	National	U.S. Department of Commerce National Oceanic and Atmospheric Administration National Ocean Survey			
	]	DESCRIPTIVE REPORT			
	Type of Survey:	Response			
5	Registry Number:	D00209			
		LOCALITY			
	State:	New Jersey			
	General Locality:	Cape May			
Z	Sub-locality:	Approach to Cape May Inlet			
		2016			
		CHIEF OF PARTY Robert W. Mowery			
	LIBRARY & ARCHIVES				
	Date:				

NOAA Form 76-35A

NOAA FORM 77-28 (11-72) NATIONAL	U.S. DEPARTMENT OF COMMERCE OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:		
HYDROGRAPHIC TITLE SHEET		D00209		
INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.				
State:	New Jersey			
General Locality:	Cape May			
Sub-Locality:	Approaches to Cape May Inlet			
Scale:	1: <b>10,000</b>			
Date of Survey:	5/3/2016			
Instructions Dated:	5/16/2016			
Project Number:	S-D906-MIST-16			
Field Unit:	USCG patrol boat Hull #45665			
Chief of Party:	Robert W. Mowery			
Soundings by:	N/A			
Imagery by:	Side Scan Sonar			
Verification by:	Pacific Hydrographic Branch			
Soundings Acquired in:	N/A			
H-Cell Compilation Units:	N/A			

### Remarks:

The purpose of this survey was to locate a sunken fishing vessel. All separates are filed with the hydrographic data. Any revisions to the Descriptive Report (DR) generated during office processing are shown in bold red italic text. The processing branch maintains the DR as a field unit product, therefore, all information and recommendations within the body of the DR are considered preliminary unless otherwise noted. The final disposition of surveyed features is represented in the OCS nautical chart update products. All pertinent records for this survey, including the DR, are archived at the National Centers for Envitronmental Information (NCEI) and can be retrieved via <u>http://www.ncei.noaa.gov/</u>.



16 May 2016

MEMORANDUM FOR:	Peter S. Holmberg, NOAA Acting Chief, Pacific Hydrographic Branch		
FROM:	Robert W. Mowery, NOAA Acting Officer in Charge, R/V <i>Bay Hydro II</i>	MOWERY.ROBERT.WI	Digitally signed by MOWERY AOBERT WILLIAM. 1379754488 DN: c=US, c=US. Government, ou=DoD, du=PR, ou=OTHER cn=MOWERY.ROBERT.WILLIAM. 1379754488 Date: 2016.05.17 13:39:56-04'00'
SUBJECT:	DR Memo for S-D906-MIST-16, Cape May,	NJ	

# ABSTRACT:

This is the Descriptive Report (DR) memo for S-D906-MIST-16, Cape May, NJ sheet D00209. This DR memo takes the place of a written Descriptive Report and is being delivered along with all processed data. This survey is not intended to update or supersede any NOAA Publications or Charts.

The purpose of this survey was the collection of 100% Side Scan Sonar (SSS) imagery to locate the sunken fishing vessel *Last Stand*; as requested by the United States Coast Guard (USCG) Cape May. The vessel collided with a tug and tow inside the channel, and it was feared by USCG that that the vessel was unable to move outside of the federally maintained channel before sinking; and thus being a danger to navigation.

Mobile Integrated Survey Team (MIST) "A" personnel equipped with an Edgetech 4125 SSS set up for side scan only operations on a USCG 45 (Hull number 45665) patrol boat from USCG Training Center Cape May was deployed for the search. The fishing vessel *Last Stand* was identified in the SSS trace on four sequential passes, with the final pass being directly overhead so that the USCG vessel could collect an accurate position from their onboard Single Beam Echosounder (SBES) as seen on their Furuno chart plotter.

A Not for Navigation Chartlet was created by the team indicating the position of the sunken vessel and supplied to the USCG, Cape May via the Mid-Atlantic Navigation Manager.

## SIDE SCAN SONAR DATA ACQUISITION:

The SSS data was acquired on 3 May, 2016 with a dual frequency Edgetech 400kHz/900kHz Side Scan Sonar, towed from a 45 foot USCG patrol boat. A range scale of 50m (meters) was selected to optimize the ratio between the time we had to conduct the search and the best imagery. To simplify the installation, the DGPS antenna was used as the reference point, the towfish cable was let out so that the towfish flew directly under the DGPS antenna, and zero





cable out was manually inputted into the Discover I SSS acquisition software. In this configuration, the tow point was considered the position of the towfish in regards to the DGPS antenna (still used as the reference point), and the offset distance between the two were measured and recorded as the tow point in the CARIS .hvf.

During operations, the towfish was flown at a static height of about one meter below the water's surface. The MIST kit is not equipped with a cable counter to record cable out into the SSS data file, and a static height eliminated any error that would occur in estimating the amount of cable let out and brought back in. Even though a SSS fish depth of one meter falls outside the 8% - 20% of the range scale as recommended by FPM 2.5.3.1.2 (for a towed system), it was determined that the 12 meters long fishing vessel would be easily seen in the SSS trace even outside the recommended towfish height.

Once the survey area was reached, the MIST team decided it was the best use of time to run SSS lines parallel to the channel over the last know position of the fishing vessel. When the vessel was not seen in the SSS trace, the decision was made to run lines parallel to the channel over the position in which the USCG recovered the fishing vessel's life raft.

It should be noted that logging of the SSS lines did not always stop at the beginning of a turn. While under way and logging data, we had some trouble with communications between the SSS topside unit and the acquisition computer. In our attempt to fix the communications issues, we failed to end logging in the turns. Once the issue was fixed, it was decided to just continue logging through the turns and let the system start new lines at a pre-set file size.

## SIDE SCAN SONAR COVERAGE:

The survey was approximately five miles southeast of Cape May, NJ and covered approximately 0.23 square nautical miles, with the North West corner of the survey area at 38° 52' 27.6944"W, -074° 48' 23.1977N. The survey area was entirely inside the charted "Two-Way Traffic Zone" channel, and extended south east to 38° 51' 49.4684"N, -074° 48' 18.1557"W (Figure 1).





Figure 1: D00209 coverage, in royal blue, overlaid onto NOAA Chart 12214.

## CONTACTS:

Four contacts were identified within the SSS data, see D00209\_SSS\_Contacts.hob for more details. Once the sunken fishing vessel was seen in the SSS trace, the wreck was ensonified two more times to collect SSS imagery from different angles. The survey vessel was then driven directly over top of the wreck, again collecting SSS imagery, in order to determine an exact position (Figure 2). This positional data was collected using the on board SBES and visualized on the on board chart plotter. This position was determined to be  $38^{\circ}$  52' 13.506N,  $-074^{\circ}$  48 22.794"W.





#### UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration Office of Coast Survey R/V Bay Hydro II S-5401 Solomons, MD



Figure 2: Position and SSS imagery of sunken fishing vessel Last Stand, with the position of the SSS imagery being denoted by a red arrow.

## ADDITIONAL ACTIONS:

Since the position of the sunken fishing vessel Last Stand was determined to be inside the federally maintained channel, a chartlet was created indicating the position of the wreck and submitted to the Mid-Atlantic Navigation Manager. This charlet was then disseminated to USCG and USACE, with no further actions taken by NOAA. This wreck should not be charted due to USACE intent to remove it. For the same reason, a Danger to Navigation Report was not filed through NOAA channels.

Note: Follow up correspondence from USCG indicated the wreck has been removed. On 8/23/16 BHII revisited the area and confirmed that no wreckage or debris remain.



### APPROVAL PAGE

### D00209

Survey D00209 was an investigation survey containing only side scan sonar imagery, no bathymetry. The survey does not contain data for application to NOAA charting products.

The following products will be sent to NGDC for archive:

- D00209\_DR\_Memo.pdf
- Processed survey data and records

The survey evaluation and verification has been conducted according to current OCS specifications and procedures.

Approved:\_\_\_\_\_

# **Grant Froelich**

Hydrographic Team Lead, Pacific Hydrographic Branch

The survey has not been approved for chart updates. The data will be archived at NGDC so that it can be made available for other uses.

Approved:\_\_\_\_\_

**CDR Ben Evans, NOAA** Chief, Pacific Hydrographic Branch