

H11456

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey MULTIBEAM AND SIDE SCAN SONAR

Field No. J

Registry No. H11456

LOCALITY

State NEW JERSEY

General Locality ATLANTIC OCEAN

Locality BEACH HAVEN CREST TO
BARNEGAT INLET

2006

CHIEF OF PARTY
PAUL L. DONALDSON SAIC

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DATE

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NO.
HYDROGRAPHIC TITLE SHEET		H11456
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. J
<p>State <u>New Jersey</u></p> <p>General locality <u>Atlantic Ocean</u></p> <p>Locality <u>Beach Haven Crest to Barnegat Inlet</u></p> <p>Scale <u>1:20,000</u> Date of survey <u>4 August 2005 – 27 April 2006</u></p> <p>Instructions Dated <u>10 March 2005</u> Project No. <u>OPR-C303-KR-05</u></p> <p>Vessel <u>M/V Atlantic Surveyor D582365</u></p> <p>Chief of Party <u>PAUL L. DONALDSON</u></p> <p>Surveyed by: <u>Kendra Arbesman, Brian Biggert, Curtis Clement, Gary Davis, Paul Donaldson, Matt Farley, Nick Frade, Sean Halpin, Karen Hart, Chuck Holloway, Jason Infantino, Mike Kelly, Meme Lobecker, Peter Martin, Matt Meyer, Rick Nadeau, Gary Paquette, Gary C. Parker, Evan Robertson, Jeremy Shambaugh, Deb Smith, and Ryan Thomas</u></p> <p>Soundings taken by <u>echo sounder</u> hand lead, pole <u>MULTIBEAM RESON SEABAT 8101</u></p> <p>Graphic record scaled by _____</p> <p>Graphic record checked by _____</p> <p>Protracted by _____ Automated plot by <u>HP1055CM</u></p> <p>Verification by <u>Atlantic Hydrographic Branch personnel</u></p> <p>Soundings in fathoms, <u>feet</u>, meters at MLW, <u>MLLW</u></p>		
<p>REMARKS: <u>Contract DG133C-03-CQ-0014</u></p> <p><i>Bold, Italic, Red notes in Descriptive report were made during office processing.</i></p> <p>Contractor: <u>Science Applications International Corp., 221 Third Street; Newport, RI 02840 USA</u></p> <p>Times: <u>All times are recorded in UTC</u></p> <p>Purpose: <u>To provide NOAA with modern, accurate hydrographic survey data with which to update the nautical charts of the assigned area: Sheet J (H11456) in Mid-Atlantic Corridor, Coast of New Jersey.</u></p>		

Science Applications International Corporation (SAIC) warrants only that the survey data acquired by SAIC and delivered to NOAA under Contract DG133C-03-CQ-0014 reflects the state of the sea floor in existence on the day and at the time the survey was conducted.

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**Descriptive Report to Accompany
Hydrographic Survey H11456
Scale 1:20,000, Surveyed 2005 - 2006
M/V Atlantic Surveyor
Science Applications International Corporation (SAIC)
Paul L. Donaldson, Hydrographer**

PROJECT

Project Number: OPR-C303-KR-05
Dates of Instructions: 10 March 2005

Original: OPR-C303-KR-05
Task Order#: T0005

Dates of Supplemental Instructions: NA

Sheet Letter: J

Registry Number: H11456

Purpose: To provide NOAA with modern, accurate hydrographic survey data with which to update the nautical charts of the assigned area.

A. AREA SURVEYED

The area surveyed was a section of the Atlantic Ocean off of New Jersey, Beach Haven Crest to Barnegat Inlet (Figure A-1). The area was surveyed with multibeam sonar and towed side-scan sonar from 04 August 2005 to 27 April 2006 (Table A-2). The depth range encountered in this area was from 12.24 to 82.71 feet. The Statement of Work area delivered to SAIC from NOAA combined the vertices for H11455 (Sheet H) and H11456 (Sheet J) and is presented in the right most columns of Table A-1. The two left most columns of show the modified statement of work area used for survey on H11456 (Sheet J). The two final positions in the Sheet J survey area are the vertices created in order to divide the original statement of work area into the H11456 survey area.

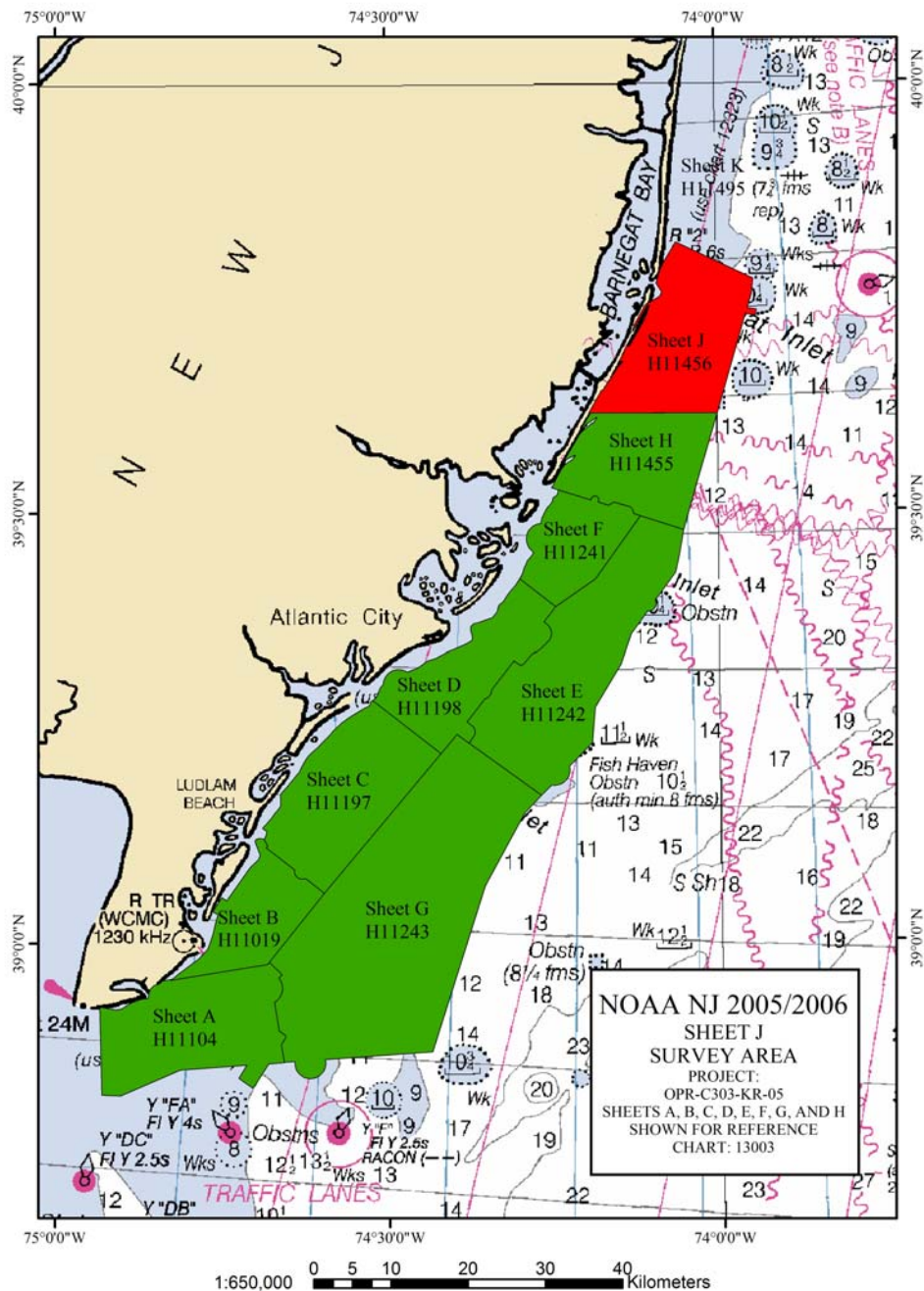


Figure A-1. H11456 Survey Bounds

Table A-1. Vertices defining the H11456 Survey Area and the Statement of Work Survey Area

H11456 (Sheet J) Survey Area (NAD83)		H11455 (Sheet H) and H11456 (Sheet J) Statement of Work Area (NAD83)	
Latitude	Longitude	Latitude	Longitude
39° 48' 47.16" N	074° 03' 35.39" W	39° 48' 47.16" N	074° 03' 35.39" W
39° 46' 11.41" N	073° 56' 38.73" W	39° 46' 11.41" N	073° 56' 38.73" W
39° 45' 03.66" N	073° 56' 52.49" W	39° 45' 03.66" N	073° 56' 52.49" W
39° 44' 06.13" N	073° 57' 14.40" W	39° 44' 06.13" N	073° 57' 14.40" W
39° 43' 58.91" N	073° 56' 22.27" W	39° 43' 58.91" N	073° 56' 22.27" W
39° 43' 37.85" N	073° 56' 29.00" W	39° 43' 37.85" N	073° 56' 29.00" W
39° 43' 45.50" N	073° 57' 22.43" W	39° 43' 45.50" N	073° 57' 22.43" W
39° 36' 47.13" N	074° 00' 02.74" W	39° 28' 41.35" N	074° 03' 08.13" W
39° 36' 50.80" N	074° 12' 17.86" W	39° 28' 37.47" N	074° 03' 09.05" W
		39° 28' 37.47" N	074° 03' 09.05" W
		39° 28' 41.36" N	074° 03' 08.13" W
		39° 29' 40.69" N	074° 07' 01.81" W
		39° 29' 40.39" N	074° 07' 01.56" W
		39° 29' 40.68" N	074° 07' 01.81" W
		39° 29' 49.55" N	074° 07' 36.74" W
		39° 29' 54.34" N	074° 07' 37.97" W
		39° 30' 11.10" N	074° 07' 47.89" W
		39° 30' 16.36" N	074° 07' 53.91" W
		39° 30' 38.12" N	074° 09' 19.70" W
		39° 30' 35.00" N	074° 09' 33.34" W
		39° 30' 24.53" N	074° 09' 54.51" W
		39° 30' 30.29" N	074° 10' 17.21" W
		39° 30' 38.44" N	074° 10' 49.32" W
		39° 30' 43.49" N	074° 10' 47.51" W
		39° 30' 48.07" N	074° 10' 46.33" W
		39° 30' 52.83" N	074° 10' 47.39" W
		39° 30' 57.12" N	074° 10' 49.99" W
		39° 31' 00.51" N	074° 10' 54.24" W
		39° 31' 02.89" N	074° 10' 59.09" W
		39° 31' 03.90" N	074° 11' 04.52" W
		39° 31' 03.99" N	074° 11' 11.49" W
		39° 31' 02.52" N	074° 11' 16.80" W
		39° 31' 00.14" N	074° 11' 21.17" W
		39° 30' 56.94" N	074° 11' 25.07" W
		39° 30' 52.64" N	074° 11' 27.79" W
		39° 30' 48.71" N	074° 11' 29.68" W
		39° 31' 25.32" N	074° 14' 15.60" W
		39° 31' 51.88" N	074° 15' 54.83" W

Table A-2. Dates of Multibeam Data Acquisition in Calendar and Julian Days

Calendar Date	Julian Day
4 August 2005	216
5 August 2005	217
6 August 2005	218
7 August 2005	219
8 August 2005	220
9 August 2005	221
10 August 2005	222
11 August 2005	223
12 August 2005	224
13 August 2005	225
14 August 2005	226
15 August 2005	227
16 August 2005	228
17 August 2005	229
18 August 2005	230
19 August 2005	231
20 August 2005	232
21 August 2005	233
22 August 2005	234
23 August 2005	235
24 August 2005	236
25 September 2005	268
26 September 2005	269
27 September 2005	270
28 September 2005	271
29 September 2005	272
30 September 2005	273
1 October 2005	274
17 October 2005	290
19 October 2005	292
20 October 2005	293
21 October 2005	294
22 October 2005	295
24 October 2005	297
27 October 2005	300
28 October 2005	301
30 October 2005	303
1 November 2005	305
2 November 2005	306
8 November 2005	312
19 April 2006	109
27 April 2006	117

B. DATA ACQUISITION AND PROCESSING

See Also Evaluation Report.

B.1 EQUIPMENT

A detailed description of the systems used to acquire and process these data has been included in the separate Data Acquisition and Processing Report* for OPR-C303-KR-05 delivered with Sheet H11455 on 31 March 2006 (SAIC document number 05-TR-014). There were no variations from the equipment configuration described therein with the exception of the MVP-30. The MVP-30 was upgraded in the winter of 2005/2006 and reinstalled on board the *R/V Atlantic Surveyor* prior to SAT in 2006. The information in Table B-1 below summarizes the information in the report.

Table B-1. Major Systems by Manufacturer and Model Number

	Manufacturer / Model Number	Subsystem
Multibeam Sonar	RESON SeaBat 8101	Transducer 8101 Processor
Side Scan Sonar	Klein 3000 Towfish	K-1 K-Wing Depressor, Transceiver/Processing Unit
Vessel Attitude System	TSS POS/MV Inertial Navigation System	
Positioning System	TSS POS/MV	
	Trimble 7400 GPS Receiver	
	Trimble Probeacon Differential Beacon Receiver	
	Leica MX41R Differential Beacon Receiver	
Sound Velocity System	Brooke Ocean Technology Ltd., Moving Vessel Profiler-30	Applied Microsystems Ltd. Smart SV and Pressure Sensor
	Sea-Bird Electronics, Inc. CTD Profiler	

Survey Vessel

The *M/V Atlantic Surveyor* was the platform for multibeam sonar, side-scan sonar and sound velocity data collection. Three 20-foot ISO containers were secured on the aft deck. One was used as the real-time, survey data collection office, one as a data processing office and the third for maintenance and repairs as well as spares storage. All data were shipped to the Data Processing Center in the SAIC Newport, RI office for final data processing. The Position Orientation System/Marine Vessels (POS/MV) Inertial Measurement Unit (IMU) was mounted below the main deck of the vessel, 0.39 meters port of centerline and 0.34 meters forward and 1.64 meters above the RESON 8101 transducer. The multibeam sounder transducer was mounted on the hull 0.46 meters port of the keel. A Brook Ocean Technologies Moving Vessel Profiler 30 (MVP-30) was mounted to the starboard stern quarter. Table B-2 is a list of vessel characteristics for the *M/V Atlantic Surveyor*. **Data filed with original field records.*

Table B-2. Survey Vessel Characteristics

Vessel Name	LOA	Beam	Draft	Max Speed	Gross Tonnage	Power (Hp)	Registration Number
<i>M/V Atlantic Surveyor</i>	110'	26'	9'	14 knots	Displacement 68 net tons Deck load 65 long tons	900	D582365

Major Systems

During 4 August 2005 to 8 November 2005 field operations were conducted using SAIC's Integrated Survey System (**ISS-2000**) software on a Windows 2000 platform to acquire these survey data. Survey planning and data analysis were conducted using SAIC's **SABER** software on Linux platforms. Klein 3000 side-scan data were collected as *.SDF files on a Windows 2000 platform using Klein's **SonarPro** software. All side-scan data were converted to *.XTF files and reviewed using Triton **Isis** software, while coverage mosaics were produced using **SABER** on a Linux platform. A description of the software and versions used to acquire and process these data has been included in the separate Data Acquisition and Processing Report* for OPR-C303-KR-05 delivered with Sheet H11455 on 31 March 2006 (SAIC document number 05-TR-014).

During 5-9 April 2006 the *M/V Atlantic Surveyor* was re-mobilized for the start of 2006 field operations. Upon re-mobilization of the *M/V Atlantic Surveyor* there were a few changes to the system from what was reported in the Data Acquisition and Processing Report* for OPR-C303-KR-05 delivered 31 March 2006. During the 10-14 April 2006 Sea Acceptance Test (SAT) survey, **SABER** was upgraded to version 3.3.9 and **ISS-2000** was upgraded to version 3.10 on the survey vessel. The information in Table B-3 and Table B-4 summarize the differences for the **ISS-2000** windows product version and the **SABER** for Linux product version from what was reported in the Data Acquisition and Processing Report. * On 14 April 2006 the survey vessel and data processing center upgraded to **SABER** version 3.3.10. The information in Table B-5 summarizes the differences between the **SABER** version 3.3.9 and 3.3.10 versions. On 16 August 2006 the data processing center upgraded to **SABER** version 3.4.5. The information in Table B-6 summarizes the differences between the **SABER** version 3.3.10 and 3.4.5 versions

The 19–27 April 2006 field operations were conducted using SAIC's Integrated Survey System (**ISS-2000**) software on a Windows XP platform to acquire these survey data. Survey planning and data analysis were conducted using SAIC's **SABER** software on Red Hat Enterprise 4 Linux platforms. Klein 3000 side-scan data were collected on a Windows XP platform using Klein's **SonarPro version 9.6** software. The Klein 3000 side scan sonar data were collected in eXtended Triton Format (XTF) during 19–27 April 2006 and maintained full resolution, with no conversion or down sampling techniques applied. All side-scan data were reviewed using Triton **Isis** software, while coverage mosaics were produced using **SABER** on a Linux platform. **Data filed with original field records.*

Table B-3. ISS-2000 for Windows Product Version: -v ISS-2000_3.10

checkkey.dll Built at Version -vLIBCHKKEY_1.14	mbimagery.exe Built at Version -vMBIMAGERY_2.1.3
utility.dll Built at Version -vUTILITY_2.11.3	mbmgr.exe Built at Version -vMBMGR_2.6
bancomm.dll Built at Version -vBANCOMM_2.2.1	msgmgr.exe Built at Version -vMSGMGR_2.8.1
proj.dll Built at Version -vPROJ_2.5	navisounddtc.exe Built at Version -vNAVISOUNDDT_1.5
nad.dll Built at Version -vPROJ_2.5	payout.exe Built at Version -vPAYOUT_2.4
dbms.dll Built at Version -vDBMS_2.12	pmv_3.exe Built at Version -vPMV3_2.12
snpgprim.dll Built at Version -vSNPGPRIM_2.9	resondtc.exe Built at Version -vRESONDT_2.7.2
gsf.dll Built at Version -vGSF_2.03.5	rttide.exe Built at Version -vRTTIDE_2.11
hmpps.dll Built at Version -vHMPS_LIB_2.12	svpmon.exe Built at Version -vSVPMON_2.11
sensors.dll Built at Version -vSENSORS_2.14	swathplt.exe Built at Version -vSWATHPLT_2.6.1
grid_io.dll Built at Version -vGRID_IO_3.12	syscon.exe Built at Version -vSYSCON_2.11
snpdraw.dll Built at Version -vSNPDRAW_2.19	taim.exe Built at Version -vTAIM_2.3.1
smemcom.dll Built at Version -vSMEMCOM_2.8.1	waterfal.exe Built at Version -vWATERFAL_2.5.1
htmlwid.dll Built at Version -vHTMLWID_2.4.1	xnavmgr.exe Built at Version -vXNAVMGR_2.12
sputil.dll Built at Version -vSPUTIL_2.15	z12.exe Built at Version -vZ12_2.7
mb_corr.dll Built at Version -vMB_CORR_1.8	datasumm.exe Built at Version -vDATASUMM_2.12
mberr.dll Built at Version -vMBERR_2.3	imprtdxf.exe Built at Version -vIMPRTDXF_2.11
dbx.dll Built at Version -vDBX_2.2	tkproj.exe Built at Version -vTKPROJ_2.9
sim_util.dll Built at Version -vSIM_UTIL_2.0	echo_raw.exe Built at Version -vECHO_RAW_1.0
spmgr.exe Built at Version -vSPMGR_2.14.1	iem3000.exe Built at Version -vIEM3000_2.5.1
sysadmin.exe Built at Version -vSYSADMIN_2.2.1	inavisound.exe Built at Version -vINAVISOUND_1.0
autoarch.exe Built at Version -vAUTO_ARCHIVE_2.8	inmeaapb.exe Built at Version -vINMEA_APB_2.0
cov_mon.exe Built at Version -vCOV_MON_2.11	inmeagps.exe Built at Version -vINMEAGPS_2.1
echodtc.exe Built at Version -vECHO_DTC_2.4	irpm.exe Built at Version -vIRPM_2.0
envmgr.exe Built at Version -vENVMGR_2.9.1	iss2000_sim_scripts.exe Built at Version -vISS2000_SIM_SCRIPTS_2.0
em_out.exe Built at Version -vEM_OUT_2.4.1	navsim.exe Built at Version -vNAVSIM_2.1
em_rcv.exe Built at Version -vEM_RCV_2.7.1	pmv_3sim.exe Built at Version -vPMV3SIM_2.6
exammb.exe Built at Version -vEXAMMB_2.11.1	replay_svy.exe Built at Version -vREPLAY_SVY_1.0
fishbath.exe Built at Version -vFISH_BATHY_2.6	replay_xtf.exe Built at Version -vREPLAY_XTF_1.0
focus.exe Built at Version -vFOCUS_2.2	resonsim.exe Built at Version -vRESONSIM_1.0
helmmgr.exe Built at Version -vHELMGR_1.1	supfiles.exe Built at Version -vISS2000_SUPPORT_2.14
kflogshp.exe Built at Version -vKFLOGSHP_2.7.1	

Table B-4. SABER for Linux Product version: -vSABER_3.3.9

libabe_target.so Built at Version -vABE_TARGET_LIB_1.7	gsf_find_squat Built at Version -vGSF_FIND_SQUAT_1.0
libabe_pfm.so Built at Version -vABE_PFM_LIB_4.6	gsf_fix_heave Built at Version -vGSF_FIX_HEAVE_1.0
libdbms.so Built at Version -vDBMS_2.12	gsfnvfix Built at Version -vGSFNAVFIX_1.0
libgrid_io.so Built at Version -vGRID_IO_3.12	hmcorr Built at Version -vHMSCORRS_1.3
libgsf.so Built at Version -vGSF_2.03.5	imprtdxf Built at Version -vIMPRTDXF_2.11
libhmpps.so Built at Version -vHMPS_LIB_2.12	ingsimrad Built at Version -vINGSIMRAD_2.7

libsnpgprim.so Built at Version -vSNPGPRIM_2.9	isis2ctv Built at Version -vISIS2CTV_2.2
libsvputil.so Built at Version -vSVPUTIL_2.12	maketrk Built at Version -vMAKETRK_1.3
libhtmlwid.so Built at Version -vHTMLWID_2.4.1	mbimagery Built at Version -vMBIMAGERY_2.1.3
libsmemcom.so Built at Version -vSMEMCOM_2.8.1	navup Built at Version -vNAVUP_1.9
libsnpdrow.so Built at Version -vSNPDRAW_2.19	resetflg Built at Version -vRESETFLG_1.3
libsputil.so Built at Version -vSPUTIL_2.15	saber_sat Built at Version -vSABER_SAT_1.4
libchkkey.so Built at Version -vLIBCHKKEY_1.14	sel_sound Built at Version -vSEL_SOUND_1.19
libmb_corr.so Built at Version -vMB_CORR_1.8	svpmon Built at Version -vSVPMON_2.11
libabe_xml_tgt.so Built at Version -vLIBABE_XML_TGT_1.1	xtf_io Built at Version -vXTF_IO_1.18
libMbHat.so Built at Version -vMBHAT_2.32	exammb Built at Version -vEXAMMB_2.11.1
anx_crossings Built at Version -vANX_CROSSINGS_1.3	SPMGR_HELP Built at Version -vSPMGR_2.14.1
appcors Built at Version -vAPPCORS_2.4	mbhat_tcl Built at Version -vMBHAT_2.32
exptrgrd Built at Version -vEXPRTGRD_1.8	install_saber Built at Version -vINSTALL_SABER_1.9
exprrsnd Built at Version -vEXPRTSND_1.6	pfm_tasks Built at Version -vPFM_TASKS_1.4
featcorr Built at Version -vFEATURE_CORRELATOR_1.8	saber_build_target Built at Version -vSABER_BUILD_TARGET_1.2
find_crossings Built at Version -vFIND_CROSSINGS_1.2	mve Built at Version -vMVE_4.10
get_features Built at Version -vGET_FEATURES_1.4	saber_pfm_loader Built at Version -vSABER_PFM_LOADER_1.6
nav_edit Built at Version -vNAV_EDIT_1.5	saber_pfm_recompute Built at Version -vSABER_PFM_RECOMPUTE_1.2

Table B-5. SABER for Linux Product version: -vSABER_3.3.10

libabe_target.so Built at Version -vABE_TARGET_LIB_1.7	gsf_find_squat Built at Version -vGSF_FIND_SQUAT_1.0
libabe_pfm.so Built at Version -vABE_PFM_LIB_4.6	gsf_fix_heave Built at Version -vGSF_FIX_HEAVE_1.0
libdbms.so Built at Version -vDBMS_2.12	gsfnvfix Built at Version -vGSFNAVFIX_1.0
libgrid_io.so Built at Version -vGRID_IO_3.12	hmscorrs Built at Version -vHMSCORRS_1.3
libgsf.so Built at Version -vGSF_2.03.5	imprtdxf Built at Version -vIMPRTDXF_2.11
libhmpps.so Built at Version -vHMPS_LIB_2.12	ingsimrad Built at Version -vINGSIMRAD_2.7
libsnpgprim.so Built at Version -vSNPGPRIM_2.9	isis2ctv Built at Version -vISIS2CTV_2.2
libsvputil.so Built at Version -vSVPUTIL_2.12	maketrk Built at Version -vMAKETRK_1.3
libhtmlwid.so Built at Version -vHTMLWID_2.4.1	mbimagery Built at Version -vMBIMAGERY_2.1.3

Table B-6. SABER for Linux Product version: -vSABER_3.4.5

libabe_pfm.so Built at Version ABE_PFM_LIB_4.70.2	gsfsplit Built at Version GSFSPLIT_1.1
libbag.so Built at Version LIBBAG_1.2	imprtdxf Built at Version IMPRTDXF_2.12
libutility.so Built at Version UTILITY_2.11.4	ingsimrad Built at Version INGSIMRAD_2.10
libdatamrge.so Built at Version DATAMRGE_2.5	isis2ctv Built at Version ISIS2CTV_2.4
libfilters.so Built at Version FILTERS_2.4	key_probe Built at Version KEY_PROBE_1.0
libgrid_io.so Built at Version GRID_IO_3.14.1	maketrk Built at Version MAKETRK_1.5
libgsf.so Built at Version GSF_2.04.2	mbimagery Built at Version MBIMAGERY_2.1.5
libhmpps.so Built at Version HMPS_LIB_2.15	navup Built at Version NAVUP_1.10
libsvputil.so Built at Version SVPUTIL_2.14	pfm2covgrd Built at Version PFM2COVGRD_1.4

libdspgraph.so Built at Version DSPGRAPH_2.7.1	pfm2bag Built at Version PFM2BAG_1.1
libmberr.so Built at Version MBERR_2.8	bag2covgrd Built at Version BAG2COVGRD_1.1
libsnpdw.so Built at Version SNPDRAW_2.20.2	bagtasks Built at Version BAGTASKS_1.1
libsputil.so Built at Version SPUTIL_2.16	saber_sat Built at Version SABER_SAT_1.6
libchkkey.so Built at Version LIBCHKKEY_1.18	sel_sound Built at Version SEL_SOUND_1.20
libchkkey_3.so Built at Version LIBCHKKEY_1.18	svpmon Built at Version SVPMON_2.14
libabe_xml_tgt.so Built at Version LIBABE_XML_TGT_1.4	test_beam_flags Built at Version TEST_BEAM_FLAGS_1.0
libMbHat.so Built at Version MBHAT_2.37.1	tid2hmpps Built at Version TID2HMPS_1.15
appcors Built at Version APPCORS_2.6	tkproj Built at Version TKPROJ_2.12
cell_to_pcx Built at Version CELL_TO_PCX_1.15	xtf_io Built at Version XTF_IO_1.21
check_features Built at Version CHECK_FEATURES_1.4	xtf2gsf Built at Version XTF2GSF_1.6
check_tides Built at Version CHECK_TIDES_1.2	exammb Built at Version EXAMMB_2.15
combine_layers Built at Version COMBINE_LAYERS_1.3	SA_HELP Built at Version SA_HELP_1.8
contour_layer Built at Version CONTOUR_LAYER_1.8	check_disk_dialog Built at Version CHECK_DISK_DIALOG_1.1
datasumm Built at Version DATASUMM_2.15	mbhat_tcl Built at Version MBHAT_2.37.1
diff_layer Built at Version DIFF_LAYER_1.4	monitor Built at Version MONITOR_1.2
editgrid Built at Version EDITGRID_1.4	key_dialog Built at Version KEY_DIALOG_1.1
errors Built at Version ERRORS_1.3	runkeymem Built at Version RUNKEYMEM_1.7
errdisp Built at Version ERRDISP_2.5	install_saber Built at Version INSTALL_SABER_1.13
expertsnd Built at Version EXPRTSND_1.7	pfm_tasks Built at Version PFM_TASKS_1.8.1
find_crossings Built at Version FIND_CROSSINGS_1.3	saber_build_target Built at Version SABER_BUILD_TARGET_1.3
getjunc Built at Version GETJUNC_1.7	mascd Built at Version MASCD_1.1
getprof Built at Version GETPROF_1.9	mve Built at Version MVE_4.14
gridgsf Built at Version GRIDGSF_1.15	saber_pfm_loader Built at Version SABER_PFM_LOADER_1.12.1
gsf2txt Built at Version GSF2TXT_1.5	saber_pfm_recompute Built at Version SABER_PFM_RECOMPUTE_1.3

On 31 August 2006 the data processing center upgraded **SABER** version 3.4.5 with featcorr version -vFEATURE_CORRELATOR_1.10.

B.2 QUALITY CONTROL

There were approximately 190 linear nautical miles of cross lines surveyed and approximately 3902 linear nautical miles of main scheme lines surveyed. This resulted in approximately 5 percent of linear nautical miles of cross lines compared to main scheme survey lines. The cross lines were oriented at 115.6°/295.7° and were spaced approximately 800 meters apart, while the main scheme lines were oriented at 16.4°/196.4° and were spaced 40 meters apart. The range scale was set to 50 meters for the side-scan acquisition, while the swath width for the multibeam varied with depth. The following histograms represent the distribution of selected soundings by beam number. Figure B-1 illustrates the number of selected soundings versus beam number while Figure B-2 illustrates the percentage of selected soundings versus beam number.

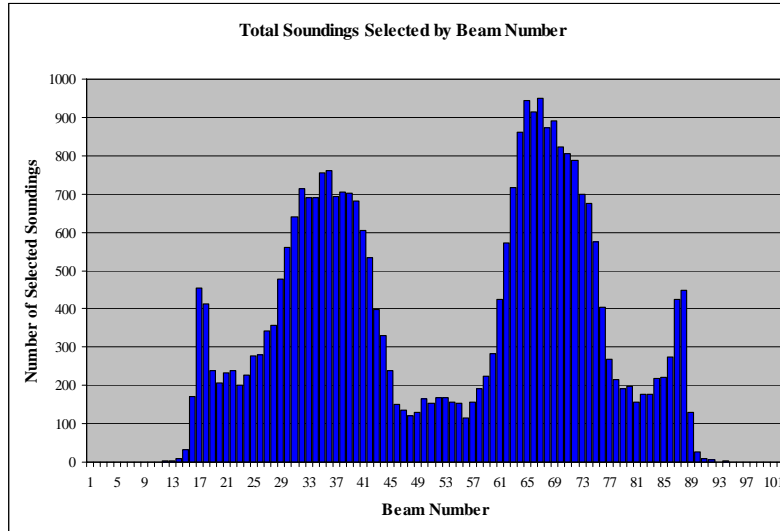


Figure B-1. Histogram of Selected Soundings by Beam Number – H11456

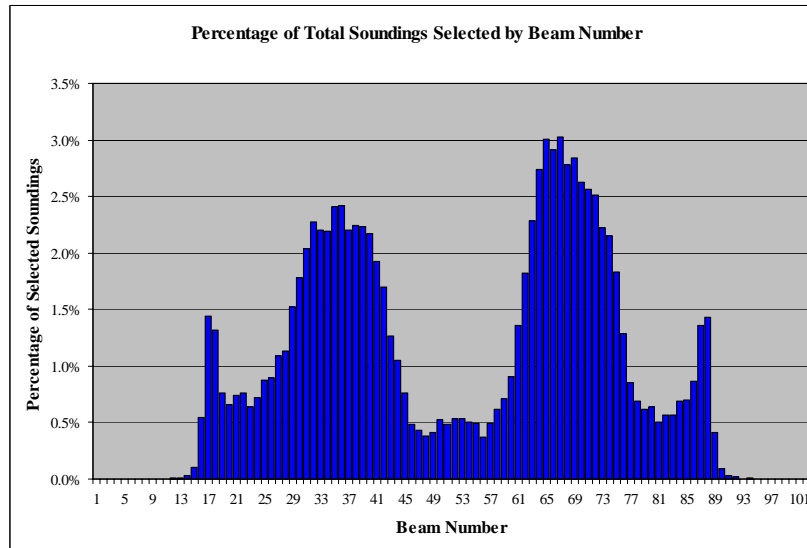


Figure B-2. Histogram of Percentage of Selected Soundings by Beam Number - H11456

Comparisons of all crossing data in H11456 show that 97.33% of comparisons are within 25 centimeters and 99.97% of comparisons are within 50 centimeters. All comparisons larger than 70 centimeters are accounted for by normal small DGPS position scatter in the two fish havens (AWOIS 12904 and 12987). The remainder of the comparisons larger than 50 centimeters is accounted for by the normal small DGPS position scatter in areas of slopes, features and wrecks. Table B-7 shows the comparisons using all crossings in H11456.

Table B-7. Junction Analysis All Main Scheme vs. Cross Lines Near Nadir, H11456

Depth Difference Range (cm)	All		Positive		Negative		Zero	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
0-5	35526	31.43	17983	23.45	13480	41.73	4063	
5-10	33543	61.10	22618	52.95	10925	75.55		
10-15	26386	84.44	20383	79.53	6003	94.14		
15-20	9334	92.70	7969	89.93	1365	98.36		
20-25	5237	97.33	4833	96.23	404	99.61		
25-30	2181	99.26	2086	98.95	95	99.91		
30-35	550	99.75	529	99.64	21	99.97		
35-40	154	99.88	149	99.84	5	99.99		
40-45	78	99.95	76	99.93	2	99.99		
45-50	23	99.97	22	99.96	1	100		
50-60	17	99.99	17	99.99	0	100		
60-70	4	99.99	4	99.99	0	100		
70-80	1	99.99	1	99.99	0	100		
80-90	1	99.99	1	99.99	0	100		
90-100	1	99.99	0	99.99	1	100		
>100	5	100	5	100	0	100		
Total	113041	100%	76676	67.83%	32302	28.58%	4063	3.59%

Details of 100 selected nadir or near-nadir crossings in different areas of H11456 are listed in the Separates to this report.* The detailed comparisons, comprising more than 1% of the crossings in the survey, were randomly selected for spatial and temporal distribution over the entire survey area.

Table B-8 depicts the junction analysis using all comparisons in the common area between H11456 and H11455 (surveyed in 2005). These comparisons show 97.22% were within 20 centimeters and 99.99% were within 50 centimeters. The five comparisons larger than 50 centimeters are accounted for by the normal small DGPS position scatter in areas of slopes or features.

**Data filed with original field records.*

Table B-8. Junction Analysis, H11456 vs. H11455 (all comparisons)

Depth Difference Range (cm)	All		Positive		Negative		Zero	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
0-5	38721	42.7	15970	44.64	18299	36.28	4452	
5-10	30302	76.12	12720	80.19	17582	71.13		
10-15	15584	93.31	5453	95.43	10131	91.21		
15-20	3551	97.22	930	98.03	2621	96.41		
20-25	1728	99.13	364	99.04	1364	99.11		
25-30	601	99.79	226	99.68	375	99.86		
30-35	129	99.93	71	99.87	58	99.97		
35-40	26	99.96	21	99.93	5	99.98		
40-45	12	99.98	7	99.95	5	99.99		
45-50	16	99.99	12	99.99	4	100		
50-60	4	100	4	100	0	100		
> 60	1	100	1	100	0	100		
Totals	90675	100%	35779	39.46%	50444	55.63%	4452	4.91%

B.3 CORRECTIONS TO ECHO SOUNDINGS

Please refer to the Data Acquisition and Processing Report* OPR-C303-KR-05 (delivered 31 March 2006) for a description of all corrections applied to echo soundings for data collected during 2005. On 6 April 2006 the multibeam transducer was re-installed on the *M/V Atlantic Surveyor* after returning from an inspection and calibration from the manufacturer. Upon remounting of the multibeam sounder and prior to the start of survey, a Sea Acceptance Test (SAT) was conducted. As part of the SAT a patch test was executed to determine the roll, pitch, and gyro biases. The patch test was run on 11 April (JD 101) and 12 April (JD 102) over a charted 47-foot wreck in the fish haven approximately 6 kilometers southeast of Manasquan Inlet. The wreck is charted in 40° 03.3925'N 073° 59.5541'W (NAD83) and was used in 2004/2005 for aligning the transducer. The pitch, roll and gyro biases were determined and confirmed. Final Biases are presented in Table B-8. Procedures for conducting the patch test were the same as outlined in the Data Acquisition and Processing Report* OPR-C303-KR-05.

**Data filed with original field records.*

Table B-9. Multibeam Files used for 11-12 April 2006. Alignment Bias Calculated using the Swath Alignment Tool

Component	Multibeam Files (pairs)		Result
Pitch	asmba06102.d02	asmba06102.d03	+2.0°
Roll	asmba06102.d02	asmba06102.d03	+0.72°
Gyro	asmba06101.d68	asmba06102.d01	+2.0°

In addition to the patch test, there were also tests conducted to determine vessel settlement and squat correction values, timing values, and side-scan sonar catenary positioning parameters. The settlement and squat correction test was conducted on 12 April (JD 102). A multibeam soundings reference was established by bringing the vessel to “all stop” and drifting. Two transects were created, one crossed the reference swath at a selected spot and the other was aligned along the center line of the drift line. Each line was run twice for each of the shaft RPM settings. Lines were run parallel to the drift line as well as perpendicular to the drift line with the settlement and squat values determined during the 2004 SAT entered into **ISS-2000**. This procedure is valid because the IMU and the multibeam transducer are mounted almost directly in line vertically. A PFM (Figure B-3) of the data were made and the differences in the nadir beam depths at various RPM settings were examined in **SABER’s Multi View Editor (MVE)**. The reference file and the two files for the desired shaft RPM were displayed simultaneously, and depth differences were measured at several places. Difference grids of the 5 degree nadir beams were also made to compare to the PFM. Data from these lines show that the settlement and squat calculation made in 2004 were still valid.

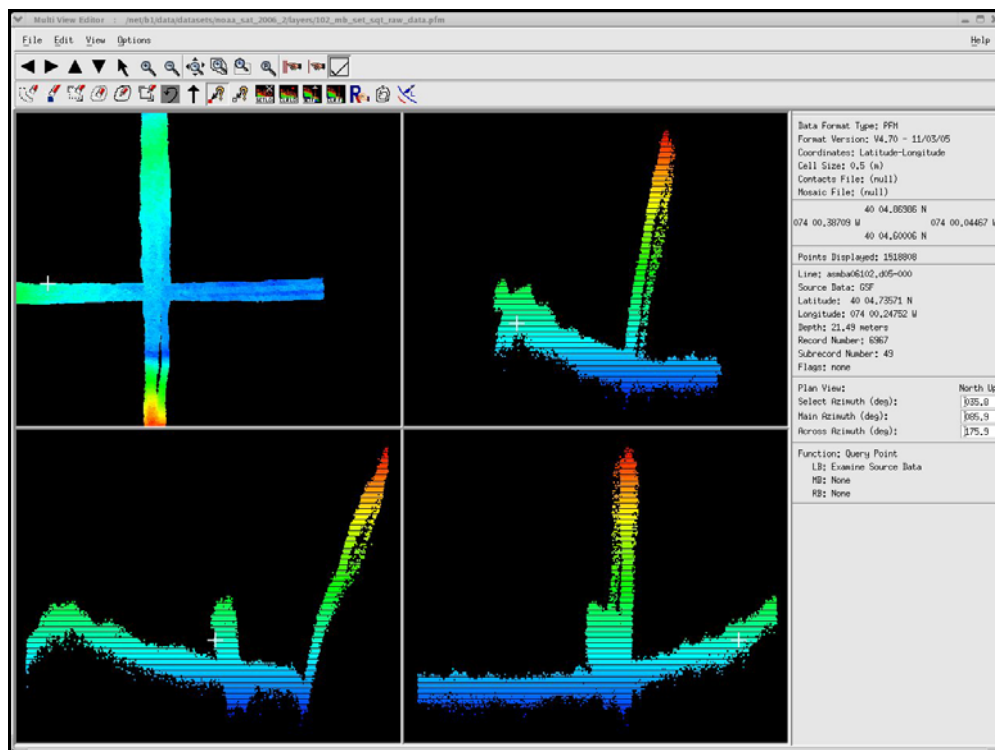


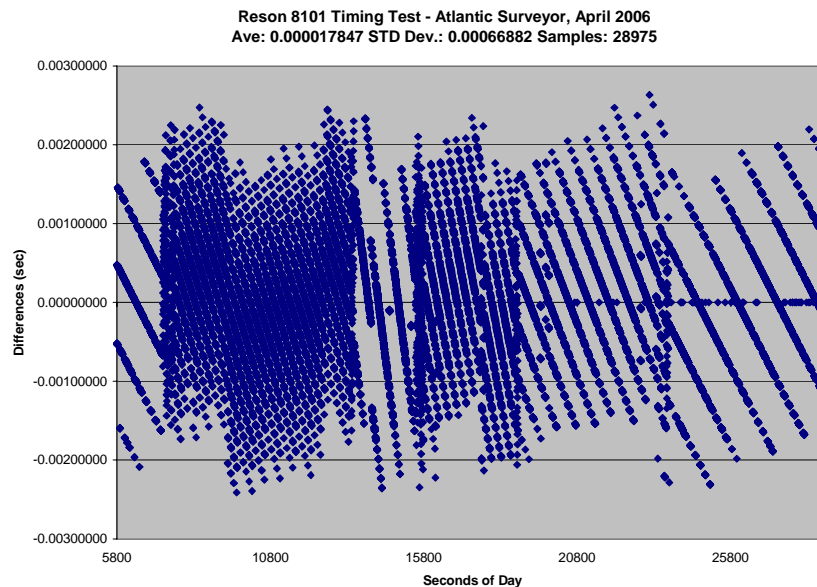
Figure B-3. PFM Grid of GSF Data Used to Determine Settlement and Squat (2006)

Table B-10 summarizes the shaft RPM, approximate speed, depth corrector and SAT multibeam files used. A shaft RPM counter provides automatic input to the Settlement and Squat look up table in the **ISS-2000** system. Approximate speeds in Table B-10 are for reference only.

Table B-10. *R/V Atlantic Surveyor* Settlement and Squat Determination (2006)

Shaft RPM	Depth Corrector	Approx. Speed (Kts)	Files	
0	0.00	0	asmba06102.d79	
			Parallel	Perpendicular
140	0.00	4	asmba06102.d80	asmba06102.d93
180	-0.01	5	asmba06102.d99	asmba06102.d92
220	0.00	6	asmba06102.d98	asmba06102.d05
255	0.00	7	asmba06102.d97	asmba06102.d06
300	0.04	8	asmba06102.d96	asmba06102.d07
340	0.10	9	asmba06102.d95	asmba06102.d08
370	0.13	10	asmba06102.d94	asmba06102.d09

The ping timing test was conducted on 10 April 2006 (JD 100) to verify that no timing errors exist within the survey system. The fundamental measurement tool is the event marking capability of the Symmetricom BC635PCI IRIG-B card. An event is characterized by a positive-going TTL pulse occurring on the event line of the IRIG-B connector on the back of the ISSC. The pulses of interest are the transmit trigger of the RESON 81-P and the 1PPS timing pulses from the POS/MV. This test demonstrated that all GSF ping times matched the corresponding IRIG-B event times to within 2.7 milliseconds or less (Figure B-4).

**Figure B-4. Timing Test Results (time differences of ping trigger event vs. ping time tag from GSF)**

On 12 April (JD 102) the Klein 3000 side scan system was tested with and without a K-wing. Multiple lines were run at azimuths of 157°, 337°, 67°, and 246° on either side of

the wreck to verify the positioning of the side scan tow fish. The side scan was set to 50 meter range scale and the catenary parameters of the **ISS-2000** was set to compute tow fish position based on cable out and tow fish depth. The side scan data were processed using normal processing procedures. Contacts on the wreck were made from all files and are presented below in Figure B-5 in the form of a feature file. All contacts were within 15 meters of the least depth of the wreck as determined from the multibeam data (Figure B-5). This verified the side scan positioning using cable out and tow fish depth for the Klein 3000 both with and without the K-wing.

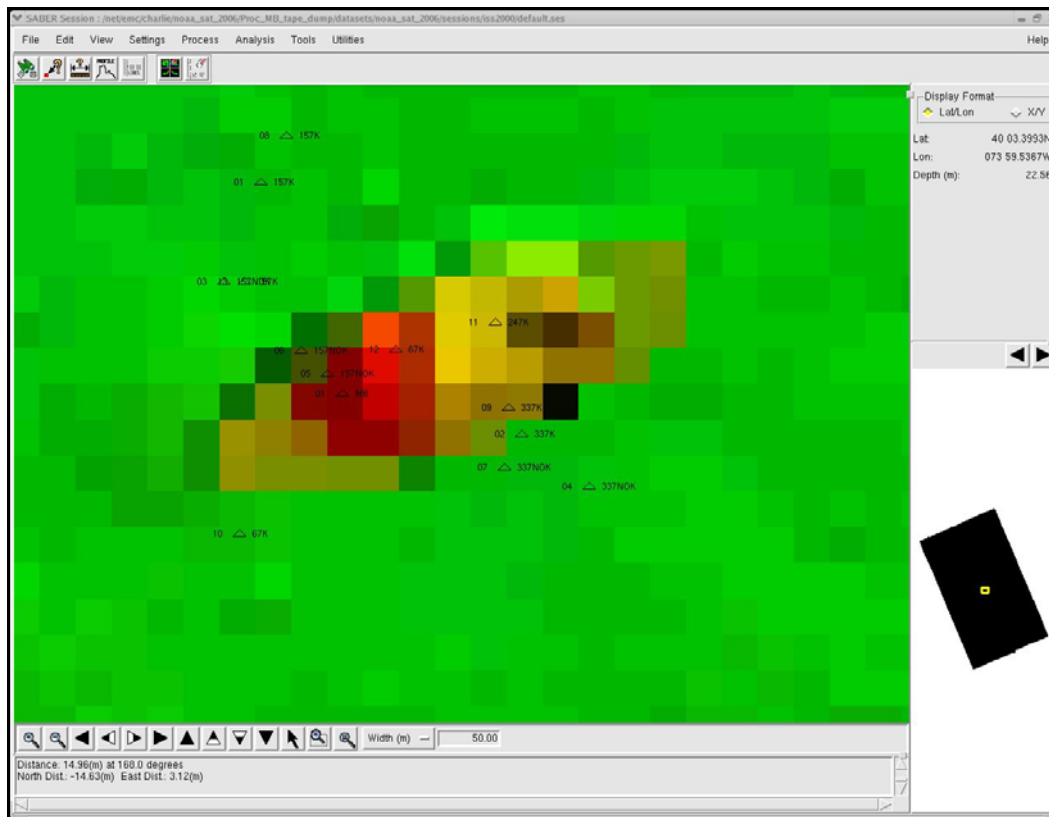


Figure B-5. SAT Side Scan Contacts (2006)

C. VERTICAL AND HORIZONTAL CONTROL

NOAA tide station 8534720 Atlantic City, NJ was the source of verified water level heights for determining correctors to soundings. The primary means for analyzing the adequacy of zoning was observing zone boundary crossings in the navigated swath editor, SAIC's **Multi View Editor (MVE)**. In addition the sun illuminated coverage plots were examined on screen for adequacy of zoning. Cross line comparisons were used to analyze zoning for the influence of wind and weather. SAIC compared the H11456 multibeam data to both the NOAA provided Sandy Hook, NJ (8531680) tide zoning and the Atlantic City, NJ zoning. Results indicated that the Atlantic City, NJ tide zoning applied more representative tidal corrections to the multibeam soundings as

described in the Data Acquisition and Processing Report OPR-C303-KR-05 (delivered 31 March 2006) and in the Final Tide Note in Appendix IV. The zoning parameters applied on sheet H11456 are presented in Table C-1.

Approved tides were applied during field processing.

Table C-1. Water Level Zoning Parameters Applied on Sheet H11456

Zone	Time Corrector (minutes)	Range Ratio	Reference Station
SA13	-12	1.02	8534720
SA16	0	1.02	8534720
SA17	0	1.01	8534720
SA18	+12	0.97	8534720
SA21	0	0.97	8534720
SA22	-12	0.97	8534720

The survey data for sheet H11456 were collected in horizontal datum NAD-83, using the UTM Zone 18 projection. ***See also Evaluation Report.*** The following equipment was used for positioning on the *M/V Atlantic Surveyor*:

- TSS POS/MV, Serial Number 314
- Trimble 7400 DSi GPS Receiver, Serial Number 3815A22469

Differential correctors used for online data were from the U.S. Coast Guard Stations at Moriches, NY, Reedy Point, DE and Sandy Hook, NJ. Daily position confidence checks were established using a Trimble DGPS. A real-time monitor raised an alarm when the two DGPS positions differed by more than 10 meters horizontally. Positioning confidence checks were well within an inverse distance of 5 meters. The differential receiver was set to only receive data from these three corrector stations; however the POS/MV reported that it used 2 additional stations during online data collection. Stations 291 (Klamonth Falls, OR) and 768 (Ledyard, IA) were reportedly used by the POS/MV for a total of 257 seconds of online data collection. Position comparisons between the POS/MV reported position and the Trimble 7400 DSi GPS receiver reported position during this 257 seconds showed the positions were within an inverse distance of 5 meters. It is believed that the POS/MV incorrectly reported the station identification it was using for correctors and was indeed using one of the three assigned stations. This has been observed previously with the POS/MV system.

Please refer to the Vertical and Horizontal Control Report* OPR-C303-KR-05 for detailed descriptions of the procedures and systems used to attain hydrographic positioning which will be delivered with the H11495 (Sheet K) Descriptive Report.

****Data filed with original field records.***

D. RESULTS AND RECOMMENDATIONS *SEE ALSO EVALUATION REPORT.*

D.1 CHART COMPARISON

H11456 was compared to:

- Chart 12300, 45th Edition, 1 March 2005, at scale 1:400,000. Corrected through 12 August 2006 from Notice to Mariners.
- Chart 12323, 23rd Edition, 11 March 2000, at scale 1:80,000. Corrected through 12 August 2006 from Notice to Mariners.
- Chart 12324, 32nd Edition, 1 March 2006, at scale 1:40,000. Corrected through 12 August 2006 from Notice to Mariners.
- Chart 13003, 48th Edition, 1 October 2004, at scale 1:1,200,000. Corrected through 12 August 2006 from Notice to Mariners.
- Chart 13006, 33rd Edition, 1 April 2006, at scale 1:675,000. Corrected through 12 August 2006 from Notice to Mariners.

The data which comprise the preliminary smooth sheet as well as the survey boundary, relevant raster nautical chart, and AWOIS areas were displayed in an AutoCAD drawing file. All information was displayed as an overlay on the relevant chart so comparisons between the collected data and the charted information could be made. Discrepancies observed in the AutoCAD drawing file between the charted information and what was observed during this survey were then further reviewed within SAIC's **SABER** software to verify any discrepancies. Results from the comparisons are described below. Recommend reconstruction of the common areas of all charts using data from this survey.

Chart 12300 (See Chartlet 1 in Separates)

The 6-fathom depth curve is sparsely charted north of Barnegat Inlet. The 6-fathom depth curve south of Barnegat Inlet has moved south and east of the charted position in many areas. Recommend charting the 6-fathom depth curve based upon the data collected during this survey. *Concur*

The 10-fathom depth curve was found to be fairly close to the charted position except in the northern portion of the survey area where the 10-fathom depth curve has moved southwest. Recommend charting the 10-fathom depth curve based upon the data collected during this survey. *Concur*

The 7½ fathom depth charted in 39° 48' 04"N 074° 03' 06"W (NAD83) was found to be 7½. *Concur*

The 9½ fathom depth charted in 39° 47' 33"N 074° 01' 20"W (NAD83) was found to be 9½. **Concur**

The charted dangerous wreck located in 39° 46' 36"N 074° 04' 59"W (NAD83) reported as 2¾ fathoms was located in 39° 46' 29"N 074° 05' 10"W (NAD83) (feature 136) with a least depth of 2¾ fathoms. See AWOIS 12902 in AWOIS descriptions below. Recommend removal of charted dangerous wreck symbol with danger circle and label (2¾ fms rep), and chart a 2¾ fathoms sounding with symbol Wk. **Concur**

The charted dangerous wreck cleared by wire drag to 6½ fathoms located in 39° 46' 16"N 074° 01' 59"W (NAD83) was located in 39° 46' 18"N 074° 01' 57"W (NAD83) (feature 8) with a least depth of 7¼ fathoms. See AWOIS 1427 in AWOIS descriptions below. Recommend removing the danger circle, blue tint, sounding cleared to 6½ fathoms and label Wreck and charting a 7¼ fathom sounding and label Wk in 39° 46' 18"N 074° 01' 57"W (NAD83). **Concur**

The charted dangerous wreck cleared by wire drag to 10 fathoms located in 39° 44' 44"N 073° 57' 42"W (NAD83) was not found in its charted position. Obstructions (feature 109) were located in 39° 44' 52"N 073° 57' 54"W (NAD83) with a least depth of 12 fathoms. See AWOIS 1423 in AWOIS descriptions below. Recommend removing the label Wks, danger circle, blue tint, and sounding cleared to 10 fathoms and charting a 12 fathom sounding and label Obstn in 39° 44' 52"N 073° 57' 54"W (NAD83). **Concur**

The charted dangerous wreck cleared by wire drag to 11 fathoms located in 39° 43' 49"N 073° 56' 33"W (NAD83) was found (feature 74) in 39° 43' 50"N 073° 56' 34"W (NAD83) with a least depth of 12½ fathoms. See informational AWOIS 1415 description below. Recommend removing the charted 11 fathom sounding, blue tint, danger circle, wire drag basket and label Wks and charting a 12½ fathom sounding and label Wk. **Concur**

The charted dangerous wreck PA with a reported least depth of 8 fathoms located in 39° 44' 22"N 074° 00' 47"W (NAD83) was found (feature 9) in 39° 44' 18"N 074° 01' 06"W (NAD83) with a least depth of 7 fathoms. See AWOIS 12983 in AWOIS descriptions below. Recommend removal of charted dangerous wreck symbol with danger circle and label PA (8 fms rep), and chart a 7 fathoms sounding with symbol Wk. **Concur**

The charted dangerous wrecks cleared by wire drag to a depth of 7¼ fathoms located in 39° 44' 07"N 074° 02' 16"W (NAD83) and 39° 43' 44"N 074° 01' 21"W (NAD83) were found (feature 58 and 140) in 39° 44' 09"N 074° 02' 16"W (NAD83) and 39° 43' 45"N 074° 01' 19"W (NAD83) with least depths of 7½ and 8½ fathoms respectively. See AWOIS 1417 and 1413 in AWOIS descriptions below. Recommend removing the charted 7¼ fathom soundings, danger circle, and wire drag baskets and charting the 7½ and 8½ fathom soundings and label Wks. **Concur**

The charted dangerous wreck PA with a reported minimum depth of 5 fathoms located in 39° 44' 15"N 074° 03' 20"W (NAD83) was not found in its charted position. An obstruction (feature 141) was located just south in 39° 44' 07"N 074° 03' 24"W (NAD83) with a least depth of 7 fathoms. See AWOIS 12906 in AWOIS descriptions below. Recommend remove charted dangerous wreck symbol, danger circle and label PA (5 fms rep), and chart a 7 fathoms sounding and label Obstn. **Concur**

The charted dangerous wreck PA located in 39° 44' 29"N 074° 04' 37"W (NAD83) was not found in its charted position. See AWOIS 12905 in AWOIS descriptions below. Recommend remove charted dangerous wreck symbol, danger circle and label PA. **Concur**

The charted dangerous wreck located in 39° 42' 21"N 074° 06' 36"W (NAD83) was not found in its charted position. See AWOIS 12984 in AWOIS descriptions below. **Concur**

The charted dangerous wreck with least depth of 5½ fathoms located in 39° 41' 43"N 074° 05' 40"W (NAD83) was found in its charted position and depth (feature 6). **Concur**

The charted dangerous obstruction located in 39° 39' 57"N 074° 05' 32"W (NAD83) with a least depth of 4½ fathoms was found in its charted position and depth (feature 2). **Concur**

The charted dangerous wreck cleared by wire drag to 8 fathoms located in 39° 38' 39"N 074° 03' 33"W (NAD83) was found (feature 138) east of the charted position in 39° 38' 40"N 074° 03' 29"W (NAD83) with a least depth of 10 fathoms. See informational AWOIS 1398 description below. Recommend removing the charted 8 fathom sounding, blue tint, danger circle, wire drag basket and label Wk and charting a 10 fathom sounding and label Wk. **Concur**

The charted dangerous wreck cleared by wire drag to 9¾ fathoms located in 39° 42' 20"N 074° 00' 10"W (NAD83) was found (feature 77) east of the charted position in 39° 42' 20"N 074° 00' 10"W (NAD83) with a least depth of 10½ fathoms. See AWOIS 1411 in AWOIS descriptions below. Recommend remove charted 9¾ fathoms sounding and wire drag basket, and chart a 10½ fathoms sounding. **Concur**

The charted sewer out fall located off Surf City terminating in 39° 38' 31"N 074° 09' 03"W (NAD83) was found in its charted position (features 126, 127, 118, 120 and 128). See AWOIS 12985 in AWOIS descriptions below. Recommend charting a 6½ fathoms sounding in 39° 38' 33"N 074° 09' 09"W (NAD83). **Concur**

The charted fish haven centered in 39° 37' 41"N 074° 01' 34"W (NAD83) with an authorized minimum depth 7¼ fathoms had multiple features none of which were shoaler than the authorized minimum. The least depth observed within the fish haven was feature 111 at 7¼ fathoms. See AWOIS 12987 in AWOIS descriptions below. **Concur**

The charted fish haven centered in 39° 45' 14"N 074° 01' 30"W (NAD83) with an authorized minimum depth of 8¼ fathoms had multiple features which were shoaler than 8¼ fathoms. The least depth observed within the fish haven was 7 fathoms (42 feet) (feature 38). See AWOIS 12904 in AWOIS descriptions below. **Concur**

Chart 12323 (See Chartlet 2 in Separates)

The 12-foot and 18-foot depth curves were beyond the Statement of Work for this survey and therefore were not clearly defined during this survey. The 30-foot and 60-foot depth curves have generally moved south and east. Recommend charting the 30-foot curve and 60-foot curve based upon the results of this survey. **Concur**

The charted dangerous wreck located in 39° 48' 05"N 074° 04' 06"W (NAD83) was not found in its charted position. See AWOIS 12901 in AWOIS descriptions below. **Concur**

The charted 58 foot sounding in 39° 47' 01"N 073° 58' 50"W (NAD83) was found to have a least depth of 65 feet in 39° 46' 59"N 073° 58' 47"W (NAD83). Recommend removing the charted 58 feet sounding and 60 foot depth curve, and plotting the soundings from this survey. **Concur**

The charted dangerous wreck cleared by wire drag to 39 feet located in 39° 46' 13"N 074° 01' 59"W (NAD83) was not found in its charted position. A submerged wreck (feature 8) was located in 39° 46' 18.**04**"N 074° 01' ~~57~~**56.61**"W (NAD83) with a least depth of 43 feet. See AWOIS 1427 in AWOIS descriptions below. **Concur**

The charted dangerous wreck located in 39° 46' 24"N 074° 04' 59"W (NAD83) was not found in its charted position. A submerged wreck (feature 136) was located in 39° 46' ~~29~~**28.65**"N 074° 05' 10.**19**"W (NAD83) with a least depth of 16 feet. See AWOIS 12902 in AWOIS descriptions below. **Concur**

The charted dangerous wreck located in 39° 46' 30"N 074° 05' 03"W (NAD83) was not found in its charted position. See AWOIS 12903 in AWOIS descriptions below. **Concur**

The charted fish haven centered in 39° 45' 14"N 074° 01' 30"W (NAD83) with an authorized minimum depth 50 feet had multiple features which were shoaler than 50 feet. The least depth observed within the fish haven was 42 feet (feature 38). See AWOIS 12904 in AWOIS descriptions below. **Concur**

The charted dangerous wreck cleared by wire drag to 61 feet located in 39° 44' 48"N 073° 57' 59"W (NAD83) was not found in its charted position. Obstructions (feature 109) were located in 39° 44' 52"N 073° 57' 54"W (NAD83) with a least depth of 73 feet. See AWOIS 1423 in AWOIS descriptions below. **Concur**

The charted dangerous wreck located in 39° 44' 24"N 074° 00' 57"W (NAD83) was not found in its charted position. See AWOIS 12983 in AWOIS descriptions below. **Concur**

The charted dangerous wreck with a least depth of 43 feet located in 39° 44' 18"N 074° 01' 06"W (NAD83) was found in its charted position (feature 9) with a least depth of 42 feet. This wreck was submitted as Danger to Navigation #2 with depths corrected using ~~predicted~~ **verified** tides. See AWOIS 12983 in AWOIS descriptions below. **Concur**

The charted dangerous obstruction cleared by wire drag to a depth of 43 feet located in 39° 44' ~~04~~**09**"N 074° 02' ~~49~~**16**"W (NAD83) was found 160 meters northeast (feature 58) with a least depth of 46 feet. See AWOIS 1417 in AWOIS descriptions below. **Concur**

The charted dangerous wreck with a reported minimum depth of 30 feet located in 39° 44' 11"N 074° 03' ~~23~~**24**"W (NAD83) was not found in its charted position. An obstruction (feature 141) was located just south in 39° 44' ~~07~~**06.79**"N 074° 03' ~~24~~**23.79**"W (NAD83) with a least depth of 42 feet. See AWOIS 12906 in AWOIS descriptions below. **Concur**

The charted dangerous wreck with a least depth of 37 feet located in 39° 44' 37"N 074° 03' 52"W (NAD83) was found in its charted position (feature 1) with a least depth of 36 feet. The charted depth was based on the Danger to Navigation Report # 4 submitted to NOAA that had data corrected with predicted tides. Recommend removing the charted 37 foot sounding and charting a 36 foot sounding in 39° 44' 37"N 074° 03' 52"W (NAD83). **Concur Delete 37 Wk and danger curve Add 36 Wk and danger curve.**

The charted dangerous wreck located in 39° 44' 29"N 074° 04' 37"W (NAD83) was not found in its charted position. See AWOIS 12905 in AWOIS descriptions below. **Concur**

The charted dangerous obstruction with a least depth of 35 feet located in 39° 43' ~~20~~**19.79**"N 074° 04' ~~43~~**12.85**"W (NAD83) was found in its charted position (feature 4) and with the correct charted depth. **Concur No change in charting is recommended.**

The charted dangerous wreck cleared by wire drag to 44 feet located in 39° 43' 42"N 074° 01' 19"W (NAD83) was found (feature 140) in 39° 43' ~~45~~**44.99**"N 074° 01' ~~49~~**18.83**"W (NAD83) with a least depth of 52 feet. See AWOIS 1413 in AWOIS descriptions below. **Concur**

The charted dangerous wreck cleared by wire drag to 68 feet located in 39° 43' 48"N 073° 56' 40"W (NAD83) was found (feature 74) east of the charted position in 39° 43' ~~50~~**49.53**"N 073° 56' ~~34~~**33.60**"W (NAD83) with a least depth of 75 feet. This is informational AWOIS 1415. Recommend remove the charted sounding cleared to 68 feet, danger circle and blue tint, and chart a 75 feet sounding maintaining the label Wreck. **Concur See AWOIS #1415 for final charting recommendation.**

The charted dangerous wreck cleared by wire drag to 59 feet located in 39° 42' ~~47~~**20**"N 074° 00' 14"W (NAD83) was found (feature 77) east of the charted position in 39° 42'

20.20"N 074° 00' 10.21"W (NAD83) with a least depth of 63 feet. See AWOIS 1411 in AWOIS descriptions below. **Concur**

The charted dangerous wreck located in 39° 42' 14"N 074° 06' 37"W (NAD83) was not found in its charted position. See AWOIS 12984 in AWOIS descriptions below. **Concur**

The charted dangerous wreck with a least depth of 22 feet located in 39° 41' 41.441"N 074° 08' 05.04.550"W (NAD83) was found in its charted position and depth (feature 137). **Concur No change in charting is recommended.**

The charted dangerous obstruction with a least depth of 24 feet located in 39° 41' 38.37.603"N 074° 08' 05.04.843"W (NAD83) was found in its charted position and depth (feature 145). **Concur No change in charting is recommended.**

The charted dangerous wreck with least depth of 33 feet located in 39° 41' 43.42.85"N 074° 05' 40.28"W (NAD83) was found in its charted position and depth (feature 6). **Concur No change in charting is recommended.**

The charted dangerous obstruction located in 39° 39' 57.33"N 074° 05' 32.31.76"W (NAD83) with a least depth of 27 feet was found in its charted position. Least depth measured during this survey for this obstruction was 28 feet (feature 2). The charted depth was based on the Danger to Navigation Report # 4 submitted to NOAA that had data corrected with predicted tides. Recommend removing the charted 27 foot sounding and charting a 28 foot sounding in 39° 39' 57.33"N 074° 05' 32.31.76"W (NAD83). **Concur Delete 27 Obstn and danger curve. Add 28 Obstn and danger curve.**

The charted dangerous wreck cleared by wire drag to 49 feet located in 39° 38' 39"N 074° 03' 33"W (NAD83) was found (feature 138) east of the charted position in 39° 38' 40.366"N 074° 03' 29.28.757"W (NAD83) with a least depth of 61 feet. Recommend remove the danger circle blue tint and sounding cleared to 49 feet, and chart a 61 feet sounding maintaining the label Wreck. This is informational AWOIS 1398. **Concur**

The charted dangerous obstruction located in 39° 38' 46"N 074° 09' 44"W (NAD83) with a charted depth of 28 feet was not found during this survey. Item investigation shows that the 28 feet reported in Danger to Navigation Report #6 was fish in the water column. Recommend remove the danger circle, blue tint and 28 feet sounding. **Concur Delete 28 Obstn and danger curve.**

The charted sewer out fall located off Surf City terminating in 39° 38' 32"N 074° 09' 05"W (NAD83) was found in its charted position (features 126, 127, 118, 120 and 128). See AWOIS 12985 in AWOIS descriptions below. **Concur**

The charted fish haven centered in 39° 37' 30"N 074° 01' 35"W (NAD83) with an authorized minimum depth 44 feet had multiple features none of which were shoaler than

44 feet. The least depth observed within the fish haven was 44 feet (feature 111). See AWOIS 12987 in AWOIS descriptions below. **Concur**

The charted 24 foot sounding in 39° 47' 07"N 074° 04' 50"W (NAD83) was found to have a least depth of 32 feet in 39° 47' 07"N 074° 04' 45"W (NAD83). A 29 foot sounding was found just south of the charted 24 foot sounding. Recommend removing the charted 24 foot sounding and charting a 29 foot sounding in 39° 47' 01"N 074° 04' 53"W (NAD83). **Concur with clarification Chart present survey depth.**

The charted 21 foot sounding in 39° 42' 45"N 074° 07' 22"W (NAD83) was found to have a least depth of 25 feet in 39° 42' 44"N 074° 07' 22"W (NAD83). A 23 foot sounding was found to the southwest of the charted 21 foot sounding. Recommend removing the charted 21 foot sounding and charting a 23 foot sounding in 39° 42' 38"N 074° 07' 32"W (NAD83). **Concur with clarification Chart present survey depth.**

The charted 11 foot sounding in 39° 45' 09"N 074° 04' 57"W (NAD83) was found to have a least depth of 12 feet. The 11 foot sounding was originally reported in the Danger to Navigation Report #5 which was based on predicted tides. Recommend replacing the charted 11 foot sounding with 12 foot sounding. **Concur**

The charted 26 foot sounding in 39° 44' 58"N 074° 05' 10"W (NAD83) was found to have a least depth of 16 feet. Recommend removing the charted 26 foot sounding and charting 16 foot sounding. **Concur**

The charted 36~~4~~ foot sounding in 39° 44' 46"N 074° 05' 14"W (NAD83) was found to have a least depth of 31 feet. Recommend removing the charted 36 foot sounding and charting 31 foot sounding. **Concur with clarification Chart present survey depth.**

The charted 45~~2~~ foot sounding in 39° 45' 25"N 074° 04' 35"W (NAD83) was found to have a least depth of 40 feet. Recommend removing the charted 45 foot sounding and charting 40 foot sounding. **Concur with clarification Chart present survey depth.**

Chart 12324_5 (See Chartlet 3 in Separates)

The 12-foot and 18-foot depth curves were beyond the Statement of Work for this survey and therefore were not clearly defined during this survey. The 30-foot and 60-foot depth curves have generally moved south and east. Recommend charting the 30-foot curve and 60-foot curve based upon the results of this survey. **Concur**

The charted dangerous wreck located in 39° 48' 06"N 074° 04' 04"W (NAD83) was not found in its charted position. See AWOIS 12901 in AWOIS descriptions below. **Concur**

The charted dangerous wreck located in 39° 46' 24"N 074° 04' 59"W (NAD83) was not found in its charted position. A submerged wreck (feature 136) was located in 39° 46' ~~29~~**28.645**"N 074° 05' 10.**193**"W (NAD83) with a least depth of 16 feet. See AWOIS 12902. **Concur**

The charted dangerous wreck with a least depth reported as 17 feet located in 39° 46' 30"N 074° 05' 04"W (NAD83) was not found in its charted position. See AWOIS 12903 in AWOIS descriptions below. *Concur with clarification Investigation for AWOIS 12903 is discussed under AWOIS 12902.*

The charted dangerous wreck located in 39° 44' 29"N 074° 04' 37"W (NAD83) was not found in its charted position. See AWOIS 12905 in AWOIS descriptions below. *Concur*

The charted dangerous wreck PA with a reported minimum depth of 30 feet located in 39° 44' 12"N 074° 03' 22"W (NAD83) was not found in its charted position. An obstruction (feature 141) was located just south in 39° 44' 07~~06.792~~^{06.792}"N 074° 03' 24~~23.788~~^{23.788}"W (NAD83) with a least depth of 42 feet. See AWOIS 12906 in AWOIS descriptions below. *Concur*

The charted dangerous wreck with a least depth of 37 feet located in 39° 44' 37~~36.60~~^{36.60}"N 074° 03' 52~~.28~~^{.28}"W (NAD83) was found in its charted position (feature 1) with a least depth of 36 feet. The charted depth was based on the Danger to Navigation Report # 4 submitted to NOAA that had data corrected with predicted tides. Recommend removing the charted 37 foot sounding and charting a 36 foot sounding in 39° 44' 37~~36.60~~^{36.60}"N 074° 03' 52~~.28~~^{.28}"W (NAD83). *Concur Delete 37 Wk and danger curve. Add 36 Wk and danger curve.*

The charted dangerous obstruction with a least depth of 35 feet located in 39° 43' 20~~19.79~~^{19.79}"N 074° 04' 43~~12.85~~^{12.85}"W (NAD83) was found in its charted position (feature 4) and with the correct charted depth. *Concur No change in charting is recommended.*

The charted dangerous wreck located in 39° 42' 16"N 074° 06' 35"W (NAD83) was not found in its charted position. See AWOIS 12984 in AWOIS descriptions below. *Concur*

The charted dangerous wreck with least depth of 33 feet located in 39° 41' 43~~42.85~~^{42.85}"N 074° 05' 40~~.28~~^{.28}"W (NAD83) was found in its charted position and depth (feature 6). *Concur No change in charting is recommended.*

The charted dangerous wreck with a least depth of 22 feet located in 39° 41' 41~~.441~~^{.441}"N 074° 08' 05~~04.550~~^{04.550}"W (NAD83) was found in its charted position and depth (feature 137). *Concur No change in charting is recommended.*

The charted dangerous obstruction with a least depth of 24 feet located in 39° 41' 38~~37.603~~^{37.603}"N 074° 08' 05~~04.843~~^{04.843}"W (NAD83) was found in its charted position and depth (feature 145). *Concur No change in charting is recommended.*

The charted dangerous obstruction located in 39° 39' 57~~.33~~^{.33}"N 074° 05' 32~~31.76~~^{31.76}"W (NAD83) with a least depth of 27 feet was found in its charted position with a least depth of 28 feet (feature 2). The charted depth was based on the Danger to Navigation Report #

4 submitted to NOAA that had data corrected with predicted tides. Recommend removing the charted 27 foot sounding and charting a 28 foot sounding in 39° 39' 57"N 074° 05' 32"W (NAD83). *Concur Delete 27 Obstn and danger curve. Add 28 Obstn and danger curve.*

The charted 21 foot sounding in 39° 42' 45"N 074° 07' 25"W (NAD83) was found to have a least depth of 27 feet in 39° 42' 45"N 074° 07' 25"W (NAD83). A 23 foot sounding was found in 39° 42' 38"N 074° 07' 32"W (NAD83), southwest of the charted 21 foot sounding. Recommend removing the charted 21 foot sounding and charting a 23 foot sounding in 39° 42' 38"N 074° 07' 32"W (NAD83). *Concur with clarification Chart present survey depth.*

The charted 24 foot sounding in 39° 47' 07"N 074° 04' 47"W (NAD83) was found to have a least depth of 32 feet. A 31 foot sounding was found in 39° 47' 03"N 074° 04' 36"W (NAD83), southeast of the charted 24 foot sounding. Recommend removing the charted 24 foot sounding and charting a 31 foot sounding in 39° 47' 03"N 074° 04' 36"W (NAD83). *Concur with clarification Chart present survey depth.*

The charted 30 foot sounding in 39° 40' 02"N 074° 05' 34"W (NAD83) was found to have a least depth of 33 feet. Recommend removing the charted 30 foot sounding and depth curve. *Concur*

The charted 11 foot sounding in 39° 45' 09.~~210~~"N 074° 04' ~~57~~**56.772**"W (NAD83) was found to have a least depth of 12 feet. The 11 foot sounding was originally reported in the Danger to Navigation Report #5 which was based on predicted tides. Recommend replacing the charted 11 foot sounding with 12 foot sounding. *Concur*

The charted 26 foot sounding in 39° 44' 58"N 074° 05' 10"W (NAD83) was found to have a least depth of 16 feet. Recommend removing the charted 26 foot sounding and charting 16 foot sounding. *Concur*

The charted 34 foot sounding in 39° 44' 47"N 074° 05' 12"W (NAD83) was found to have a least depth of 31 feet. Recommend removing the charted 34 foot sounding and charting 31 foot sounding. *Concur with clarification Chart present survey depth.*

The charted 35 foot sounding in 39° 45' 18"N 074° 04' 48"W (NAD83) was found to have a least depth of 30 feet. Recommend removing the charted 35 foot sounding and charting 30 foot sounding. *Concur with clarification Chart present survey depth.*

Chart 12324_7 (See Chartlet 4 in Separates)

The 12-foot and 18-foot depth curves were beyond the Statement of Work for this survey and therefore were not clearly defined during this survey. The 30-foot and 60-foot depth curves have generally moved south and east. Recommend charting the 30-foot curve and 60-foot curve based upon the results of this survey. *Concur*

The charted 24 foot sounding in 39° 37' 07"N 074° 11' 14"W (NAD83) was found to have a least depth of 30 feet. An uncharted obstruction with a least depth of 25 feet was found in 39° 37' 09.~~34~~"N 074° 11' 07.~~44~~"W (NAD83). (feature 121) approximately 175 meters to the northeast. Recommend removing the charted 24 foot sounding and charting a 25 foot sounding in 39° 37' 09.~~34~~"N 074° 11' 07.~~44~~"W (NAD83). See Table D-3. Uncharted Wrecks and Obstructions" for recommendations for charting uncharted wrecks and obstructions. *Concur See item 121, page 32 for final charting recommendation.*

The charted 30 foot sounding in 39° 40' 02"N 074° 05' 34"W (NAD83) was found to have a least depth of 33 feet. Recommend removing the charted 30 foot sounding and depth curve. *Concur*

The charted dangerous wreck with a least depth of 22 feet located in 39° 41' 41.~~441~~"N 074° 08' 05~~04.550~~"W (NAD83) was found in its charted position and depth (feature 137). *Concur No change in charting is recommended.*

The charted dangerous obstruction with a least depth of 24 feet located in 39° 41' 38~~37.603~~"N 074° 08' 05~~04.843~~"W (NAD83) was found in its charted position and depth (feature 145). *Concur No change in charting is recommended.*

The charted dangerous obstruction located in 39° 39' 57.~~33~~"N 074° 05' 32~~31.76~~"W (NAD83) with a least depth of 27 feet was found in its charted position with a least depth of 28 feet (feature 2). The charted depth was based on the Danger to Navigation Report # 4 submitted to NOAA that had data corrected with predicted tides. Recommend removing the charted 27 foot sounding and charting a 28 foot sounding in 39° 39' 57.~~33~~"N 074° 05' 32~~31.76~~"W (NAD83). *Concur Delete 27 Obstn and danger curve. Add 28 Obstn and danger curve.*

The charted dangerous obstruction located in 39° 38' 46"N 074° 09' 44"W (NAD83) with a charted depth of 28 feet was not found during this survey. Item investigation shows that the 28 feet reported in Danger to Navigation Report #6 was fish in the water column. Recommend remove the danger circle, blue tint and 28 feet sounding. *Concur Delete 28 Obstn and danger curve.*

The charted sewer out fall located off Surf City terminating in 39° 38' 31"N 074° 09' 03"W (NAD83) was found in its charted position (features 126, 127, 118, 120 and 128). See AWOIS 12985 in AWOIS descriptions below. *Concur*

Chart 13003 (See Chartlet 5 in Separates)

The 10-fathom depth curve was found to be westward of the charted position. Recommend charting the 10 fathom depth curve based upon the data collected during this survey. *Concur*

The charted dangerous wreck with a least depth of 10 fathoms in 39° 42' 23"N 074° 00' 24"W (NAD83) was found in position 39° 42' 20"N 074° 00' 10"W (NAD83) with a

least depth of 10½ fathoms (feature 77). See AWOIS 1411 in AWOIS descriptions below. Recommend removing the charted danger circle, blue tint, and 10 fathom sounding and charting a 10½ fathom sounding and symbol Wk in 39° 42' 20"N 074° 00' 10"W (NAD83). **Concur**

The charted Obstrn 7¼ fms centered in 39° 37' 43"N 074° 00' 16"W (NAD83) is a fish haven with an authorized minimum of 7¼ fathoms centered in 39° 37' 30"N 074° 01' 35"W (NAD83). No features observed during this survey were shoaler than the authorized minimum. The least depth observed within the fish haven was feature 111 at 7¼ fathoms. See AWOIS 12987 in AWOIS descriptions below. **Concur**

Chart 13006 (See Chartlet 6 in Separates)

The 10-fathom depth curve was found to be westward of the charted position. Recommend charting the 10 fathom depth curve based upon the data collected during this survey. **Concur**

The charted wreck cleared by a wire drag to 10 fathoms in 39° 44' 54"N 073° 58' 00"W (NAD83) was found as obstructions in position 39° 44' 52"N 073° 57' 54"W (NAD83) with a least depth of 12 fathoms (feature 109). See AWOIS 1423 in AWOIS descriptions below. **Concur**

The charted wreck cleared by a wire drag to 11 fathoms in 39° 44' 09"N 073° 56' 17"W (NAD83) was found in position 39° 43' 50"N 073° 56' 34"W (NAD83) with a least depth of 12½ fathoms (feature 74). This is informational AWOIS 1415. **Concur**

Navigational Aids

The charted lighted mooring buoy "A" in 39° 46 03"N 074° 02' 28"W (NAD83) was not present during this survey.

The charted buoy R "2" Fl R 6s GONG in 39° 45 28"N 073° 59' 29"W (NAD83) was found (feature 153) approximately 60 meters northeast in 39° 45 29"N 073° 59' 27"W (NAD83). Associated with the charted R"2" buoy is an obstruction **with a depth of 66 ft** (feature 69) approximately 15 meters north of R "2". The feature appears to be a sunken buoy with a least depth of 60 feet measured. **Shoaler depths are in the vicinity of the obstruction. It is recommended that the obstruction not be charted.**

Table D-1. Aids to Navigation

BUOY NAME	MB FILE NAME	CONFIRMED POSITION (NAD83) FROM MB/SS		FEATURE
		LAT (N)	LON (W)	
RW "BI" MO (A) WHISTLE	asmba06109.d42	039 44 28.7	074 03 50.7	154
RED #2	asmba06109.d81	039 44 51.9	074 04 32.2	149
GREEN #1	asmba06109.d81	039 44 46.2	074 04 38.0	150
GREEN #3	asmba06109.d81	039 45 01.4	074 04 57.5	151
RED #4	asmba06109.d81	039 45 06.1	074 04 52.6	152
R"2" FL R 6s GONG	asmba05233.d15	39 45 28.9	73 59 26.6	153

AWOIS Items, Wrecks and Obstructions

A listing of all Full and Informational Only AWOIS investigations within the H11456 sheet boundary is provided in Table D-2. Discussions of all Full Investigation AWOIS and of select Informational AWOIS are provided below.

Table D-2. Complete AWOIS Listing Received from NOAA for H11456

Full AWOIS Investigation	Informational AWOIS Only
AWOIS 12901	AWOIS 1392
AWOIS 12902	AWOIS 1393
AWOIS 12903	AWOIS 1395
AWOIS 12904	AWOIS 1398
AWOIS 12905	AWOIS 1415, 1418, 1419, 1420, 1421, 1422 (all same circle)
AWOIS 12906	AWOIS 1426
AWOIS 12983	AWOIS 2864
AWOIS 12984	AWOIS 7710
AWOIS 12985	AWOIS 7711
AWOIS 12987	AWOIS 7717
AWOIS 1411	AWOIS 7718
AWOIS 1413	
AWOIS 1417	
AWOIS 1423	
AWOIS 1427	

Full Investigation

AWOIS 12901

A partial search of the 200-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. The remainder of the radius was covered during the survey of H11495 conducted in 2005 and 2006. The wreck was not located during either of the surveys. Recommend removing the dangerous wreck symbol, blue tint and label PA. *Concur Delete dangerous sunken wreck, PA.*

AWOIS 12902

A partial search of the 1000-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. Coverage was obtained to the 8 meter depth curve. AWOIS 12902 fully encompassed AWOIS 12903 which was fully covered. A wreck (feature 136) with a minimum depth of 16 feet was found approximately 170 meters southwest of AWOIS 12902's reported position in 39° 46' 29"N 074° 05' 10"W (NAD83). An obstruction (feature 135) with a minimum depth of 22 feet was also found in 39° 46' 29'*28.52*"N 074° 04' 59'*58.64*"W (NAD83) approximately 100 meters southeast of AWOIS 12902's reported position. Both features are within the 300 meter radius of AWOIS 12903. It is believed that the 16 foot wreck (feature 136) is the wreck described by AWOIS 12902 and the 22 foot obstruction (feature 135) is what is described in AWOIS 12903. Recommend removal of the charted dangerous wreck, danger curve and blue tint in 39° 46' 30'*24*"N 074° 05' 04'*04.59*"W (*AWOIS 12902*) and charting a 16 foot sounding and Wk in 39° 46' 29'*28.65*"N 074° 05' 10'*19*"W (NAD83). *Concur. Delete dangerous sunken wreck. Add 16 Wk and danger curve.* Also recommend removal of the charted dangerous wreck, danger curve, and blue tint in 39° 46' 30"N 074° 05' 04"W (*AWOIS 12903*) and charting a 22 foot sounding and Obstn in 39° 46' 29'*28.52*"N 074° 04' 59'*58.64*"W (NAD83). *Concur. Delete dangerous sunken wreck (17 ft rep). Add 22 Obstn and danger curve.* In addition a wreck (feature 147) with a least depth of 23 feet and two obstructions (features 73 and 148) with least depths of 26 and 27 feet respectively were found near the outer margin of the search radius approximately 800 meters south of AWOIS 12902's charted position. Recommend charting a 23 foot sounding and WK in 39° 46' 06'*147*"N 074° 05' 04'*072*"W (NAD83), a 26 foot sounding and Obstn in 39° 46' 05'*351*"N 074° 04' 47'*977*"W (NAD83),* and a 27 foot sounding and Obstn in 39° 45' 59'*966*"N 074° 05' 00'*397*"W (NAD83). *Concur with clarification. See items 147 & 148, page 32 of this report for final charting recommendations. *Add 26 Obstn and danger curve.*

AWOIS 12903

See AWOIS 12902. *Concur*

AWOIS 12904

A full search of the fish haven with 200% side scan and resulting multibeam sonar coverage was completed. More than 40 features were identified within the fish haven centered in 39° 45' 14"N 074° 01' 30"W (NAD83) which exceeded the authorized minimum of 50 feet. The natural bottom of the western side is shoaler than the authorized minimum of 50 feet. The least depth found within the fish haven during this survey was 42 feet (feature 38). A preliminary report of depths based on predicted tides exceeding the authorized minimum was originally submitted to NOAA in a chart

correction letter for AWOIS 12904 dated 07 September 2005 which was converted to Danger to Navigation Report #3 by NOAA. Based on the chart correction letter, five soundings shoaler than the 50 feet minimum were added to the chart. After final corrections and analysis of the data the charted 46 foot sounding in 39° 44' 53"N 074° 01' 23"W (NAD83) was found to be 45 feet. Recommend updating soundings in the fish haven based on the depths obtained during this survey. Recommend revising the label to read Fish Haven (42 ft rep) to better reflect the natural bottom depths and minimum depths of the features (See Table D-3. Uncharted Wrecks and Obstructions for recommendations for charting additional soundings). *Concur with clarification. Subsequent to the present survey, the minimum depth of the Fish Haven has been updated to 40 feet. No change in charting is recommended.*

AWOIS 12905

A full search of the 500-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. No feature was found during this survey within the search radius. Recommend removing the dangerous wreck symbol and blue tint. *Concur. Delete dangerous sunken wreck.*

AWOIS 12906

A full search of the 500-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. An obstruction (feature 141) was found during this survey approximately 150 meters south of the AWOIS's reported position. Recommend removing the dangerous wreck symbol, blue tint and label PA (30 ft rep), and chart a 42 foot sounding with label Obstn in 39° 44' 07~~06.79~~²⁴23.79"N 074° 03' 24~~23.79~~⁰⁶05.66"W (NAD83). *Concur. Delete dangerous sunken wreck (30 ft rep). Add 42 Obstn and danger curve.*

AWOIS 12983

A full search of the 1000-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. A wreck (feature 9) was found during this survey approximately 280 meters southwest of the AWOIS's reported position. This feature was reported to NOAA in the Danger to Navigation Report #2 for H11456 with depths based on predicted tides. Recommend removing the dangerous wreck symbol, blue tint and label PA. Recommend changing the charted 43 foot sounding in 39° 44' 18.~~03~~^{05.66}"N 074° 01' 06~~05.66~~^{05.66}"W (NAD83) to a 42 foot sounding. *Concur with clarification Delete the dangerous sunken wreck PA and the charted 43 Wk and danger curve. Add a 42 Wk and danger curve in above present survey location.*

AWOIS 12984

A full search of the 500-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. No feature was found during this survey. Recommend removing the dangerous wreck symbol, danger circle and blue tint. *Concur. Delete the dangerous sunken wreck.*

AWOIS 12985

A full search of the submerged sewer outfall with 200% side scan and resulting multibeam sonar coverage was completed. The end of the sewer outfall was found

(feature 128) to be in 39° 38' 32"N 074° 09' 05"W (NAD83) as charted with a least depth of 41 feet. The sewer outfall was developed with full multibeam sounding coverage inshore to 39° 38' 57"N 074° 09' 56"W (NAD83) (feature 126) with a least depth of 27 feet. Danger to Navigation #6 was submitted detailing the position of the sewer and its associated depths. Recommend remove the charted 44 feet sounding in 39° 38' 27"N 074° 09' 09"W (NAD83), and chart a 40 feet sounding on the submerged sewer outfall in 39° 38' 33"N 074° 09' 09"W (NAD83). *Concur with clarification. No change in charting is recommended.*

AWOIS 12987

A full search of the fish haven with 200% side scan and resulting multibeam sonar coverage was completed. The least depth found during this survey was a wreck with a minimum depth of 44 feet (feature 111) in 39° 37' 51"N 074° 00' 58"W (NAD83). No depths were found during this survey that exceeded the authorized minimum of 44 feet. *Concur.*

AWOIS 1411

A full search of the 200-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. A wreck (feature 77) with a least depth of 63 feet was found in 39° 42' 20"N 074° 00' 40~~14~~"W (NAD83). Recommend removing the label Wreck, danger circle, blue tint, and sounding cleared to 59 feet and charting a 63 foot sounding and label Wk in 39° 42' 20.~~20~~"N 074° 00' 10.~~21~~"W (NAD83). *Concur. Delete 59 Wk wire drag cleared depth. Add 63 Wk and danger curve.*

AWOIS 1413

A full search of the 300-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. A wreck (feature 140) with a least depth of 52 feet was found in 39° 43' 45"N 074° 01' 19"W (NAD83). Recommend removing the label Wreck, danger circle, blue tint, and sounding cleared to 44 feet and charting a 52 foot sounding and label Wk in 39° 43' 45~~44.99~~"N 074° 01' 49~~18.83~~"W (NAD83). *Concur. Delete 44 Wk wire drag cleared depth. Add 52 Wk and danger curve.*

AWOIS 1417

A full search of the 500-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. An obstruction (feature 58) with a least depth of 46 feet was found in 39° 44' 09"N 074° 02' 16"W (NAD83). Recommend removing the label Obstn, danger circle, blue tint, and sounding cleared to 43 feet and charting a 46 foot sounding and label Obstn in 39° 44' 09~~08.65~~"N 074° 02' 46~~15.66~~"W (NAD83). *Concur. Delete 43 Obstn wire drag cleared depth. Add 46 Obstn and danger curve*

AWOIS 1423

A full search of the 200-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. Several small obstructions (feature 109) were found in 39° 44' 52"N 073° 57' 54"W (NAD83) during this survey with a least depth of 73 feet. Recommend removing the label Wreck, danger circle, blue tint, and sounding cleared to

61 feet and charting a 73 foot sounding and label Obstrn in 39° 44' 52"N 073° 57' 54"W (NAD83). *Concur with clarification. Delete 61 Wreck wire drag cleared depth. Do not chart the 73 foot obstruction. Shoaler depths are in the vicinity.*

AWOIS 1427

A full search of the 200-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. A wreck (feature 8) with a least depth of 43 feet was found in 39° 46' 18.04"N 074° 01' 57.56.61"W (NAD83). Recommend removing the label Wreck, danger circle, blue tint, and sounding cleared to 39 feet and charting a 43 foot sounding and label Wk in 39° 46' 18.04"N 074° 01' 57.56.61"W (NAD83). *Concur. Delete 39 Wk wire drag cleared depth. Add 43 Wk and danger curve.*

Informational Only

AWOIS #1415

A partial search of the 300-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. A wreck was found (feature 74) in 39° 43' 50.49.53"N 073° 56' 34.33.60"W (NAD83) with a least depth of 68.75 feet. Recommend removing the charted 68 foot sounding, blue tint, danger circle, wire drag basket and label Wreck and charting a 75 foot sounding and label Wk. *Concur. Delete 68 Wk wire drag cleared depth. Add 75 Wk.*

AWOIS #1398

A full search of the 200-meter radius with 200% side scan and resulting multibeam sonar coverage was completed. A wreck was found (feature 138) east of the charted position in 39° 38' 40.366"N 074° 03' 29.28.757"W (NAD83) with a least depth of 61 feet. Recommend removing the charted 49 foot sounding, blue tint, danger circle, wire drag basket and label Wreck and charting a 61 foot sounding and label Wk. *Concur. Delete 49 Wk wire drag cleared depth. Add 61 Wk and danger curve.*

Uncharted Wrecks and Obstructions

Table D-3 lists uncharted wrecks and obstructions found in H11456 that are recommended for charting.

Table D-3. Uncharted Wrecks and Obstructions

Feature Number	Feature Position (NAD83)		Least Depth (Feet)	Charting Recommendations
	Latitude (N)	Longitude (W)		
11	39° 42' 31.68"	74° 01' 22.47"	51	OBSTR, chart sounding and label "Obstrn" <i>Concur Add 51 Obstrn and danger curve</i>
12	39° 46' 54.81"	73° 59' 33.87"	62	WRECK, chart sounding and label "Wk" <i>Concur Add 62 Wk and danger curve</i>
13	39° 41' 12.21"	74° 02' 25.98"	55	OBSTR, chart sounding and label "Obstrn" <i>Concur Add 55 Obstrn and danger curve</i>
15	39° 44' 47.34"	74° 01' 21.64"	47	OBSTRS, chart sounding *
18	39° 45' 26.88"	74° 01' 09.49"	49	OBSTRS, chart sounding *

Feature Number	Feature Position (NAD83)		Least Depth (Feet)	Charting Recommendations
	Latitude (N)	Longitude (W)		
27	39° 45' 13.57"	74° 01' 27.84"	45	OBSTRS, chart sounding *
28	39° 45' 41.71"	74° 01' 18.61"	48	OBSTRS, chart sounding*
30	39° 38' 32.04"	74° 04' 32.79"	55	OBSTR, chart sounding and label "Obstn" <i>Concur Add 55 Obstn and danger curve</i>
43	39° 45' 33.16"	74° 01' 34.39"	45	OBSTRS, chart sounding*
44	39° 45' 23.50"	74° 01' 38.16"	46	OBSTRS, chart sounding*
45	39° 45' 03.72"	74° 01' 46.57"	45	OBSTRS, chart sounding*
47	39° 47' 04.48"	73° 59' 08.07"	66	WRECK, chart sounding and label "Wk" <i>Concur Add 66 Wk and danger curve</i>
50	39° 39' 17.62"	74° 03' 59.55"	47	OBSTR, chart sounding and label "Obstn" <i>Concur Add 47 Obstn and danger curve</i>
54	39° 37' 41.50"	74° 04' 46.15"	59	OBSTR, chart sounding and label "Obstn" <i>Concur Add 59 Obstn and danger curve</i>
59	39° 45' 12.93"	74° 01' 50.71"	44	OBSTRS, chart sounding*
70	39° 46' 00.00"	73° 59' 15.70"	61	WRECK, chart sounding and label "Wk" <i>Concur Add 61 Wk and danger curve</i>
71	39° 37' 52.41"	74° 02' 15.52"	62	OBSTRS, chart sounding and label "Obstns" <i>Concur Add 62 Obstn and danger curve</i>
86	39° 43' 27.12"	74° 05' 50.12"	37	OBSTR, chart sounding and label "Obstn" <i>Concur Add 37 Obstn and danger curve</i>
93	39° 38' 30.52"	74° 01' 14.82"	69	OBSTR, chart sounding and label "Obstn" <i>Concur Add 69 Obstn</i>
105	39° 38' 27.19"	74° 00' 55.24"	70	OBSTR, chart sounding and label "Obstn" **
106	39° 40' 56.93"	73° 58' 33.78"	71	OBSTR, chart sounding and label "Obstn" <i>Concur Add 71 Obstn</i>
107	39° 37' 54.89"	73° 59' 58.41"	72	WRECK, chart sounding and label "Wk" <i>Concur Add 72 Wk</i>
108	39° 45' 57.48"	73° 56' 56.46"	72	OBSTR, chart sounding and label "Obstn" <i>Concur Add 72 Obstn</i>
111	39° 37' 51.24"	74° 00' 58.34"	44	WRECK, chart sounding and label "Wk" *
117	39° 43' 28.60"	74° 06' 20.12"	34	OBSTR, chart sounding and label "Obstn" <i>Concur Add 34 Obstn and danger curve</i>
119	39° 36' 49.87"	74° 09' 58.20"	47	OBSTR, chart sounding and label "Obstn" <i>Concur Add 47 Obstn and danger curve</i>
121	39° 37' 09.34"	74° 11' 07.44"	25	OBSTR, chart sounding and label "Obstn" <i>Concur Add 25 Obstn and danger curve</i>
124	39° 45' 34.04"	74° 01' 49.63"	44	OBSTRS, chart sounding*
129	39° 45' 48.79"	74° 04' 18.39"	40	OBSTR, chart sounding and label "Obstn" <i>Concur Add 40 Obstn and danger curve</i>
130	39° 43' 47.06"	74° 06' 30.63"	29	OBSTR, chart sounding and label "Obstn" <i>Concur Add 29 Obstn and danger curve</i>
131	39° 43' 51.28"	74° 06' 31.39"	27	OBSTR, chart sounding and label "Obstns" <i>Concur Add 27 Obstn and danger curve</i>
133	39° 43' 39.99"	74° 04' 23.43"	36	OBSTR, chart sounding and label "Obstn" <i>Concur Add 36 Obstn and danger curve</i>
139	39° 41' 44.44"	74° 02' 17.80"	48	WRECK, chart sounding and label "Wk" <i>Concur Add 48 Wk and danger curve</i>
142	39° 37' 28.05"	74° 11' 12.58"	24	OBSTR, chart sounding and label "Obstn" <i>Concur Add 24 Obstn and danger curve</i>

Feature Number	Feature Position (NAD83)		Least Depth (Feet)	Charting Recommendations
	Latitude (N)	Longitude (W)		
143	39° 37' 30.81"	74° 11' 07.41"	28	WRECK, chart sounding and label "Wk" <i>Concur Add 28 Wk and danger curve</i>
146	39° 45' 00.73"	74° 04' 44.72"	40	OBSTR, chart sounding and label "Obstn" <i>Concur Add 40 Obstn and danger curve</i>
147	39° 46' 06.14"	74° 05' 04.07"	23	WRECK, chart sounding and label "Wk" <i>Concur Add 23 Wk and danger curve</i>
148	39° 45' 59.96"	74° 05' 00.39"	27	OBSTR, chart sounding and label "Obstn" <i>Concur Add 27 Obstn and danger curve</i>

** Do not concur Features falls within limits of a charted Fish Haven. Do not chart.*

*** Do not concur Shoaler features and/or depths in close proximity. Do not chart*

Bottom Composition

There were 11 bottom samples taken to verify the bottom types charted for H11456. Table D-4 compares information for each sample collected to the charted bottom type. Chart 12300 and 13003 had no charted bottom types that fell within the survey area.

Table D-4. H11456 Bottom Sample Characteristics

Bottom Sample Position (NAD83)		Sample Number	Depth of Bottom Sample (ft)	Observed Bottom Type	Charted Bottom Type	Chart 12323_1	Chart 12324_5	Chart 12324_7
Latitude (N)	Longitude (W)							
39° 47' 52.7"	074° 03' 42.6"	BS-1	38.19	fne S P	SO	•	•	
39° 47' 05.3"	074° 03' 46.0"	BS-2	38.32	med S G	S	•	•	
39° 46' 14.9"	074° 03' 17.0"	BS-3	44.82	med S	S	•		
39° 44' 13.5"	073° 59' 45.5"	BS-4	71.39	S	S	•		
39° 43' 25.1"	074° 06' 55.3"	BS-5	28.67	med S Sh	hS	•	•	
39° 41' 52.2"	074° 00' 03.1"	BS-6	68.60	crs S P	S	•		
39° 43' 24.7"	074° 06' 57.5"	BS-7	39.44	fne S	S	•	•	
39° 40' 16.3"	074° 07' 50.6"	BS-8	40.49	fne S	S	•	•	•
39° 39' 49.6"	074° 05' 46.1"	BS-9	32.02	med S	S	•	•	•
39° 37' 25.0"	074° 08' 25.2"	BS-10	52.13	med S	S	•		•
39° 36' 53.3"	074° 01' 44.3"	BS-11	73.06	crs S Sh	G	•		

It is recommended that the bottom type charted be updated where necessary based on the information collected during the latest survey. *Concur*

D.2 ADDITIONAL RESULTS

Shoreline verification was not required for this survey. Comparison with prior surveys was not required under this task order. See Section D.1 for comparison to the nautical charts. *Concur*

Aids to Navigation

Barnegat Inlet Outer Lighted Whistle Buoy BI and Barnegat Offshore Lighted Gong Buoy 2 were near their charted position and serve their intended purpose. This agreed with The USCG Light List, Volume II, Atlantic Coast, Shrewsbury River, New Jersey to Little River, South Carolina. Four additional uncharted channel buoys (R2, R4, G1, and G3) for Barnegat Inlet were present during this survey. This agrees with note B on chart 12323 pertaining to entrance to inlets which notes "The channels at the entrance to the inlets on this chart are subject to changes. The buoys are not charted because they are frequently shifted in position" and note C on chart 12324_5 states "Buoys in these channels are not charted because they are moved frequently. Hydrography in Barnegat Inlet is not shown due to its continually shifting nature. Consult Local Notice to Mariners, 5th Coast Guard District, for the latest positions of aids to navigation".

E. APPROVAL SHEET

13 September 2006

LETTER OF APPROVAL

REGISTRY NUMBER H11456

This report and the accompanying smooth sheet and digital data are respectfully submitted.

Field operations contributing to the accomplishment of survey H11456 were conducted under my direct supervision with frequent personal checks of progress and adequacy. This report and smooth sheet have been closely reviewed and are considered complete and adequate as per the Statement of Work.

Reports previously submitted to NOAA for this project include:

<u>Report</u>	<u>Submission Date</u>
Data Acquisition and Processing Report	03/31/2005
Descriptive Report for Sheet H, H11455	03/31/2005

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION



Paul L. Donaldson
Hydrographer
Science Applications International Corporation
Wednesday, 13 September 2006

APPENDIX I. TIDES AND WATER LEVELS

The on-line times for acquisition of valid hydrographic data are presented in **Error! Reference source not found.** Abstract of Times of Hydrography, H11456.

Project: OPR-C303-KR-05.

Registry No.: H11456

Contractor Name: Science Applications International Corporation

Date: 27 April 2006

Sheet Letter: J

Inclusive Dates: 4 August 2005 – 27 April 2006

Field work is complete.

Table App. IV- 1. Abstract Times of Hydrography, H11456

Year	Julian Day	Begin Time	Julian Day	End Time
2005	216	17:21:30	220	10:03:57
2005	221	17:30:32	226	02:56:18
2005	227	11:56:14	232	08:00:23
2005	233	02:59:30	236	23:37:26
2005	268	21:50:01	270	02:38:17
2005	270	20:47:57	272	06:54:36
2005	273	22:50:36	274	22:12:23
2005	290	16:28:12	290	21:05:23
2005	292	02:28:48	292	09:38:11
2005	292	13:11:59	295	11:50:49
2005	297	05:55:38	297	18:52:17
2005	300	09:37:19	300	22:35:18
2005	301	18:08:45	301	22:00:19
2005	303	19:57:17	303	23:44:45
2005	305	11:39:06	305	15:05:33
2005	306	11:36:38	306	14:20:23
2005	312	12:22:03	312	20:44:00
2006	109	00:11:19	109	21:16:27
2006	117	11:14:42	117	13:00:43

Final Tide Note

Analysis of the H11456 multibeam data in the **SABER Multi-View Editor** and in depth grids revealed significant depth jumps across the junction of zones based on Atlantic City, NJ (8534720) and the zones based on Sandy Hook, NJ (8531680).

The Statement of Work for OPR-C303-KR-06 provided new NOAA zoning correctors for zones SA13, SA14, SA15, and SA16 with correctors based on Atlantic City, NJ (8534720) instead of Sandy Hook (8531680) as shown in Table App. IV- 2 below.

Table App. IV- 2. Preliminary Tide Zone Parameters Compared to Parameters from Statement of Work for OPR-C303-KR-06 for Atlantic City (8534720)

Zone	Time Corrector (minutes)	Range Ratio	Reference Station
SA13	-12	1.02	8534720
	-36	0.87	8531680
SA14	-6	1.07	8534720
	-36	0.91	8531680
SA15	0	1.06	8534720
	-36	0.91	8531680
SA16	0	1.02	8534720
	-30	0.88	8531680

A spreadsheet was constructed to compare the two sets of NOAA preliminary zoning parameters. The results are summarized in Table App. IV- 3. Verified water levels from 01 August 2005 through 30 November 2005 for stations at Sandy Hook, NJ (8531680) and Atlantic City, NJ (8534720) were entered in the spreadsheet. Correctors were computed at 6-minute intervals for each zone. Differences (Table App. IV- 3) were computed for each zone on Atlantic City, NJ (8534720) compared to the same zones computed on Sandy Hook, NJ (8531680). In addition the differences between zones 17 computed on Atlantic City, NJ (8534720) and 16 computed on Sandy Hook, NJ (8531680) are shown.

Table App. IV- 3. Comparison of Water Level Correctors with Zoning Parameters for Stations 8534720 and 8531680

Zone	16	15	14	13	17-16
Maximum	0.527	0.645	0.610	0.531	0.531
Minimum	-0.639	-0.561	-0.609	-0.633	-0.633
Average	0.005	-0.036	0.108	0.014	0.014
Standard Deviation	0.083	0.088	0.106	0.125	0.108

This verified the significant difference in verified water level correctors at the zone boundaries depending on the stage of the tide and environmental factors (wind, rain). As a result of this analysis the water level zoning correctors based entirely on Atlantic City, NJ (8534720) were applied to all multibeam data for H11456.

NOAA FORM 61-29 (12-71)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REFERENCE NO. N/CS33-131-07						
LETTER TRANSMITTING DATA		DATA AS LISTED BELOW WERE FORWARDED TO YOU BY (Check) <input type="checkbox"/> ORDINARY MAIL <input type="checkbox"/> AIR MAIL <input type="checkbox"/> REGISTERED MAIL <input checked="" type="checkbox"/> EXPRESS <input type="checkbox"/> GBL (Give number) _____						
TO: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> NOAA/National Ocean Service Chief, Data Acquisition & Control Branch N/CS3X1, Station 6813, SSMC3 1315 East-West Highway Silver Spring, MD 20910 </div> <div style="text-align: right; margin-top: 10px;">301-713-2698</div>		DATE FORWARDED 11/19/2007 <hr/> NUMBER OF PACKAGES 1						
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.								
<div style="text-align: center; margin-bottom: 20px;"> H11456 (2006) NEW JERSEY, ATLANTIC OCEAN, BEACH HAVEN CREST TO BARNEGAT INLET </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 35%;">1 TUBE CONTAINING:</div> <div style="width: 65%;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">1</td> <td>MYLAR H-DRAWING FOR CHART #12323</td> </tr> <tr> <td style="text-align: center;">2</td> <td>MYLAR H-DRAWING FOR CHART #12324</td> </tr> <tr> <td style="text-align: center;">1</td> <td>MYLAR SMOOTH SHEET H11456</td> </tr> </table> </div> </div>			1	MYLAR H-DRAWING FOR CHART #12323	2	MYLAR H-DRAWING FOR CHART #12324	1	MYLAR SMOOTH SHEET H11456
1	MYLAR H-DRAWING FOR CHART #12323							
2	MYLAR H-DRAWING FOR CHART #12324							
1	MYLAR SMOOTH SHEET H11456							
FROM: (Signature) <div style="text-align: center; margin-top: 10px;"> </div>		RECEIVED THE ABOVE (Name, Division, Date)						
Return receipted copy to: <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> DEBORAH A. BLAND NOAA \ NATIONAL OCEAN SERVICE ATLANTIC HYDROGRAPHIC BRANCH N/CS33 439 WEST YORK STREET NORFOLK, VA. 23510-1114 </div>								

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H11456 (2005-2006)**

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.

B. DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System
MicroStation J, version 7.1
I/RAS B, version 5.01
MapInfo, version 6.5
CARIS HIPS/SIPS 2000
PYDRO, version 2.8.2

The smooth sheet was plotted using a Hewlett Packard DesignJet 2500CP plotter.

JUNCTIONS

Survey H11456 (2005-2006) junctions with surveys H11455 (2005-2006) to the south and H11495 (2005-2006) to the north. Present survey soundings compare well with the junctional surveys. Present survey depths are in harmony with the charted hydrography to the east and west.

C. Horizontal Control

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM Zone 18. Office processing of this survey is based on these values.

D. <u>COMPARISON WITH CHART</u>	12300 (45th Edition, Mar. 2005)
	12316 (32nd Edition, Mar. 2005)
	12318 (43rd Edition, Mar. 2005)
	12323 (23rd Edition, Mar. 2000)
	12324 (32nd Edition, Mar. 2006)
	13003 (48th Edition, Oct. 2004)

Hydrography

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes

adequate chart comparisons in Section D. of the Descriptive Report. The following items were found during the present survey but were not discussed in the Descriptive Report.

1. An uncharted **31 foot dangerous obstruction** was found in Latitude 39°45'09.64"N, Longitude 74°04'51.66"W. It is recommended that a **31 foot dangerous obstruction** (31 Obstn) and danger curve be charted.

2. An uncharted **37 foot dangerous obstruction** was found in Latitude 39°46'47.85"N, Longitude 74°03'50.22"W. There are several shoaler depths surrounding this obstruction. It is therefore recommended that the obstruction not be charted and that the area be updated with the shoaler depths from the present survey.

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

Dangers to Navigation

Eight Dangers to Navigation reports were submitted to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. Copies of these reports are appended to the Descriptive Report.

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 charts were used for compilation of the present survey:

12324 (32nd Edition) Mar/06	1: 40,000 Scale
12323 (24th Edition) Feb/07	1: 80,000 Scale

ADEQUACY OF SURVEY

This is an adequate hydrographic/side scan sonar/multibeam survey. No additional field work is recommended.

Deborah A. Bland

Cartographer

Verification of Field Data

Evaluation and Analysis

Danger to Navigation Report 1

Hydrographic Survey Registry Number: H11456

State: New Jersey
Locality: Atlantic Ocean
Sublocality: Beach Haven Crest to Barnegat Inlet
Project Number: OPR_C303-KR-05
Survey Date: August 11, 2005 and on going

Depths are reduced to Mean Lower Low Water using *predicted* tides based on preliminary zoning. Positions are based on NAD-83. Positions were obtained using DGPS from a US Coast Guard Station.

Charts affected:

- 12323_1 23th Edition July 2000 1:80,000 scale; Corrected through NM July 30, 2005
- 12300_1 45th Edition March 2005 1:400,000 scale, Corrected through NM July 30, 2005
- 13003_1 47th Edition June 2004 1:1,200,000 scale Corrected through NM July 30, 2005
- 12324_5 31st Edition January 2004 1:40,000 scale Corrected through NM August 4, 2005

The following item was found during hydrographic survey operations:

<u>FEATURE</u>	<u>DEPTH (FT)</u>	<u>LATITUDE (N)</u>	<u>LONGITUDE (W)</u>
Wreck	33	39° 41.71419' N	074° 05.67134' W
		39° 41' 42.85" N	074° 05' 40.28" W

See Descriptive Report for final charting recommendation.

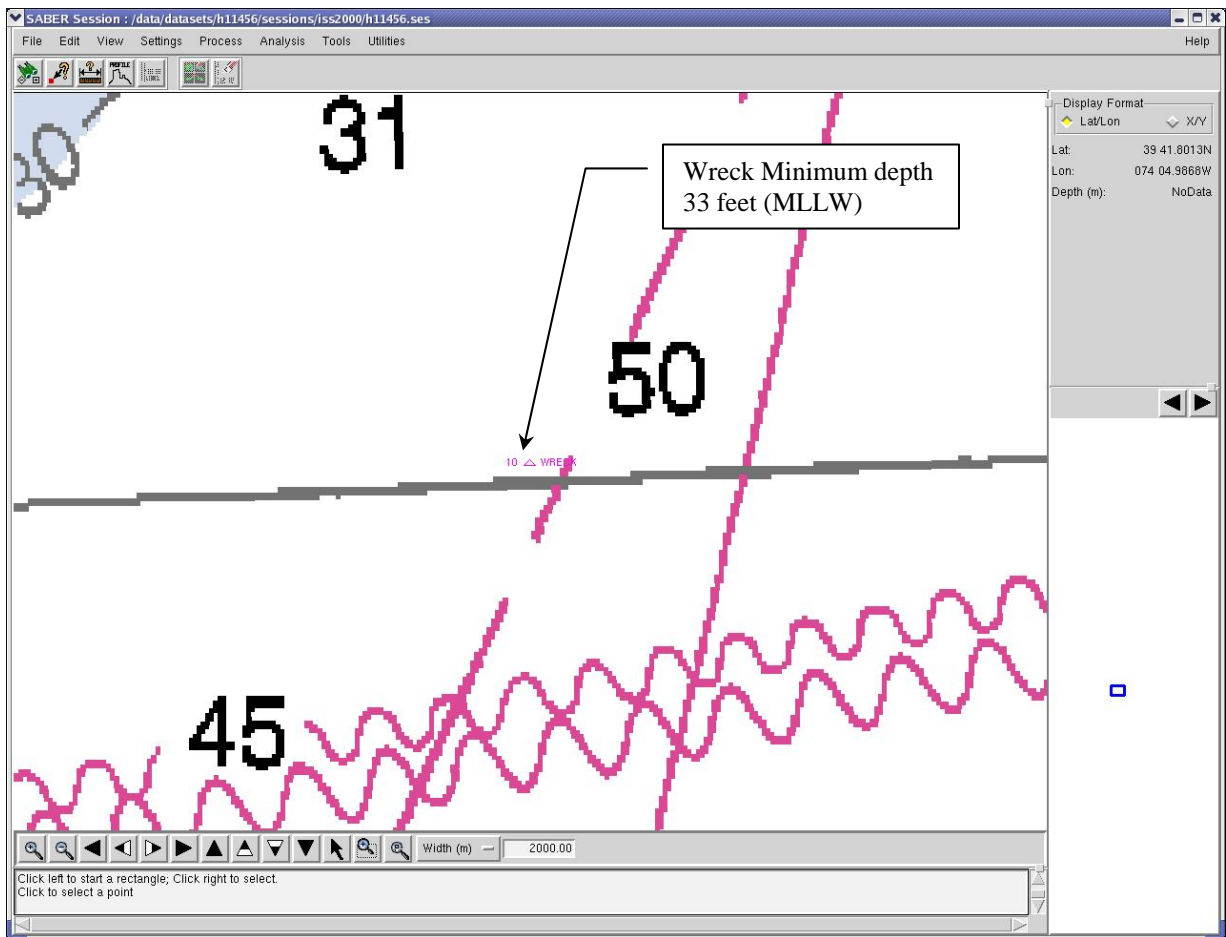


Figure 1. Chart 12323 Showing Area Covered by This Report With Location of Wreck within H11456.

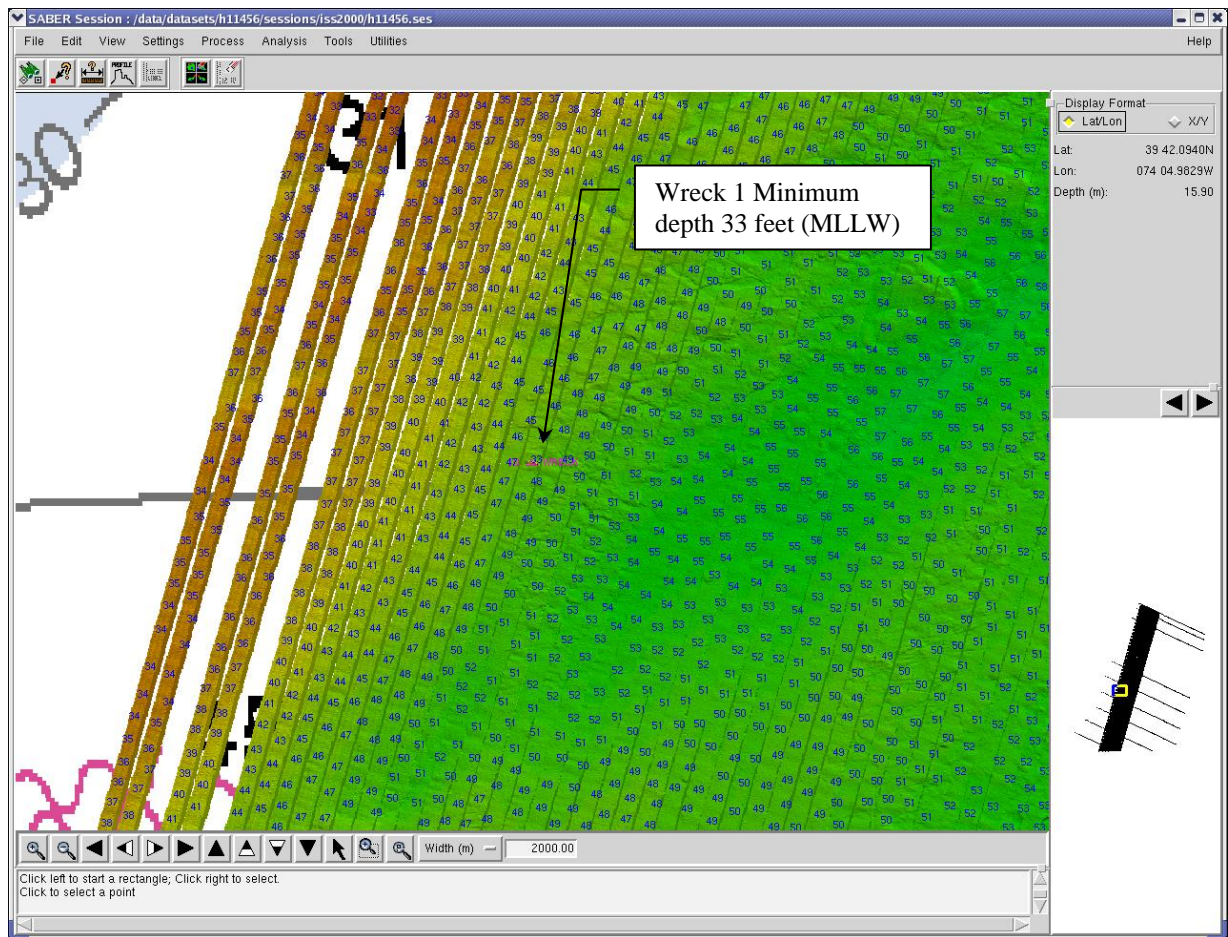
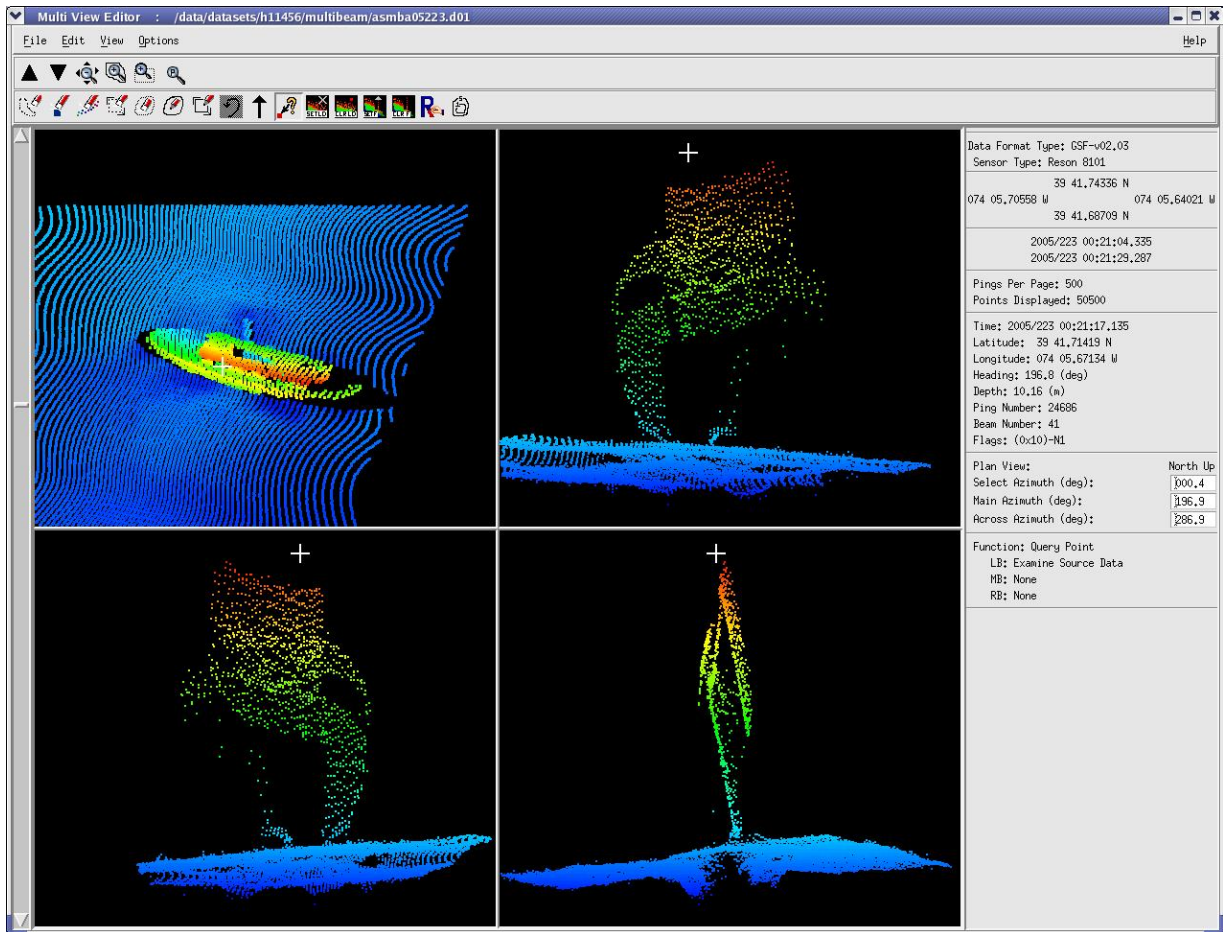


Figure 2. Color Coded Depth Grid and Selected Soundings Showing Wreck within H11456.



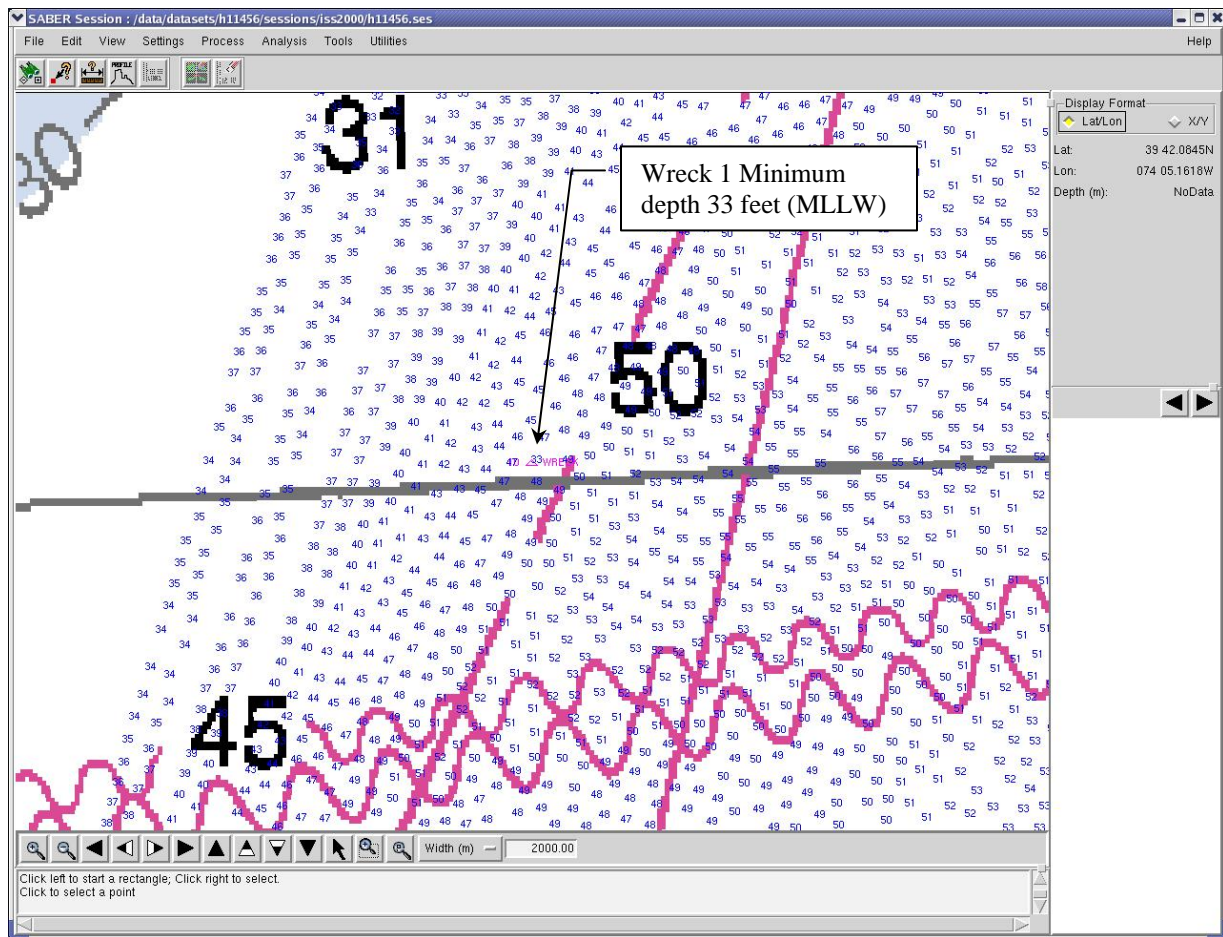


Figure 4. Chart 12323 Showing Wreck and Selected Soundings within H11456.

Recommend charting with 33 feet sounding, symbol Wk, and danger circle with blue tint in 39° 41.71419' N/074° 05.67134' W, NAD83.

REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H11456
Survey Title: State: New Jersey
Locality: Atlantic Ocean
Sub-locality: Beach Haven Crest to Barnegat Inlet

Project Number: OPR-C303-KR-05

Field Unit: Science Applications International Corporation (SAIC)
Survey Vessel *Atlantic Surveyor*

Survey Date: August 11, 2005 and On Going

Depths are reduced to Mean Lower Low Water using *predicted* tides and preliminary tidal zoning. Positions are referenced from USCG DGPS beacon and horizontal datum is North America Datum 83 (NAD83).

Charts affected:

- 12323_1 23rd Edition March 2000 1:80,000 scale
- 12300_1 45th Edition March 2005 1:400,000 scale, Corrected through NM Mar.26, 2005
Corrected through LNM Mar. 22, 2005

The following items were found during hydrographic survey operations:

DANGERS TO NAVIGATION #2

	<u>Feature</u>	<u>Depth (FT)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
1.	Wreck	43	39°44'18.031"	074°01'05.662"

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757) 441-6746.

See Descriptive Report for final charting recommendation.

REPORT OF DANGERS TO NAVIGATION

H11456 #3

Hydrographic Survey Registry Number: H11456

Survey Title: State: New Jersey
Locality: Atlantic Ocean
Sub-locality: Beach Haven Crest to Barnegat Inlet

Project Number: OPR-C303-KR-05

Field Unit: Science Applications International Corporation (SAIC)
Survey Vessel *Atlantic Surveyor*

Survey Date: August 11, 2005 and On Going

Depths are reduced to Mean Lower Low Water using predicted tides and preliminary tidal zoning. Positions are referenced from USCG DGPS beacon and horizontal datum is North America Datum 83 (NAD83).

Charts affected:

- 12323_1 23rd Edition March 2000 1:80,000 scale
- 12300_1 45th Edition March 2005 1:400,000 scale, Corrected through NM Mar.26, 2005
Corrected through LNM Mar. 22, 2005

The following items were found during hydrographic survey operations:

DANGERS TO NAVIGATION #2

	<u>Feature</u>	<u>Depth (FT)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
1.	Obstruction	42	39°44'41.753"	074°01'48.247"
2.	Obstruction	43	39°45'22.039"	074°01'19.402"
3.	Obstruction	44	39°45'34.036"	074°01'49.613"
4.	Obstruction	45	39°45'45.467"	074°01'38.800"
5.	Obstruction	46	39°44'55.135"	074°01'23.639"

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757) 441-6746.

Items fall within the limits of a charted Obstr Fish Haven (auth min 40 ft). No change in charting is recommended.

REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H11456

Survey Title: State: New Jersey
 Locality: Atlantic Ocean
 Sub-locality: Beach Haven Crest to Barnegat Inlet

Project Number: OPR-C303-KR-05

Field Unit: Science Applications International Corporation (SAIC)
Survey Vessel *Atlantic Surveyor*

Survey Date: August 11, 2005 and On Going

Depths are reduced to Mean Lower Low Water using Observed-Verified water levels and preliminary tidal zoning. Positions are referenced from USCG DGPS beacon and horizontal datum is North America Datum 83 (NAD83).

Charts affected:

- | | | | |
|-----------|--------------------------|--------------|--|
| • 12323_1 | 23 rd Edition | March 2000 | 1:80,000 scale |
| • 12300_1 | 45 th Edition | March 2005 | 1:400,000 scale, Corrected through NM Mar.26, 2005
Corrected through LNM Mar. 22, 2005 |
| • 13003_1 | 48 th Edition | October 2004 | 1:1,200,000 scale Corrected through NM Oct. 9, 2004
Corrected through LNM Sep. 21, 2004 |

The following items were found during hydrographic survey operations:

DANGERS TO NAVIGATION #4

	<u>Feature</u>	<u>Depth (FT)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
4.1	Submerged Wreck	37	39°44'36.60"	074°03'52.28"
4.2	Obstruction	27	39°39'57.33"	074°05'31.76"
4.3	Obstruction	35	39°43'19.79"	074°04'12.85"

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757) 441-6746.

See Descriptive Report for final charting recommendations.

REPORT OF DANGERS TO NAVIGATION

H11456 #5

Hydrographic Survey Registry Number: H11456

Survey Title: State: New Jersey
Locality: Atlantic Ocean
Sub-locality: Beach Haven Crest to Barnegat Inlet

Project Number: OPR-C303-KR-05

Field Unit: Science Applications International Corporation (SAIC)
Survey Vessel *Atlantic Surveyor*

Survey Date: August 11, 2005 and On Going

Depths are reduced to Mean Lower Low Water using predicted tides and preliminary tidal zoning. Positions are referenced from USCG DGPS beacon and horizontal datum is North America Datum 83 (NAD83).

Charts affected:

- 12323_1 23rd Edition March 2000 1:80,000 scale
- 12324_5 31st Edition January 2004 1:40,000 scale,
Corrected through NM Jan. 24/04
Corrected through LNM Jan. 13/04

The following item was found during hydrographic survey operations:

DANGERS TO NAVIGATION #2

	<u>Feature</u>	<u>Depth (FT)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
1.	Shoal (Sounding)	11	39°45'09.210"	074°04'56.772"

See Descriptive Report for final charting recommendation.

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757) 441-6746.

Danger to Navigation Report 6

Hydrographic Survey Registry Number: H11456

State: New Jersey

Locality: Atlantic Ocean

Sublocality: Beach Haven Crest to Barnegat Inlet

Project Number: OPR_C303-KR-05

Survey Date: August 11, 2005 and on going

Depths are reduced to Mean Lower Low Water using *predicted* tides based on preliminary zoning. Positions are based on NAD-83. Positions were obtained using DGPS from a US Coast Guard Station.

Charts affected:

- 12323_1 23rd Edition July 2000 1:80,000 scale; Corrected through NM September 24, 2005
- 12324_7 31st Edition January 2003 1:40,000 scale; Corrected through NM September 24, 2005

The following items were found during hydrographic survey operations:

<u>FEATURE</u>	<u>DEPTH (FT)</u>	<u>LATITUDE (N)</u>	<u>LONGITUDE (W)</u>
Obstruction	28	39° 38' 46.062"	074° 09' 45.066"
Sewer From	shore	39° 39' 02.60"	074° 10' 18.95"
To	32	39° 38' 49.686"	074° 09' 48.210"
To	38	39° 38' 41.652"	074° 09' 28.584"
To end	42	39° 38' 31.590"	074° 09' 04.842"

RECOMMENDATIONS:

Chart 12324-7:

Remove charted pipeline symbol and label Sewer PA just south of the above.

Remove charted 44 foot sounding in 39° 38' 26.78" 074° 09' 11.19"

Chart 12323:

Remove charted pipeline symbol and label Sewer just south of the above.

Remove charted 44 foot sounding in 39° 38' 26.78" 074° 09' 09.53"

See Descriptive Report for final charting recommendations.

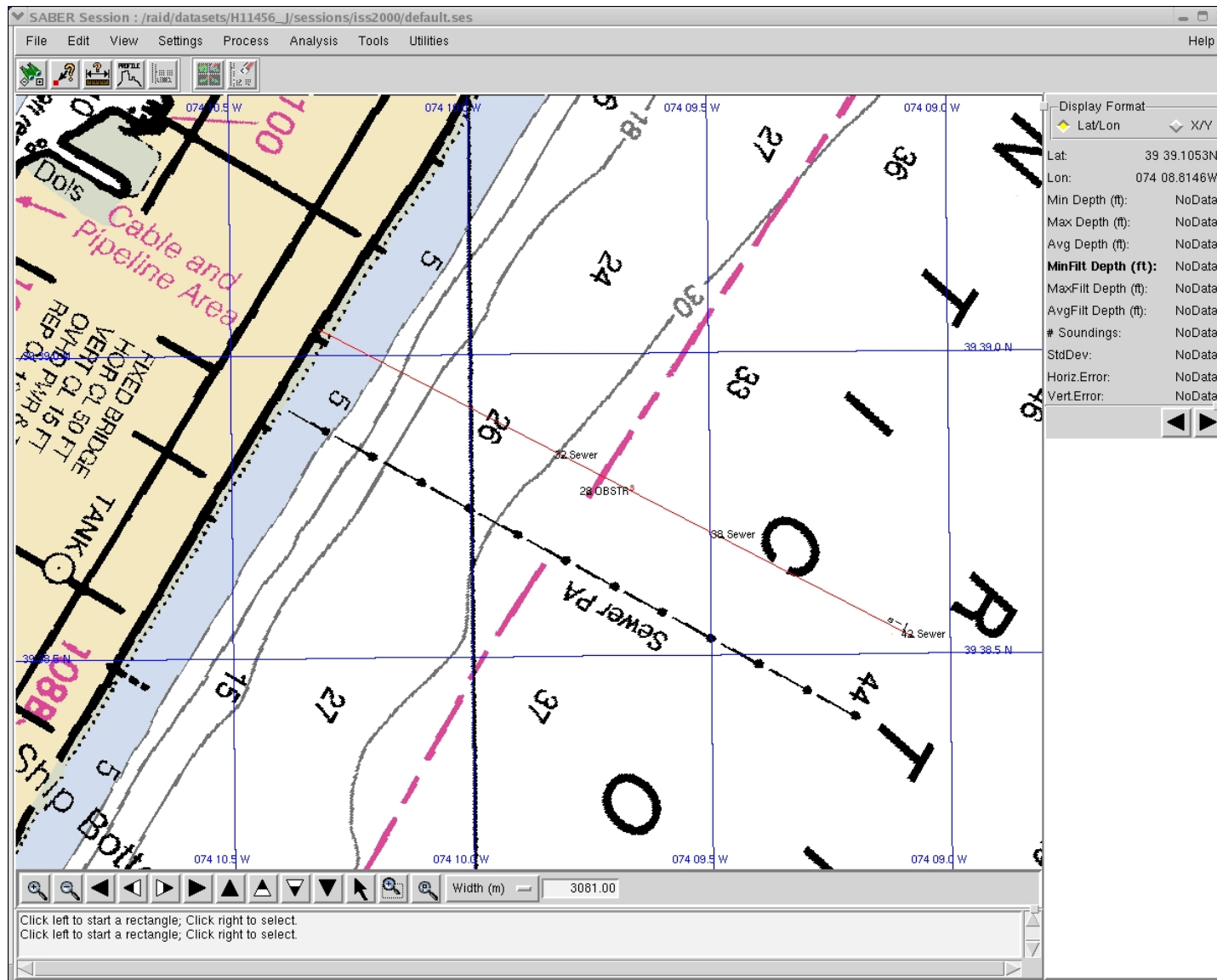


Figure 1. Chart 12324_7 Showing Sewer and Obstruction located within H11456.

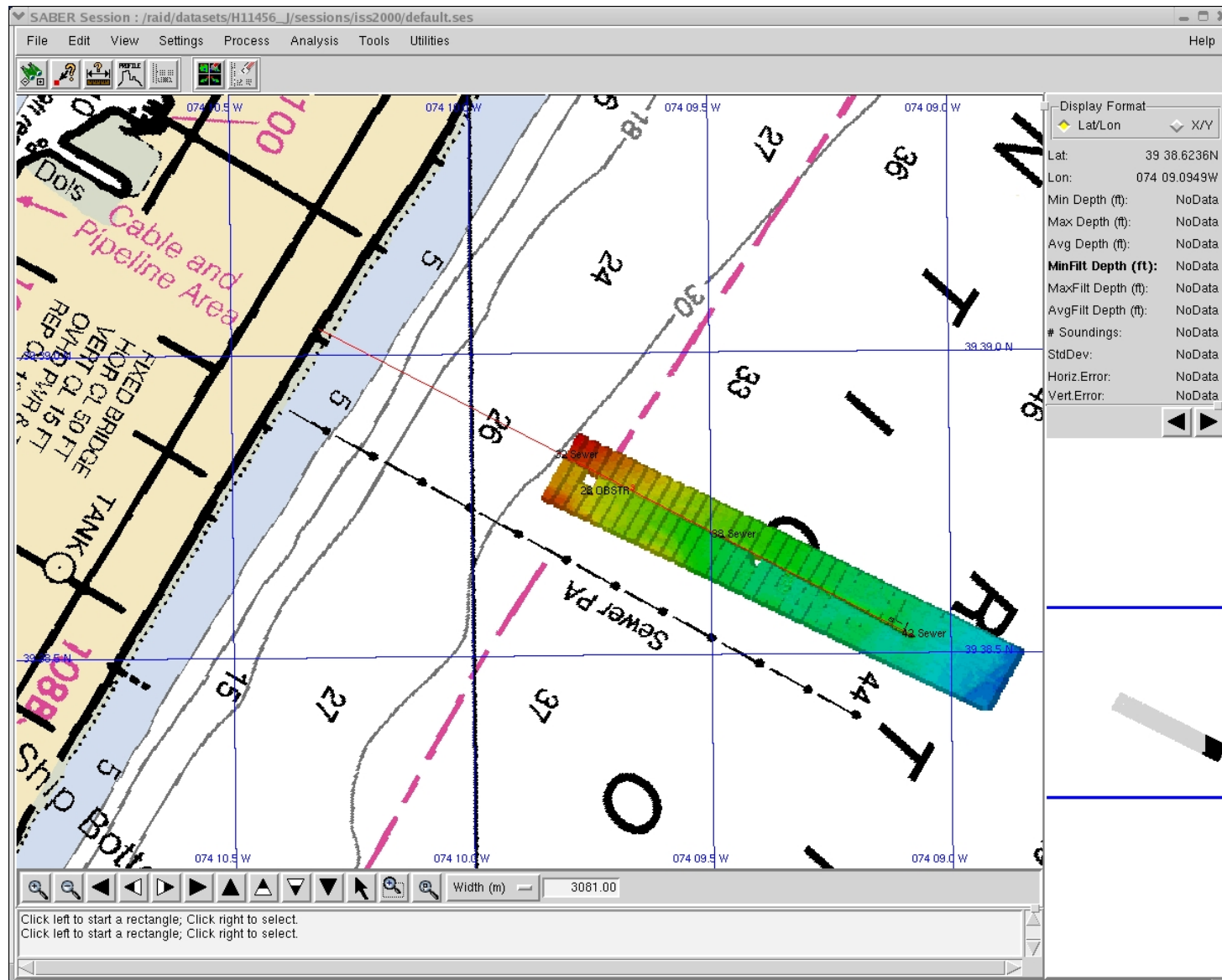


Figure 2. Chart 12324_7 with depth grid Showing Sewer and Obstruction located within H11456.

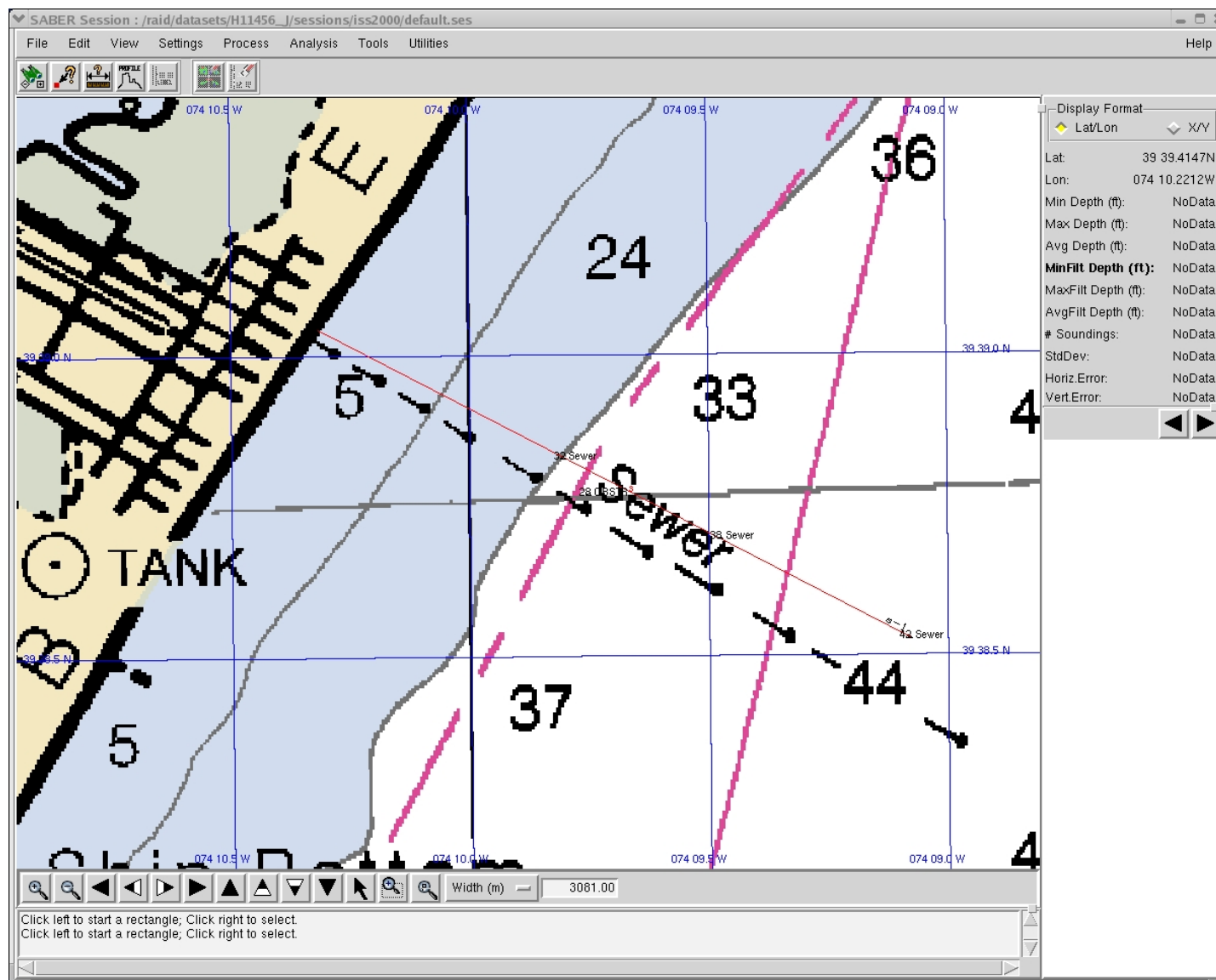


Figure 3. Chart 12323 Showing Sewer and Obstruction located within H11456.

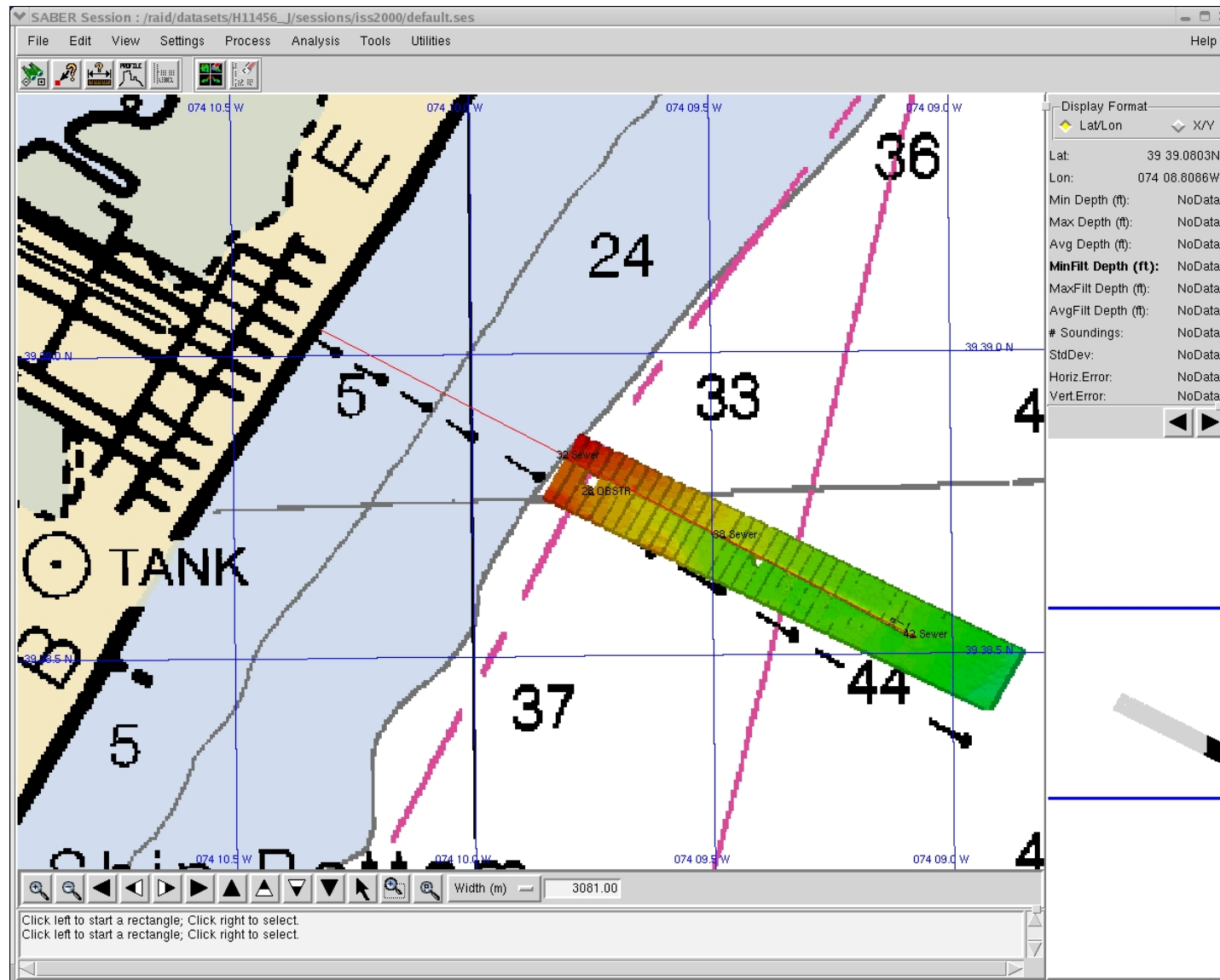


Figure 4. Chart 12323 with depth grid Showing Sewer and Obstruction located within H11456.

REPORT OF DANGERS TO NAVIGATION

H11456 #7

Hydrographic Survey Registry Number: H11456

Survey Title: State: New Jersey
 Locality: Atlantic Ocean
 Sub-locality: Beach Haven Crest to Barnegat Inlet

Project Number: OPR-C303-KR-05

Field Unit: Science Applications International Corporation (SAIC)
Survey Vessel *Atlantic Surveyor*

Survey Date: August 11, 2005 and On Going

Depths are reduced to Mean Lower Low Water using predicted tides and preliminary tidal zoning. Positions are referenced from USCG DGPS beacon and horizontal datum is North America Datum 83 (NAD83).

Charts affected:

- | | | | |
|-----------|--------------------------|--------------|--------------------------|
| • 12323_1 | 23 rd Edition | March 2000 | 1:80,000 scale |
| • 12324_5 | 31 st Edition | January 2004 | 1:40,000 scale |
| | | | Corrected NM Jan. 24/04 |
| | | | Corrected LNM Jan. 13/04 |

ENC affected: US3NY01M.000

The following items were found during hydrographic survey operations:

DANGERS TO NAVIGATION #2

	<u>Feature</u>	<u>Depth (FT)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
1.	Wreck	22	39°41'41.441"	074°08'04.550"
2.	Obstructions	24	39°41'37.603"	074°08'04.843"

See Descriptive Report for final charting recommendations.

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757) 441-6746.

REPORT OF DANGERS TO NAVIGATION

H11456 #8

Hydrographic Survey Registry Number: H11456

Survey Title: State: New Jersey
Locality: Atlantic Ocean
Sub-locality: Beach Haven Crest to Barnegat Inlet

Project Number: OPR-C303-KR-05

Field Unit: Science Applications International Corporation (SAIC)
Survey Vessel *Atlantic Surveyor*

Survey Date: August 11, 2005 and On Going

Depths are reduced to Mean Lower Low Water using Verified Observed water levels and preliminary tidal zoning. Positions are referenced from USCG DGPS beacon and horizontal datum is North America Datum 83 (NAD83).

Charts affected:

- 12323_1 23rd Edition March 2000 1:80,000 scale
 - 12324_5 31st Edition January 2004 1:40,000 scale
- Corrected NM Jan. 24/04
Corrected LNM Jan. 13/04

ENC affected: US3NY01M.000

The following items were found during hydrographic survey operations:

DANGERS TO NAVIGATION #3 Shoal Soundings

	<u>Feature</u>	<u>Depth (FT)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
1.	Shoal Sounding	16	39°45'58.708"	074°04'49.972"
2.	Shoal Sounding	19	39°46'01.021"	074°04'42.425"
3.	Shoal Sounding	18	39°45'52.115"	074°05'00.351"

Items verified during office processing. No change in charting.

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757) 441-6746.

APPROVAL SHEET
H11456

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 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 digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Date: _____

Norris A. Wike
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.

Approved: _____ Date: _____

Shep Smith
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch