plot 1 Delete "shoaling rep July 1985"*

Proprietary **YEARSUNK** **NIMANUM** **Print Record**

RECRD 7613 VESSLTERMS OBSTRUCTION CHART 11524 AREA G
 CARTOCODE 0094 SNDINGCODE DEPTH 0

LAT83 32/49/47.43 LONG83 080/00/16.12 NATIVDATUM 6
 LATDEC: 32.829841666667 LONDEC: 80.004477777778 GPQUALITY High
 GPSOURCE Direct

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
 RADIUS 50 INIT MCR ASSIGNED 8/5/99
 TECHNIQ VS,DLS,DI
 Techniqnote DEVELOPE SHOAL SURROUNDING CHARTED ROCK

History HISTORY
 H8410/57--A ROCKY SHOAL LOCATED WITH A LEAST DEPTH OF 1 FOOT MLW IN POS. LAT.32-49.78N, LONG.80-00.28W.
 (ENTERED 1/90 MCR)

Fieldnote INVESTIGATION
 DATE(S): 11/18/99 (DN:322)
 POSITION NUMBERS: 169--303
 INVESTIGATION USED: ECHO SOUNDER
 SURVEYED POSITION: LAT. LON. As per request
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: Reduced line spacing development was conducted over the request area. The charted shoal does exist, with a shoal soundings of 2 feet mlw (unverified) at 32-49-47N 080-00-16W.
 APPROVED
 CHARTING RECOMMENDATION (HYDROGRAPHER) : Update the charts to reflect the surveyed soundings in this area. Remove the charted rock symbol .
 EVALUATOR COMMENTS: Concur Plot 1 Delete $\frac{2}{10}$ Retain notation "rky"

Proprietary YEARSUNK NIMANUM Print Record

RECRD **7827** VESSLTERMS **OBSTRUCTION** CHART **11524** AREA **G**
 CARTOCODE **0067** SNDINGCODE DEPTH **0**

LAT83 **32 47 43.64** LONG83 **079 58 13.54** NATIVDATUM **06**
 LATDEC: **32.79646666666666** LONDEC: **79.97042777777778** GPQUALITY **High**
 GPSOURCE **Scaled**

PROJECT **OPR-G428** ITEMSTATUS **Assigned** SEARCHTYPE **Full**
 RADIUS **50** INIT **MCR** ASSIGNED **8/5/1999**
 TECHNIQ **DLS,VS,ES,DI**

Techniqnote

History
 HISTORY
 H8768/63--PILE SHOWN IN POS. LAT.32-47-43N, LONG.79-58-14.22W.
 CL878/73--CHART INVEST.470,473, SP-AMC-9-FE-73, ITEM 19; ALL CHARTED PILES MARKING CHANNEL ENTRANCE LOCATED.
 CL855/79--USPS REPORT DATED 6/3/79; PILE NOT VISIBLE. (ENTRANCE 7/90 MCR)

Fieldnote
 INVESTIGATION
 DATE(S): 12/13/ 1999 (DN:347)
 POSITION NUMBERS: 898
 INVESTIGATION USED: (Visual identification)
 SURVEYED POSITION: LAT.32/47/42.55N LON. 079/58/13.52W
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: Visual identification of a cluster of 8 piles forming "Ruins". The offshore center of this cluster was positioned. These ruins bare -3.1m mlw with unverified real water levels applied. The ruins cover an approximate area of 20m radius from the above position. *-1.4m (5ft) APPROVED*
 CHARTING RECOMMENDATION (HYDROGRAPHER) Retain as charted with adjustment applied to position and radius.
 EVALUATOR COMMENTS: *concur w/CLARIFICATION*

Proprietary

YEARSUNK NIMANUM

Print Record

*Revise Subm pile 0 to Piles 0
 AT SURVEY POSITION*

RECRD 7828 VESSLTERMS OBSTRUCTION CHART 11524 AREA G
CARTOCODE 0067 SNDINGCODE DEPTH 0

LAT83 32/47/46.53 LONG83 079/58/11.77 NATIVDATUM 6
LATDEC: 32.796258333333 LONDEC: 79.969936111111 GPQUALITY High
GPSOURCE Scaled

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 30 INIT MCR ASSIGNED 8/5/1999
TECNIQ DLS,VS,ES,DI
Techniqnote ALSO SEARCH 30M ABOUT POSITION 32-47-47.01 N 079-58-08.9 W FOR THE SHOREWARD OF TWO PILES

History HISTORY
H8768/63--TWO PILES SHOWN IN POS. LAT.32-47-45.9N, LONG.79-58-12.45W (CHANNELMOST OF TWO) AND LAT.32-47-46.92N, LONG.79-58-09.8W.
CL878/73--CHART INVEST.470 (11524),4/73, SP-AMC-9-FE-73, ITEM 19; ALL CHARTED PILES MARKING CHANNEL ENTRANCE LOCATED.
CL855/79--USPS REPORT; PILES NOT VISIBLE ON 6/3/79. (ENTERED 7/90 MCR)

Fieldnote INVESTIGATION
DATE(S): 12/13/ 1999 (DN:347)
POSITION NUMBERS: 899-900
INVESTIGATION USED: (DLS)
SURVEYED POSITION: LAT. 32/47/46.59N LON. 079/58/11.4W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: DLS was utilized for this search due to the depth of the water in the area being shoal. The above position locates the offshore pile of the two charted , baring $-1.0m$ @ mlw with unverified real water levels applied. The search for the inshore pile was negative.
 $- 0.9m$ APPROVED
 $(- 3 ft)$
CHARTING RECOMMENDATION (HYDROGRAPHER) Retain as charted the offshore pile. Remove the charted inshore pile.
EVALUATOR COMMENTS: Concur w/ CLARIFICATION

Proprietary YEARSUNK NIMANUM Plot 3
Print Record

Delete Subm piles
Add Pile

RECRD VESSLTERMS CHART AREA
 CARTOCODE SINDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
 LATDEC: LONDEC: GPQUALITY
 GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED
 TECHNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

RECRD **7830** VESSLTERMS **OBSTUCTION** CHART **11524** AREA **G**
 CARTOCODE **0067** SNDINGCODE DEPTH **0**

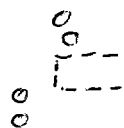
LAT83 **32/49/23.37** LONG83 **079/57/49.83** NATIVDATUM **6**
 LATDEC: **32.823158333333** LONDEC: **79.963841666667** GPQUALITY **High**
 GPSOURCE **Scaled**

PROJECT **OPR-G428** ITEMSTATUS **Assigned** SEARCHTYPE **Full**
 RADIUS INIT **MCR** ASSIGNED **8/5/1999**
 TECNIQ **VS,DLS,DI**
 Techniqnote **CONDUCT A 25M SEARCH ABOUT THE POSITIONS GIVEN IN HISTORY BELOW (AFTER CL878/73)**

History
 HISTORY
 T5179/33--PILES SHOWN IN POS. LAT.32-49-22.74N, LONG.79-57-50.52W (NAD 27) AND POS. LAT.32-49-23.34N, LONG.79-57-50.7W (NAD 27).
 CL878/73--CHART INVESTIGATION 470 (11524),1973,SP-AMC-9-PE-73.ITEM 15; PILES CHARTED NORTH OF PIER RUINS NOT FOUND BY VISUAL INSPECTION. PILES REMAIN CHARTED ALONG WITH TWO ADDITIONAL IN THE FOLLOWING NAD 83 POSITIONS:
 32-49-21.09 N 079-57-49.77 W
 32-49-21.71 N 079-57-49.98 W
 32-49-23.5 N 079-57-49.58 W
 32-49-24.47 N 079-57-50.4 W

Fieldnote
 INVESTIGATION
 DATE(S):12/13/ 1999 (DN:347)
 POSITION NUMBERS: 803-823
 INVESTIGATION USED: (200% SIDE SCAN SONAR, ECHO SOUNDER)
 SURVEYED POSITION: LAT. LON. As requested . 32/49/23.37N 079/57/49.83W
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: Search confirmed the existance of the charted subm piles & ruins.
 CHARTING RECOMMENDATION (HYDROGRAPHER) Retain as charted.
 EVALUATOR COMMENTS: *concur*
Plot 2

Proprietary
 YEARSUNK NIMANUM **Print Record**

Retain  *Subm piles*
RUINS

RECRD 7831 VESSLTERMS OBSTRUCTION CHART 11524 AREA G
CARTOCODE 0067 SINDINGCODE DEPTH 0

LAT83 32/50/09.63 LONG83 079/59/06.07 NATIVDATUM G
LATDEC: 32.836008333333 LONDEC: 79.985010444444 GPQUALITY High
GPSOURCE Scaled


PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 20 INIT MCR ASSIGNED 8/5/1999
TECNIQ VS.DLS

Techniqnote

History HISTORY
H8410/57--PILING UNCOVERS 2FT MLW IN POS. LAT.32-50-09N, LONG.79-59-06.75W (NAD 27).
CL1694/74--USPS REPORT DATED 10/74; CHARTED PILE NOT VISIBLE (ENTERED 7/90 MCR)

Fieldnote INVESTIGATION
DATE(S):12/13/1999 (DN:347)
POSITION NUMBERS: 724-751
INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER)
SURVEYED POSITION: LAT. LON. As requested. 32/50/09.63N 079/59/06.07W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: No significant contacts were identified to support this feature. This area directly abutts a major bridge and associated bridge supports located within 5m off the reported position.
CHARTING RECOMMENDATION (HYDROGRAPHER) Remove from the charts.
EVALUATOR COMMENTS: *Concur Delete o Subm pile*

Proprietary

YEARSUNK NIMANUM 

RECRD 7835 VESSLTERMS OBSTRUCTION CHART 11524 AREA G
CARTOCODE 0067 SNDINGCODE DEPTH 0

LAT83 32/46/21.13 LONG83 079/50/33.30 NATIVDATUM 6
LATDEC: 32.772536111111 LONDEC: 79.842583333333 GPQUALITY Low
GPSOURCE Scaled

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 75 INIT MCR ASSIGNED 8/5/1999
TECNIQ VS,DLS,DI

Techniqnote

History HISTORY
H5810/35- POS. OF APPARENT PILE SYMBOL ON FILM NEGATIVE IS LAT.32-46-20.5N, LONG.79-50-34W (NAD 27)
CL1106/78-USPS REPORT; PILE NOT VISIBLE IN 6/78. (ENTERED 7/90 MCR)

Fieldnote INVESTIGATION
DATE(S): 11/01/1999 (DN:305)
POSITION NUMBERS: 1
INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) visually identified and positioned(photo taken)
SURVEYED POSITION: LAT. 32°46'20.744"N LON. 079°50'33.493"W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: New bridge fender construction now exist in this position. (Photo)
CHARTING RECOMMENDATION (HYDROGRAPHER) Recommend removal of charted subm pile from the charts.
EVALUATOR COMMENTS: *CONCUR w/clarification
Plot 4*

Proprietary

YEARSUNK NIMANUM

*Delete 0
Subm piles
Add 0 Pile*

RECRD 1042 VESSLTERMS ERIKA J CHART 11524 AREA G
 CARTOCODE 0100 SENDINGCODE DEPTH

LAT83 32 45 22.2 LONG83 079 53 09 NATIVDATUM 31
 LATDEC: 32.756166666667 LONDEC: 79.885833333333 GPQUALITY Low
 GPSOURCE Direct

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
 RADIUS 150 INIT MCR ASSIGNED 8/10/1999
 TECHNIQ S2,DLS,ES,SD

Techniqnote


History HISTORY
 LNM43/96; USCG, 10/22/96; THE 43 FT ERIKA SANK IN POS.32 45 22.2N, 079 53 09W. ENTERED 8/99 MCR
 H-10744/97--OPR-G400-AHP; ITEM WAS NOT ASSIGNED. SOUTHERN LIMIT OF 200% SIDE SCAN SONAR SURVEY
 CROSSES REPORTED LOCATION OF WRECK. EVALUATOR RECOMMENDS TO RETAIN AS CHARTED. ENTERED 8/99
 MCR

Fieldnote INVESTIGATION This item was resolved during survey work for H-10744, 1997,1998 (see DR for H-10744). ✕
 DATE(S): // (DN:)
 POSITION NUMBERS:
 INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) ES; S2; VS.
 SURVEYED POSITION: LAT. LON.
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: No side scan sonar contacts were made in the requested search area for this item.
 CHARTING RECOMMENDATION (HYDROGRAPHER) Recommend removal of this item from the charts.
 EVALUATOR COMMENTS: *Do Not Concur

Proprietary

YEARSUNK 1996 NIMANUM (No Plot) Print Record

* SEE ALSO THE EVALUATION REPORT

ADD TO CHART PA  LAT 32° 45' 22.2" N
 LON 79° 53' 09.0" W

RECRD 10422 VESSLTERMS OBSTRUCTION CHART 11524 AREA G
CARTOCODE 0067 SNDINGCODE DEPTH

LAT83 32 45 58.54 LONG83 079 51 45.71 NATIVDATUM 06
LATDEC: 32.766261111111 LONDEC: 79.862697222222 GPQUALITY High
GPSOURCE Scaled

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 30 INIT MCR ASSIGNED 8/10/1999
TECNIQ S2.DLS.ES.SD

Techniqnote

History HISTORY
H-8768/63--SUNKEN BOILER SHOWN ON SURVEY IN POS.32 45 57.9N, 079 51 46.4W. NAD 27. ENTERED 8/99 MCR

Fieldnote INVESTIGATION
DATE(S): 11/14/99 (DN:308)
POSITION NUMBERS: 69 -- 104
INVESTIGATION USED: ECHO SOUNDER
SURVEYED POSITION: LAT. LON.
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: Reduced sounding line were ran along the requested search area. This position lies along a channel wall, with pier ends to shoreward of sounding data. No contacts were identified by the search.
CHARTING RECOMMENDATION (HYDROGRAPHER) : Remove the charted boiler symbol and remark from the chart. This is a Federal Maintained channel where the current symbol is applied to the charts , and was most likely removed during channel maintainance.
EVALUATOR COMMENTS: *concur* *Delete Boiler*

Proprietary

YEARSUNK NIMANUM 

RECRD 10425 VESSLTERMS OBSTRUCTION CHART 11524 AREA G
CARTOCODE 0067 SENDINGCODE DEPTH

LAT83 32 54 09.6 LONG83 079 57 31.1 NATIVDATUM 31
LATDEC: 32.902666666667 LONDEC: 79.958638888889 GPQUALITY Med
GPSOURCE Direct

PROJECT OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 75 INIT MCR ASSIGNED 8/12/1999
TECNIQ S2,DLS,ES,SD
Techniqnote UNKNOWN AT THIS TIME IF ITEM WAS ADDRESSED BY OPR-G310-AHP-99

History HISTORY
LNM46/91--7TH CGD, 11/5/91; SUBMERGED OBSTRUCTION, DEPTH UNKNOWN REPORTED IN APPROX. POS.32-57-09.6N,
079 57 31.1W, NAD 83. NO DESCRIPTION GIVEN. ENTERED 8/99 MCR

Fieldnote INVESTIGATION This item was resolved by survey H-10857, 1999 (see DR for H-10857,1999)
DATE(S): // (DN:)
POSITION NUMBERS:
INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) S2; ES.
SURVEYED POSITION: LAT. LON.
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: Not significant contacts made in the requested search area.
CHARTING RECOMMENDATION (HYDROGRAPHER) Recommend removal of this item from the charts.
EVALUATOR COMMENTS: correct NO PLOT Delete Obscn PA

Proprietary YEARSUNK NIMANUM
Print Record



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: June 20, 2000

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-G428-NRT2-99
HYDROGRAPHIC SHEET: F00457

LOCALITY: Charleston, SC

TIME PERIOD: November 1 - December 13, 1999

TIDE STATION USED: 866-5099 I-526 Bridge
Lat. 32° 50.4'N Lon. 80° 01.5'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.815 meters

TIDE STATION USED: 866-5530 Charleston
Lat. 32° 46.9'N Lon. 79° 55.5'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.664 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: CH1, CH2, CH70, CH71, CH73 & CH74.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units
(Meters), relative to MLLW and on Greenwich Mean Time.

Thomas V. Mera 6/21/00

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

GEOGRAPHIC NAMES

F00457

Name on Survey	Source of Name									
	A ON CHART NO. 11524	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	
ACCABEE FLATS	X		X							1
ASHLEY RIVER	X		X							2
BRICKYARD CREEK	X		X							3
CHARLESTON	X		X							4
COVE, THE	X		X							5
DUCK ISLAND	X		X							6
EAST MARSH ISLAND	X		X							7
OLDTOWN CREEK	X		X							8
SISTERS ROCKS	X		X							9
SOUTH CAROLINA (title)	X		X							10
SULLIVANS ISLAND	X		X							11
SULLIVANS ISLAND NARROWS	X		X							12
										13
										14
										15
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										21
										22
										23
										24
										25

Dennis J. Remsburg
MAY 22 2000

N/CS 33-63-00

LETTER TRANSMITTING DATA

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

- ORDINARY MAIL
- AIR MAIL
- REGISTERED MAIL
- EXPRESS
- GBL (Give number) _____

TO:

NOAA / National Ocean Service
 Chief, Data Control Group, N/CS3x1
 SSMC3, Station 6815
 1315 East-West Hwy.
 Silver Spring, MD 20910-3282

DATE FORWARDED

8-29-0

NUMBER OF PACKAGES

ONE TUBE

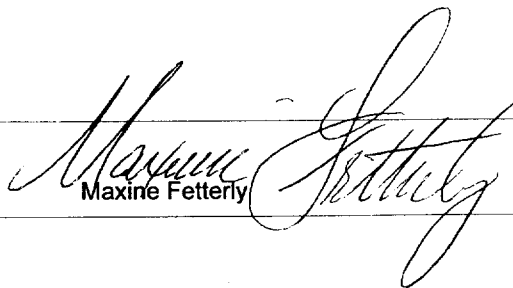
NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate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

F00457 OPR-G428-NRT2

Charleston, SC

Descriptive & Evaluation Reports
 1 Drawing History form 76-71 for NOS Chart 11524
 4 Smooth Sheets (page size)
 1 H-Drawing NOS Chart 11524
 5 Composite plots for NOS Chart 11524

FROM: (Signature)



Maxine Fetterly

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Maxine Fetterly
 Atlantic Hydrographic Branch
 439 W. York St.
 Norfolk, VA 23510

08/29/2000

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: F00457

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		1027
NUMBER OF SOUNDINGS		1027
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	8.0	05/15/2000
VERIFICATION OF FIELD DATA	64.0	08/18/2000
QUALITY CONTROL CHECKS	26.5	
EVALUATION AND ANALYSIS	15.0	
FINAL INSPECTION	14.5	07/28/2000
COMPILATION	75.5	08/23/2000
TOTAL TIME	203.5	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		08/07/2000

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00457 (1999)**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

AUTOMATED DATA ACQUISITION AND PROCESSING

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System
NADCON, version 2.10
MicroStation 95, version 5.05
I/RAS B, version 5.01

The smooth sheets were plotted using a Hewlett Packard DesignJet 2500CP plotter.

CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. Four page size sheets have been annotated with ticks showing the computed mean shift between NAD 83 and the North American Datum of 1927 (NAD 27).

(1) To place sheet 1 of 4 on NAD 27, move the projection lines 0.633 seconds (19.489 meters or 9.74 mm at the scale of the survey) north in latitude, and 0.676 seconds (17.588 meters or 8.79 mm at the scale of the survey) east in longitude.

(2) To place sheet 2 of 4 on NAD 27, move the projection lines 0.633 seconds (19.496 meters or 9.75 mm at the scale of the survey) north in latitude, and 0.681 seconds (17.708 meters or 8.85 mm at the scale of the survey) east in longitude.

(3) To place sheet 3 of 4 on NAD 27, move the projection lines 0.635 seconds (19.568 meters or 9.78 mm at the scale of the survey) north in latitude, and 0.678 seconds (17.640 meters or 8.82 mm at the scale of the survey) east in longitude.

(4) To place sheet 4 of 4 on NAD 27, move the projection lines 0.636 seconds (19.595 meters or 9.80 mm at the scale of the survey) north in latitude, and 0.694 seconds (18.054 meters or 9.03 mm at the scale of the survey) east in longitude.

ITEM INVESTIGATION

COMPARISON WITH CHART 11524 (44th Edition, Sept. 11/99)

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in the item investigation reports. Attention is directed to the following:

1. Automated Wreck and Obstruction Information System (AWOIS) Item #7597, a charted obstruction with the notation Subm Piles PA, in the vicinity of Latitude 32°45'57"N, Longitude 79°51'31.5"W, on chart 11524 (44th edition). This feature originates with Chart Letter 697 of 1978 (CL 697/78) as a sign on chart 11524 (36th edition). The feature is considered disproved by the present survey and should be removed from the chart.

2. AWOIS Item #7610, a charted visible wreck, in the vicinity of Latitude 32°49'26"N, Longitude 79°57'49"W, originates with Chart Letter 1106 of 1978 (CL 1106/78). The feature is considered disproved by the present survey and should be removed from the chart. During this investigation, two charted dolphins in Latitude 32°49'26.35"N, Longitude 79°57'49.81"W, were visually located by the hydrographer. The two dolphins should be retained as charted.

3. AWOIS Item #10421, a charted dangerous sunken wreck PA, in the vicinity of Latitude 32°45'22"N, Longitude 79°53'09"W, originates with Local Notice to Mariners 43 of 1996 (LNM 43/96). The evaluation report for H10744 (1997) recommended that the wreck be retained as charted. The wreck is not shown on the 44th edition of chart 11524. This feature was neither verified nor disproved by the field unit. It is recommended that the dangerous sunken wreck, PA be charted in its original position. Additional field work is recommended.

4. The charted notation Rep bare Dec 1983, in the vicinity of Latitude 32°47'50"N, Longitude 79°58'00"W, was

confirmed by the present survey. It is recommended that the notation be revised to "Bare Feb 1999".

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

ADEQUACY OF SURVEY

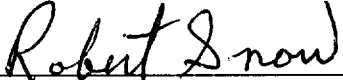
This is an adequate hydrographic/side scan sonar survey. Additional work is recommended on AWOIS #10421 at an opportune time.

MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS Chart was used for compilation of the present survey:

11524 (44th Edition, September 11/99)

F00457

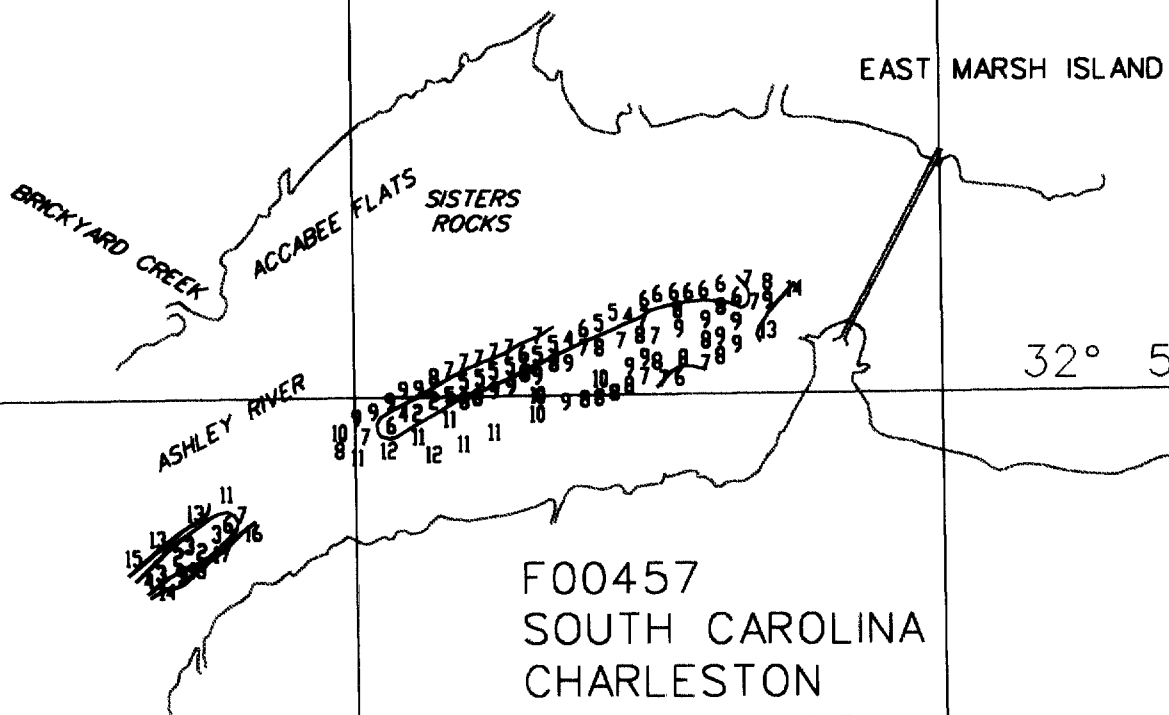


Robert Snow
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

80° 00' 00"

79° 59' 00"

32° 51' 00"



32° 50' 00"

F00457
 SOUTH CAROLINA
 CHARLESTON
 ASHLEY RIVER
 SCALE: 1:20,000
 NOV. 1999
 SOUNDINGS IN FEET AT MLLW
 SHEET 1 OF 4

80° 00' 00" W

AWOIS ITEMS 7612,7613

32° 49' 00"

NAD 27 32° 49' 00" N

CHECKED BY: RS
05/17/00

Brown shoreline originates with NOS chart 11524, 44th Ed.,
Sept. 1999 and is for orientation purposes only

80° 00' 00"

79° 59' 00"

79° 59' 00"

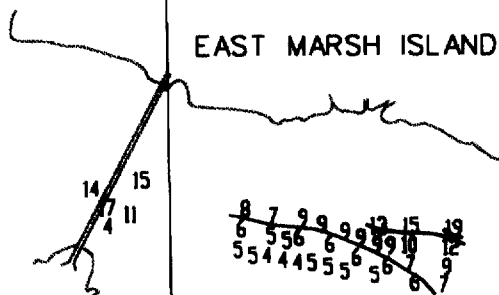
79° 58' 00"

79° 59' 00" W

32° 51' 00"

NAD 27 32° 51' 00" N

CHECKED BY: RS
05/17/00



32° 50' 00"

ASHLEY RIVER

DUCK ISLAND

F00457
 SOUTH CAROLINA
 CHARLESTON
 ASHLEY RIVER
 SCALE: 1:20,000
 NOV. - DEC. 1999
 SOUNDINGS IN FEET AT MLLW
 SHEET 2 OF 4

32° 49' 00"

AWOIS ITEMS 7587, 7610, 7611,
 7829, 7830, 7831

24
 3

Brown shoreline originates with NOS chart 11524, 44th Ed.,
 Sept. 1999 and is for orientation purposes only

79° 59' 00"

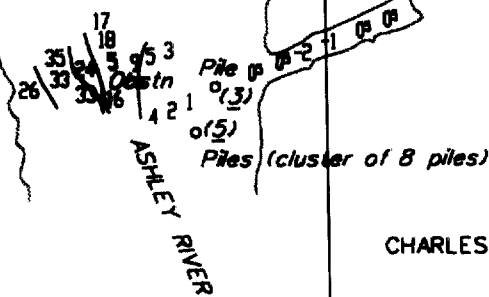
79° 58' 00"

79° 59' 00"

79° 58' 00"

32° 48' 00"

OLDTOWN CREEK



CHARLESTON

79° 59' 00" W

F00457
SOUTH CAROLINA
CHARLESTON

32° 47' 00"

NAD 27 32° 47' 00" N

ASHLEY RIVER

CHECKED BY: RS
05/17/00

SCALE: 1:20,000

DEC. 1999

SOUNDINGS IN FEET AT MLLW
SHEET 3 OF 4

AWOIS ITEMS 7609,7827,7828

Brown shoreline originates with NOS chart 11524, 44th Ed.,
Sept. 1999 and is for orientation purposes only

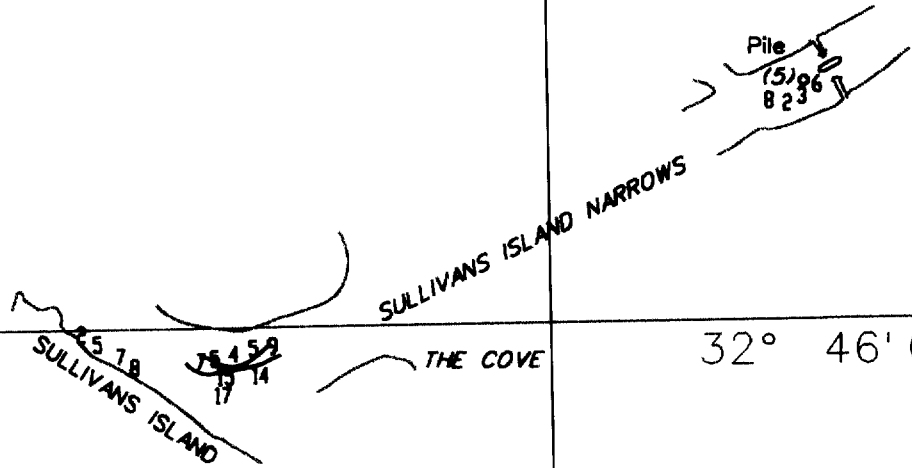
79° 59' 00"

79° 58' 00"

79° 52' 00"

79° 51' 00"

32° 47' 00"



32° 46' 00"

F00457
 SOUTH CAROLINA
 CHARLESTON
 SULLIVANS ISLAND NARROWS
 SCALE: 1:20,000
 NOV. 1999
 SOUNDINGS IN FEET AT MLLW
 SHEET 4 OF 4
 AWOIS ITEMS 7597,7598,
 7835,10422

79° 52' 00" W

NAD 27 32° 45' 00" N

CHECKED BY: RS
05/17/00

Brown shoreline originates with NOS chart 11524, 44th Ed.,
Sept., 1999 and is for orientation purposes only

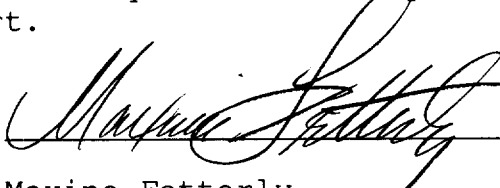
79° 52' 00"

79° 51' 00"

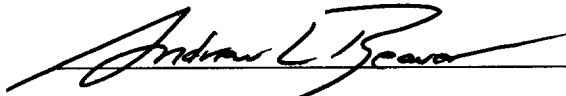
APPROVAL SHEET
F00457

Initial Approvals:

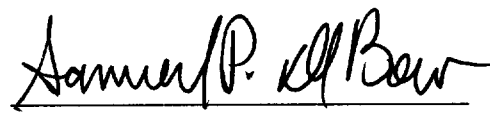
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.


Date: 7/31/00
Maxine Fetterly
Cartographer
Atlantic Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.


Date: 8/7/00
Andrew L. Beaver
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: 
Date: January 29, 2001
Samuel P. DeBow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. F00457

INSTRUCTIONS

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

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

CHART	DATE	CARTOGRAPHER	REMARKS
11524	8-14-00	<i>Maryanne Jettley</i>	Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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			Full Part Before After Marine Center Approval Signed Via
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			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.