

# H12191

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Type of Survey:	Navigable Area
Registry Number:	H12191
LOCALITY	
State:	Florida
General Locality:	Gulf of Mexico
Sub-locality:	NW Approach to Key West, FL
2010	
CHIEF OF PARTY CDR Shepard M. Smith NOAA	
DATE	LIBRARY & ARCHIVES

**HYDROGRAPHIC TITLE SHEET**

**H12191**

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: **Florida**

General Locality: **Gulf of Mexico**

Sub-Locality: **NW Approach to Key West, FL**

Scale: **1:40,000** Dates of Survey: **2 July 2010 to 24 August 2010**

Instructions Dated: **7 June 2010** Project Number: **OPR-H355-TJ-10**

Vessel: **NOAA Ship *Thomas Jefferson***

Chief of Party: **CDR Shepard M. Smith**

Surveyed by: ***Thomas Jefferson Personnel***

Soundings by: **Reson 7125 multibeam/Odom Echotrak vertical beam echosounder**

Graphic record scaled by: **N/A**

Graphic record checked by: **N/A**

Protracted by: **N/A** Automated Plot: **N/A**

Verification by: ***Atlantic Hydrographic Branch***

Soundings in: **Meters at MLLW\***

Remarks: ***Bold, Italic, Red notes in the Descriptive Report were made during office processing.***  
***1) All Times are in UTC.***  
***2) This is a Navigable Area Hydrographic Survey.***  
***3) Projection is UTM Zone 17.***

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## Descriptive Report to Accompany Hydrographic Survey

Project OPR-H355-TJ-10  
 Gulf of Mexico  
 NW Approach to Key West, FL  
 Scale 1:40,000  
 2 July – 24 August 2010  
**NOAA Ship *Thomas Jefferson***

### A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Project Instructions OPR-H355-TJ-10, dated 7 June 2010. **Concur.**

Northern Limit	Southern Limit	Western Limit	Eastern Limit
24° 41' 55.99" N	24° 37' 59.11" N	082° 00' 07.44" W	081° 51' 54.21" W

Data acquisition was conducted from 2 July – 24 August 2010.

This project is being conducted in support of the Office of Coast Survey (OCS) and the Office of National Marine Sanctuary (ONMS) to provide contemporary bathymetric and imagery data of critical benthic habitats within the boundaries of the Florida Keys National Marine Sanctuary (FKNMS) in the Northwest approaches to Key West, FL. Bathymetric and imagery data from this project will be collected utilizing Side Scan Sonar (SSS), Vertical Beam echosounder (VBES), and Multibeam sonar (MB) systems and will be further utilized by OCS to update the nautical charts and products in this area.

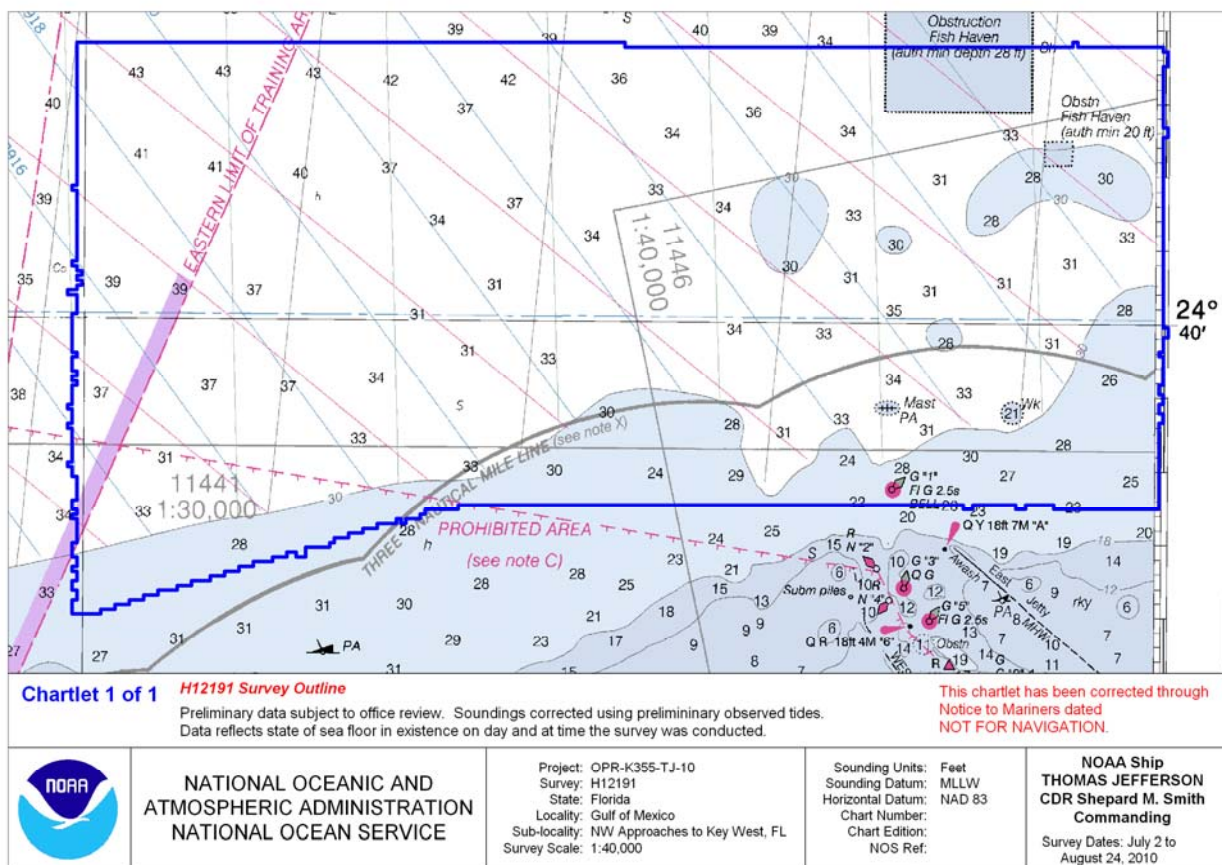
	3101 LNM	3102 LNM	Total LNM
LNM Single beam only	429.9	321.8	751.8
LNM Multibeam only	5.9	11.1	17.0
LNM Lidar mainscheme only	N/A	N/A	N/A
LNM Side Scan Sonar mainscheme only	N/A	N/A	N/A
Lineal nautical miles of any combination of the above techniques	N/A	N/A	N/A
LNM Crosslines	0	66.3	66.3
LNM Lidar Crosslines	NA	NA	NA

**Table 1: Vessel Linear Nautical Mile Statistics**

Number of Bottom Samples	5
Number of items investigated that required additional time/effort in the field beyond the above survey operations	NA
Total number of square nautical miles	24.21

**Table 2: Hydrographic Survey Statistics**

Survey limits of H12191 (Figure 1) are shown below.

**Figure 1: Survey Limits**

Calendar Date	Julian Day
2 July 2010	183
16 July 2010	197
17 July 2010	198
18 July 2010	199
27 July 2010	208
28 July 2010	209
1 August 2010	213
2 August 2010	214
3 August 2010	215
4 August 2010	216
5 August 2010	217
19 August 2010	231
20 August 2010	232
24 August 2010	236

**Table 3. Dates of Multibeam Data  
Acquisition in Calendar and Julian Days**

## **B. DATA ACQUISITION AND PROCESSING**

Refer to **OPR-H355-TJ-10 Data Acquisition and Processing Report (DAPR\*)** for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are included in this descriptive report. **Concur.**

### **B 1. EQUIPMENT AND VESSELS**

Data were acquired by NOAA Hydrographic Survey Launches (HSL) 3101 and 3102. HSL 3101 and HSL 3102 acquired Reson 7125 multibeam soundings, Odom Echotrak CV-200 vertical beam soundings, Seabird Seacat 19+ sound velocity profiles, and bottom samples using a Petit Ponar grab. Vessel configurations, equipment operation, and data acquisition and processing were consistent with the specifications described in the DAPR. **Concur.**

### **B 2. QUALITY CONTROL**

#### **B 2.1 System Certification and Calibration**

Refer to NOAA Ship *Thomas Jefferson* DAPR and Hydrographic Systems Readiness Report (HSRR) for a complete description of system integration and initial calibration results for equipment and sensors used for this survey. **Concur.**

#### **B 2.2 Sounding Coverage**

Vertical beam soundings were acquired using set line spacing as per Field Procedures Manual section 2.5.3.1.2 for Side Scan Sonar data acquisition. Multibeam soundings were collected over all significant features identified in the Side Scan sonar record. **Concur.**

#### **B 2.3 Crosslines**

Multibeam echosounder cross-lines totaling 66.3 lineal nautical miles, comprising 8.8 percent of main scheme hydrography, were acquired during the course of the survey. Soundings generally agree between mainscheme and crosslines to within 10 cm. Crossline comparisons were performed in accordance with HSSD 2010 section 5.2.4.3. Quality control checks were done using the standard deviation layer of the survey's uncertainty surface. Areas of unusually high standard deviation were investigated and resolved in processing, except where caused by areas of high bathymetric relief or features. Uncertainty values for VB and MB data are consistently 30 cm throughout the survey area, and remain below the IHO order 1 limit for these depths. **Concur.**

## B 2.4 Junctions and Prior Surveys

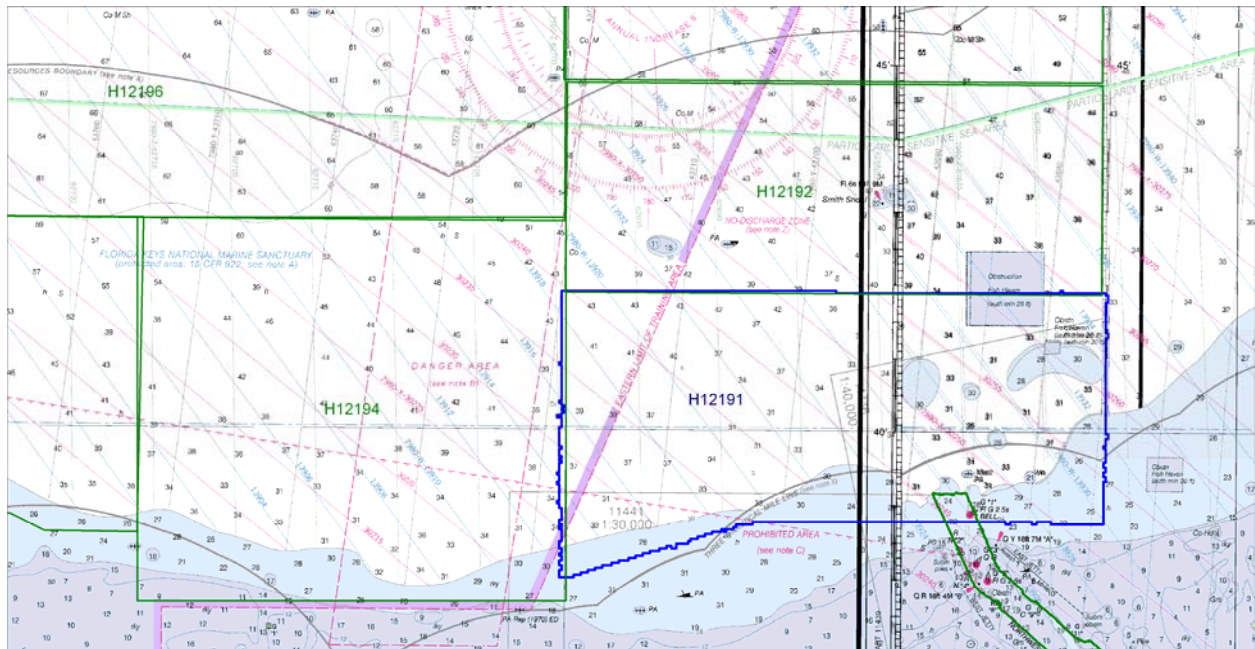
The following surveys junction with H12191:

<b>Registry #</b>	<b>Scale</b>	<b>Date</b>	<b>Field Party</b>	<b>Junction side</b>
H12192	1:40,000	2010	<i>Thomas Jefferson</i>	North
H12194	1:40,000	2010	<i>Thomas Jefferson</i>	East
H10995	1:40,000	2000	<i>Whiting</i>	South

Survey H12192 junctions with H12191 in the North. The difference in soundings between the two surveys is less than 1foot.

Survey H12194 junctions with H12191 in the East. The difference in soundings between the two surveys is less than 1foot.

Survey H10995 junctions with H12191 in the South. Charted soundings represent the results of the prior survey and the difference in soundings between the two surveys is no greater than two feet. **Concur.**



**Figure 2. H12191 Junction Surveys.**

## B 2.5 Systematic Errors

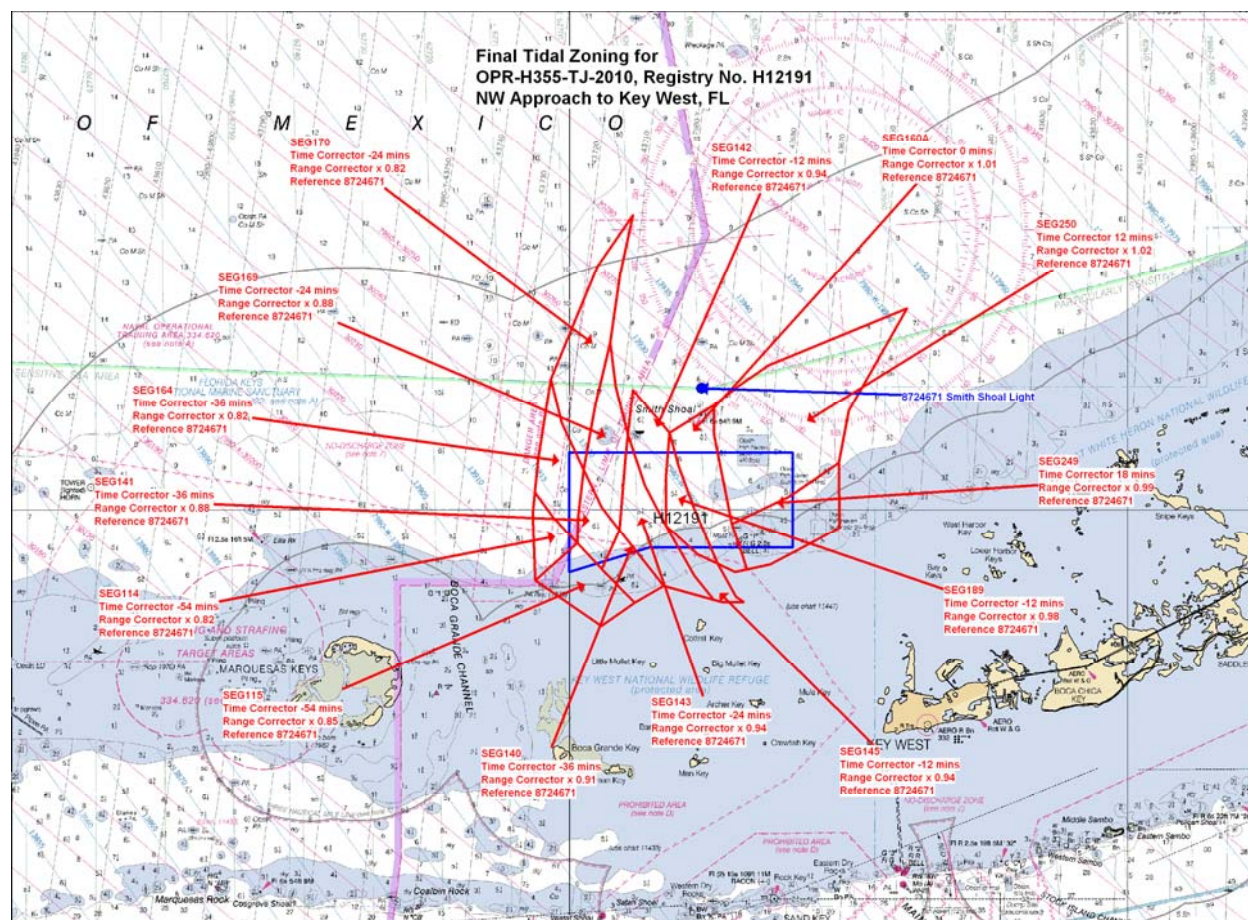
Vertical beam data had a varying time offset from the POS navigation data on some days of acquisition. The offset was evaluated in post processing and a value in seconds was applied to each affected line, using Pydro Post Acquisition Tools. A table detailing offsets for each line is



attached in Appendix 5 of this report. *Concur with clarification: See Appendix V, H12191 Time Conversion.xls*

### B 3. CORRECTIONS TO ECHO SOUNDINGS

HDCS sounding data were reduced to mean lower-low water (MLLW) using verified tides from Smith Shoal Light, FL (872-4671) with final tide zoning applied as provided by CO-OPS in the Tide Note dated 15 December 2010 and illustrated in Figure 3. The Key West, FL (872-4580) tide gauge mentioned in the project instructions was not used for final tides. *Concur.*



### Figure 3: Final Tide Zoning

All other datum reduction procedures conform to those outlined in the DAPR.

All methods and instruments used for sound velocity correction were as described in the DAPR. SVP casts were applied in CARIS using nearest in time. A table detailing all sound velocity casts is located in Separate II of this Descriptive Report. *Concur.*



## B 4. DATA PROCESSING

### B 4.1 Total Propagated Uncertainly

For the 2010 field season, Total Propagated Uncertainly (TPU) parameters for sound speed and tides are calculated separately for each project. The project-specific parameters for OPR-H355-TJ-10, Survey H12191 are estimated values, and were not provided by CO-OPS.

Project	Vessel	Tide Values		Sound Velocity Values			
		Measured	Zoning	CTD	MVP	Surface	For SSS
H12191	3202	0.05*	0.125	4	n/a	0.2	1548 m/s
H12191	3101	0.05*	0.125	4	n/a	0.2	1548 m/s

**Table 3: TPE Parameters**

\* Error value not provided by CO-OPS, estimated value.

These values were calculated for all MBES data immediately following CARIS merge

### B 4.2 BASE Surfaces and Mosaics

The following table describes all BASE Surfaces and Mosaics submitted as part of Survey H12191:

Name of Surfaces and/or Mosaics	Resolution	Type	Purpose
H12191_MB_Cube_MLLW_50cm_1_Final	0.5 meter	CUBE	Developments
H12191_MB_Cube_MLLW_50cm_2_Final	0.5 meter	CUBE	Developments
H12191_MB_Cube_MLLW_50cm_3_Final	0.5 meter	CUBE	Developments
H12191_MB_Cube_MLLW_50cm_4_Final	0.5 meter	CUBE	Developments
H12191_MB_Cube_MLLW_50cm_5_Final	0.5 meter	CUBE	Developments
H12191_MB_Cube_MLLW_50cm_6_Final	0.5 meter	CUBE	Developments
H12191_MB_Cube_MLLW_50cm_7_Final	0.5 meter	CUBE	Developments
H12138_1_Uncertainty_VB_2m_Final	2.0 meter	Uncertainty	Sounding Coverage
H12138_100_SSS_Mosaic_1m	1.0 meter	SSS Mosaic	100% SSS Coverage
H12138_200_SSS_Mosaic_1m	1.0 meter	SSS Mosaic	200% SSS Coverage

**Table 4: Fieldsheets**

This survey was processed using the Combined Uncertainty and Bathymetry Estimator (CUBE) algorithm for multibeam data and Uncertainty for single beam data. The CUBE configuration was set to NOAA 0.5m for all object detection surfaces and 2m for all complete multibeam surfaces. Refer to the 2010 Data Acquisition and Processing Report, 2010 Field Procedures Manual, and CARIS HIPS/SIPS manual for further discussion. *Concur.*

### **B 4.3 Data Cleaning**

The survey was cleaned using the swath and subset editor tools in CARIS. All areas of the BASE surface that indicated a high standard deviation were examined and cleaned as required such that no residual errors exist in the surface that exceed the IHO order 1 depth accuracy requirements.

*Concur.*

### **C. HORIZONTAL AND VERTICAL CONTROL**

As per FPM section 5.2.3.2.3 a HVCR report was not filed as no horizontal and vertical control stations were established by the field party for this survey. A summary of horizontal and vertical control for this survey follows. *Concur.*

#### **C 1.1 Horizontal Control**

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. Differential corrections from U.S. Coast Guard beacon at Key West, FL (286 kHz) were used during this survey.

No horizontal control stations were established by the field party for this survey. *Concur.*

#### **C 1.2 Vertical Control**

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at Smith Shoal Light, FL (872-4671), will serve as datum control for H12191. Verified tides with Final zoning were applied to all sounding data.

A request for delivery of final approved (verified) tides for this survey was forwarded to N/OPS1 on 25 August 2010 in accordance with the FPM and project letter instructions. Final smooth tide letter is dated 15 December 2010. *Concur.*

### **D. RESULTS AND RECOMMENDATIONS**

#### **D.1 Chart Comparison**

Survey H12191 was compared with chart 11434 (28<sup>th</sup> Ed.; June 2008, 1:180,000), chart 11439 (26<sup>th</sup> Ed.; July 2004, 1:80,000), and ENC's US4FL92M and US3FL90M. Chart comparisons were performed in CARIS Base Editor. *Concur, with clarification. Chart 11441 (41<sup>st</sup> Ed.; February 2012, 1:30,000) covers the southeast corner of the survey area.*

##### **D.1.1 Chart 11439 Comparison**

In general the soundings agree within 2 feet. Three patch reefs exist which are approximately 8 to 12 feet more shoal than surrounding soundings. An area 500m east of the charted Fish Haven

has numerous debris fields which are more shoal than charted soundings. See Feature Report appendix II for more details. *Concur.*

### **D.1.2 Chart 11434 Comparison**

In general the soundings agree within ½ fathom. *Concur.*

### **D.1.3 ENC US4FL92M Comparison**

In general the soundings agree within one half meter. *Concur.*

### **D.1.4 ENC US3FL90M Comparison**

In general the soundings agree within one half meter. *Concur.*

## **D.2 Additional Results**

### **D.2.1 Automated Wreck and Obstruction Information Service (AWOIS) Items**

A total of 2 assigned AWOIS items were located within the limits of H12191 and investigated during this survey. AWOIS items were investigated with Side scan and object detection multibeam over the search radius. All AWOIS items are described in detail in Appendix II of this report. *Concur.*

### **D.2.4 Shoreline**

Shoreline was not investigated during survey H12191. *Concur.*

### **D.2.5 Charted Features**

The least depth found over the Obstruction Fish Haven contained within survey H12191 was 36 feet. All other charted features and item investigations are described in detail in Appendix II of this report. *Concur.*

### **D.2.6 Charted Pipelines and Cables**

There are no charted pipelines or cables on the survey area. *Concur.*

### **D.2.7 Bridges, Ferry Routes, and Overhead Cables**

There are no ferry routes, bridges, or overhead cable crossings within the limits of the survey. *Concur.*

### **D.3 Dangers to Navigation and Shoals**

#### **D 3.1 Dangers to Navigation**

There are no dangers to navigation within the survey limits of H12191. *Concur.*

#### **D 3.2 Shoals**

There are no Shoals within the limits of H12191, except where noted as patch reefs above. *Concur.*

#### **D.4 Aids to Navigation**

There are no charted Aids to Navigation (ATONs) within the limits of H12191. *Do not concur. Chart 11441 has a buoy positioned at 24-38-52.376N, 081-53-57.561W.*

#### **D.5 Coast Pilot Information**

The Hydrographer has no recommendations for changes or addenda to the Coast Pilot. *Concur.*

#### **D.6 Miscellaneous**

##### **Bottom Samples**

Five bottom samples were acquired with this survey in accordance with section 7.1 of the NOS Hydrographic Survey Specifications and Deliverables, dated April 2010. A feature file of all bottom samples acquired during Survey H12191 is provided in the this survey's Pydro PSS folder. A list of bottom samples is contained in Appendix V. *Concur.*

##### **Additional Tasks**

Side scan data were acquired as per the FKNMS special requirements. Specifically, the survey was conducted so that all 100% SSS survey data were acquired in the same azimuth and all 200% SSS in an opposing azimuth, in order to aid in benthic habitat classification using GEO-CODER.

Additionally, the SSS imagery trace was scanned for identification of placed casitas/fish traps, and a target was placed within the data acquisition software (SonarPro®) for all observed and potential casitas. The target files, as well as standard raw and processed bathymetric and imagery data should be provided to the Office of National Marine Sanctuaries, upon availability from OCS. See project instructions for specific contact information.

#### **D.7 Adequacy of Survey**

This survey is considered complete and adequate to supersede charted depths and features within the survey outline area except as noted in this report.

**Summary and Recommendations for Additional Work**

No additional work is needed to complete this survey. No changes significant to navigation have been noted and it is recommended that this survey receive normal processing priority.




**E. APPROVAL**

As Lead Hydrographer, I have ensured that standard field surveying and processing procedures were followed in producing this examination in accordance with the Office of Coast Survey Hydrographic Surveys Division's *Field Procedures Manual*, and NOS *Hydrographic Surveys Specifications and Deliverables*. Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to N/CS33, Atlantic Hydrographic Branch.

The Data Acquisition and Processing Report for OPR-H355-TJ-10 is submitted separately and contains additional information relevant to this survey.

Approved and Forwarded:

  
Mark  
Blankenship  
2011.03.23  
11:03:18 -04'00'

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LT Mark Blankenship, NOAA  
Field Operations Officer

  
Digitally signed by  
Shepard Smith  
Date: 2011.03.23 11:23:11  
-04'00'

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CDR Shepard M. Smith, NOAA  
Commanding Officer

In addition, the following individual was also responsible for overseeing data acquisition and processing of this survey:

  
daniel wright  
2011.03.23  
11:07:09 -04'00'

Survey Manager:

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Daniel Wright  
Chief Hydrographic Survey Technician, NOAA

**Appendix I**

**Dangers to Navigation**

**None**

## **Appendix II**

### **Survey Features Report**

#### **1. AWOIS Items**

**-Two**

#### **2. Charted Features**

**-Two**

#### **3. Uncharted Features**

**-Three**

#### **4. Seabed Characteristics**

**- Seven**

# H12191 AWOIS

**Registry Number:** H12191  
**State:** Florida  
**Locality:** Gulf of Mexico  
**Sub-locality:** NW Approach to Key West  
**Project Number:** OPR-H355-TJ-10  
**Survey Date:** 08/24/2010

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11446	32nd	10/01/2006	1:40,000 (11446_1)	USCG LNM: 01/19/2010 (01/19/2010) NGA NTM: 07/15/2000 (01/30/2010)
11442	35th	01/01/2008	1:80,000 (11442_1)	[L]NTM: ?
11439	26th	07/01/2004	1:80,000 (11439_1)	USCG LNM: 11/24/2009 (01/19/2010) NGA NTM: 10/02/1999 (01/30/2010)
11434	28th	06/01/2008	1:180,000 (11434_1)	USCG LNM: 1/11/2011 (1/10/2012) NGA NTM: 10/2/1999 (1/21/2012)
11460	41st	07/01/2008	1:466,940 (11460_1)	[L]NTM: ?
1113A	28th	07/01/2005	1:470,940 (1113A_1)	[L]NTM: ?
11420	28th	07/01/2005	1:470,940 (11420_1)	[L]NTM: ?
11451	33rd	09/01/2007	1:495,362 (11451_17) 1:495,362 (11451_16)	[L]NTM: ?
11006	32nd	08/01/2005	1:875,000 (11006_1)	[L]NTM: ?
11013	47th	02/01/2008	1:1,200,000 (11013_1)	[L]NTM: ?
411	52nd	09/01/2007	1:2,160,000 (411_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	AWOIS # 3163	Wreck	9.08 m	24° 39' 26.4" N	081° 53' 53.4" W	3163
1.2	AWOIS # 2922	Wreck	7.40 m	24° 39' 23.4" N	081° 53' 03.1" W	2922

**1 - DR\_AWOIS**



## 1.1) AWOIS # 3163

### Primary Feature for AWOIS Item #3163

**Search Position:** 24° 39' 25.5" N, 081° 53' 59.3" W  
**Historical Depth:** 6.10 m  
**Search Radius:** 500  
**Search Technique:** SSS, MB, SB  
**Technique Notes:** [None]

#### History Notes:

03163

#### HISTORY

LNM1/79(1/3/79)--7TH CGD; WRECK, PA (MAST), SUNKEN SHRIMP BOAT WITH A STEEL MAST WAS REPORTED IN APPROX. POS. LAT.24-39.4N, LONG.81-54W. VISIBLE 6FT. CL1191/82--USPS; HORIZONTAL VISIBLE SEARCH FAILED TO LOCATE "MAST" AS CHARTED. MR. CHET ALEXANDER, OWNER OF ALEXANDER MARINE, A SALVAGE FIRM, WAS QUERIED ABOUT THE WRECK. HE STATED THAT HE HAD SALVAGED THE WK, REMOVED EVERYTHING OF VALUE INCLUDING THE MAST, AND THAT THE REMAINS OF THE HULL WERE FLAT ON THE BOTTOM.  
H10086/84--OPR-H373-HFP-83; DANG SUBM WK NOT INVESTIGATED ON PRESENT SURVEY. RECOMMENDS RETAINS AS CHARTED. (UPDATED 4/87 RWD)

#### DESCRIPTION

\*\*\*\* TELECON WITH BOATSWAIN MATE SURPRIZE OF THE KEY WEST COAST GUARD STATION, 9/26/83, INDICATED THAT MR. ALEXANDER HAD RETIRED, BUT A HOME PHONE WAS GIVEN (305 296-3418).

#### SURVEY REQUIREMENTS

FULL--VERIFY OR DISPROVE BY FATHOMETER INVESTIGATION AT LOW WATER WITH REDUCED

LINE SPACING, OR IF THE WATER CLARITY PERMITS VISUAL OBSERVATION, 1/4 MILE MINIMUM RADIUS OF THE GIVEN POSITION. DISPROVAL MAY BE ACQUIRED BY SALVAGE DOCUMENTATION (MR. ALEXANDER), HOWEVER IF THE HULL REMAINS (CONSTRUCTION UNKNOWN) A LEAST DEPTH WOULD BE REQUIRED. MR. ALEXANDER POSSIBLY COULD AID IN DEFINING THE GIVEN POSITION.

ASSIGNED:

## Survey Summary

**Survey Position:** 24° 39' 26.4" N, 081° 53' 53.4" W  
**Least Depth:** 9.08 m (= 29.79 ft = 4.964 fm = 4 fm 5.79 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_Features\_SAR.000  
**FOID:** US 0000056727 00001(02260000DD970001)  
**Charts Affected:** 11446\_1, 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

### Remarks:

OBSTRN/remrks: Obstruction found with MB and SSS. No remains of wreck observed.

## Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_Features_SAR.000	US 0000056727 00001	0.00	000.0	Primary
OPR-H355-TJ-10 AWOIS	AWOIS # 3163	-1.00	000.0	Secondary (grouped)

## Hydrographer Recommendations

Remove charted wreck. Remove Mast PA. Add obstruction.

### Cartographically-Rounded Depth (Affected Charts):

30ft (11446\_1, 11439\_1, 11442\_1, 11451\_16, 11451\_17)

5fm (11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11006\_1, 11013\_1, 411\_1)

## S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 3:distributed remains of wreck  
 NINFOM - Chart wreck  
 QUASOU - 6:least depth known  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12197  
 TECSOU - 3:found by multi-beam  
 VALSOU - 9.079 m

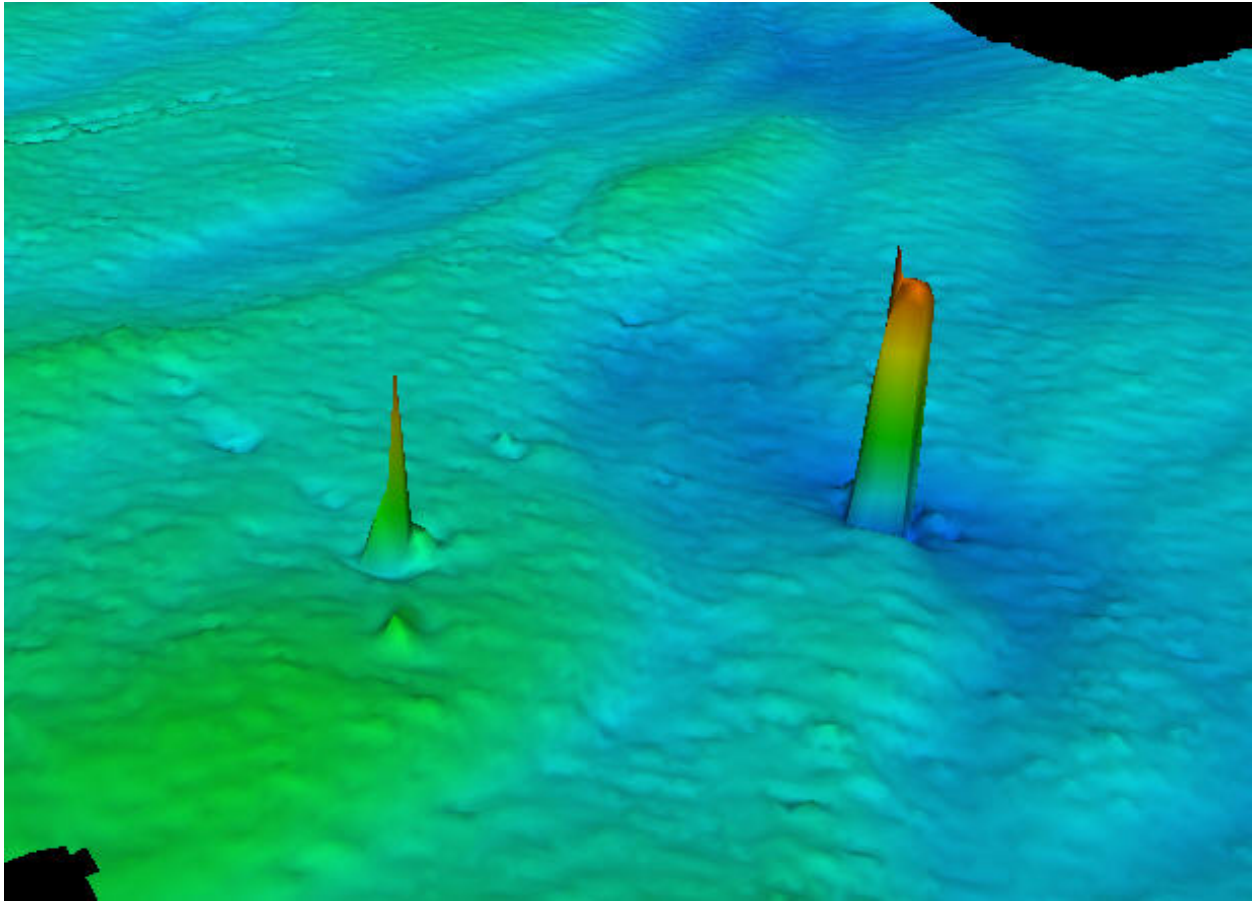
WATLEV - 3:always under water/submerged

### **Office Notes**

SAR NOTES: 29.79 ft (9.08 m) obstruction positioned at 24°39'26.417" , -081°53'53.398".

COMPILE NOTES: Delete charted wreck Mast PA. Chart wreck at surveyed position.

## Feature Images



*Figure 1.1.1*



*Figure 1.1.2*



## 1.2) AWOIS # 2922

### Primary Feature for AWOIS Item #2922

**Search Position:** 24° 39' 23.8" N, 081° 53' 03.3" W  
**Historical Depth:** 6.71 m  
**Search Radius:** 100  
**Search Technique:** SSS, MB, SB  
**Technique Notes:** [None]

#### History Notes:

02922

#### HISTORY

CL1490/84--OPR-H373-HFP-84; DANG. SUBM. WK, F/V LOCATED BY R/A CONTROL IN LAT.24-39-22.26N, LONG.81-53-03.95W. DIVERS LEAST DEPTH (PREDICTED TIDES) 22.2FT IN 30FT SURROUNDING DEPTHS. VESSEL IS 60 X 15FT NW-SE ORIENTED. (ENTERED 11/84 RWD).

H10086/84--OPR-H373-HFP-83; WK (COVERED 21 FT AT MLLW), REMAINING INFORMATION SAME AS CL1490/84 ABOVE. (UPDATED 4/87 RWD)

### Survey Summary

**Survey Position:** 24° 39' 23.4" N, 081° 53' 03.1" W  
**Least Depth:** 7.40 m (= 24.28 ft = 4.046 fm = 4 fm 0.28 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_Features\_SAR.000  
**FOID:** US 0000056725 00001(02260000DD950001)  
**Charts Affected:** 11446\_1, 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

#### Remarks:

WRECKS/remrks: Wreck Debris found with MB and SSS.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_Features_SAR.000	US 0000056725 00001	0.00	000.0	Primary

OPR-H355-TJ-10 AWOIS	AWOIS # 2922	-1.00	000.0	Secondary (grouped)
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## Hydrographer Recommendations

Revise charted wreck.

### Cartographically-Rounded Depth (Affected Charts):

24ft (11446\_1, 11439\_1, 11442\_1, 11451\_16, 11451\_17)

4fm (11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11006\_1, 11013\_1, 411\_1)

## S-57 Data

**Geo object 1:** Wreck (WRECKS)

**Attributes:** CATWRK - 2:dangerous wreck  
QUASOU - 6:least depth known  
SORDAT - 20100824  
SORIND - US,US,graph,H12191  
VALSOU - 7.400 m  
WATLEV - 3:always under water/submerged

## Office Notes

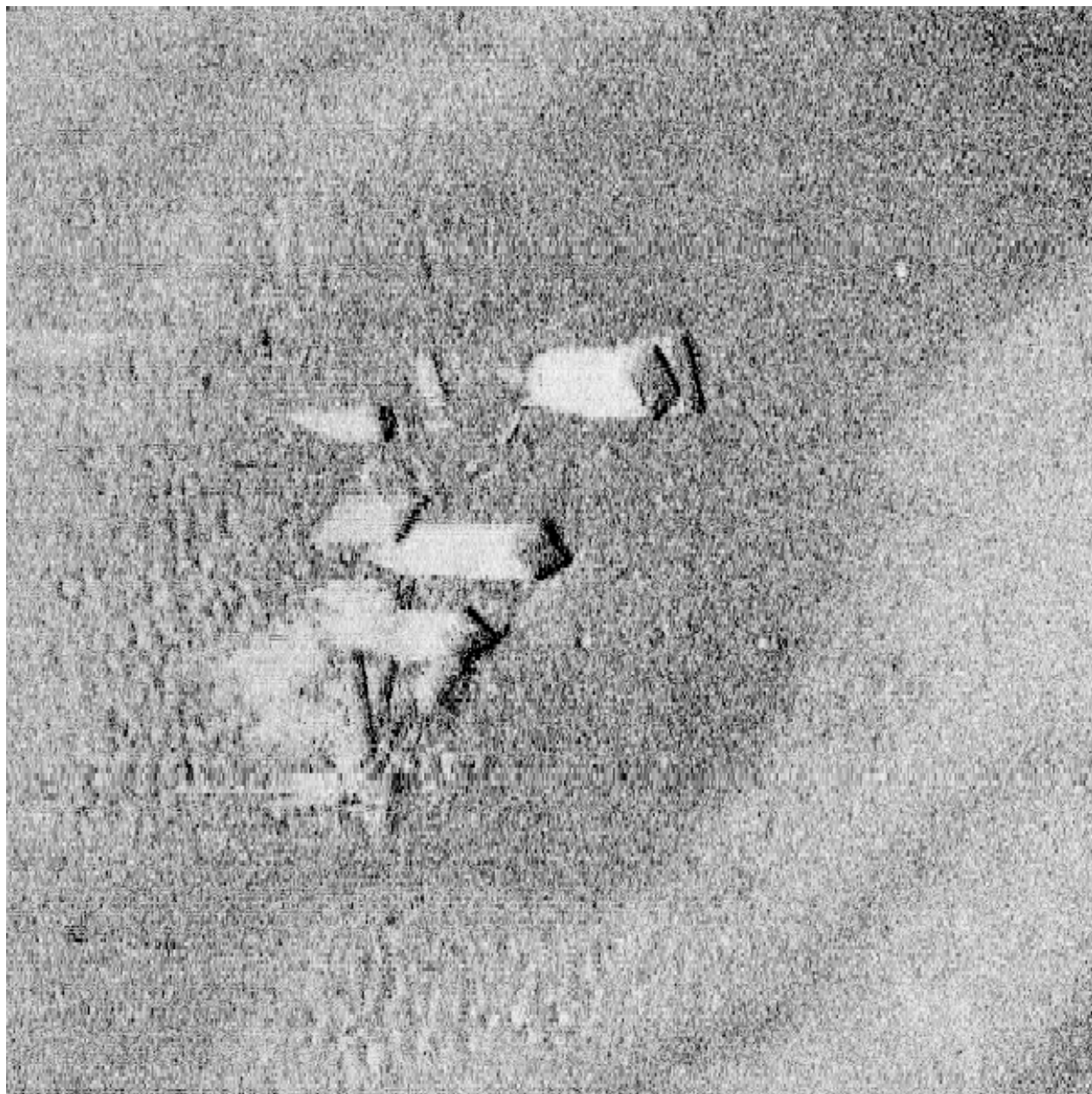
SAR NOTES: 24.28 ft (7.40 m) wreck positioned at 24°39'23.353" , -081°53'03.124".

COMPILE NOTES: Chart wreck at surveyed position.

## Feature Images



Figure 1.2.1



*Figure 1.2.2*

# H12191 Charted

**Registry Number:** H12191  
**State:** Florida  
**Locality:** Gulf of Mexico  
**Sub-locality:** NW Approach to Key West  
**Project Number:** OPR-H355-TJ-10  
**Survey Date:** 07/01/2003

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11446	32nd	10/01/2006	1:40,000 (11446_1)	USCG LNM: 01/19/2010 (01/19/2010) NGA NTM: 07/15/2000 (01/30/2010)
11442	35th	01/01/2008	1:80,000 (11442_1)	[L]NTM: ?
11439	26th	07/01/2004	1:80,000 (11439_1)	USCG LNM: 11/24/2009 (01/19/2010) NGA NTM: 10/02/1999 (01/30/2010)
11434	28th	06/01/2008	1:180,000 (11434_1)	USCG LNM: 1/11/2011 (1/10/2012) NGA NTM: 10/2/1999 (1/21/2012)
11460	41st	07/01/2008	1:466,940 (11460_1)	[L]NTM: ?
1113A	28th	07/01/2005	1:470,940 (1113A_1)	[L]NTM: ?
11420	28th	07/01/2005	1:470,940 (11420_1)	[L]NTM: ?
11451	33rd	09/01/2007	1:495,362 (11451_17) 1:495,362 (11451_16)	[L]NTM: ?
11006	32nd	08/01/2005	1:875,000 (11006_1)	[L]NTM: ?
11013	47th	02/01/2008	1:1,200,000 (11013_1)	[L]NTM: ?
411	52nd	09/01/2007	1:2,160,000 (411_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Fish Haven	Obstruction	8.50 m	24° 42' 27.5" N	081° 53' 58.0" W	---
1.2	Fish Haven	Obstruction	6.00 m	24° 41' 09.9" N	081° 52' 51.4" W	---



**1 - Charted**

## 1.1) Fish Haven

### Survey Summary

**Survey Position:** 24° 42' 27.5" N, 081° 53' 58.0" W  
**Least Depth:** 8.50 m (= 27.89 ft = 4.648 fm = 4 fm 3.89 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2003-182.00:00:00.000 (07/01/2003)  
**Dataset:** H12191\_FishHaven\_Compiled.000  
**FOID:** US 0000254083 00001(02260003E0830001)  
**Charts Affected:** 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

#### Remarks:

Charted fish haven.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_FishHaven_Compiled.000	US 0000254083 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Retain charted fish haven.

#### Cartographically-Rounded Depth (Affected Charts):

28ft (11439\_1, 11442\_1, 11451\_16, 11451\_17)

4 ½fm (11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11006\_1, 11013\_1, 411\_1)

### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** CATOBS - 5:fish haven  
 EXPSOU - 2:shoaler than range of depth of the surrounding depth area  
 NINFOM - Retain fish haven  
 QUASOU - 7:least depth unknown, safe clearance at value shown  
 SORDAT - 20030700  
 SORIND - US,US,graph,chart 11442

VALSOU - 8.500 m

WATLEV - 3:always under water/submerged

## Office Notes

COMPILE NOTES: Retain fish haven as charted.

## 1.2) Fish Haven

### Survey Summary

**Survey Position:** 24° 41' 09.9" N, 081° 52' 51.4" W  
**Least Depth:** 6.00 m (= 19.69 ft = 3.281 fm = 3 fm 1.69 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2003-182.00:00:00.000 (07/01/2003)  
**Dataset:** H12191\_FishHaven\_Compiled.000  
**FOID:** US 0000254084 00001(02260003E0840001)  
**Charts Affected:** 11446\_1, 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

#### Remarks:

Charted fish haven.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_FishHaven_Compiled.000	US 0000254084 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Retain charted fish haven.

#### Cartographically-Rounded Depth (Affected Charts):

19ft (11446\_1, 11439\_1, 11442\_1, 11451\_16, 11451\_17)

3 ¼fm (11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11006\_1, 11013\_1, 411\_1)

### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** CATOBS - 5:fish haven  
 NINFOM - Retain fish haven  
 QUASOU - 7:least depth unknown, safe clearance at value shown  
 SORDAT - 20030700  
 SORIND - US,US,graph,chart 11442  
 VALSOU - 6.000 m

WATLEV - 3:always under water/submerged

## Office Notes

Retain fish haven as charted.

# H12191 Uncharted

**Registry Number:** H12191  
**State:** Florida  
**Locality:** Gulf of Mexico  
**Sub-locality:** NW Approach to Key West  
**Project Number:** OPR-H355-TJ-10  
**Survey Date:** 08/24/2010

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11446	32nd	10/01/2006	1:40,000 (11446_1)	USCG LNM: 01/19/2010 (01/19/2010) NGA NTM: 07/15/2000 (01/30/2010)
11442	35th	01/01/2008	1:80,000 (11442_1)	[L]NTM: ?
11439	26th	07/01/2004	1:80,000 (11439_1)	USCG LNM: 11/24/2009 (01/19/2010) NGA NTM: 10/02/1999 (01/30/2010)
11434	28th	06/01/2008	1:180,000 (11434_1)	USCG LNM: 1/11/2011 (1/10/2012) NGA NTM: 10/2/1999 (1/21/2012)
11460	41st	07/01/2008	1:466,940 (11460_1)	[L]NTM: ?
1113A	28th	07/01/2005	1:470,940 (1113A_1)	[L]NTM: ?
11420	28th	07/01/2005	1:470,940 (11420_1)	[L]NTM: ?
11451	33rd	09/01/2007	1:495,362 (11451_17) 1:495,362 (11451_16)	[L]NTM: ?
11006	32nd	08/01/2005	1:875,000 (11006_1)	[L]NTM: ?
11013	47th	02/01/2008	1:1,200,000 (11013_1)	[L]NTM: ?
411	52nd	09/01/2007	1:2,160,000 (411_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	25.8 ft OBSTRN	Obstruction	7.88 m	24° 39' 48.5" N	081° 54' 37.1" W	---
1.2	26.7 ft OBSTRN	Obstruction	8.13 m	24° 41' 17.0" N	081° 53' 38.5" W	---
1.3	24.4 ft WRECKS	Wreck	7.44 m	24° 41' 00.3" N	081° 52' 44.0" W	---

**1 - DR\_Uncharted**

## 1.1) 25.8 ft OBSTRN

### Survey Summary

**Survey Position:** 24° 39' 48.5" N, 081° 54' 37.1" W  
**Least Depth:** 7.88 m (= 25.84 ft = 4.307 fm = 4 fm 1.84 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_Features\_SAR.000  
**FOID:** US 0000056728 00001(02260000DD980001)  
**Charts Affected:** 11446\_1, 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

#### Remarks:

OBSTRN/remrks: 2.8 meter high feature found with MB and SSS.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_Features_SAR.000	US 0000056728 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add Obstruction.

#### Cartographically-Rounded Depth (Affected Charts):

26ft (11446\_1, 11439\_1, 11442\_1, 11451\_16, 11451\_17)

4 ¼fm (11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11006\_1, 11013\_1, 411\_1)

### S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** QUASOU - 6:least depth known  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12191  
 VALSOU - 7.877 m  
 WATLEV - 3:always under water/submerged



## Office Notes

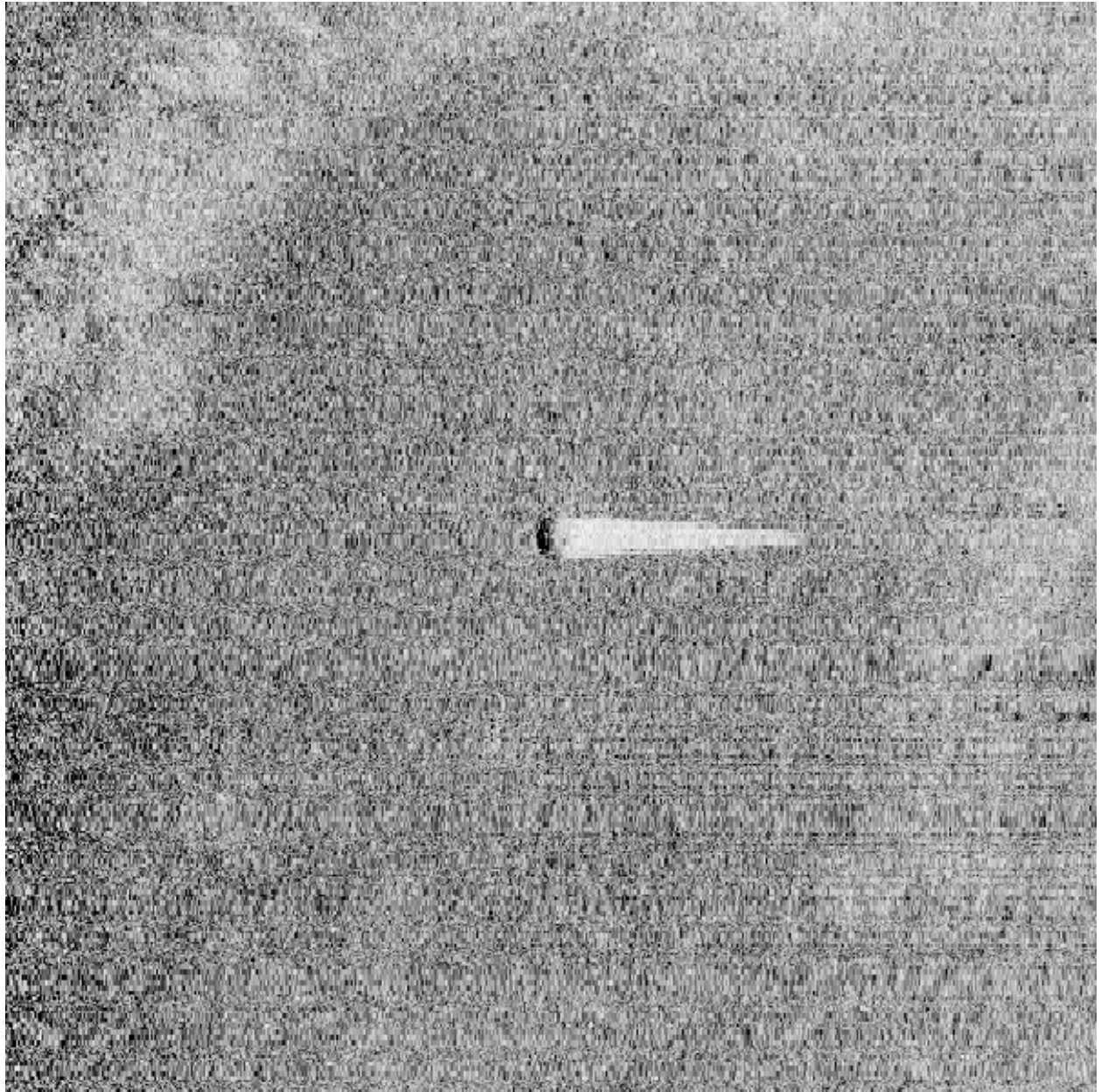
SAR NOTES: 25.84 ft (7.88 m) obstruction positioned at 24°39'48.474" , -081°54'37.127".

COMPILE NOTES: Chart obstruction at survey position.

## Feature Images



*Figure 1.1.1*



*Figure 1.1.2*

## 1.2) 26.7 ft OBSTRN

### Survey Summary

**Survey Position:** 24° 41' 17.0" N, 081° 53' 38.5" W  
**Least Depth:** 8.13 m (= 26.69 ft = 4.448 fm = 4 fm 2.69 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_Features\_SAR.000  
**FOID:** US 0000056720 00001(02260000DD900001)  
**Charts Affected:** 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

#### Remarks:

OBSTRN/remrks: Scattered debris field 320m south of Fishhaven. Least depth from MB.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_Features_SAR.000	US 0000056720 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add Obstruction.

#### Cartographically-Rounded Depth (Affected Charts):

26ft (11439\_1, 11442\_1, 11451\_16, 11451\_17)

4 ½fm (11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11006\_1, 11013\_1, 411\_1)

### S-57 Data

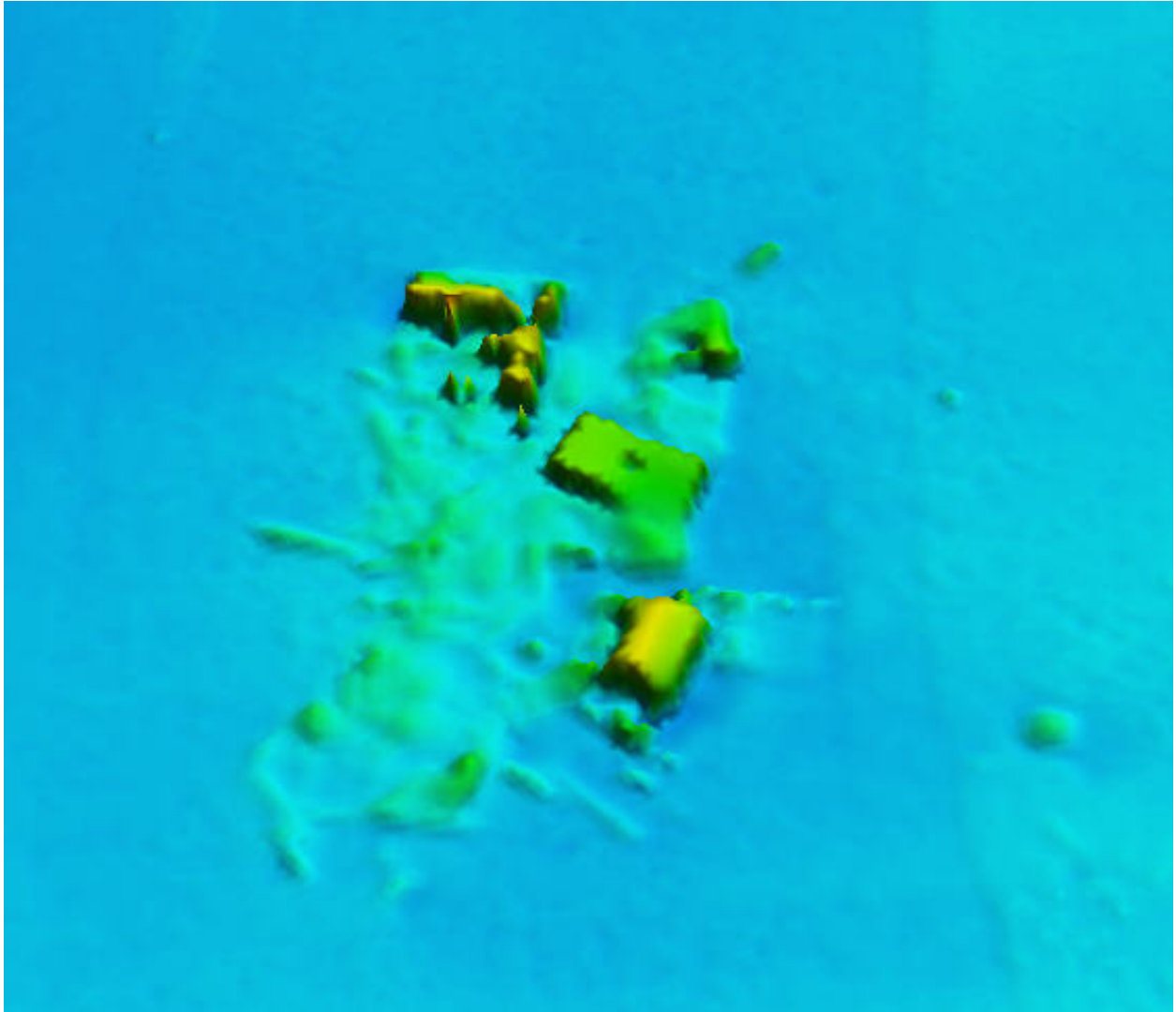
**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** SORDAT - 20100824  
 SORIND - US,US,graph,H12191  
 VALSOU - 8.135 m  
 WATLEV - 3:always under water/submerged

## Office Notes

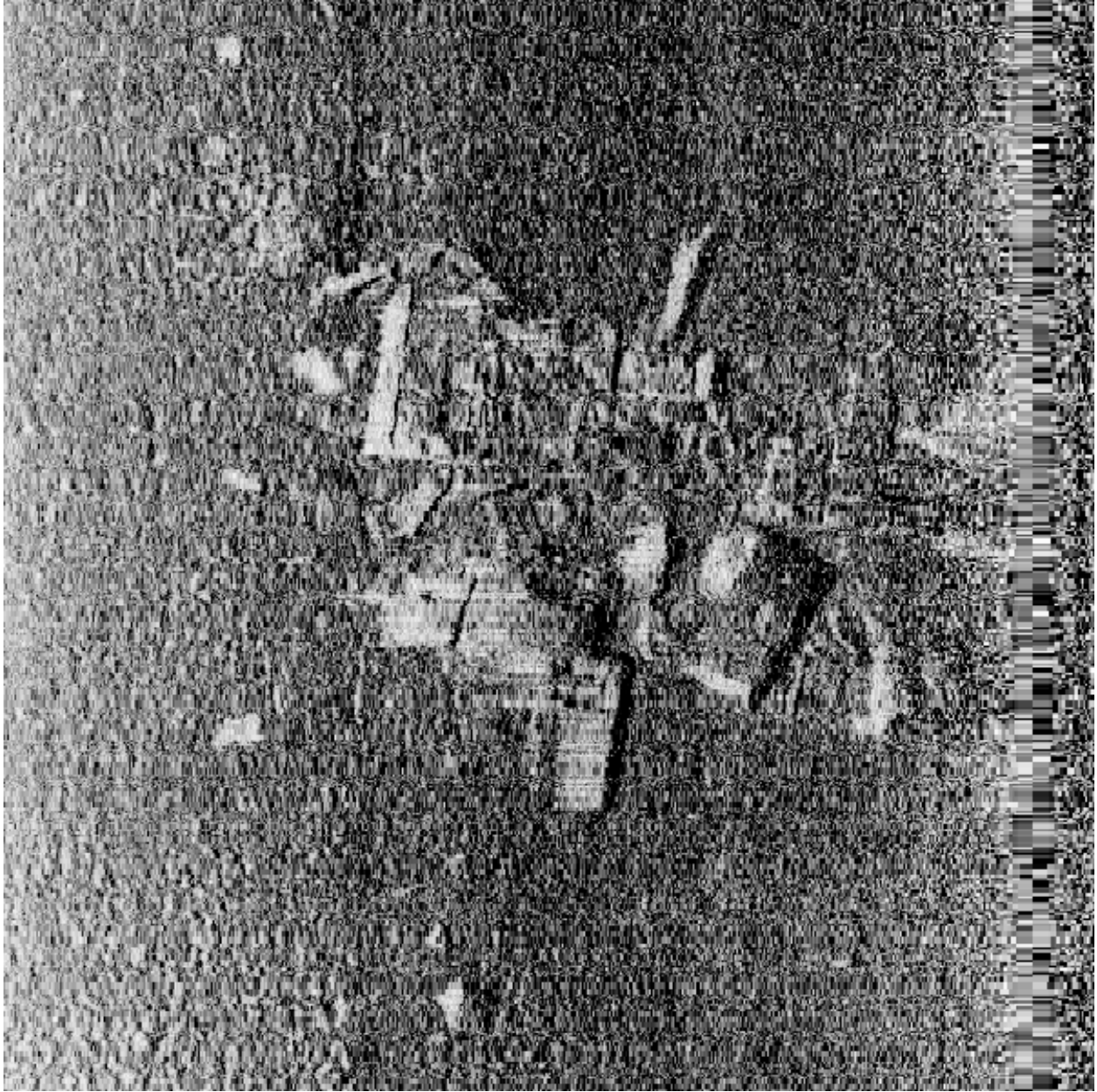
SAR NOTES: 26.69 ft (8.13 m) obstruction positioned at 24°41'16.973" , -081°53'38.501".

COMPILE NOTES: Chart obstruction at survey position.

## Feature Images



*Figure 1.2.1*



*Figure 1.2.2*

## 1.3) 24.4 ft WRECKS

### Survey Summary

**Survey Position:** 24° 41' 00.3" N, 081° 52' 44.0" W  
**Least Depth:** 7.44 m (= 24.40 ft = 4.066 fm = 4 fm 0.40 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_Features\_SAR.000  
**FOID:** US 0000056722 00001(02260000DD920001)  
**Charts Affected:** 11446\_1, 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

#### Remarks:

WRECKS/remrks: Barge like wreck found with SSS and MB.

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_Features_SAR.000	US 0000056722 00001	0.00	000.0	Primary

### Hydrographer Recommendations

Add wreck.

#### Cartographically-Rounded Depth (Affected Charts):

24ft (11446\_1, 11439\_1, 11442\_1, 11451\_16, 11451\_17)

4fm (11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11006\_1, 11013\_1, 411\_1)

### S-57 Data

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 2:dangerous wreck  
 QUASOU - 6:least depth known  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12191  
 VALSOU - 7.436 m  
 WATLEV - 3:always under water/submerged



## Office Notes

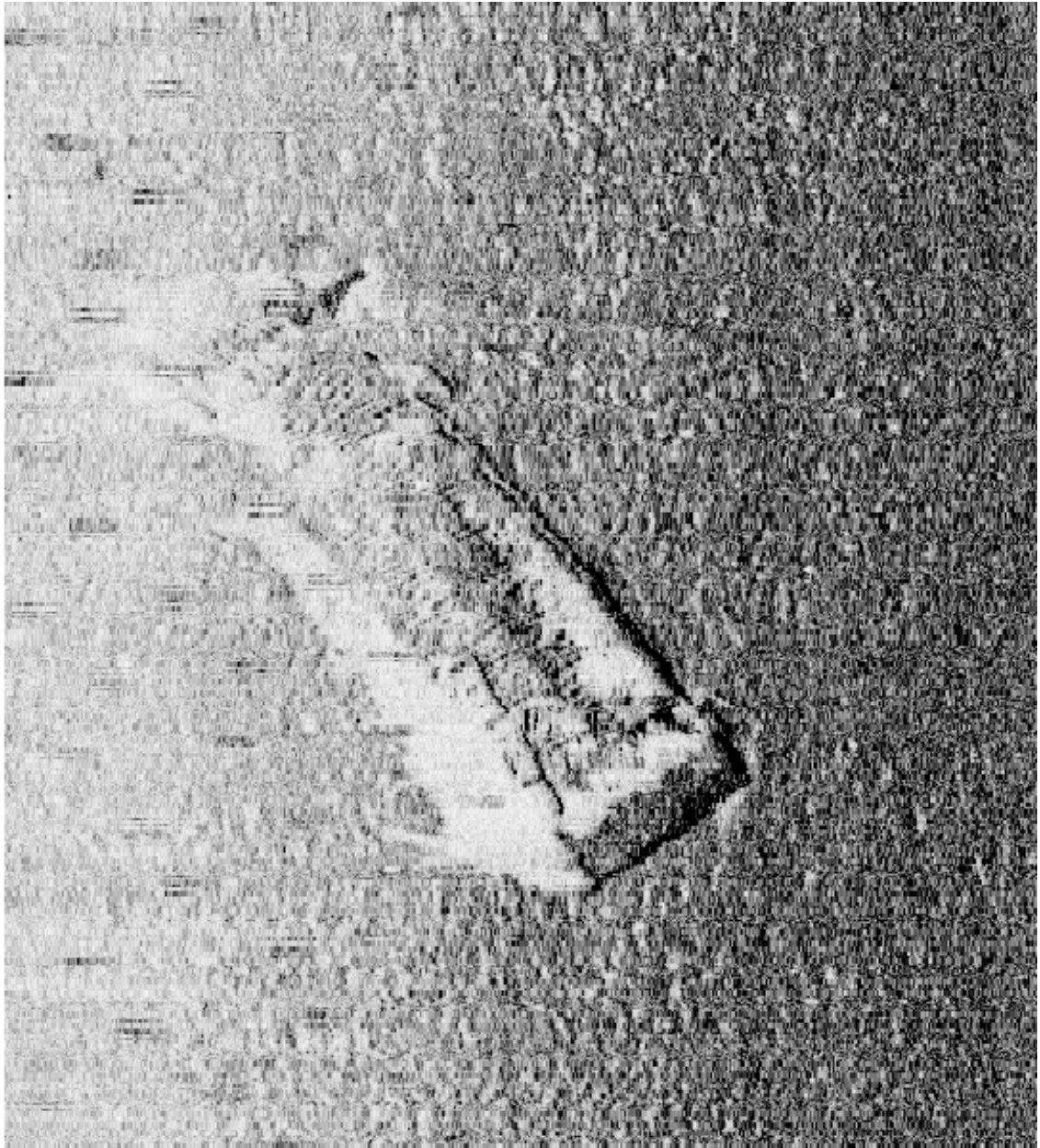
SAR NOTES: 24.40 ft (7.44 m) wreck positioned at 24°41'00.290" , -081°52'43.979".

COMPILE NOTES: Chart wreck at surveyed position.

## Feature Images



*Figure 1.3.1*



*Figure 1.3.2*

# H12191 Seabed Characteristic

**Registry Number:** H12191  
**State:** Florida  
**Locality:** Gulf of Mexico  
**Sub-locality:** NW Approach to Key West  
**Project Number:** OPR-H355-TJ-10  
**Survey Dates:** 07/01/2004 - 08/24/2010

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11446	32nd	10/01/2006	1:40,000 (11446_1)	USCG LNM: 01/19/2010 (01/19/2010) NGA NTM: 07/15/2000 (01/30/2010)
11442	35th	01/01/2008	1:80,000 (11442_1)	[L]NTM: ?
11439	26th	07/01/2004	1:80,000 (11439_1)	USCG LNM: 11/24/2009 (01/19/2010) NGA NTM: 10/02/1999 (01/30/2010)
11434	28th	06/01/2008	1:180,000 (11434_1)	USCG LNM: 1/11/2011 (1/10/2012) NGA NTM: 10/2/1999 (1/21/2012)
11460	41st	07/01/2008	1:466,940 (11460_1)	[L]NTM: ?
1113A	28th	07/01/2005	1:470,940 (1113A_1)	[L]NTM: ?
11420	28th	07/01/2005	1:470,940 (11420_1)	[L]NTM: ?
11451	33rd	09/01/2007	1:495,362 (11451_17) 1:495,362 (11451_16)	[L]NTM: ?
11006	32nd	08/01/2005	1:875,000 (11006_1)	[L]NTM: ?
11013	47th	02/01/2008	1:1,200,000 (11013_1)	[L]NTM: ?
411	52nd	09/01/2007	1:2,160,000 (411_1)	[L]NTM: ?

\* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Seabed Characteristic	GP	[None]	24° 40' 49.8" N	081° 58' 16.6" W	---
1.2	Seabed Characteristic	GP	[None]	24° 39' 25.2" N	081° 57' 11.9" W	---
1.3	Seabed Characteristic	GP	[None]	24° 41' 24.3" N	081° 56' 38.4" W	---
1.4	Seabed Characteristic	GP	[None]	24° 40' 42.0" N	081° 55' 24.1" W	---

1.5	Seabed Area	GP	[None]	24° 40' 09.3" N	081° 51' 58.3" W	---
1.6	Seabed Area	GP	[None]	24° 41' 41.3" N	081° 52' 41.7" W	---
1.7	Seabed Characteristic	GP	[None]	24° 40' 26.3" N	081° 52' 38.7" W	---

## **1 - Seabed Characteristic**

## 1.1) Seabed Characteristic

### Survey Summary

**Survey Position:** 24° 40' 49.8" N, 081° 58' 16.6" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2004-183.00:00:00.000 (07/01/2004)  
**Dataset:** H12191\_SBDARE.000  
**FOID:** US 0000012864 00001(0226000032400001)  
**Charts Affected:** 11439\_1, 11434\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

**Remarks:**

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_SBDARE.000	US 0000012864 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

**Geo object 1:** Seabed area (SBDARE)  
**Attributes:** NATQUA - 10:hard  
 NINFOM - Retain seabed characteristic  
 SORDAT - 20040700  
 SORIND - US,US,graph,chart 11439

### Office Notes

COMPILE NOTES: Retain seabed characteristic.

## 1.2) Seabed Characteristic

### Survey Summary

**Survey Position:** 24° 39' 25.2" N, 081° 57' 11.9" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2004-183.00:00:00.000 (07/01/2004)  
**Dataset:** H12191\_SBDARE.000  
**FOID:** US 0000012863 00001(02260000323F0001)  
**Charts Affected:** 11439\_1, 11434\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

**Remarks:**

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_SBDARE.000	US 0000012863 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

**Geo object 1:** Seabed area (SBDARE)  
**Attributes:** NATSUR - 4:sand  
 NINFOM - Retain seabed characteristic  
 SORDAT - 20040700  
 SORIND - US,US,graph,chart 11439

### Office Notes

COMPILE NOTES: Retain seabed characteristic.



## 1.3) Seabed Characteristic

### Survey Summary

**Survey Position:** 24° 41' 24.3" N, 081° 56' 38.4" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_SBDARE.000  
**FOID:** US 0000180709 00001(02260002C1E50001)  
**Charts Affected:** 11439\_1, 11434\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

**Remarks:**

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_SBDARE.000	US 0000180709 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

**Geo object 1:** Seabed area (SBDARE)  
**Attributes:** NATQUA - 1: fine  
 NATSUR - 4: sand  
 NINFOM - Chart seabed characteristic  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12191

### Office Notes

COMPILE NOTES: Chart seabed characteristic.

## 1.4) Seabed Characteristic

### Survey Summary

**Survey Position:** 24° 40' 42.0" N, 081° 55' 24.1" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_SBDARE.000  
**FOID:** US 0000180708 00001(02260002C1E40001)  
**Charts Affected:** 11446\_1, 11439\_1, 11434\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

**Remarks:**

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_SBDARE.000	US 0000180708 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

**Geo object 1:** Seabed area (SBDARE)  
**Attributes:** NATSUR - 17,6:shells,gravel  
 NINFOM - Chart seabed characteristic  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12191

### Office Notes

COMPILE NOTES: Chart seabed characteristic.

## 1.5) Seabed Area

### Survey Summary

**Survey Position:** 24° 40' 09.3" N, 081° 51' 58.3" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_SBDARE.000  
**FOID:** US 0000180705 00001(02260002C1E10001)  
**Charts Affected:** 11446\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

**Remarks:**

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_SBDARE.000	US 0000180705 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

**Geo object 1:** Seabed area (SBDARE)  
**Attributes:** NATSUR - 14:coral  
 NINFOM - Chart seabed area  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12191

### Office Notes

COMPILE NOTES: Chart seabed area.

## 1.6) Seabed Area

### Survey Summary

**Survey Position:** 24° 41' 41.3" N, 081° 52' 41.7" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_SBDARE.000  
**FOID:** US 0000180707 00001(02260002C1E30001)  
**Charts Affected:** 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

**Remarks:**

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_SBDARE.000	US 0000180707 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

**Geo object 1:** Seabed area (SBDARE)  
**Attributes:** NATSUR - 14:coral  
 NINFOM - Chart seabed area  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12191

### Office Notes

COMPILE NOTES: Chart seabed area.

## 1.7) Seabed Characteristic

### Survey Summary

**Survey Position:** 24° 40' 26.3" N, 081° 52' 38.7" W  
**Least Depth:** [None]  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2010-236.00:00:00.000 (08/24/2010)  
**Dataset:** H12191\_SBDARE.000  
**FOID:** US 0000180700 00001(02260002C1DC0001)  
**Charts Affected:** 11446\_1, 11439\_1, 11442\_1, 11434\_1, 11460\_1, 1113A\_1, 11420\_1, 11451\_16, 11451\_17, 11006\_1, 11013\_1, 411\_1

**Remarks:**

[None]

### Feature Correlation

Source	Feature	Range	Azimuth	Status
H12191_SBDARE.000	US 0000180700 00001	0.00	000.0	Primary

### Hydrographer Recommendations

[None]

### S-57 Data

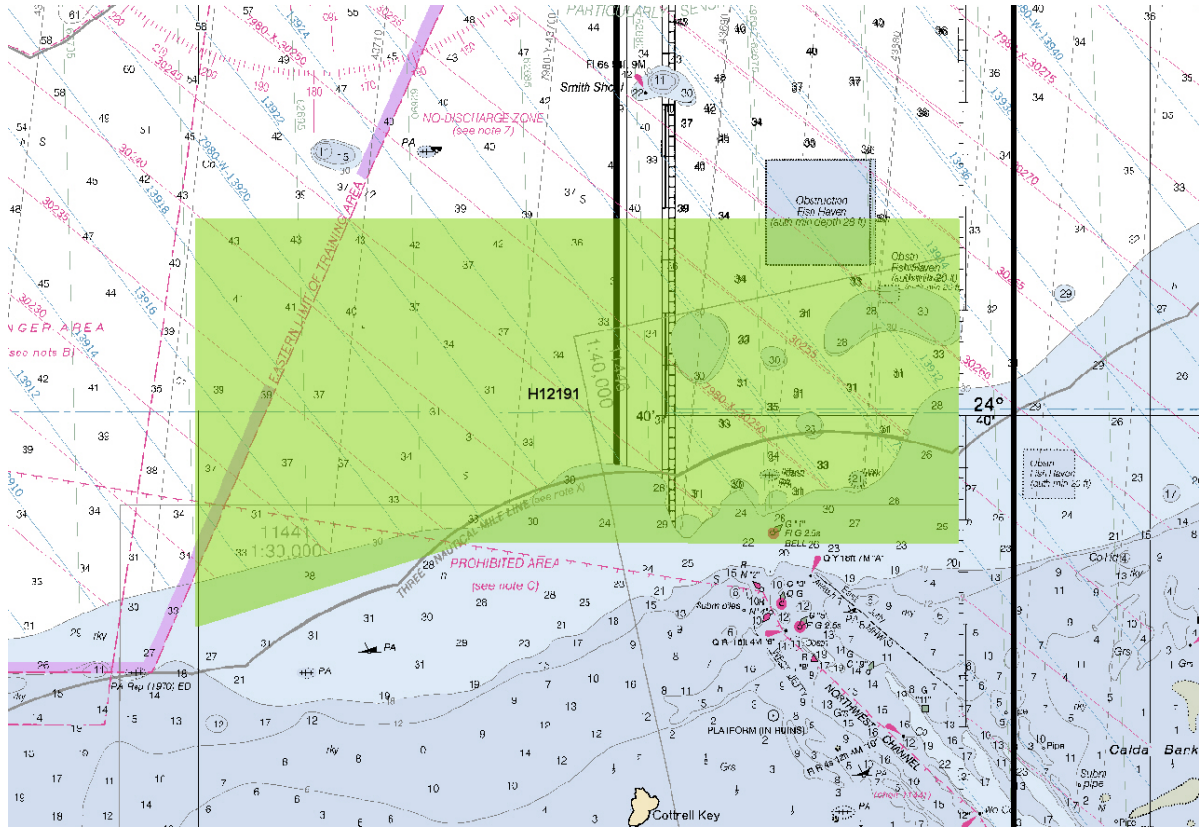
**Geo object 1:** Seabed area (SBDARE)  
**Attributes:** NATQUA - 1: fine  
 NATSUR - 4: sand  
 NINFOM - Chart seabed characteristic  
 SORDAT - 20100824  
 SORIND - US,US,graph,H12191  
 WATLEV - 3: always under water/submerged

## Office Notes

COMPILE NOTES: Chart seabed characteristic.

# Appendix III

## Progress Sketch



Project Number and Name	Sheet Identifier	Registry Number	HO Estimated SNM	SNM Completed Survey Outline	Date Field Work Began	Date Field Work Completed	Final Tides Request Date	Final Tides Received Date	Estimated Date of Survey Submission	March Cumulative % Complete	April Cumulative % Complete	May Cumulative % Complete	June Cumulative % Complete	July Cumulative % Complete	August Cumulative % Complete	September Cumulative % Complete
OPR-H355, NW App to Key West, FL	1	H12191	28		7/2/10	8/24/10	8/25/10	12/17/10						48%	100%	
	2	H12192	28		8/9/10	8/24/10	8/28/10	12/17/10							100%	
	3	H12193	28		7/9/10	8/24/10	8/28/10	12/17/10						95%	100%	
	4	H12194	28		8/2/10	8/25/10	8/27/10	12/17/10							100%	
	5	H12195	28												0% (consolidated into H12194)	
	6	H12196	46		7/16/10	8/24/10	8/25/10	11/17/10						5%	100%	
	7	H12197	48		7/8/10	8/24/10	8/10/10	12/17/10	9/17/10					98%	100%	
	8	H12198	46		7/16/10	7/31/10	8/5/10	12/17/10	9/17/10					20% squared off	100%	
	9	H12199	48													
	10	F00999			7/1/10	8/23/10	8/25/10	10/20/10							100%	

## **Appendix IV**

### **Tides and Water Levels**

#### **1. Request for Tides**

#### **2. Final Tide Notes**





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NOAA Ship THOMAS JEFFERSON (MOA-TJ)  
439 West York St  
Norfolk, VA 23510-1145

August 25, 2010

MEMORANDUM FOR: Chief, Requirements and Development Division, N/OPS1

FROM: CDR Shepard M. Smith, NOAA Ship THOMAS JEFFERSON (MOA-TJ)

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final zoning in MapInfo and .MIX format
3. Six Minute Water Level data (Co-ops web site)

Transmit data to the following:

NOAA/NOS/Atlantic Hydrographic Branch  
N/CS33, Building #2  
439 West York Street  
Norfolk, VA 23510  
ATTN: Chief AHB

NOAA Ship Thomas Jefferson  
439 West York Street  
Norfolk, VA 23510  
ATTN: Commanding Officer

These data are required for the processing of the following hydrographic survey:

Project No.: OPR-H355-TJ-10  
Registry No.: H12191  
State: Florida  
Locality: Gulf of Mexico  
Sublocality: NW Approach to Key West

Attachments containing:

- 1) an Abstract of Times of Hydrography,
- 2) digital MID MIF files of the track lines from Pydro

cc: N/CS33  
OMAO/TJ



Year_DOY	Min Time	Max Time
2010_183	14:10:15	15:32:11
2010_197	13:19:34	18:29:24
2010_198	13:06:55	21:31:27
2010_199	13:51:13	18:23:46
2010_208	13:22:19	20:38:17
2010_209	13:30:01	19:08:47
2010_213	12:39:47	21:29:24
2010_214	13:28:01	21:18:29
2010_215	12:50:14	21:04:22
2010_216	13:05:04	21:29:55
2010_217	12:47:53	19:36:13
2010_231	16:00:29	20:06:08
2010_232	13:00:24	16:01:38
2010_236	23:19:53	23:31:46



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
National Ocean Service  
Silver Spring, Maryland 20910

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE :** December 15, 2010

**HYDROGRAPHIC BRANCH:** Atlantic  
**HYDROGRAPHIC PROJECT:** OPR-H355-TJ-2010  
**HYDROGRAPHIC SHEET:** H12191

**LOCALITY:** NW Approach to Key West, FL  
**TIME PERIOD:** July 2 - August 24, 2010

**TIDE STATION USED:** 872-4671 Smith Shoal Light, FL  
Lat. 24° 43.1'N Long. 81° 55.3' W  
**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 1.002 meters

**REMARKS: RECOMMENDED ZONING**

**Use zone(s) identified as:** SEG114, SEG115, SEG140, SEG141, SEG142,  
SEG143, SEG145, SEG160A, SEG164, SEG169,  
SEG170, SEG189, SEG249, and SEG250

**Refer to attachments for zoning information.**

**Note 1:** Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 1983-2001 National Tidal Datum Epoch (NTDE).

**Note 2:** The datum at 8724671 Smith Shoal Light will not be accepted. Accordingly, six-minute data cannot be retrieved from the [opendap.co-ops.nos.noaa.gov](http://opendap.co-ops.nos.noaa.gov) website relative to MLLW. It must be retrieved relative to Station Datum. Please apply a correction of 1.451 meters to account for the STND - MLLW separation when retrieving the data.

**Peter J. Stone**

Digitally signed by Peter J. Stone  
DN: cn=Peter J. Stone, o=NOAA/NOS/CO-OPS,  
ou=Oceanographic Division,  
email=peter.stone@noaa.gov, c=US  
Date: 2010.12.17 12:43:18 -05'00'

CHIEF, OCEANOGRAPHIC DIVISION





SEG249  
Time Corrector 18 mins  
Range Corrector x 0.99  
Reference 8724671

FIG 2.5s BELL  
(use chart)

SAND KEY LT  
FI (2) 15s 109ft 14M  
2 RED SEC 11M

Mo (A)  
WHIS

[illegible]

## **Appendix V**

### **Supplemental Survey Records & Correspondence**



**Subject:** Re: Bottom Sample submission  
**From:** Gene Parker <Castle.E.Parker@noaa.gov>  
**Date:** Mon, 31 Jan 2011 11:47:48 -0500  
**To:** "ops.thomas.jefferson" <OPS.Thomas.Jefferson@noaa.gov>

Good day Mark,

Submit both. HSSD specifies both in two areas of the document. First one needs to comply with HSSD; if the TJ wants to make the Hob file, then they have gone beyond the minimum requirements. If the TJ doesn't do it, then AHB would have to as long as the BS is within the Pydro PSS. Reference HSSD Section 8.2 S57 Feature File, paragraph 6:

The S-57 feature file contains all the attributed information on specific objects that cannot be portrayed in a simple depth grid. Features to include in the S-57 feature file include; wrecks, obstructions, shoreline, rocks, islets, oil platforms, nature of seabed (bottom samples) and all other objects that may need to be compiled to a navigational product and require additional information that cannot be included in the BAG.

The Pydro PSS is in lieu of the S57 format file.

We could make the hob from the table, but since the TJ has done this, submit both the Hob file and the table contained in DR Appendix 5. Place the Hob file in the PSS directory which has contained all features in NOAA PSS format as in the past. If the TJ is going to submit the hob file, the source would be the table, so HSSD specifies delivery of both. If the TJ only submitted the table, AHB would have to generate the feature objects. If the TJ creates the hob file, then submit it.

gene

ops.thomas.jefferson wrote:

Gene,

We will be submitting .HOB files for the bottom samples in addition to the summary table found in the supplemental survey records and correspondence section of the DR. It is my understanding that the table is only used to create the .HOB anyways. A recommendation will need to be made that either the table either be omitted or be used in place of the .hob file. Only the summary table is mention in the HSSD april 2010 version. If there are any other issues with this idea please let us know.

Mark

Castle Eugene Parker <[castle.e.parker@noaa.gov](mailto:castle.e.parker@noaa.gov)>

Physical Scientist - Hydrographic Team Lead

Atlantic Hydrographic Branch

NOAA Office of Coast Survey

From "Paul.Turner" <Paul.Turner@noaa.gov>

Sent Thursday, July 1, 2010 10:48 am

To "daniel.wright" <Daniel.Wright@noaa.gov>

Cc James M Crocker <James.M.Crocker@noaa.gov> , "ops.thomas.jefferson" <OPS.Thomas.Jefferson@noaa.gov>

Bcc

Subject Re: H355 questions

Hi Dan-

In regards to the coverage requirements:

For the sheets within the Florida Keys National Marine Sanctuary (H12191, H12192, H12194, H12195, H12196) run 200% SSS with either concurrent SB, or MB (skunk stripe) following the Additional Tasks requirements from page 7 of the Project Instructions.

For the offshore sheets (H12193, H12197, H12198, H12199) run EITHER 200% SSS with concurrent SB or MB; OR Complete MB - which ever method is most efficient for the ship.

You are correct in regards to the Casitas/Fish Trap development - ONMS would also like to utilize the SSS imagery from this project for benthic habitat classification in GEO-CODER and has indicated that it is most beneficial to run the survey lines for 100% all in the same azimuth and all the 200% in an opposing azimuth (for example - all the 100% towards the East and all the 200% towards the West.)

I will get back to you about the bottom samples in the Prohibited Area - I would like to double check with the Sanctuary folks.

Paul

daniel.wright wrote:

- > Hi Paul,
- >
- > Could you clarify a couple items in the project instructions for H355?
- >
- > 1.) Coverage requirements call out for SS for all types, SB, complete
- > MB and object detection. Is this a requirement for the habitat
- > mapping, and if so would backscatter be a substitute if we acquired
- > object detection?
- >
- > 2.) The Casitas/Fish trap development reads 100% SS in one azimuth and
- > 200% in opposing, which I take to mean we run them in opposite
- > directions? (eg 100% at 90, 200% at 270)
- >
- > 3.If I read the cruise instructions correctly, no bottom samples are
- > to be taken in the "Prohibited area"?.
- >
- >

U.S. DEPARTMENT OF COMMERCE  
(10-95) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

[illegible]



U.S. DEPARTMENT OF COMMERCE  
(10-95) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

[illegible]

From	<a href="mailto:David.Wolcott@noaa.gov">David Wolcott &lt;David.Wolcott@noaa.gov&gt;</a>	
Sent	Friday, December 17, 2010 9:16 pm	
To	<a href="mailto:Norris.A.Wike@noaa.gov">Norris A Wike &lt;Norris.A.Wike@noaa.gov&gt;</a> , <a href="mailto:_OMAO.MOA.OPS.Thomas.Jefferson@OPS.Thomas.Jefferson@noaa.gov">_OMAO MOA OPS Thomas Jefferson &lt;OPS.Thomas.Jefferson@noaa.gov&gt;</a>	
Cc	<a href="mailto:Kyle.Ward@noaa.gov">Kyle Ward &lt;Kyle.Ward@noaa.gov&gt;</a> , <a href="mailto:_NOS.CO-OPS.HTP@NOS.COOPS.HPT@noaa.gov">" _NOS.CO-OPS.HTP" &lt;NOS.COOPS.HPT@noaa.gov&gt;</a>	
Bcc		
Subject	Final Tide Note for OPR-H355-TJ-2010, Registry No. H12191	
Attachments	<a href="#">H12191.zip</a>	836K

Dear Norris,

Attached is a zipped folder containing all of the final tide files for project OPR-H355-TJ-2010, Registry No. H12191. Below is a description of those files. If you have any problems retrieving any of the information please give me a call. The following files are included in the zipped attachment H12191.zip for project OPR-H355-TJ-2010:

H12191.pdf  
H12191CORF.zdf

There is one (1) final tide note for H12191 in this email. Tide station data for Smith Shoal Light, FL (872-4671) may be retrieved via the Internet from the CO-OPS SOAP web services at <http://opendap.co-ops.nos.noaa.gov/axis/text.html> . [NOTE: The datum at Smith Shoal Light may not be accepted. Accordingly, data can only be retrieved relative to station datum. Please apply a correction of 1.451m to account for the STND-MLLW difference when retrieving the data.] The \*.pdf file is the tide note in Adobe Acrobat format with the graphic.

The following files are the MapInfo zoning files:

H12191CORF.DAT  
H12191CORF.ID  
H12191CORF.MAP  
H12191CORF.TAB  
H12191LABF.DAT  
H12191LABF.MAP  
H12191LABF.TAB  
H12191LABF.ID  
H12191STNF.DAT  
H12191STNF.ID  
H12191STNF.IND  
H12191STNF.MAP  
H12191STNF.TAB

Please e-mail me when you have captured all files successfully. Call me at (301)713-2890 x153, if there are any problems.

--

David Wolcott  
Hydrographic Planning Team  
NOS/CO-OPS  
p: (310) 713-2890 x 153

**Subject:** Fwd: Re: Tasker: sounding density requirements for SSS surveys  
**From:** Michael.Davidson@noaa.gov  
**Date:** Thu, 13 Oct 2011 12:52:12 -0400  
**To:** Frankie.A.Daniel@noaa.gov  
**CC:** OPS.Thomas.Jefferson@noaa.gov, ChiefST.Thomas.Jefferson@noaa.gov

Frank,

I am forwarding the requested email thread regarding skunk stripe MBES resolution and density requirements. Please put a copy of this in Appendix V and reference it in the DR.

R,  
Mike

— Re: Tasker: sounding density requirements for SSS surveys.eml —

**Subject:** Re: Tasker: sounding density requirements for SSS surveys  
**From:** "james.m.crocker" <James.M.Crocker@noaa.gov>  
**Date:** Mon, 18 Apr 2011 08:49:45 -0400  
**To:** CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>  
**CC:** Daniel Wright <Daniel.Wright@noaa.gov>, Mike Brown <Mike.Brown@noaa.gov>, Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>, Richard T Brennan <Richard.T.Brennan@noaa.gov>, \_NMAO MOA OPS Thomas Jefferson <OPS.Thomas.Jefferson@noaa.gov>

Shep,

Agree with the modification to the requirements defined as you suggest to a grid resolution of 2m for depths 1 - 20m and 4m for depths 21-40 m. Under previous specs MB speed was set so that no less 3.2 beam footprints, center to center, fall within 3 m in the along track direction. So by setting the grid resolution to a minimum of 2 m I'm more inclined to a density requirement of 2 soundings per node at a minimum but would prefer 3 sounding per node. I just think setting the sounding per node to 1 lowers the bar to low. How will you keep noisy outer beam data from corrupting the grid and over shoal biasing the depths that are used to update the chart. I suppose the when the branch grids the data a much lower resolution 5m or greater to make the charted sounding layer it will help some but it will depend on the distance between outer beams between adjacent lines. Those more technically knowledgeable than I should certainly correct me if I have misspoken.

Not sure why this was overlooked for the 2010 Specs revisions but it was never brought up when reviewing the 2010 Spec for the 2011 updates. To ensure this does not get overlook in the next update to specs I will have a HTD drafted up for what is agreed upon.

\*18-40 Follow normal grid resolutions HSSD 5.2.2.2

Regards,  
Jim

.

On 4/16/2011 8:01 PM, CO Thomas Jefferson wrote:

Jeff and Jim,

It appears that the June 2009 BOH recommendation to relax the resolution and density requirements for skunk stripe surveys was never fully implemented into policy in the HSSD.

On our current survey we are having trouble getting 5 soundings per 2m node in the outer beams in 30m of water in heavier weather. In order to meet the specification as

it now stands, TJ would have to do one of the following:

- 1) Turn off the multibeam and use a singlebeam instead.
- 2) Slow down, reducing our efficiency and increasing our cost by about 30%.
- 3) Reduce swath coverage from full coverage to a narrow strip of multibeam at a higher density.

If we follow the June 2009 agreement, we don't have to do any of these things. Since it appears from this correspondence to have been your intent to approve this proposal, TJ will continue with the current survey as if it were approved, unless otherwise directed. Specifically:

- 1) Reduce the resolution requirement to 2m less than 20m of water, and 4m from 20-40m. It is not envisioned that we would do skunk stripe surveys deeper than 40m.
- 2) Relax the density requirement to 1 sounding per node. We will undoubtedly exceed this handily, but the point is, we don't want ships slowing down or doing extra work to meet an unnecessary density requirement.
- 3) All features, as noted elsewhere in the S&D, need to be gridded at OD resolutions.

V/R,

Shep

CDR Shepard Smith, NOAA  
Commanding Officer  
NOAA Ship Thomas Jefferson  
439 West York St  
Norfolk, VA 23510  
757-647-0187

On 8/6/2009 6:33 PM, CO Thomas Jefferson wrote:

Hi Jeremy,

The gist of the June decision on this topic was:

Background: When the "complete" coverage specs were upgraded to 1m resolution last winter, the linkage to skunk stripe MB requirements meant that these grids got affected as well. Since the object detection in SSS surveys is achieved using the SSS, we don't need high resolution grids to demonstrate coverage. In fact, singlebeam in the same circumstance would be sufficient. So, we can relax the gridding spec for grids on 200% SSS surveys to:

- 1) Reduce the resolution requirement to 2m less than 20m of water, and 4m from 20-40m. It is not envisioned that we would do skunk stripe surveys deeper than 40m.
- 2) Relax the density requirement to 1 sounding per node. We will undoubtedly exceed this handily, but the point is, we don't want ships slowing down or doing extra work to meet an unnecessary density requirement.
- 3) All features, as noted elsewhere in the S&D, need to be gridded at OD resolutions.

Shep

CDR Shepard Smith, NOAA  
Commanding Officer  
NOAA Ship Thomas Jefferson  
439 West York St  
Norfolk, VA 23510  
757-647-0187

Jeremy McHugh wrote:

Hi Guys,

I have been assigned to "review the current specs & deliverables, FPM and HTD to

get background information on the current requirements to note where they will need to be updated and generate a draft HTD to better define or remove the density requirement when conduction 200% SSS surveys with concurrent MB or SB".

I just finished refreshing my memory about what the Specs have to say on this topic of skunk-stripe MB data being acquired concurrently with SSS imagery. It makes sense to me and I don't yet see a problem with the Specs. Any old HTD's would have been incorporated in the Specs by now, so I did not go rooting through the HTDs. The FPM is silent on this topic.

So that I can understand the issue better, what part of the following excerpt from the Specs is unclear or confusing:

5.1.2.3 Set Line Spacing The hydrographer shall conduct multibeam and single beam operations at the line spacing specified in the Hydrographic Survey Project Instructions or Statement of Work. For example, set line spacing may be employed in the following scenarios: (1) when acquiring multibeam data concurrently with side scan sonar operations (sometimes referred to as "skunk-stripe" coverage, where the side scan swath is wider than the multibeam swath) and (2) when acquiring single beam data in areas that are too shallow for efficient multibeam operations, or otherwise too risky of an area to use multibeam equipment.

- For multibeam operations the requirements are the same within the swath, as for Complete Coverage above. Note: that in a "skunk striping" scenario (see above) elements of object detection are also in operation, due to side scan sonar data coverage and any associated contact scanning requirements.

It sounds straightforward to me, but I may be missing something. I would appreciate any insight you have into the root of the confusion that led to this issue being put before the board of hydrographers.

Thanks,  
Jeremy

james.m.crocker wrote, On 8/6/2009 2:49 PM:

Jeremy,

At a past BOH meeting the following topic was discussed and action item assigned.

c) Skunk stripe density requirements, Shep noted that TJ is running the ship at a reduced speed in order to meet feature detection multibeam specs, which is not really necessary when the project calls for 200% side-scan sonar coverage. There was general agreement that this was not needed and will be clarified in the Project Instructions in the short term and Ops will review the specs for the longer term fix.

ACTION: Ops will draft an HTD and review the specs to resolve the issue.

Would you please review the current specs & deliverables, FPM and HTD to get background information on the current requirements to note where they will need to be updated and generate a draft HTD to better define or remove the density requirement when conduction 200% SSS surveys with concurrent MB or SB.

Let me know if you have any questions.

Jim

CDR James Crocker, NOAA <[James.m.crocker@noaa.gov](mailto:James.m.crocker@noaa.gov)>

Chief, Operations Branch

Hydrographic Surveys Division

NOAA

**Re: Tasker: sounding density requirements for SSS surveys.eml**

From	<a href="mailto:Tom.Matthews@MyFWC.com">"Matthews, Tom" &lt;Tom.Matthews@MyFWC.com&gt;</a>		
Sent	Thursday, July 29, 2010 2:53 pm		
To	<a href="mailto:ops.thomas.jefferson@noaa.gov">"ops.thomas.jefferson@noaa.gov"</a> <a href="mailto:OPS.Thomas.Jefferson@noaa.gov">&lt;OPS.Thomas.Jefferson@noaa.gov&gt;</a>		
Cc			
Bcc			
Subject	ground truthed objects near Key West		
Attachments	<a href="#">image001.png</a>	169K	<a href="#">Field 1 target summary.xls</a> 21K

Dear Lt Michael Davidson, Attached is the list of items we dove on earlier this month. For your use to confirm your id of sidescan hits. Hope these are helpful. Ultimately we would like access to your side scan work to determine the number of casitas (illegal lobster habitats) in your study area.

Concerning your entanglement with buoys and ropes. On August 1 lobster fishermen can deploy their traps. Currently all lobster and stone crab traps are supposed to be out of the water. Any remaining traps are abandoned and subject to removal by the state of Florida and are actually now the property of the state of Florida. Any conflict/safety issue/ risk of entanglement you have with this abandoned gear would allow you to remove the gear from the water with no potential liability from the past owner.

Buoy types you might encounter are marked with an X (followed by up to 4 numbers) for stone crab traps and C (followed by up to 4 numbers). It is highly unlikely but, you might encounter a buoy marked with a V (followed by up to 4 numbers) which is a blue crab trap. Fishermen are allowed to paint their buoys any color designated on their license. Most researchers use yellow buoys marked "research"

Good luck Tom

**From:** Matthews, Tom  
**Sent:** Friday, July 09, 2010 6:47 PM  
**To:** 'Steve Rohmann'; Paul Turner  
**Cc:** Bryan Costa; Sean Meehan; Robin Bruckner; McHan, Chris  
**Subject:** RE: [Fwd: RE: Key West project layout and priority]

Hi Steve, Sorry for the delay on the ground truthed objects. Attached is an excel file of objects that were ground truth within the last two weeks. Many of last year's casitas were removed. So it's necessary to use only fresh numbers.

Looking forward to discussing with your team estimates of the number of casitas. . We are planning on diving in your 'sheet 1' the week of the 19<sup>th</sup> – would love to ground truth any contacts. Tom and Chris McHan

Thomas R. Matthews, Associate Research Scientist  
Florida Fish and Wildlife Conservation Commission  
Fish and Wildlife Research Institute  
2796 Overseas Hwy., Suite 119  
Marathon, FL 33050

(305) 289-2330 Work  
(305) 289-2334 FAX  
(305) 979-6191 cell

**From:** Steve Rohmann [mailto:Steve.Rohmann@noaa.gov]  
**Sent:** Friday, June 04, 2010 1:44 PM  
**To:** Paul Turner  
**Cc:** Matthews, Tom; Bryan Costa; Sean Meehan; Robin Bruckner  
**Subject:** [Fwd: RE: Key West project layout and priority]

Hi Paul,

As this forwarded email indicates, Tom Matthews with the Florida Fish and Wildlife Conservation Commission (FWC) will be providing the NOAA Ship Thomas Jefferson (TJ) with a file indicating the location (i.e., long/lat) of derelict fish traps and casitas they identify and verify using their boat-based Humminbird system. In order to evaluate the capabilities of the TJ to identify these objects, Tom will withhold some of the objects he finds and verifies from the Humminbird data. These withheld data can be used to "assess the accuracy" of the TJ findings.

The FWC also is permitted (and able) to place, with adequate lead time, some different types of trap targets (and unmarked targets) within the TJ's planned Sheet 1 survey area. As the time frame of the TJ survey gets firmed up, we will need to notify FWC regarding the placement of the various traps.

Regards,

Steve



**Station Information**

Station Id	8724671	Station Name	SMITH SHOAL LIGHT, FL		
Latitude	24° 43' 5.8" N	Longitude	81° 55' 17.5" W		
Time Meridian	75 W	GMT Time Zone Offset (hrs)	5	By GPS	<input checked="" type="radio"/> Yes <input type="radio"/> No
Team Lead	Kyle Dinberg	Visit Purpose	Remove		
Team Member	Richard James	Visit Begin Date	10/10/2010		
Team Member	Chris Haith	Visit End Date	10/11/2010		
Team Member		Primary Retained ZETG (m)			
Team Member					

**Station Description**

Station was located on the Smith Shoal Light, all DCP,s and existing equipment were removed.

**To Reach****Station Information****Station Logistics**

## Project Instructions

## Future Work

Site Owner Information			
Facility Name	Smith Shoal Light		
Site Address			
Site Address			
Site City	Key West	Site State	FL Site Zip
Owner Information			
Owner Name	United States Coast Guard	Work Phone	(305) 415-6746
Address	909 SE 1st Ave. Suite 406	Cell Phone	( ) -
Address		Home Phone	( ) -
City	Miami	Fax	(305) 415-6757
State	FL Zip	Owner Hours	
E-mail			
Owner Contact	Christopher A. Jasnoch	Owner Since	00/00/0000
Owner Comment			
Local Contact Information			
Local Contact		Work Phone	( ) -
Address		Cell Phone	( ) -
Address		Home Phone	( ) -
City		Fax	( ) -
State	Zip	Date Last Trained	00/00/0000
E-mail			
Local Contact Comments			
Location Comments			

### SHELTER INFORMATION

Station ID	8724671	Shelter Type			
Date Installed	00/00/0000 00:00	Date Removed	00/00/0000 00:00	Power Supply	
Lock Type			Combination		
Shelter Size			Condition		

Comments

### NITROGEN

Station	8724671	Hours Of Op:		Tank Size: (lbs)	
# of Tanks		Tank Sensor			
Provider Name					
Provider Info					

Comments

### DCP

STATION ID	8724671	DCP #	1	DATE INSTALLED	5/10/2010 12:00:00 AM	DATE REMOVED	10/10/2010
DCP TYPE	9210 DCP DCP and not box	SERIAL NO.	*2	MODEL	9210		
DCP PHONE		CELLULAR Y/N		SDL VERSION			
OPERATING SYSTEM VER		SOLAR POWER (w)		IP ADDR			
DESICCANT CHG DATE		RADIO ID		LAST DOWNLOAD DATE	00/00/0000		
PIC VER A1		PIC VER A2		PIC VER D1			
LATITUDE	24° 43' 5.8" N		LONGITUDE	81° 55' 17.5" W			
ELEVATION			ELEV REF				
MANUFACTURER	Sutron Corporation						

DESCRIPTION

**Component Information****OTHER PART**

Station ID	8724671	DCP #	1	Date Installed	00/00/0000 00:00	Date Removed	10/10/2010
Component Type	Air Compressor Waterlog Airpum ▾			Serial #	*2	Model	
Manufacture	Design Analysis Associat	Cable		Cable Length (m)			
Comments							

**GOES INFORMATION**

Station	8724671	DCP #	1	Date Installed	00/00/0000 00:00	Date Removed	10/10/2010 13:47:00
Antenna Type	Sutron GOES Antenna ▾			Antenna Serial#	*35	Model #	
Manufacturer	Sutron Corporation						
Platform ID	3357B140	GOES Channel	069E	Satellite Used	GOES EAST		
Start Xmitting (hhmmss)	000930	Xmit Interval (min)	60	Xmit Length (sec)	30	Xmit Power (w)	
Elevation from Horz (°)		Azimuth(°)		Local Deviation (°)		Local Dev Direction	
Cable Type		Cable Length (m)					
Comments							

**SOLAR PANELS**

Station	8724671	DCP #		Date Installed			
Type	▾	Serial #		Model			
Manufacture							
Solar Panel Angle (°)	0	Cable		Cable Length(m)			
Comments							

**BATTERY INFORMATION**

Station ID	8724671	DCP #		Battery Date	00/00/0000	Replacement Date	00/00/0000
Manufacture				Battery Capacity in Amp-Hrs			
Type					Voltage		
Comments							

**Well and Sump Information**

Station ID	8724671	DCP#		Sensor ID			
Well Purpose		Date Installed	00/00/0000	Date Remove			
Well Diameter(ft)		Material		Bottom Height(ft)			
Well Depth(ft)		Length(ft)		Copper Insert			
Intake Type		Top Hat		MF Seasonal			
Securing Method		Parallel Plates		Marine Fouling			
Valve Turns		Valve Turns Max		# Brackets			
Heater Setting		Sump Pumped		Date Last Pumped	00/00/0000		
Sump Diameter(ft)		Sump Depth(ft)		Intake Pipe Material			
Element Setting		Element Length(ft)		Element Submerged			
Valve Invert		Intake Invert		Sump Intake Dia(ft)			
Intake Screen		Intake Screen Clean		Valve Type			
Well Pumped		# Heat Lamps		Valve Dia(ft)			
Ladder Access		Heat Lamp Setting		Valve Leak			
Description							

**Most Recent Dive Information**

Station ID	8724671	Dive Date	00/00/0000	Dive during calendar year (Y/N)	NO
Dive Span(min)		Divers			
Dive Notes					

Acoustic Water Level Sensor					
Station ID	8724671	DCP#:	Date Installed	00/00/0000 00:00	Date Removed
Type		Serial #		Model	
Manufacturer				Sensor ID	
Sound Tube Len(m)		Copper Tube Len(m)		T1/T2 Spacing(m)	# of Bails
Sound Tube Cleaned		Sensor Offset(m)		Ping Test Display	Diff (<+/- 0.06 passes)
LATITUDE			LONGITUDE		
ELEVATION			ELEV REF		
Comments					

SAE					
Station ID	8724671	DCP #		Date Installed	00/00/0000 00:00
SAE Type		SAE Serial#		SAE Model#	
Manufacturer				Sensor ID	
Maintenance Check		Encoder Set-Up			
Display (m)		Display (m)		Counter Weight (ozs)	
ETG (m)		ETG (m)		Float Dia (in)	
C2 Check (m)		C2 (m)		Tape Length (m)	
Reset C2 (Y/N)	NO	Encoder Offset (m)		ZETG C2 (m)	
LATITUDE			LONGITUDE		
ELEVATION			ELEV DATUM REF		
SAE Comments					

Upper Pressure Water Level Information					
Station ID	8724671	DCP#	1	Date Installed	05/10/2010 00:00
Type		Serial #	*15	Model #	6000-30G
Manufacturer	Paroscientific, Inc.				
Orifice Above Station Datum(m)	0	Sensor ID	N1		
LATITUDE	24° 43' 5.8" N		LONGITUDE	81° 55' 17.5" W	
ELEVATION			ELEV DATUM REF		
Comments					
PAROS installed on this temporary system, model# 3000-30G; S/N 100586					

### Lower Pressure Water Level Sensor Information

Station ID	8724671	DCP#		Date Installed	00/00/0000 00:00	Date Removed	00/00/0000 00:00
Type			Serial #			Model	
Manufacturer							
Orifice Above Station Datum(m)			Sensor ID	▼			
LATITUDE				LONGITUDE			
ELEVATION				ELEV REFERENCE			
Comments							

### Back Up Water Level Sensor Information

Station ID	8724671	DCP#		Date Installed	00/00/0000 00:00	Date Removed	00/00/0000 00:00
Type			Serial #			Model	
Manufacturer						Sensor ID	▼
LATITUDE				LONGITUDE			
ELEVATION				ELEV REFERENCE			
Comments							

### Microwave Water Level Sensor Information

Station ID	8724671	DCP#	▼	Date Installed	00/00/0000 00:00	Date Removed	
Type			Serial #			Model #	
Manufacturer						Sensor ID	▼
LATITUDE				LONGITUDE			
ELEVATION				ELEV REF DATUM			
Comments							



### Ancillary Equipment Information

Station ID	8724671	DCP #		Date Installed	00/00/0000 00:00	Date Removed	
Type		Serial #		Model			
Height Above Station Datum (m)		Cable		Cable Length (m)			
Manufacture							
Latitude		Longitude		Sensor ID			
Elevation		Elev Ref		Sensor ID			

### Sensor Comments

--	--	--	--	--	--	--	--

### GPS INFO

Station ID	8724671	Session#	1	Session Date Time	10/10/2010 14:51
BM Designation	Smith Shoal Light	Session Length (hrs)	4hrs 43 min	ARP Height (m)	1.958
Percent OBS	75%	Ellipsoidal Ht(m)	-19.952	Ortho Ht(m)	
				CORS Site Y/N	NO

### GPS COMMENT

--	--	--	--	--	--	--	--

### Level Run Information

Station ID	8724671	Level Begin Date	00/00/0000	Level End Date	00/00/0000
PBM Designation		PBM Elevation (m)	.0000	PBM Connected	
Orifice Connected		Staff Connected		Down Shot Fixture	
Level Type		Level Order		Level Order Class	
Match History		Water Transfer		Water Trans Diff (m)	
Recovered By					

### Level Run Comments

--	--	--	--	--	--	--	--

### Leveling Team

Station ID	8724671	
JOB	First Name	Middle Name
	Last Name	

### Leveling Equipment

ITEM	TYPE	SERIAL#

Designation	Condition	Most Recent Elevation (m)	Most Recent Date	Present Elevation(m)	Difference (m)	L

# Untitled

```
C:\Program Files\Pydro\Lib\site-packages\HSTP\Pydro>echo off
Checking for auto-update
Pydro version 10.9 (r3015) No updates available.
No update to perform
0
initialize geotrans engine : 0
Microsoft Windows XP License: 0294c0ab011a943522 exp: 1/2011
Read Registry: HKEY_LOCAL_MACHINE\SOFTWARE\CARIS\HIPS\7.0
initialize geotrans engine : 0
Microsoft Windows XP H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\265_16
47...
--> Adjusted EventMk using a 51.009 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\265_1647...
initialize geotrans engine : 0
Microsoft Windows XP initialize geotrans engine : 0
--> Adjusted SLRange using a 51.009 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\265_1647...
initialize geotrans engine : 0
--> Adjusted ObservedDepths using a 51.009 offset to time data.

initialize geotrans engine : 0
Microsoft Windows XP H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\265_16
47...
--> Adjusted EventMk using a 51.009 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\265_1647...
initialize geotrans engine : 0
Microsoft Windows XP initialize geotrans engine : 0
--> Adjusted SLRange using a 51.009 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\265_1647...
initialize geotrans engine : 0
--> Adjusted ObservedDepths using a 51.009 offset to time data.

initialize geotrans engine : 0
Microsoft Windows XP H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\266_17
28...
--> Adjusted EventMk using a 51.069 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\266_1728...
initialize geotrans engine : 0
Microsoft Windows XP initialize geotrans engine : 0
--> Adjusted SLRange using a 51.069 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\266_1728...
initialize geotrans engine : 0
--> Adjusted ObservedDepths using a 51.069 offset to time data.

initialize geotrans engine : 0
Microsoft Windows XP H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\267_18
01...
--> Adjusted EventMk using a 51.110 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\267_1801...
initialize geotrans engine : 0
Microsoft Windows XP initialize geotrans engine : 0
--> Adjusted SLRange using a 51.110 offset to time data.

H:\HDCS_Data\H12191\TJ_3101_Odom_ETCV200_VB\2010-197\267_1801...
initialize geotrans engine : 0
```

Untitled

--> Adjusted ObservedDepths using a 51.110 offset to time data.

**Subject:** [Fwd: PostAcqTools example 924\_1318.RAW]

**From:** "peter.lewit" <Peter.Lewit@noaa.gov>

**Date:** Thu, 16 Sep 2010 15:27:49 -0400

**To:** "ops >> \_OMAO MOA OPS Thomas Jefferson" <OPS.Thomas.Jefferson@noaa.gov>, Daniel.Wright@noaa.gov, Ryan Wartick <Ryan.Wartick@noaa.gov>

I got this just after the test, although we don't use events, it may be helpful with the Vertical beam editor for unity. The fix number is whatever it started at in hypack.

**Subject:** PostAcqTools example 924\_1318.RAW

**From:** "Jack L. Riley" <Jack.Riley@noaa.gov>

**Date:** Thu, 16 Sep 2010 15:06:59 -0400

**To:** "Peter.Lewit" <Peter.Lewit@noaa.gov>

**CC:** Ryan Wartick <Ryan.Wartick@noaa.gov>

Hello Peter,

Just a quick follow-up from our phone conversation re: PostAcqTools adjustment of CARIS HIPS depth data. You need to adjust both the SLRange data and the ObservedDepths data (the former flavor of the converted measured depth being import for SVCcorrect--to recalc ObservedDepths), and you don't need to copy/move HDCS files around manually--PostAcqTools does that automatically. I verified that line 924\_1318 fixes OK (see printf\* output below and attached images). Note that printfEM revealed that I did not need to adjust the EventMark "fix" data for some reason; evidently HIPS conversion doesn't use the Hypack FIX datagram timestamps, but I don't know where it gets the "right" value.

printfRange

BEFORE:

Min Time (UTC since 1980): 963148745.4570 (2010-190 13:18:50.457)

Max Time (UTC since 1980): 963150016.3520 (2010-190 13:40:01.351)

AFTER PostAcqTools +45.82 sec:

Min Time (UTC since 1980): 963148791.2770 (2010-190 13:19:36.276)

Max Time (UTC since 1980): 963150062.1720 (2010-190 13:40:47.172)

printfObserved

BEFORE:

Min Time (UTC since 1980): 963148745.4570 (2010-190 13:18:50.457)

Max Time (UTC since 1980): 963150016.3520 (2010-190 13:40:01.351)

AFTER PostAcqTools +45.82 sec:

Min Time (UTC since 1980): 963148791.2770 (2010-190 13:19:36.276)

Max Time (UTC since 1980): 963150062.1720 (2010-190 13:40:47.172)

---snip---

POS 0 47975.714 398968.741 2747115.058

QUA 0 47975.714 7 7.507 2.493 8.000 4.000 0.000 0.000 0.000

RAW 0 47975.714 4 245013.63287 -815999.07091 -21.92650 131935.71459

GYR 0 47975.714 177.916

HCP 0 47975.714 -0.042 -0.779 1.479

FIX 99 47930.602 149

EC2 1 47930.544 20.240 20.340

---snip---

printfNav C:\CARIS\HIPS\70\HDCS\_Data\PeterTJ\TJ\_3101\_Odom\_ETCV200\_VB\2010-190\924\_1318 |  
more

Min Time (UTC since 1980): 963148790.6740 (2010-190 13:19:35.674)

Max Time (UTC since 1980): 963150061.6150 (2010-190 13:40:46.615)

```
printfEM
    Min Time (UTC since 1980): 963148790.7140 (2010-190 13:19:35.713)
    Max Time (UTC since 1980): 963150061.6150 (2010-190 13:40:46.615)

printfGyro <ibid.>
    Min Time (UTC since 1980): 963148790.6540 (2010-190 13:19:35.654)
    Max Time (UTC since 1980): 963150061.6150 (2010-190 13:40:46.615)

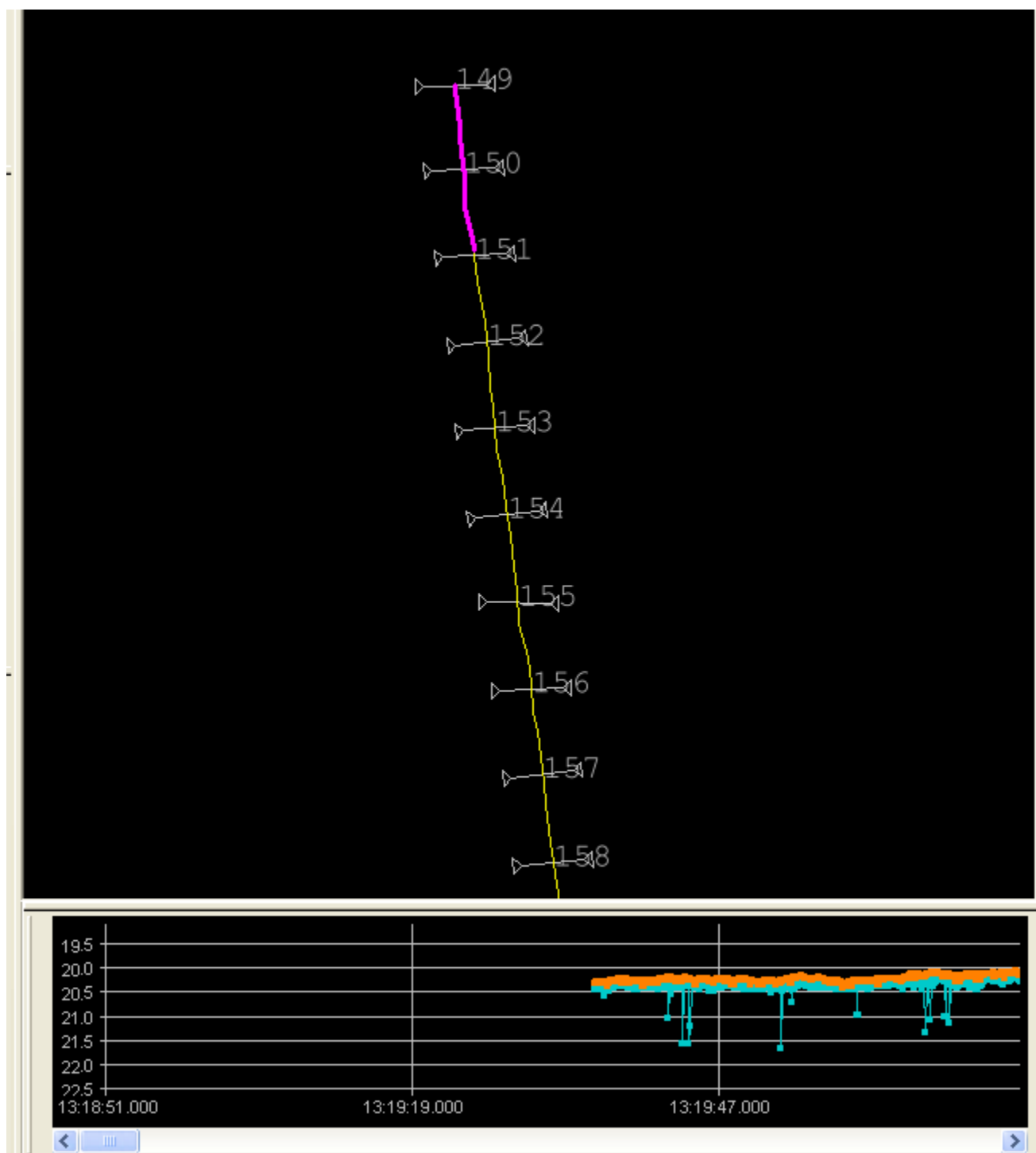
printfHeave <ibid.>
    Min Time (UTC since 1980): 963148790.6540 (2010-190 13:19:35.654)
    Max Time (UTC since 1980): 963150061.6150 (2010-190 13:40:46.615)

printfPitch <ibid.>
    Min Time (UTC since 1980): 963148790.6540 (2010-190 13:19:35.654)
    Max Time (UTC since 1980): 963150061.6150 (2010-190 13:40:46.615)

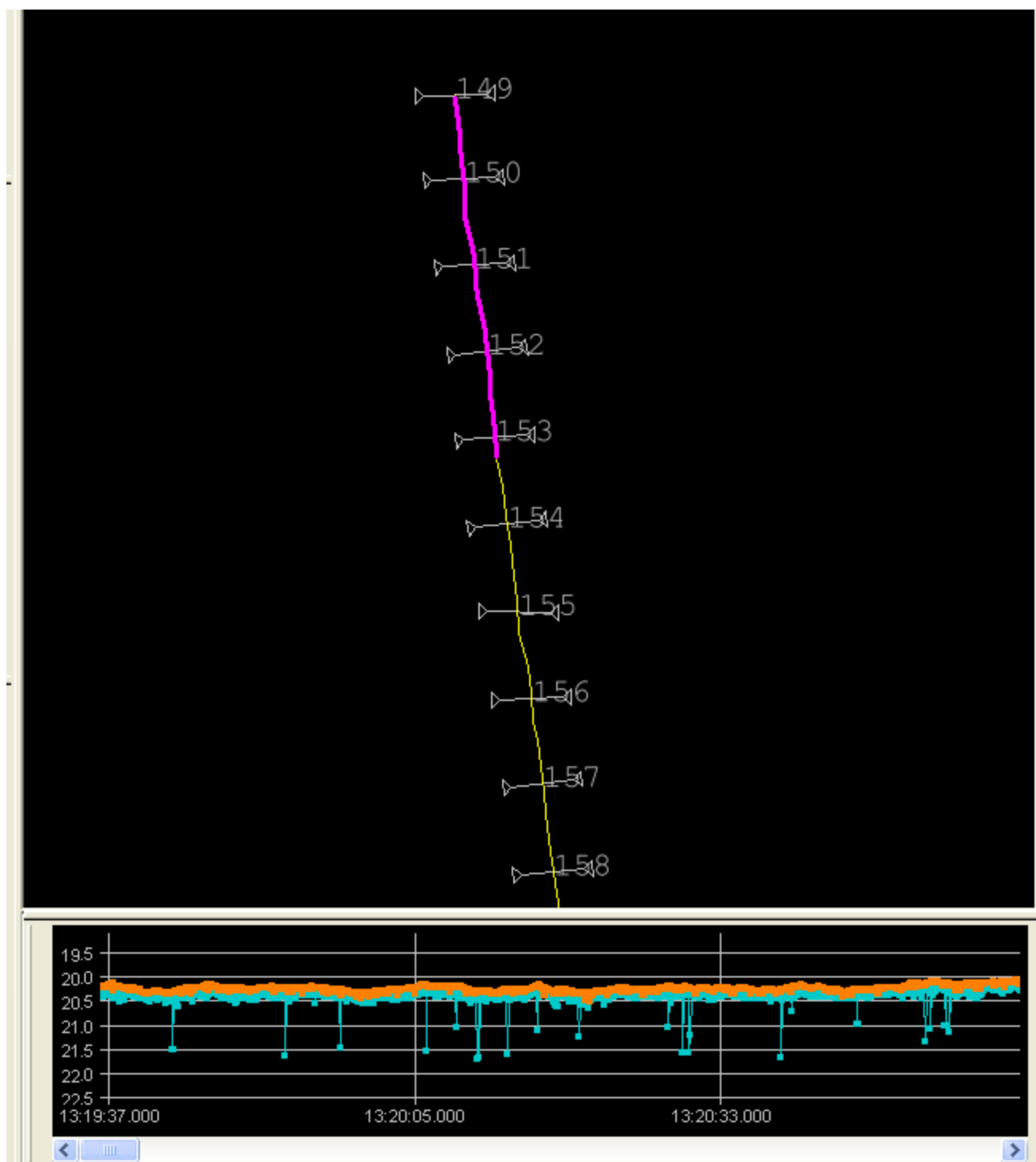
printfRoll <ibid.>
    Min Time (UTC since 1980): 963148790.6540 (2010-190 13:19:35.654)
    Max Time (UTC since 1980): 963150061.6150 (2010-190 13:40:46.615)
```

—SBEditBeforePAT.png—

---

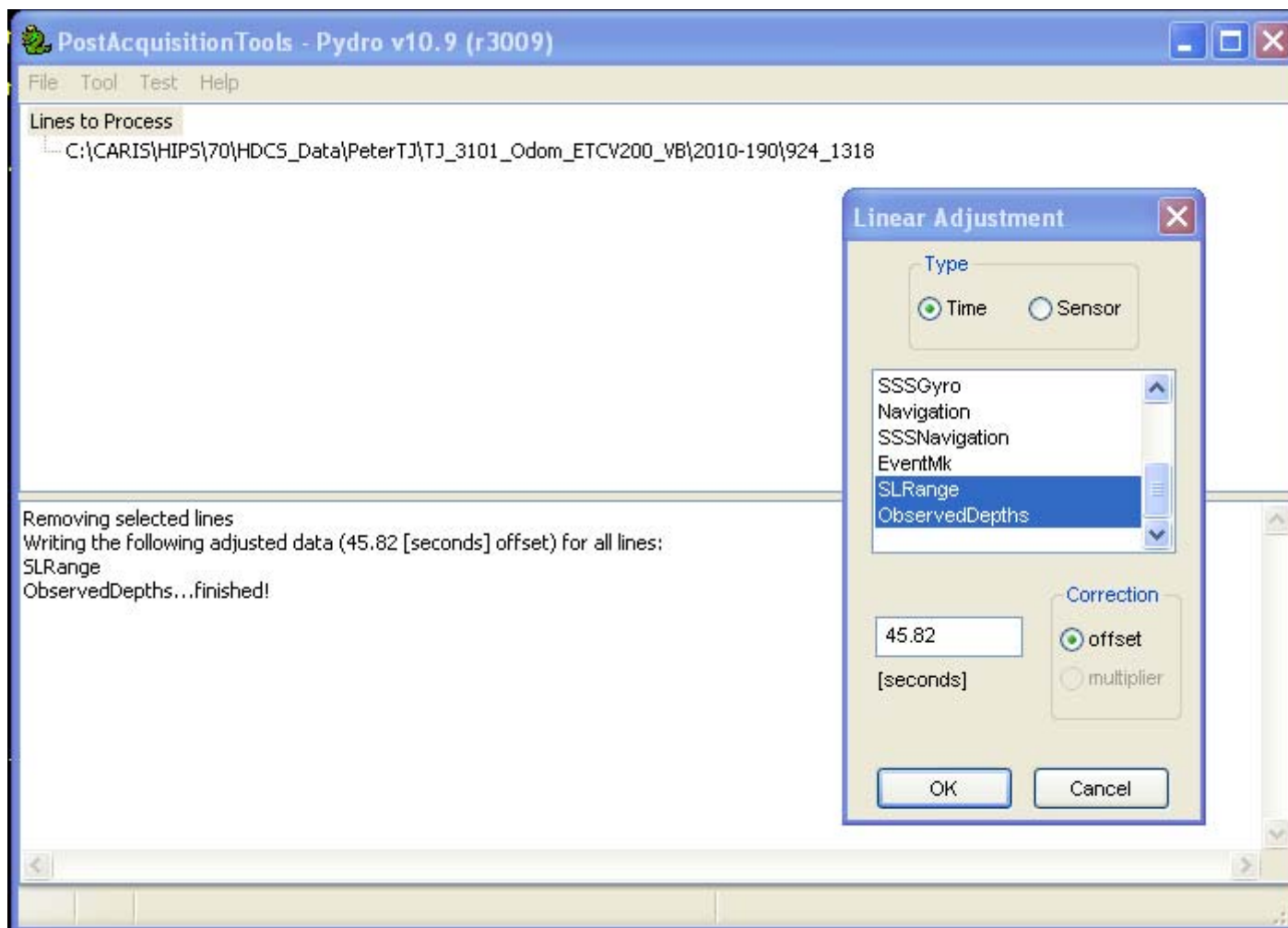


—SBEditAfterPAT.png—

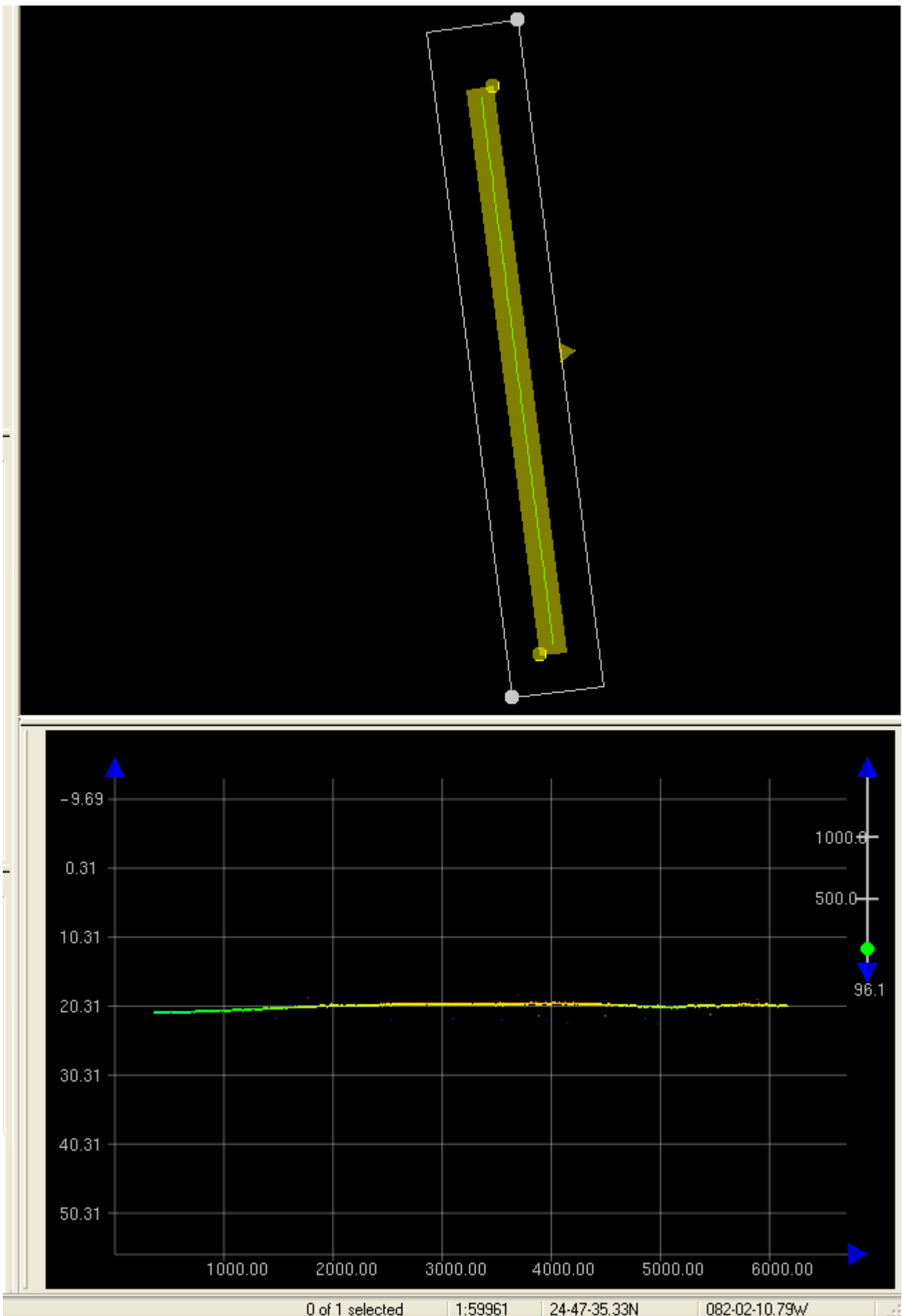


— PATdialog.png —





SubsetEditAfterMerge.png



**PostAcqTools example 924\_1318.RAW.eml**

**Content-Type:** message/rfc822

**Content-Encoding:** 7bit

— SBEEditBeforePAT.png

**SBEEditBeforePAT.png**

**Content-Type:** image/png

**Content-Encoding:** base64

— SBEEditAfterPAT.png

**SBEEditAfterPAT.png**

**Content-Type:** image/png

**Content-Encoding:** base64

— PATdialog.png

**PATdialog.png**

**Content-Type:** image/png

**Content-Encoding:** base64

— SubsetEditAfterMerge.png

**SubsetEditAfterMerge.png**

**Content-Type:** image/png

**Content-Encoding:** base64

**Subject:** Re: Crossline comparison

**From:** Chris van Westendorp <Christiaan.VanWestendorp@noaa.gov>

**Date:** Thu, 10 Sep 2009 13:00:35 -0400

**To:** "mark.blankenship" <Mark.Blankenship@noaa.gov>

**CC:** LCDR Rick Brennan <Richard.T.Brennan@noaa.gov>, Castle Parker <Castle.E.Parker@noaa.gov>, Edward Owens <Edward.Owens@noaa.gov>, LT Jasper Schaer <jasper.schaer@noaa.gov>, CDR Shep Smith <Shep.Smith@noaa.gov>, Daniel Wright <Daniel.Wright@noaa.gov>

Mark,

Per 5.1.4.3 of the HSSD, AHB authorizes TJ to use the Standard Deviation layer to conduct surface difference comparison and analysis on future survey submissions of multibeam data. This meets the crossline comparison requirement laid out in HSSD.

Please let me know if you have any questions or need for further clarification.

R/

LCDR Chris van Westendorp, NOAA

mark.blankenship wrote:

Chris,

You mentioned in the meeting today that AHB was not going to require the multiple CUBE surface comparison, instead allowing us to use a single surface standard deviation layer to do our checks with. Is there any memo coming out for that?

Mark

LCDR Chris van Westendorp <[christiaan.vanwestendorp@noaa.gov](mailto:christiaan.vanwestendorp@noaa.gov)>

Atlantic Hydrographic Branch

NOAA OCS

## AHB COMPILATION LOG

General Survey Information	
REGISTRY No.	H12191
PROJECT No.	OPR-H355-TJ-10
FIELD UNIT	NOAA SHIP THOMAS JEFFERSON
DATE OF SURVEY	20100701 - 20100824
LARGEST SCALE CHART	<i>11441, edition 41, 20060901, 1:30,000</i>
ADDITIONAL CHARTS	<i>11439, edition 26, 20040701, 1:80,000</i>
	<i>11434, edition 28, 20080601, 1:180,000</i>
SOUNDING UNITS	<b>FEET</b>
COMPILER	Kolleen Mortimer

Source Grids	File Name H:\Compilation\H12191_H355_TJ\AHB_H12191\SAR Final Products\GRIDS
	H12191_MB_Cube_MLLW_50cm_1_Final.csar H12191_MB_Cube_MLLW_50cm_2_Final.csar H12191_MB_Cube_MLLW_50cm_3_Final.csar H12191_MB_Cube_MLLW_50cm_4_Final.csar H12191_MB_Cube_MLLW_50cm_5_Final.csar H12191_MB_Cube_MLLW_50cm_6_Final.csar H12191_MB_Cube_MLLW_50cm_7_Final.csar H12191_VB_4m_ShoalExtract.bag
Surfaces	File Name H:\Compilation\H12191_H355_TJ\AHB_H12191\COMPILE\Working
<i>Combined</i>	H12191_4m_Combined.csar
<i>Interpolated TIN</i>	\Interpolated TIN\H12191_12m_InterpTIN.csar
<i>Shifted Interpolated TIN</i>	\Shifted Surface\H12191_12m_InterpTIN_Shifted.csar
Final HOBs	File Name H:\Compilation\H12191_H355_TJ\AHB_H12191\COMPILE\Final_Hobs
<i>Survey Scale Soundings</i>	H12191_SS_Soundings.hob
<i>Chart Scale Soundings</i>	H12191_CS_Soundings.hob
<i>Contour Layer</i>	H12191_Contours.hob
<i>Feature Layer</i>	H12191_Features.hob
<i>Meta-Objects Layer</i>	H12191_MetaObjects.hob
<i>Blue Notes</i>	H12191_BlueNotes.hob
<i>ENC Retain Soundings</i>	H12191_ENC_Retain_Soundings.hob

Meta-Objects Attribution	
Acronym	Value
<b>M_COVR</b>	
CATCOV	1 – coverage available
SORDAT	20100824
SORIND	US,US,graph,H12191
<b>M_QUAL</b>	
CATZOC	6 – zone of confidence U (data not assessed)
INFORM	NOAA Ship Thomas Jefferson
POSACC	5.0 m
SORDAT	20100824

SORIND	US,US,graph,H12191
SUREND	20100824
SURSTA	20100702
<b>DEPARE</b>	
DRVALV 1	20.0 ft
DRVALV2	45.0 ft
SORDAT	20100824
SORIND	US,US,graph,H12191
<b>M_CSCL</b>	
CSCALE	30,000
SORDAT	20100824
SORIND	US,US,graph,H12191

**SPECIFICATIONS:**

- I. COMBINED SURFACE:
  - a. Number of SAR Final Grids: 8
  - b. Resolution of Combined (m): 4 m
  
- II. SURVEY SCALE SOUNDINGS (SS):
  - a. Attribute Name: Depth
  - b. Selection criteria: Radius, Shoal bias
  - c. Radius value is: mm at map scale
    - i. Use single-defined radius: 1.00
  - d. Queried Depth of All Soundings
    - i. Minimum: 6.128 m
    - ii. Maximum: 13.460 m
  
- III. INTERPOLATED TIN SURFACE:
  - a. Resolution (m): 12 m
  - b. Interpolation method: Natural Neighbor
  - c. Shift value: -0.75 ft
  
- IV. CONTOURS:
  - a. Attribute Name: Depth
  - b. Use a Depth List: H12191\_depth\_contours.txt
  - c. Output Options: Create contour lines
    - i. Line Object: DEPCNT
    - ii. Value Attribute: VALDCO
  
- V. FEATURES:
  - a. Number of Chart Features: 5 *[all features included in H-Cell]*
  - b. Number of Non-Chart Features: 9 *[all features submitted by field & not included in H-Cell]*
  
- VI. CHART SURVEY SOUNDINGS (CS):
  - a. Number of ENC CS Soundings: 123
  - b. Attribute Name: Depth
  - c. Selection criteria: Radius, Shoal bias
  - d. Radius value is: Distance on the ground (m)
    - i. Use single-defined radius: 950m for chart 11493 (1:80k) and 375m for chart 11441 (1:30k)
  - e. Number Survey CS Soundings: 126
  
- VII. NOTES:

This Document is for Office Process use only and is intended to supplement, not supersede or replace, information/recommendations in the Descriptive or H-Cell Reports.

*[Type text]*