

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

# DESCRIPTIVE REPORT

*Type of Survey* Hydrographic

*Field No.* David Evans and Associates, Inc.

*Registry No.* H11835

## LOCALITY

*State* Louisiana

*General Locality* Gulf of Mexico

*Sublocality* Garden Bay

2008

CHIEF OF PARTY

Jonathan L. Dasler, PE (OR) , PLS (OR,CA)

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

REGISTRY No

HYDROGRAPHIC TITLE SHEET

H11835

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

FIELD No

David Evans and Associates, Inc.

State Louisiana

General Locality Gulf of Mexico

Sub-Locality Garden Bay

Scale 1:10,000

Date of Survey May 21, 2008 - August 20, 2008

Instructions dated March 10, 2008

Project No. OPR-J977-DE-08

Vessel R/V Taku and R/V Chinook

Chief of party Jonathan L. Dasler, PE (OR) , PLS (OR,CA)

Surveyed by John Staly and Mike Hill

Soundings by echo sounder, hand lead, pole RESON 8101, Odom CV100, EdgeTech 4200-FS, EdgeTech 4200-HFL

Graphic record scaled by N/A

Graphic record checked by N/A Automated Plot N/A

***AHB (bold, italic, red font)***

Verification by \_\_\_\_\_

Soundings in Feet at MLLW

REMARKS: All times are UTC.

The purpose of this contract is to detect and map debris for the Gulf of Mexico Marine Debris Project and provide NOAA with modern, accurate hydrographic survey data with which to update nautical charts of the assigned area.

SUBCONSULTANIS: Zephyr Marine, P.O. Box 1575, Petersburg, AK 99833

John Oswald and Associates, 2000 E Dowling Road, Suite 10, Anchorage, AK 99507

Datum NAD83 - (UTM) Zone 16 North Projection

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- Separate IV. Crossline Comparisons
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## Acronyms and Abbreviations

AHB	Atlantic Hydrographic Branch
AtoN	Aid to Navigation
AWOIS	Automated Wreck and Obstruction Information System
BAG	Bathymetric Attributed Grid
CO-OPS	Center for Operational Oceanographic Products and Services
COTR	Contracting Officer's Technical Representative
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DEA	David Evans and Associates, Inc.
DtoN	Danger to Navigation
DGPS	Differential Global Positioning System
ENC	Electronic Navigational Chart
HIPS	Hydrographic Information Processing System
IHO	International Hydrographic Organization
LNM	U.S. Coast Guard Local Notice to Mariners
MBES	Multibeam Echo Sounder
MCD	Marine Chart Division
MLLW	Mean Lower Low Water
NAD83	North American Datum of 1983
NOS	National Ocean Service
NWLON	National Water Level Observation Network
OBSTRN	Obstruction
OFSPFL	Offshore Platform
QUASOU	Quality of Sounding
R/V	Research Vessel
SOW	Statement of Work
TECSOU	Technique of Sounding
TPU	Total Propagated Uncertainty
TXTDES	Text Description
UTM	Universal Transverse Mercator
VBES	Vertical Single Beam Echosoundings

**Descriptive Report to Accompany Hydrographic Survey H11835**  
**Project OPR-J977-DE-08**  
**Gulf of Mexico, Louisiana**  
**Garden Bay**  
**Scale 1:10,000**  
**May 2008 – August 2008**  
**David Evans and Associates, Inc.**  
**Lead Hydrographers: Jonathan L. Dasler, Jason C. Creech**

**A. AREA SURVEYED**

David Evans and Associates, Inc. (DEA) conducted a hydrographic survey in the Gulf of Mexico. The survey area (Figure 1) is located in the state of Louisiana, from the entrance of South Pass to Blind Bay. *Concur.*

The purpose of this survey was to provide accurate hydrographic data suitable for item detection and debris mapping in the project area. H11835 was conducted in accordance with the Statement of Work (SOW) for OPR-J977-DE-08, dated March 1, 2008. *Concur.*

The project instructions required 200% side scan sonar coverage of the survey area with single beam sonar data acquired in conjunction with side scan operations. The survey was conducted over a 40-meter set line spacing (50-meter side scan sonar range). Eighteen (18) bottom samples were also acquired for this survey. Five (5) Automated Wreck and Obstruction Information System (AWOIS) item investigations were located within H11835 survey area. The search radius of one AWOIS item (11801) spans the junction between H11835 and H11834 and is discussed in H11834 descriptive report. The search radius of another AWOIS item (11794) spans the junction between H11835 and H11836 and is discussed in this descriptive report. *Concur.*

Data acquisition was conducted from May 21, 2008 (Day Number 142) to August 20, 2008 (Day Number 233). Table 1 presents a detailed list of acquisition dates. *Concur.*

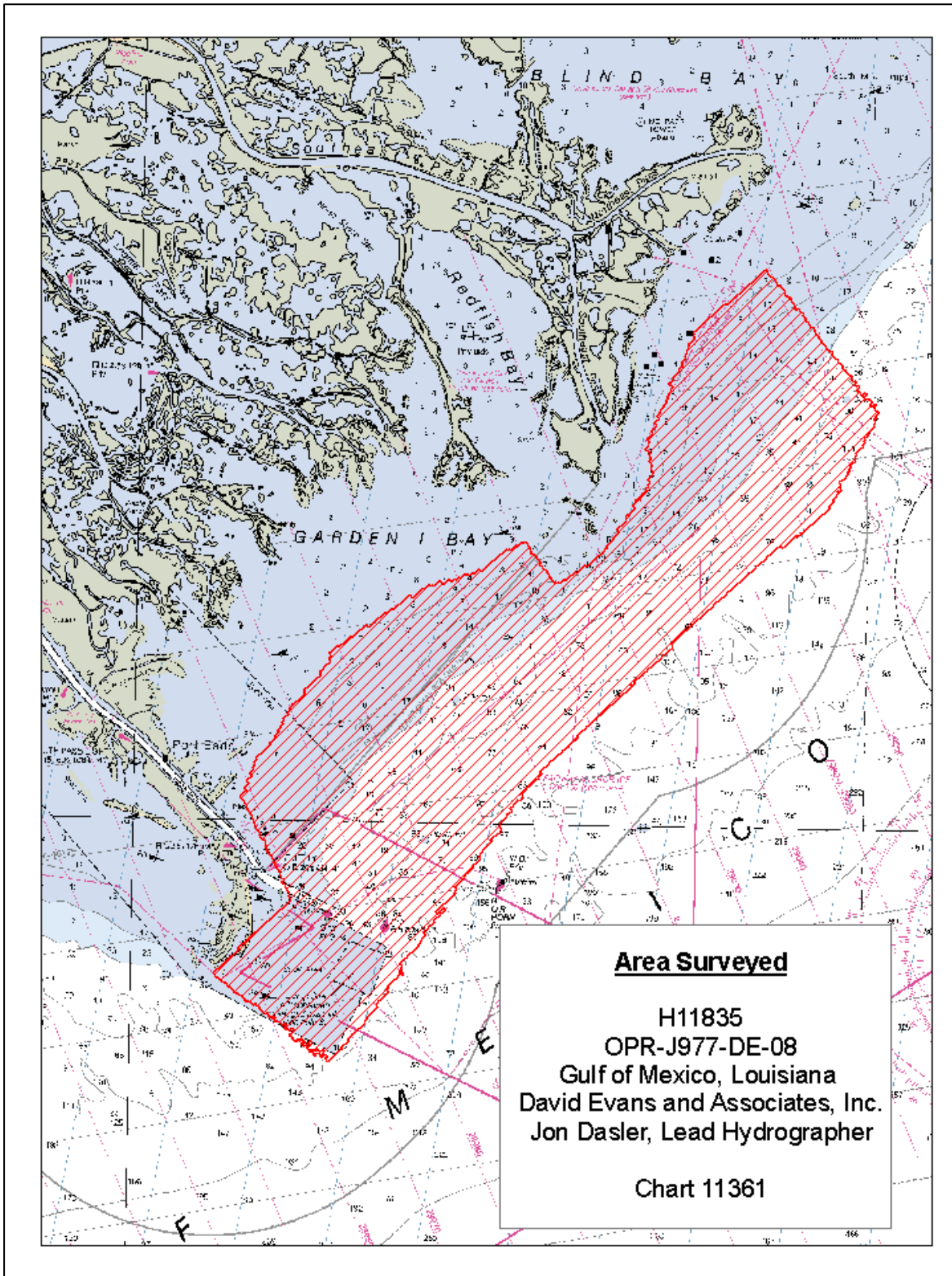


Figure 1. H11835 Survey Area

**Table 1. H11835 Days of Acquisition**

<b>Dates of Acquisition</b>	
<b>Month and Year</b>	<b>Dates</b>
May 2008	21, 24, 27-29
June 2008	4, 8, 10-14, 16-22
July 2008	19-20, 26
August 2008	20

Detailed survey statistics of H11835 are provided in Table 2.

**Table 2. H11835 Survey Statistics**

<b>Survey Statistics</b>	<b>Research Vessels (R/V) TAKU and CHINOOK</b>
<b>VBES (mainscheme nm)</b>	-
<b>MBES (mainscheme nm)</b>	-
<b>LIDAR (mainscheme nm)</b>	-
<b>SSS (mainscheme nm)</b>	-
<b>Combination lines (SSS and VBES nm)</b>	1131.8
<b>Crosslines (VBES nm)</b>	94.4
<b>Lidar Crosslines (nm)</b>	-
<b>Developments (MBES nm)</b>	4.0
<b>Shoreline (nm)</b>	-
<b>Number of Bottom Samples</b>	18
<b>Number of Item Investigations that required additional survey effort (DPs)</b>	-
<b>Total number of square nautical miles</b>	23.52

**B. DATA ACQUISITION AND PROCESSING** *\*See also Evaluation Report*

**B1. Equipment**

Equipment and vessels used for data acquisition and survey operations during this survey are listed below in Tables 3 and 4. *Concur.*

*Table 3. R/V TAKU Equipment and Vessel Specifications*

<b>R/V TAKU</b>	
<b>Builder</b>	Armstrong Marine
<b>Design</b>	Catamaran
<b>Length Overall</b>	28'
<b>Beam</b>	10.5'
<b>Draft, Maximum</b>	2'
<b>Cruising Speed</b>	27 knots
<b>Max Survey Speed</b>	8.5 knots
<b>Echosounders</b>	ODOM CV-100 and RESON 8101
<b>Side Scan Sonar</b>	Edgetech 4200-FS and 4200-FSL
<b>Sound Velocity Equipment</b>	Applied Microsystems Smart SV&P
<b>Positioning &amp; Attitude</b>	Applanix POS/MV 320 v4, Trimble DSM 132

*Table 4. R/V CHINOOK Equipment and Vessel Specifications*

<b>R/V CHINOOK</b>	
<b>Builder</b>	Armstrong Marine
<b>Design</b>	Catamaran
<b>Length Overall</b>	28'
<b>Beam</b>	10.5'
<b>Draft, Maximum</b>	2'
<b>Cruising Speed</b>	27 knots
<b>Max Survey Speed</b>	8.5 knots
<b>Echosounders</b>	Odom CV-100
<b>Side Scan Sonar</b>	Edgetech 4200-FS and 4200-FSL
<b>Sound Velocity Equipment</b>	Applied Microsystems Smart SV&P
<b>Positioning &amp; Attitude</b>	SPS750 and SPS550, Trimble DSM132, TSS DMS05

There were no vessel or equipment configurations used during data acquisition that deviated from those described in the *OPR-J977-DE-08 Data Acquisition and Processing Report (DAPR)*. *Concur with clarification. Deviations from DAPR discussed below.*

## **B2. Quality Control**

Quality control is discussed in detail in Section B of the *OPR-J977-DE-08 DAPR*. The results from the positioning system comparison and leadline to multibeam comparison may be found in Separate I *Acquisition and Processing Logs* and the sound velocity profile sensor weekly evaluation table may be found in Separate II *Sound Speed Data*. Single beam data were reviewed at multiple levels of data processing including hydrographic information processing system (HIPS) conversion, line editing, subset editing, and analysis of anomalies revealed in uncertainty surfaces. Side scan data were reviewed multiple times for contacts with reviews occurring: real-time during data acquisition, during contact verification and bottom tracking, and again during mosaic generation. Significant side scan contacts were compared to multibeam during HIPS subset editing and compared to anomalies in the multibeam data sun-illuminated imagery. **Concur.**

### **B2.a Crosslines**

A total of 94.4 nautical miles of crosslines, 8.34% of mainscheme lines, were run for analysis of survey accuracy. Crosslines were run perpendicular to mainscheme lines across the entire surveyed area providing a good representation for analysis of consistency. **Concur.**

The mainscheme bathymetry was manually compared to crosslines in CARIS subset mode, as well as compared to multibeam investigation lines by creating a difference surface. Crosslines agreed well with differences within tolerance for an International Hydrographic Organization (IHO) Order 1 survey. A statistical Quality Control Report was generated in CARIS HIPS by comparing all the crosslines to a two-meter uncertainty weighted surface. Beam number was selected for output results. The quality control report is included in Separate IV *Crossline Comparisons*. The results of the analysis exceeded the requirements set in the NOS *Hydrographic Surveys Specifications and Deliverables* (April 2007). **Concur.**

### **B2.b Uncertainty**

The calculated uncertainty values of all nodes of the unfinalized Combined Uncertainty and Bathymetry Estimator (CUBE) surfaces range from 0.242 meters to 0.256 meters. **Concur.**

During HIPS processing, the "greater of the two" option was selected, where the calculated uncertainty from total propagated uncertainty (TPU) is compared to the standard deviation of the soundings influencing the node, and the greater value is assigned as the final uncertainty of the node. As a result, the uncertainty of the finalized surface and associated Bathymetric Attributed Grids (BAGs) increased for nodes where the standard deviation of the node was greater than the calculated uncertainty. No area within the survey exceeds IHO Order 1 specifications for depth accuracy. **Concur.**

### **B2.c Junctions**

H11835 junctions with survey H11834 to the west and H11836 to the north east. The junction analysis between H11835 and H11834 is discussed in H11834 Descriptive Report.

The junction with survey H11836 matches well within allowable error tolerances. A difference analysis was performed using Caris Bathy DataBASE using overlapping surfaces for surveys H11835 and H11836. The difference analysis used 288 overlapping nodes between the two surveys. Over 95 percent of all soundings are within  $\pm 0.25$  meters. This is within S-44 IHO Order 1 error tolerances for these water depths. Figure 2 displays a histogram of the junction differences.

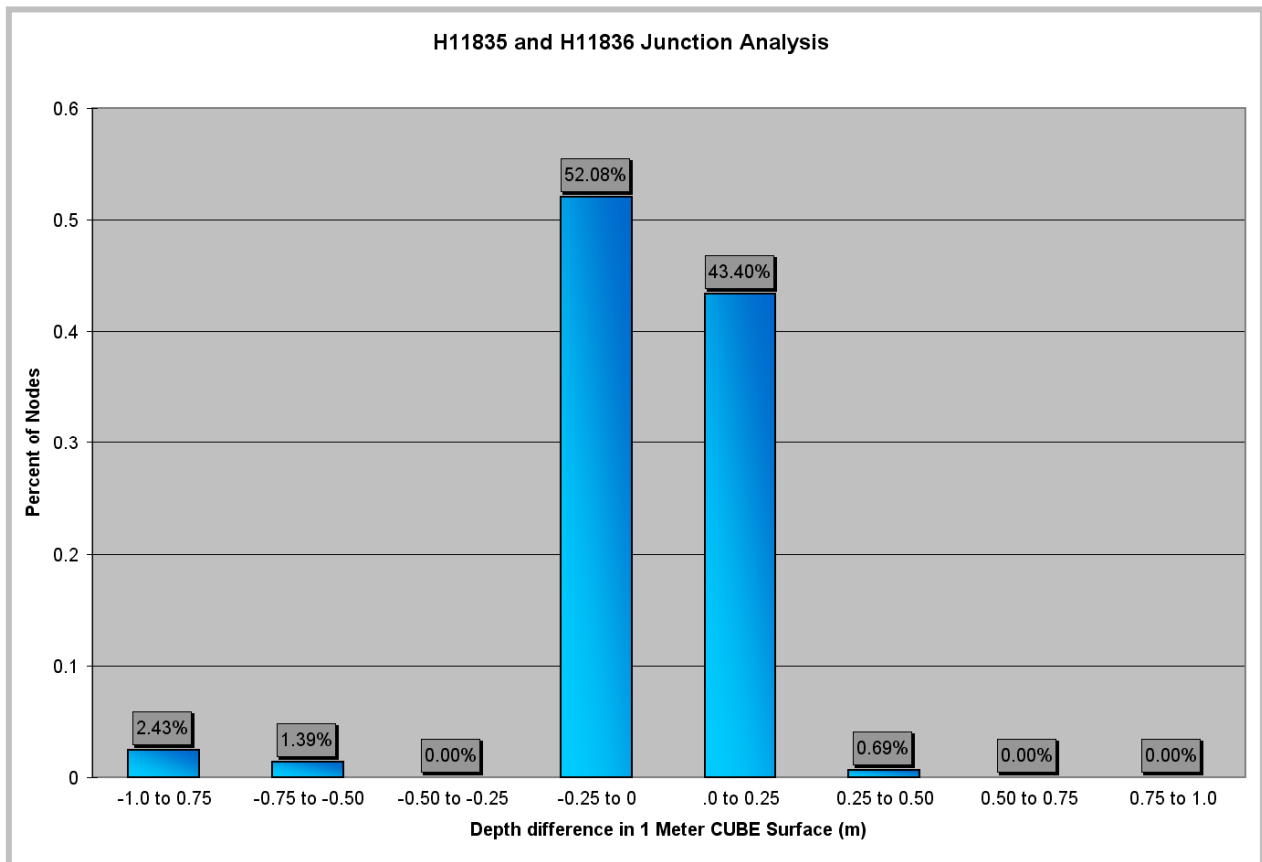


Figure 2. Histogram of junction differences

**B2.d Unusual Conditions or Data Degradation**

No unusual conditions or data degradation was observed in H11835. **Concur.**

**B2.e Object Detection and Coverage Requirements**

Survey speeds were adjusted so that object detection requirements were exceeded throughout the survey. **Concur.**

Demonstration of complete 200% side scan sonar coverage was achieved by producing separate 100% and 200% 50-centimeter mosaics. **Concur.**



Vertical beam echosounder data were acquired in conjunction with the side scan sonar. All along track holidays were filled prior to the end of survey operations. The coverage requirement for a “Set Line Spacing” survey was achieved. **Concur.**

Shallow water multibeam data were acquired for least depths determination on significant contacts. High resolution, 50-centimeter CUBE surfaces were created to ensure that every feature's least depth was accurately portrayed. The disambiguation method configuration used to create all 50-centimeter CUBE surfaces was set to “Shoal” which corresponds to the NOS *Hydrographic Surveys Specifications and Deliverables* (April 2007) Object Detection Coverage requirements. **Concur.**

### **B3. Corrections to Echo Soundings**

Data reduction procedures for survey H11835 are detailed in the *OPR-J977-DE-08* DAPR, submitted under a separate cover. The multibeam swath angle filter that was applied to each survey line varied depending on location, conditions, and search objects. In general, data were filtered at a 45/45 degree angle from nadir. For detailed information pertaining to applied filters please refer to the multibeam processing logs. **Concur.**

The survey area for H11835 contained numerous baring platforms. The least depths of the baring features were marked as “Examined” and the remainder of the feature was flagged as "Rejected" to the mudline. The baring features are not included in the finalized bathymetric sounding set after they were positioned. This was done to ensure that the generated surface represented the true seafloor. **Concur with clarification. Only one baring platform exists within the survey area.**

#### **B3.a Deviations from DAPR**

There are several deviations from the *OPR-J977-DE-08* DAPR resulting from changes in survey and processing methodology or from reporting errors in the DAPR.

- R/V Taku and R/V Chinook vessel sketches in the DAPR show the surveyed 0.5m VBES Z offsets while the HVFs report a Z offset of 0.0m. The 0.5 meter VBES draft offset for each vessel was entered into the ODOM CV-100 and applied in real time during acquisition and therefore not included in the HVFs. Draft checks were observed twice daily (beginning and end of day) to account for vessel loading and fuel consumption. The draft readings were then used to compute HIPS water line values with respect the vessel reference point. This methodology was consistently verified through weekly leadline checks.
- The R/V Chinook vessel sketch incorrectly lists VBES horizontal offsets relative to the gunnel directly above the VBES transducer. The DAPR VBES forward offset is in error by -0.003m while the VBES starboard offset is in error by 0.008m. The positions listed in the HVF are correct and are relative to the face of the transducer.
- Minor changes were made to the Hydrographic Vessel File TPU Values as reported in Table 6 of the DAPR. The HVFs used for survey H11835 had changes to vessel speed,



loading, draft, and delta draft a priori static error estimates. Values included in the HVFs submitted with the project were used in TPU calculations.

### **B3.b Additional Calibration Tests**

The initial system calibration test for R/V Chinook (squat and latency) took place on April 11, 2008 (DN102) with the opening test for R/V TAKU (patch, squat, and latency) occurring on April 27, 2008 (DN118). Additional patch tests for the R/V Taku were performed periodically (DN 178, 212, 220 and 235) to verify the adequacy of the known system biases.

## **B4. Data Processing (Data Representation)**

### **B4.a Single Beam**

A single, two-meter uncertainty weighted surface of the single beam data is delivered with the complete single beam data set. **Concur.**

### **B4.b Multibeam**

CUBE surface resolutions and depth ranges were set in accordance with the NOS *Hydrographic Surveys Specifications and Deliverables* (April 2007). Final CUBE surfaces were created at a resolution of 50 centimeters and used to determine least depths of significant side scan sonar contacts. In order to keep CUBE surfaces at a manageable size, the main survey area was broken up into three Field Sheets (H11835\_1of3, etc.). When combined, the Field Sheets encompass the entire area of acquired multibeam bathymetry. A BAG was created for each CUBE surface and both the CUBE and BAG surfaces have been included with the digital data. **Concur.**

## **C. HORIZONTAL AND VERTICAL CONTROL *\*See also Evaluation Report***

A complete description of horizontal and vertical control for survey H11835 can be found in the OPR-J977-DE-08 *Horizontal and Vertical Control Report\**, submitted under separate cover. A summary of horizontal and vertical control for this survey follows. ***\*Included with survey deliverables.***

### **C1. Vertical Control**

The vertical datum for this project is Mean Lower Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at Pilots Station East, Southwest Pass, LA (8760922) served as control for datum determination. A subordinate water level station was installed at the Devon Energy Facility, North Pass, LA (8760417) and served as the primary source for water level reducers for all zones for survey H11835. **Concur.**

Soundings were reduced to MLLW using water level files from the NWLON station at Pilots Station East, SW Pass, LA and the tertiary station at Devon Energy Facility, North Pass, LA.

The Aquatrak acoustic distance measurements at the Devon Energy Facility station were converted to water level heights by subtracting the measured distance from the sensor "0" station datum elevation. Outliers were then removed from the data set by smoothing with a five hour fifth degree polynomial. Daily high and low readings were then picked from the data set and monthly means were computed. The monthly means from Devon Energy Facility were compared to the verified monthly means at Pilots Station East. From these comparisons, tidal datums were computed for Devon Energy Facility. A MLLW corrector file for Devon Energy Facility was created by applying the offset from station datum to MLLW to the smoothed Devon Energy station datum 6 minute water level file. **Concur.**

## **C2. Discussion of Tide Zoning**

Evaluation of tides was accomplished through comparison of zoned water levels from the primary station to the secondary station, crossline comparisons, and by visually comparing adjacent lines during CARIS subset editing.

Tide zoning for Devon Energy Facility, North Pass, LA (8760417) was created by modifying the preliminary Center for Operational Oceanographic Products and Services (CO-OPS) zoning files tied to Pilots Station East, Southwest Pass, LA (8760922). No changes were made to the preliminary zone boundaries except for moving the vertices of several zones so that adjacent zones have vertices that matched exactly to remove some very small slivers from the file. The Devon Energy Facility zone file used the same boundaries as the modified Pilot Station East, SW Pass, LA, but the time and range correctors were been back zoned from Pilot Station East, SW Pass to transfer relative to Devon Energy Facility.

MLLW was recomputed by CO-OPS for the Pilots Station East, Southwest Pass (876-0922) station in February 2009, which impacted the MLLW determination of the Devon Energy Facility station. For this survey MLLW at Devon Energy Facility was acquired, processed, and submitted using the older Pilots Station East, Southwest Pass datum.

Additionally, MLLW at Devon was computed using a four month datum determination which corresponds with the time that the gauge was used for OPR-J977-DE-08 (April - August 2008). The subordinate water level station at the Devon Energy Facility, North Pass was also used on another contract survey (S-J977-KR-TE-08) performed by TerraSond Ltd. with a nine month datum determination. Comparison of water levels submitted with this project to those used on S-J977-KR-TE-08, which are computed on the new datum, will show a shift between the two water level files.

## **C3. Horizontal Control**

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Position data consists of both geographic and projected coordinates. Projected coordinates are in meters using the Universal Transverse Mercator (UTM) Zone 16 projection. Differential Global Positioning System (DGPS) was the sole method of positioning, with differential corrections received from the U.S. Coast Guard beacon at English Turn, Louisiana (broadcast site ID 814 at 293 kilo Hertz). **Concur.**

## D. RESULTS AND RECOMMENDATIONS

### D1. Chart Comparison

A photo was taken for all baring features located in OPR-J977-DE-08 survey area. Each photo is named for the correlating side scan contact and is included with the deliverables with the Supporting Data for SSS Contacts. **Concur.**

#### D1.a Survey Agreement with Chart

During the course of data acquisition and processing H11835 was compared to the largest scale raster and electronic navigation charts (ENC). The results of these comparisons are described below, as well as in Sections D2.b through D2.f of this report. **Concur.**

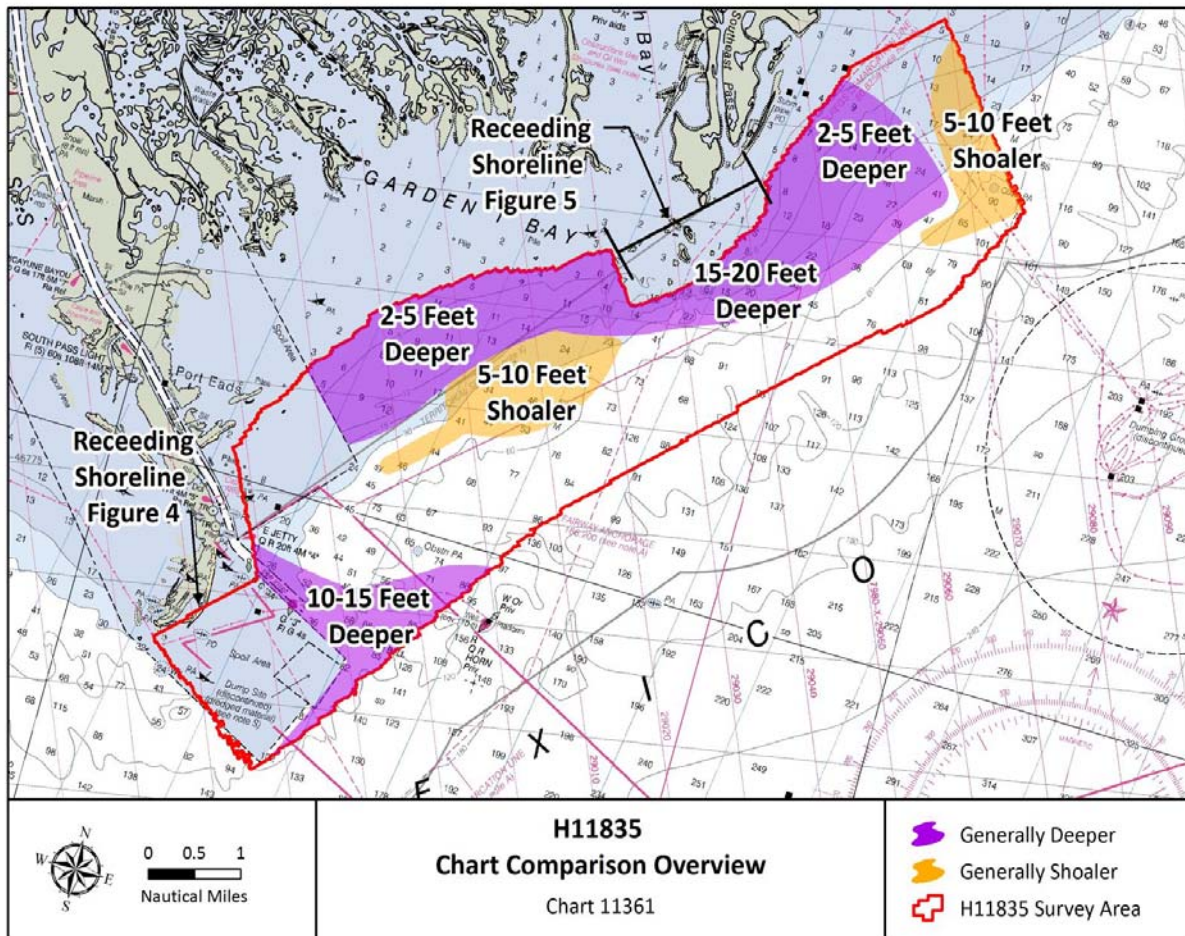
A sounding plot for H11835 was created from the combined, 2-meter CUBE surface in CARIS, with a 75-meter on the ground radius overplot removal in Base Editor. Contours were also generated from the combined, 2-meter CUBE surface exported from CARIS HIPS. Contours and soundings were created solely for comparison purposes and are not submitted as a final deliverable. The "Examined" CARIS flag was used confer completion of a multibeam investigation examination where no contact was located or if the multibeam least depth is part of a baring feature. Depths marked as examined should not be used when generating final bathymetric products. **Concur. Examined soundings were removed from creation of final grids.**

H11835 contours and soundings were compared in CARIS HIPS and ArcGIS to the depths and contours on the charts listed in Table 5.

**Table 5. Charts compared to H11835**

Chart	Scale	Edition	Edition Date	Issue Date	Latest LNM	Cleared Through Date
11361	1:80,000	74	09/01/2007	06/07/2008	40	06/07/2008
US4LA30M	---	12	---	10/17/2008	---	---

Survey H11835 depths were compared to the charted soundings on Charts 11361 and corresponding ENC US4LA30M. Depths from survey H11835 vary significantly from charted (Figure 3). **Concur.**



**Figure 3. Overview of depth discrepancies between H11835 and Chart 11361**

The most significant discrepancies between the chart and H11835 are discussed below. The Hydrographer recommends that the shoreline be updated. **Concur.**



The shoreline extent west of South Pass is receding and depths of up to 20 feet (6.1 meters) were surveyed in areas of charted shoreline (Figure 4). **Concur.**

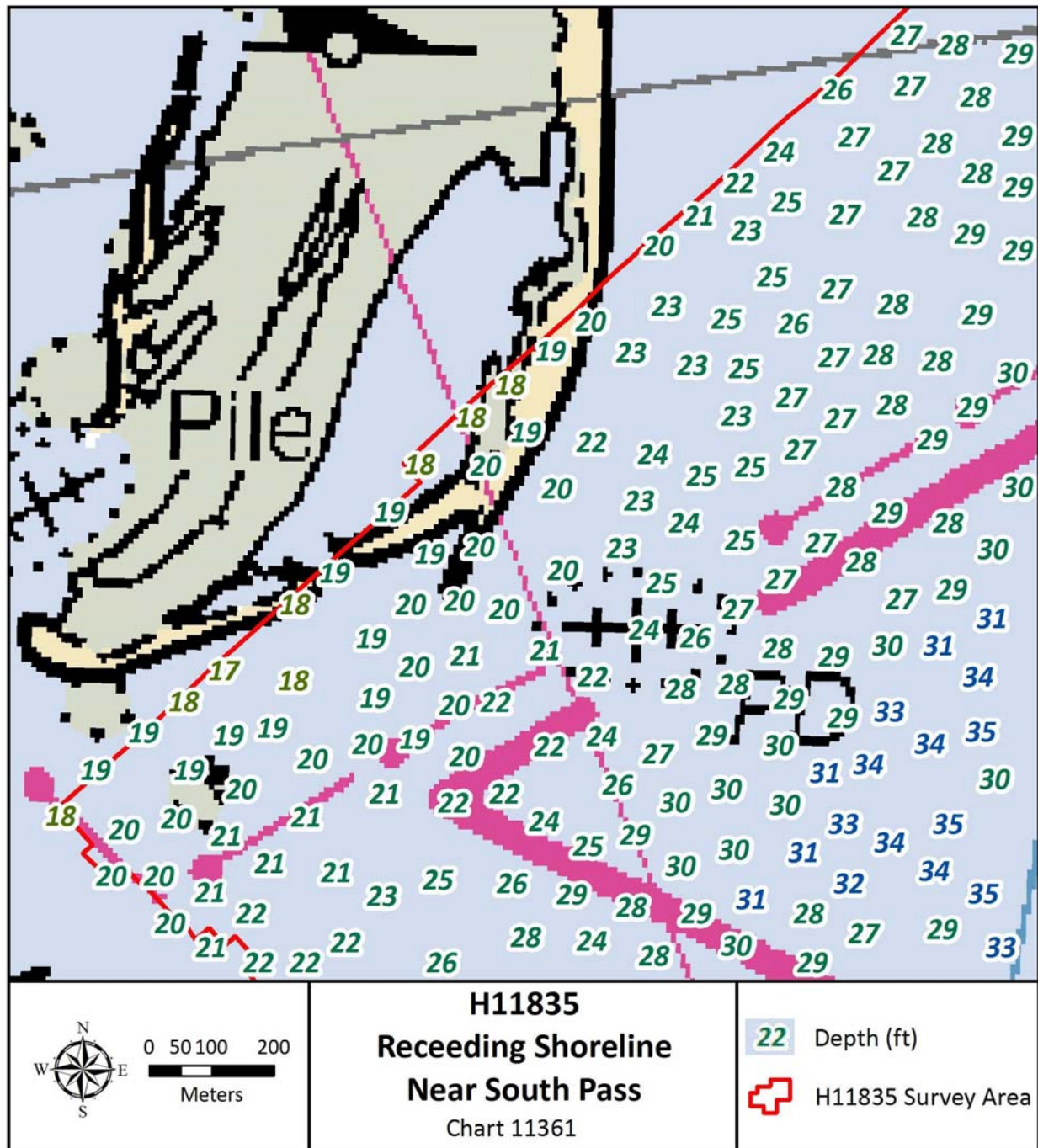


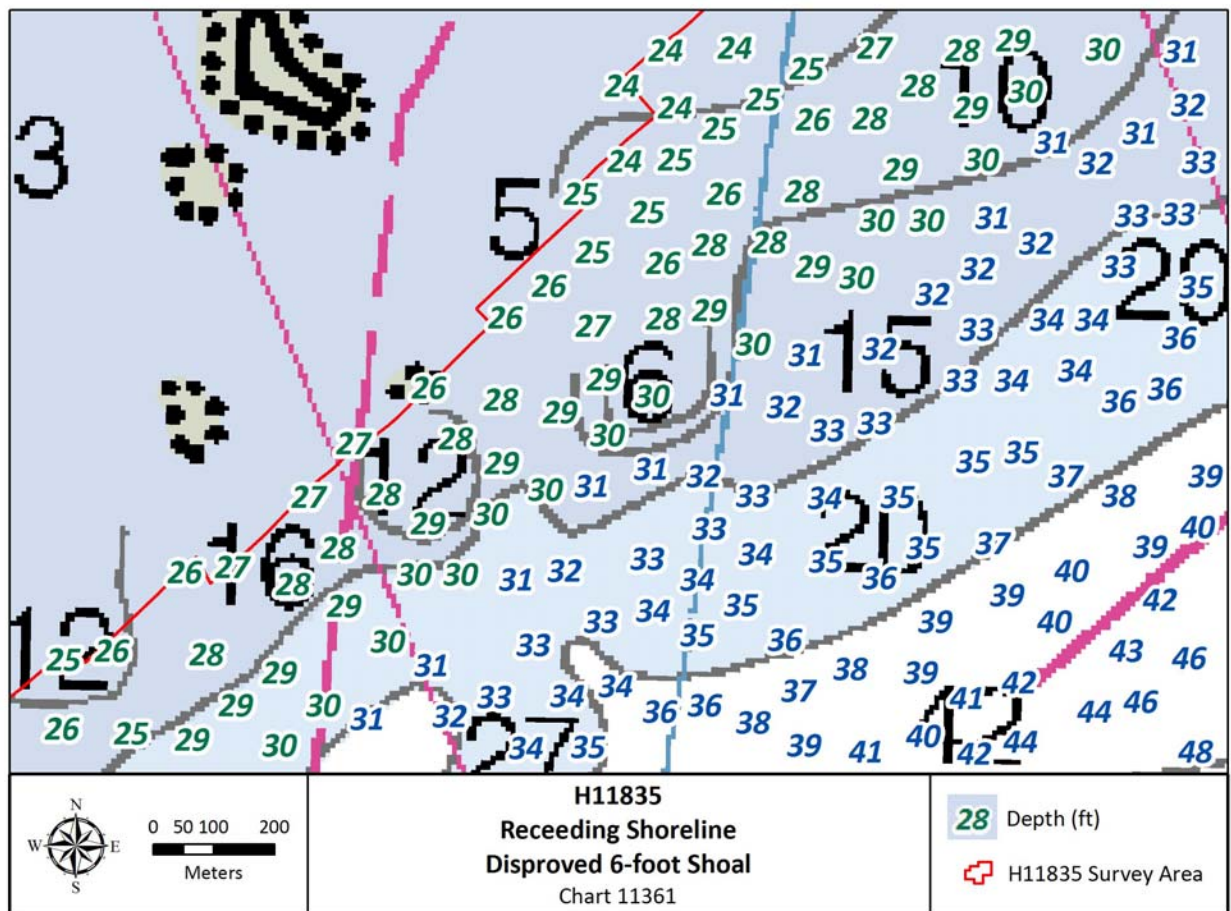
Figure 4. Receding shoreline near South Pass

H11835 survey area contained four (4) charted islets, three in Garden Bay and one south of South Pass. All four charted islets located on Chart 11361 were disproved with 200% side scan sonar and vertical beam echosounder. The Hydrographer recommends updating the chart with current hydrography. **Concur.**

The latest electronic and raster versions of Charts 11361 were reviewed to ensure that all U.S. Coast Guard Local Notice to Mariners (LNM) issued during survey acquisition and impacting the survey area were applied and addressed by this survey. **Concur.**

**DI.b Comparison to Significant Shoals**

The charted 6-foot (1.8 meters) sounding at 29-3-18.12-N, 89-3-25.311W, was disproved by H11835 (Figure 5). Survey depths are 29 feet to 30 feet (8.8 meters to 9.1 meters) in this location. **Concur.**



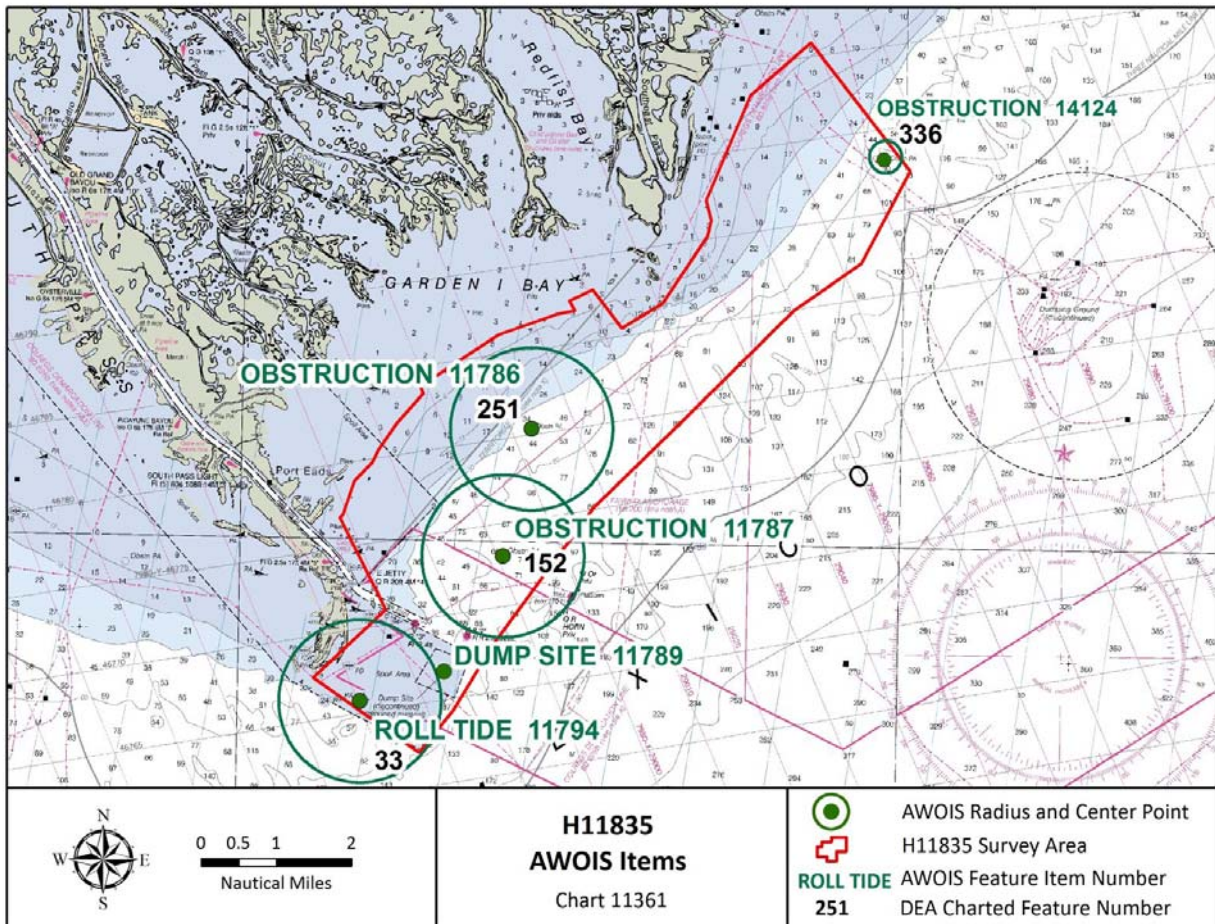
**Figure 5. Disproved 6-foot shoal**



**DI.c Comparison to Charted Features**

Survey features are detailed in tabular format in Appendix II *Survey Feature Report* and briefly described below. **Concur.**

Five (5) AWOIS items are located within H11835 survey limits (Figure 6); of these four (4) were assigned for investigation. The side scan sonar record was thoroughly reviewed for significant contacts within the search radii of all of the AWOIS items located on H11835. AWOIS item 11794 was located in H11834 survey limits and is discussed in that descriptive report. **Concur.**



**Figure 6. H11835 AWOIS Items**

The charted Dump Site (discontinued, dredge material) (AWOIS 11789) at 28-58-15.981N, 89-6-51.981W was investigated with 200% side scan sonar. The area around the dump site contains large geological ridges and several mounds, which may be associated with the dump area. These geological features are not included in the S-57 feature file. **Concur.**

The Obstruction PA (AWOIS 11787) at 28-59-48.83N, 089-06-00.14W was disproved with 200% side scan sonar. No indication of an orange buoy as discussed in the AWOIS was observed. The hydrographer recommends removing the charted obstruction and updating the AWOIS database as disproved. **Concur.**

The Obstruction PA (AWOIS 11786) at 29-01-30.80N, 89-05-36.14W was disproved with 200% side scan sonar. No indication of a yellow steal object as discussed in the AWOIS was observed. The hydrographer recommends removing the charted obstruction and updating the AWOIS database as disproved. **Concur.**

The Obstruction PA (AWOIS 14124), capsized jack-up rig, was located at 29-05-07.20N, 89-00-14.99W with multibeam sonar. The jack-up rig rises approximately 9.8 feet (3.00 meters) from the seafloor and has a least depth of 70.5 feet (21.50 meters). The Hydrographer recommends removing the charted Obstruction (PA) annotation, charting as surveyed, and updating the AWOIS database with the current position of the wreck. The wreck is included in S-57 feature file. **Concur.**

In addition, there were several other charted items that were disproved and not included in the AWOIS database:

One (1) Wreck PD and one (1) Wreck PA were disproved with 200% side scan sonar. The hydrographer recommends removing the disproved wrecks. **Concur.**

All five (5) charted piles on H11835 were disproved with 200% side scan sonar. The hydrographer recommends removing the disproved piles. **Concur.**

#### ***DI.d Comparison of Soundings in Designated Anchorages and Along Channels***

There are no anchorage grounds located in H11835 survey area. **Concur.**

The southern extent of H11835 includes a small section of South Pass. Depths in this area are generally 30 to 40 feet (9 to 12 meters). The charted project depth for this channel is 17 feet (5.18 meters). **Concur.**

#### ***DI.e New Submerged Features***

New submerged features are listed in tabular format in Appendix II *Survey Feature Report*. **Concur. See Appendix II for additional verification notes regarding each of the individual features.**

#### ***DI.f Dangers to Navigation***

One (1) Danger to Navigation (Dton) was located during survey H11835 and has been submitted to AHB, AHB reviewed and then forwarded the submitted Dton to the Marine Chart Division (MCD). Copies of the AHB Dton submissions are included in Appendix I *Danger to Navigation Reports*. **Concur. See Appendix I for additional verification notes regarding each Dton.**



The least depths of the DtoN were preliminary and reduced to MLLW using unverified water levels. Since submission, the DtoNs have been reduced to MLLW with zoned verified water levels. The DtoN is two sections of elevated pipeline on a charted pipeline. The submitted danger was checked against Local Notice Mariners and the electronic and raster version of chart 11361 (Table 6). The DtoN is included in the S-57 feature file and should be charted as depicted in the file. **Concur.**

**Table 6. H11835 DtoN Charting Status**

<b>DtoN</b>	<b>SSS Contact</b>	<b>Feature</b>	<b>Applied to Chart</b>	<b>Applied to ENC</b>	<b>AHB Submitted to MCD</b>
1.1	165-142804-P	Elevated pipeline	No	No	Yes
1.2	165-142754-P	Elevated pipeline	No	No	Yes

**Concur. DtoN's were submitted to MCD however they were not charted as obstructions. See Appendix 1.**

## **D2. Additional Results**

### **D2.a Shoreline Investigations**

Shoreline verification was not required for survey H11835. **Concur.**

### **D2.b Comparison with Prior Surveys**

Comparison with prior surveys was not required under this task order. **Concur.**

### **D2.c Aids to Navigation (AtoN)**

There are two (2) aids to navigation (AtoN) within H11835 survey limits. During survey operations lighted Buoy "3" was found to be off station and a report was made to the U.S. Coast Guard Eighth District. The buoy was subsequently moved; both aids are now correctly charted and serve their intended purpose. **Concur.**

### **D2.d Overhead Clearance**

There are no overhead bridges, cables or other structures, which would impact overhead clearance in the survey area. **Concur.**

### **D2.e Cables, Pipelines and Offshore Structures**

The H11835 survey area contains two (2) charted platforms. Of these, one (1) charted platform is correctly charted and is depicted in the S-57 feature file. The production platform was attributed as offshore platforms (OFSPLF) and annotated as production platform in the text description (TXTDES) of the S-57 feature file. The other platform, at 28-59-50.04N, 89-07-49.14W was disproved with 200% side scan sonar. The hydrographer recommends removing the charted platform. **Concur.**

Elevated sections of pipelines were submitted as Danger to Navigation #1 and are also submitted in the S-57 feature file. The submitted elevated pipelines were not investigated with multibeam sonar, but are included in the feature file. After discussion with the COTR, it was decided that these are temporary and will be reburied as required by the Mineral Management Service. Least depths of these items were estimated based on side scan shadow heights and tide corrected single beam soundings collected in the vicinity of the section of elevated pipeline. Features with estimated least depths have the technique of sounding (TECSOU) attribute set to “found by side scan (2)” and the quality of sounding attribute (QUASOU) set to “unreliable (4)”. **Concur.**

### D2.f Environmental Conditions and Scientific Significance

Gas seepage was noted in two areas of H11835 at 29-00-20.03N, 089-05-54.21W and 29-02-15.27N, 089-04-38.63W. The least depths of both seepages were marked as "Examined" in CARIS HIPS and the remaining data points were flagged as "Rejected". Both gas leaks have pits that are approximately 3.2 feet (1 meter) deep. The gas leaks appear to expand from a point source as they reach the surface (Figure 7 and Figure 8). **Concur. Soundings derived from gas seepage removed from final grids.**

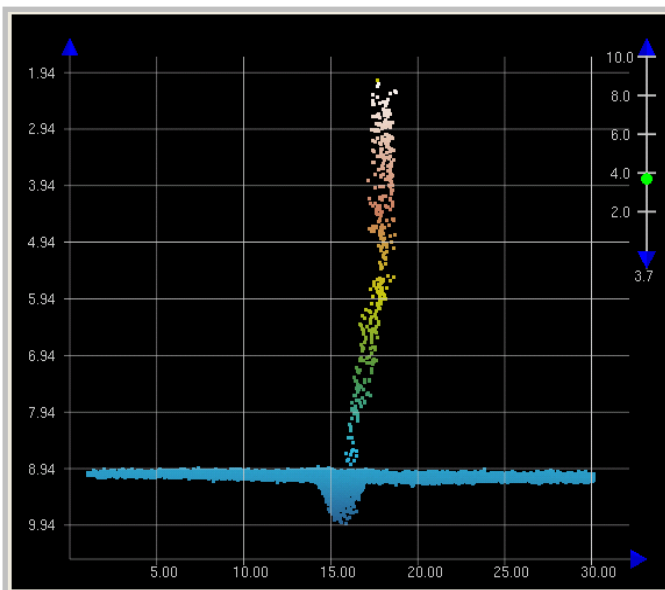


Figure 7. Multibeam coverage of side scan contact 173-152839-P; gas seep.

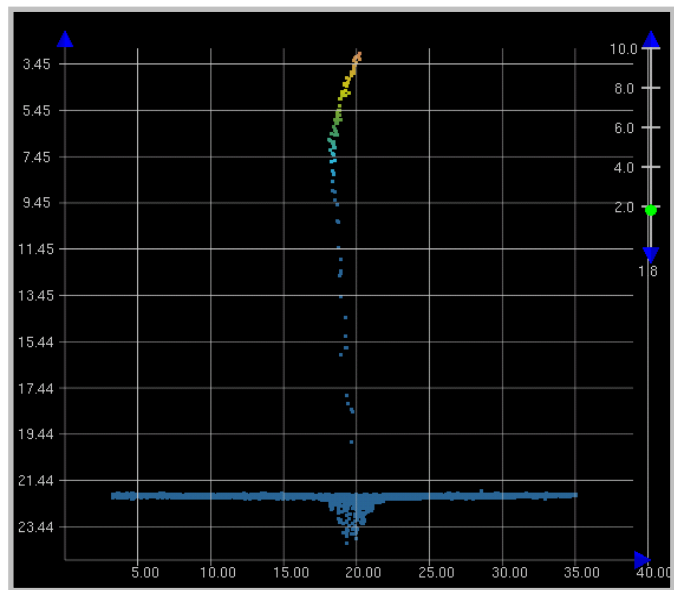


Figure 8. Multibeam coverage of side scan contact 165-192817-P; gas seep.

### D2.g Construction Projects

There were no observed construction projects in H11835 survey area. **Concur.**

### **D2.h Bottom Characteristics**

Eighteen (18) bottom samples were obtained on Day Numbers 202 and 206 (July 20, 2008 and July 24, 2008) and are included in the S-57 attributed feature file in the Supporting Data folder. A table listing the position and description of each bottom sample is included in Appendix V *Supplemental Survey Records and Correspondence*, along with photographs of each sample. **Concur.**

**E. LETTER OF APPROVAL**

**LETTER OF APPROVAL**

OPR-J977-DE-08  
REGISTRY NO. H11835

This report and the accompanying data are respectfully submitted.

Field operations contributing to the accomplishment of survey H11835 were conducted under my direct supervision with frequent personal checks of progress and adequacy. This report and associated data have been closely reviewed and are considered complete and adequate as per the OPR-J977-DE-08 *Statement of Work*.

**Jon Dasler**  
Digitally signed by Jon Dasler  
DN: cn=Jon Dasler, email=jld@deainc.com,  
o=David Evans and Associates, Inc., c=US  
Date: 2009.05.01 11:14:13 -07'00'

---

Jonathan L. Dasler, PE (OR) , PLS (OR,CA)  
Lead Hydrographer

**Jason Creech**  
Digitally signed by Jason Creech  
DN: cn=Jason Creech, email=jasc@deainc.com,  
o=David Evans and Associates, Inc., c=US  
Date: 2009.05.01 11:14:34 -07'00'

---

Jason Creech  
Lead Hydrographer

David Evans and Associates, Inc.  
August 2008

## **F. SUPPLEMENTAL REPORTS**

Listed below are supplemental reports submitted separately that contain additional information relevant to this survey:

<b><u>Title</u></b>	<b><u>Submittal Date</u></b>
OPR-J977-DE-08 Data Acquisition and Processing Report	November 21, 2008
OPR-J977-DE-08 Horizontal and Vertical Control Report	May 1, 2009

**APPENDIX I**  
**DANGER TO NAVIGATION RECORDS**

# H11835 DTON #1

**Registry Number:** H11835  
**State:** Louisiana  
**Locality:** GULF OF MEXICO  
**Sub-locality:** GARDEN BAY  
**Project Number:** OPR-J977-DE-08  
**Survey Date:** 06/13/2008

## Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11361	74th	09/01/2007	1:40,000 (11361_3)	[L]NTM: ?
11361	74th	09/01/2007	1:80,000 (11361_1)	USCG LNM: 06/03/2008 (06/03/2008) NGA NTM: 01/08/2005 (06/07/2008)
11366	11th	01/01/2008	1:250,000 (11366_1)	[L]NTM: ?
11360	42nd	02/01/2007	1:456,394 (11360_1)	[L]NTM: ?
1115A	42nd	02/01/2007	1:456,394 (1115A_1)	[L]NTM: ?
11006	32nd	08/01/2005	1:875,000 (11006_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	Obstruction 01	GP	8.66 m	28° 58' 32.8" N	089° 07' 53.7" W	---
1.2	Obstruction 02	GP	8.27 m	28° 58' 33.4" N	089° 07' 52.3" W	---

## **1 - Danger To Navigation**



**1.1) GP No. - 1 from H11835\_DToN#1.xls****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 28° 58' 32.8" N, 089° 07' 53.7" W  
**Least Depth:** 8.66 m (= 28.41 ft = 4.735 fm = 4 fm 4.41 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2008-165.00:00:00.000 (06/13/2008)  
**GP Dataset:** H11835\_DToN#1.xls  
**GP No.:** 1  
**Charts Affected:** 11361\_3, 11361\_1, 11366\_1, 1115A\_1, 11360\_1, 11006\_1, 411\_1

**Remarks:**

Depths are estimates based on side scan shadow lengths. Depths are corrected using unverified observed water levels from Devon Energy, LA (8760417) and should be considered preliminary.

Positions are referenced from the USCG DGPS beacon at English Turn, Louisiana. Horizontal Datum is North American Datum of 1983 (NAD83).

Obstructions contained in this report are exposed elevated pipelines. OBSTRN-01 is 1.1m (3.6ft) off the bottom. OBSTRN-02 is 0.7m (2.3ft) off the bottom.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
H11835_DToN#1.xls	1	0.00	000.0	Primary

**Hydrographer Recommendations**

Chart Obstruction at surveyed location. Recommend to chart feature as a reported item; rep (2008). The obstruction has not been developed with echo-sounder; source is side scan sonar records.

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

28ft (11361\_3, 11361\_1)

4  $\frac{3}{4}$ fm (1115A\_1, 11360\_1, 11006\_1, 411\_1)

4fm 4ft (11366\_1)

## S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** QUASOU - 9:value reported (not confirmed)  
SORDAT - 20080613  
SORIND - US,US,survey,H11835  
TECSOU - 2:found by side scan sonar  
VALSOU - 8.66 m  
VERDAT - 12:Mean lower low water  
WATLEV - 3:always under water/submerged

## Office Notes

~~This Danger submission is preliminary. No data has been provided to AHB for verification. Feature will be reviewed and verified once the survey data has been submitted.~~

Do not concur. The preliminary Danger report was submitted to MCD on 09/30/2008. Since that time the survey data has been received at AHB and verified. It has since been determined that the feature is currently charted as a pipeline and representation on the chart as an obstruction is not necessary. Chart 11361 states that exposed pipelines may exist on the chart and for mariners to use extreme caution in areas where pipelines may exist.

### Feature Images

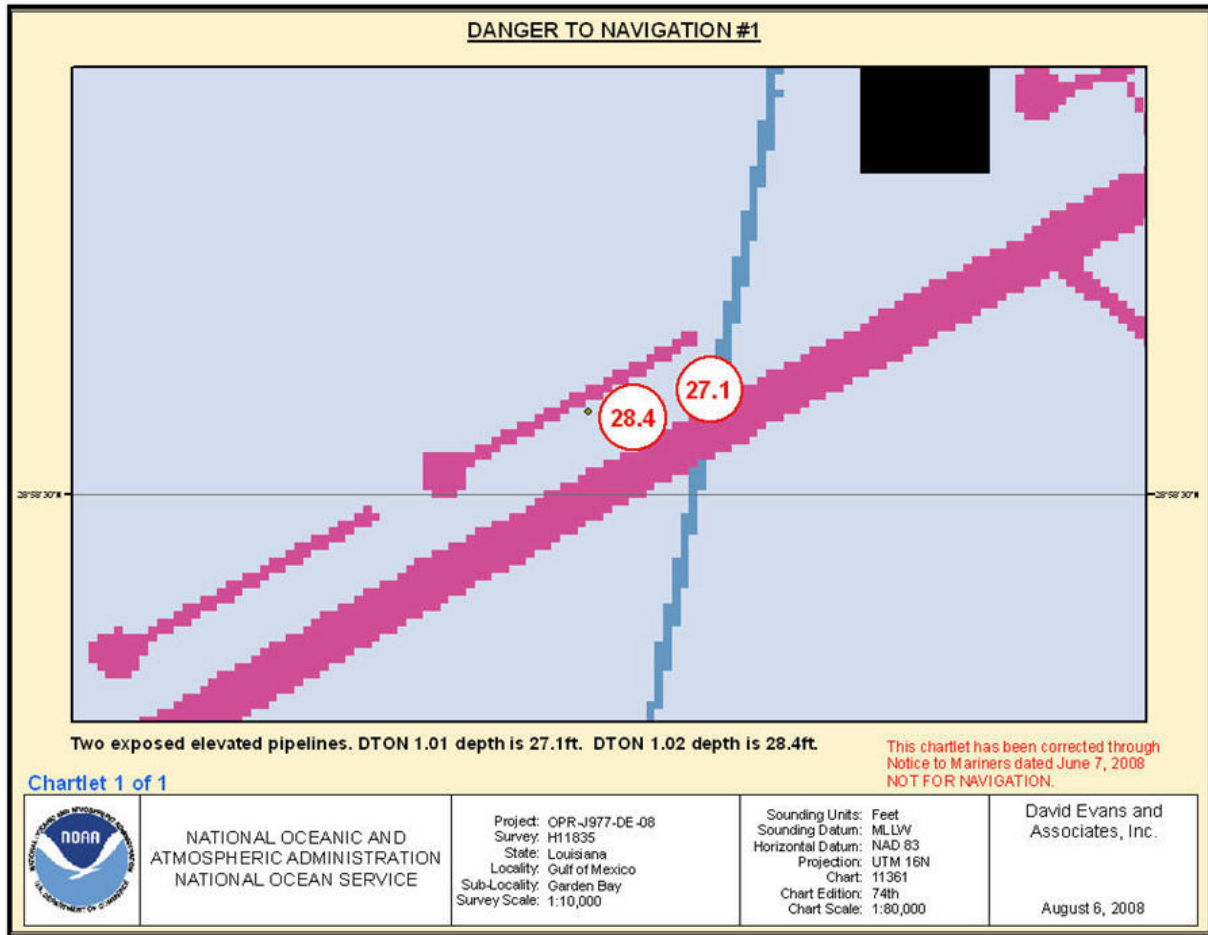
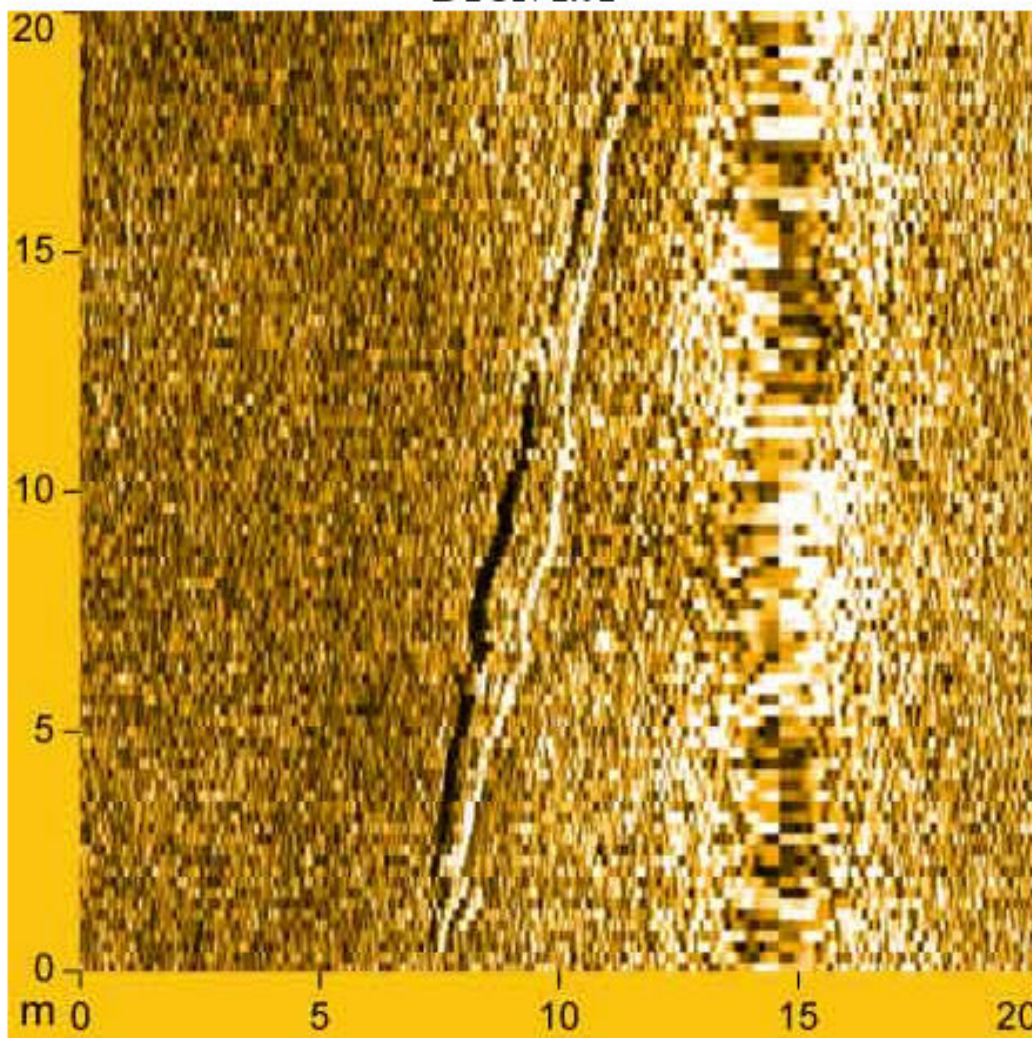


Figure 1.1.1

**DTON 1.01**



*Figure 1.1.2*

**1.2) GP No. - 2 from H11835\_DToN#1.xls****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 28° 58' 33.4" N, 089° 07' 52.3" W  
**Least Depth:** 8.27 m (= 27.13 ft = 4.522 fm = 4 fm 3.13 ft)  
**TPU ( $\pm 1.96\sigma$ ):** THU (TPEh) [None] ; TVU (TPEv) [None]  
**Timestamp:** 2008-165.00:00:00.000 (06/13/2008)  
**GP Dataset:** H11835\_DToN#1.xls  
**GP No.:** 2  
**Charts Affected:** 11361\_3, 11361\_1, 11366\_1, 1115A\_1, 11360\_1, 11006\_1, 411\_1

**Remarks:**

Depths are estimates based on side scan shadow lengths. Depths are corrected using unverified observed water levels from Devon Energy, LA (8760417) and should be considered preliminary.

Positions are referenced from the USCG DGPS beacon at English Turn, Louisiana. Horizontal Datum is North American Datum of 1983 (NAD83).

Obstructions contained in this report are exposed elevated pipelines. OBSTRN-01 is 1.1m (3.6ft) off the bottom. OBSTRN-02 is 0.7m (2.3ft) off the bottom.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
H11835_DToN#1.xls	2	0.00	000.0	Primary

**Hydrographer Recommendations**

Chart Obstruction at surveyed location. Recommend to chart feature as a reported item; rep (2008). The obstruction has not been developed with echo-sounder; source is side scan sonar records.

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

27ft (11361\_3, 11361\_1)

4 ½fm (1115A\_1, 11360\_1, 11006\_1, 411\_1)

4fm 3ft (11366\_1)

## S-57 Data

**Geo object 1:** Obstruction (OBSTRN)  
**Attributes:** QUASOU - 9:value reported (not confirmed)  
SORDAT - 20080613  
SORIND - US,US,survey,H11835  
TECSOU - 2:found by side scan sonar  
VALSOU - 8.27 m  
VERDAT - 12:Mean lower low water  
WATLEV - 3:always under water/submerged

## Office Notes

~~This Danger submission is preliminary. No data has been provided to AHB for verification. Feature will be reviewed and verified once the survey data has been submitted.~~

Do not concur. The preliminary Danger report was submitted to MCD on 09/30/2008. Since that time the survey data has been received at AHB and verified. It has since been determined that the feature is currently charted as a pipeline and representation on the chart as an obstruction is not necessary. Chart 11361 states that exposed pipelines may exist on the chart and for mariners to use extreme caution in areas where pipelines may exist.



### Feature Images

DTON 1.02

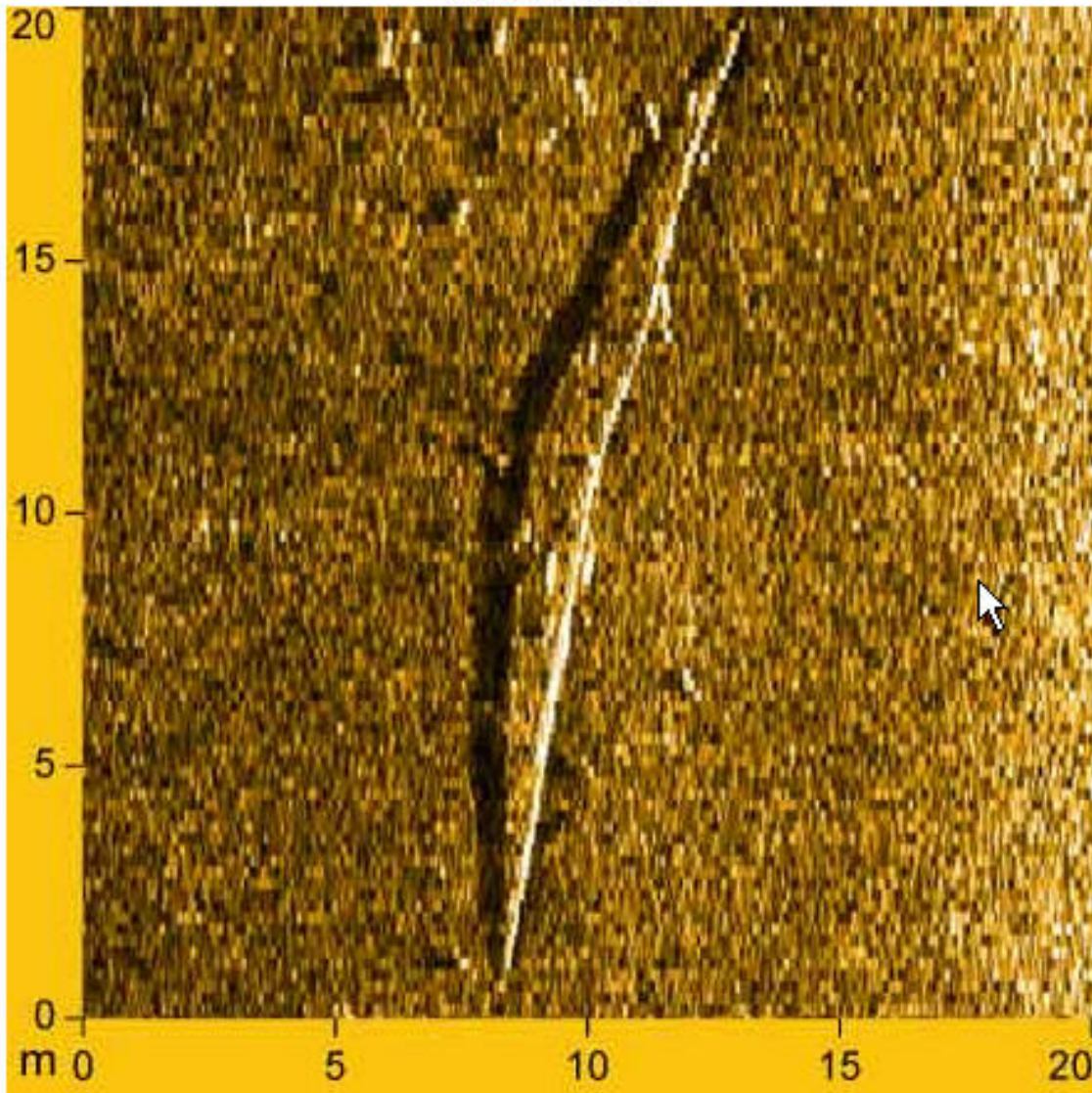


Figure 1.2.1

**APPENDIX II**  
**SURVEY FEATURE REPORT**



**Registry Number:** H11835  
**State:** Louisiana  
**Locality:** Gulf of Mexico  
**Sub-locality:** Garden Bay  
**Project Number:** OPR-J977-DE-08  
**Survey Date:** May 2008 – August 2008

### List of Features

AWOIS # 11794 .....	3
AWOIS # 11786 .....	4
AWOIS # 11787 .....	4
AWOIS # 11789 .....	5
AWOIS # 14124 .....	6

### List of Figures

<b>Figure 1. Multibeam coverage, SSS coverage, chart 11361, and AWOIS item 11794.....</b>	<b>3</b>
<b>Figure 2: SSS coverage, chart 11361, and AWOIS item 11789 .....</b>	<b>5</b>
<b>Figure 3: 3D view of AWOIS Item 14124, Jack-Up Rig.....</b>	<b>6</b>

# AWOIS # 11794

## REPORTED

FEATURE	RADIUS	LATITUDE (N)	LONGITUDE (W)
AWOIS #11794	2000m	28/57/51	89/08/08

## SURVEYED

FEATURE	LEAST DEPTH	LATITUDE (N)	LONGITUDE (W)
Located	7.3m	28/57/80.189	89/08/042.042

### Remarks:

The charted wreck (PA) (AWOIS 11794) was located approximately half a nautical mile west of its charted position. The wreck was submitted to AHB as Danger to Navigation #4. The wreck rises approximately 9.5 feet (2.9 meters) from the natural seafloor and has multibeam least depth of 23.8 feet (7.3 meters). This item was submitted in H11834 Feature Report and is submitted here with additional 200% side scan sonar junctioning the survey limits of H11834 and H11835.

### Hydrographer Recommendation:

The Hydrographer recommends removing the wreck (PA) annotation and symbol from all applicable charts and updating the AWOIS database with the current position of the wreck.

Concur. Remove wreck from chart.

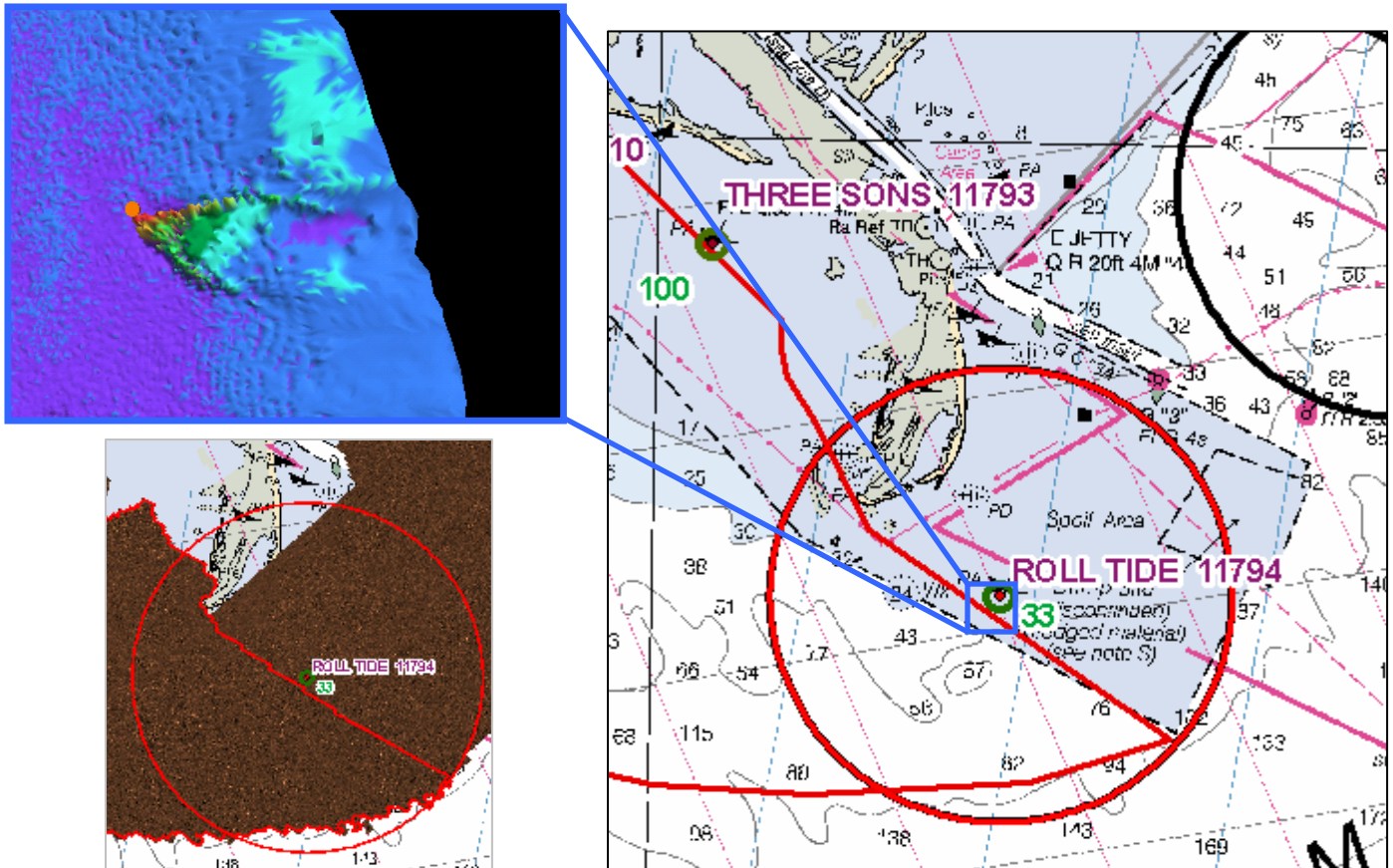


Figure 1. Multibeam coverage, SSS coverage, chart 11361, and AWOIS item 11794

## **AWOIS # 11786**

### **REPORTED**

FEATURE	RADIUS	LATITUDE (N)	LONGITUDE (W)
AWOIS #11786	2000m	29/01/30.00	089/05/36.00

### **SURVEYED**

FEATURE	LEAST DEPTH	LATITUDE (N)	LONGITUDE (W)
Disproved	N/A	29/01/30.00	089/05/36.00

### **Remarks:**

The Obstruction PA (AWOIS 11786) obstruction was disproved with 200% side scan sonar and visual search. No indication of yellow steal object was observed.

### **Hydrographer Recommendation:**

The hydrographer recommends removing the charted obstruction and updating the AWOIS database as disproved.

Concur.

## **AWOIS # 11787**

### **REPORTED**

FEATURE	RADIUS	LATITUDE (N)	LONGITUDE (W)
AWOIS #11787	2000m	28/59/48.00	089/06/00.00

### **SURVEYED**

FEATURE	LEAST DEPTH	LATITUDE (N)	LONGITUDE (W)
Disproved	N/A	28/59/48.00	089/06/00.00

### **Remarks:**

The obstruction PA (AWOIS 11787) was disproved with 200% side and visual search. The hydrographer recommends charting as depicted in the S-57 feature file and updating the AWOIS database as disproved. No indication of orange buoy was observed.

### **Hydrographer Recommendation:**

The hydrographer recommends removing the Obstruction PA annotation and symbol from all applicable charts.

Concur.

**AWOIS # 11789**

**REPORTED**

FEATURE	RADIUS	LATITUDE (N)	LONGITUDE (W)
AWOIS #11789	N/A	28/58/15.98	89/06/51.98

**SURVEYED**

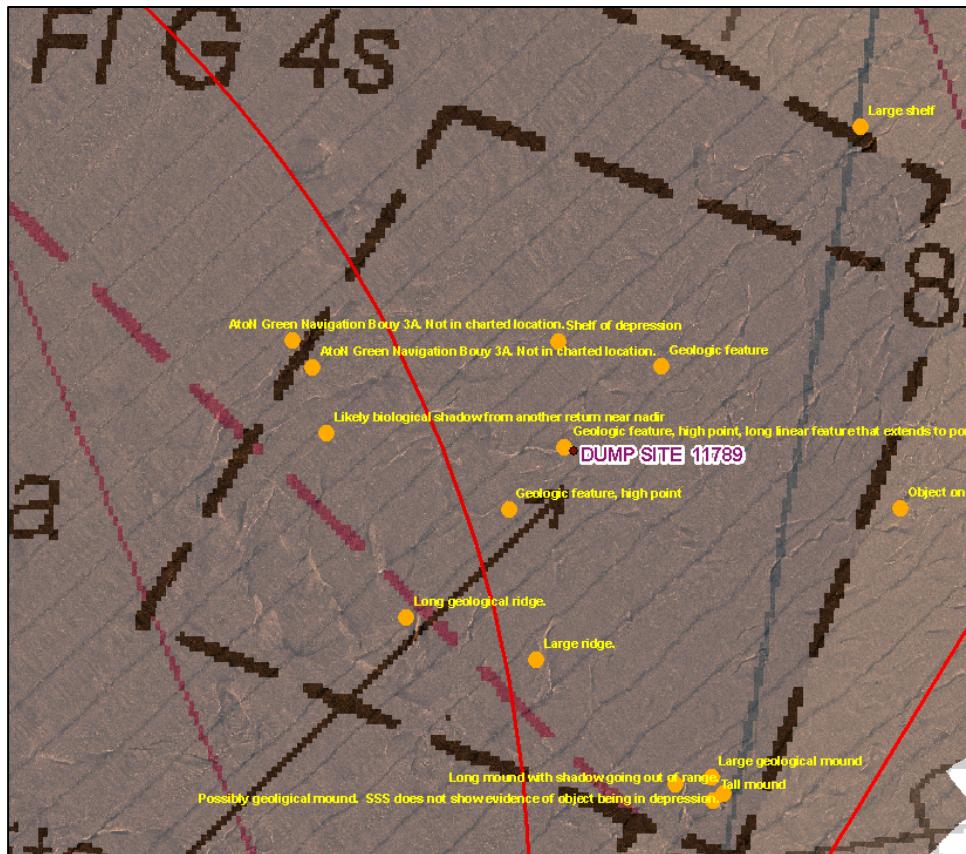
FEATURE	LEAST DEPTH	LATITUDE (N)	LONGITUDE (W)
Mounds	54 feet	28/58/16.19	89/06/52.498

**Remarks:**

The charted Dump Site (discontinued, dredge material) (AWOIS 11789) was investigated with 200% side scan sonar. The area around the dump site contains large geological ridges and several mounds which might be associated with the dump area. No contacts were deemed significant.

**Hydrographer Recommendation:**

The hydrographer recommends retaining charted Dump Site annotation and updating the AWOIS database. **Concur. Least Depth within Dump Site is 54 feet.**



Recommend to attribute Dump Site with the least Depth information.

Figure 2: SSS coverage, chart 11361, and AWOIS item 11789

## **AWOIS # 14124**

### **REPORTED**

FEATURE	RADIUS	LATITUDE (N)	LONGITUDE (W)
AWOIS #14124	400m	29/5/12.81	89/0/18.15

### **SURVEYED**

FEATURE	LEAST DEPTH	LATITUDE (N)	LONGITUDE (W)
Located	21.565m	29/05/07.20	89/00/14.99

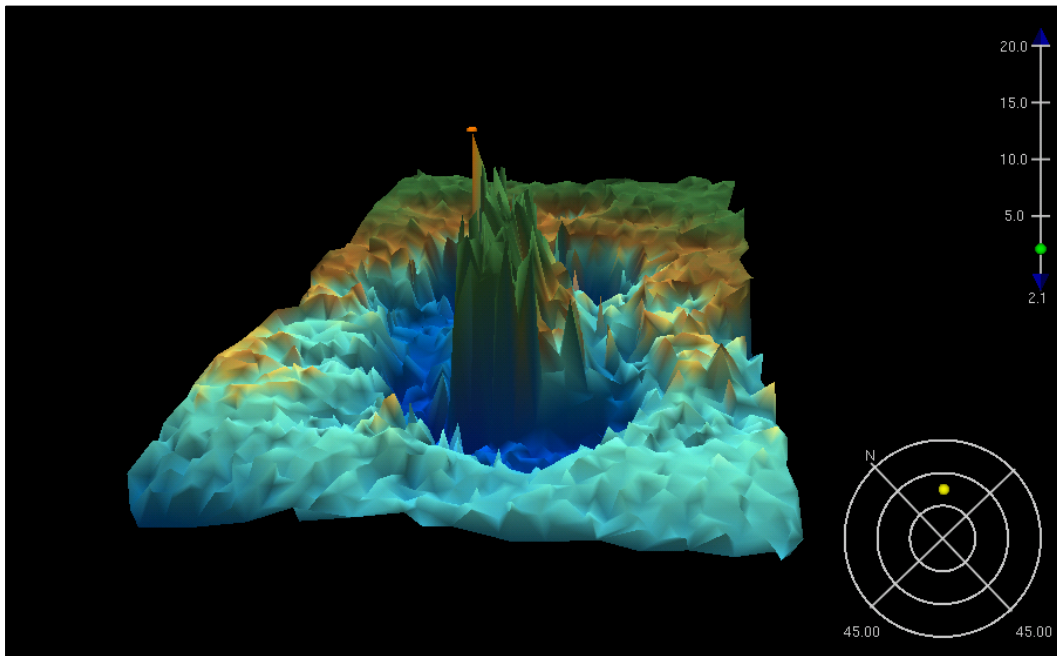
### **Remarks:**

The charted Obstruction PA (14124), capsized Jack-up rig, was located with 200% side scan and investigated with multibeam. The jack-up rig rises from the seafloor to the approximately 3 meters to a least depth of 21.5 meters.

### **Hydrographer Recommendation:**

The hydrographer recommends charting the obstruction at the surveyed position and updating the AWOIS database.

Concur .



**Figure 3: 3D view of AWOIS Item 14124, Jack-Up Rig**

**Appendix II**  
**S-57 Features**



OPR-J977-DE-08  
H11835  
Survey Features  
OBSTRN

**Charted:**

None

**Mischarted:**

DEA Charted Feature ID	ENC Latitude (N)	ENC Longitude (W)	Surveyed Latitude (N)	Surveyed Longitude (W)	Remarks	Chart Recommendation
336	29-05-10.49	89-00-19.42	29-05-07.201	89-00-14.990	DEA Feature #336. Mischarted obstruction 160 meters south south-east of charted position.	Update position of obstruction <b>Concur.</b>

**Disproved:**

DEA Charted Feature ID	ENC Latitude (N)	ENC Longitude (W)	Surveyed Latitude (N)	Surveyed Longitude (W)	Remarks	Chart Recommendation
152	28-59-48.85	89-06-00.16	--	--	PA Obstrn disproved.	Remove from chart <b>Concur.</b>
251	29-01-30.81	89-05-36.16	--	--	PA Obstrn disproved.	Remove from chart <b>Concur.</b>

**New:**

DEA Charted Feature ID	ENC Latitude (N)	ENC Longitude (W)	Surveyed Latitude (N)	Surveyed Longitude (W)	Remarks	Chart Recommendation
---	---	---	28-58-33.388	089-07-52.316	H11835 DtoN #1.02. Pipeline elevated above the natural bottom.	Add new obstruction to chart. <b>Do not concur. Within Spoil Area.</b>
---	---	---	28-58-32.833	089-07-53.713	H11835 DtoN #1.01. Pipeline elevated above the natural bottom.	Add new obstruction to chart. <b>Do not concur. Within Spoil Area.</b>
---	---	---	29-04-04.823	089-00-53.282	Object rising 1.5 meters above the natural bottom.	Add new obstruction to chart. <b>Do not concur. Insignificant.</b>
---	---	---	29-00-36.949	089-08-08.349	Debris rising 1.1 meters above the natural bottom.	Add new obstruction to chart. <b>Do not concur. Within Spoil Area.</b>
---	---	---	29-03-04.451	089-01-53.903	Debris rising 1.6 meters above the natural bottom.	Add new obstruction to chart. <b>Do not concur. Insignificant.</b>
---	---	---	29-03-26.654	089-01-27.874	Object rising 1.7 meters above the natural bottom.	Add new obstruction to chart. <b>Do not concur. Insignificant.</b>

OPR-J977-DE-08  
H11835  
Survey Features  
OF SPLF

**Charted:**

DEA Charted Feature ID	ENC Latitude (N)	ENC Longitude (W)	Surveyed Latitude (N)	Surveyed Longitude (W)	Remarks	Chart Recommendation
38	--	--	28-58-43.000	089-07-42.427	DEA Feature #38. Charted platform.	No action is required.

Concur .

**Mischarted:**

None

**Disproved:**

DEA Charted Feature ID	ENC Latitude (N)	ENC Longitude (W)	Surveyed Latitude (N)	Surveyed Longitude (W)	Remarks	Chart Recommendation
157	28-59-49.95	89-07-49.27	---	---	Disproved	Remove chd platform

Concur .

**New:**

None



OPR-J977-DE-08  
H11835  
Survey Features  
PILPNT

**Charted:**

None

**Mischarted:**

None

**Disproved:**

DEA Charted Feature ID	ENC Latitude (N)	ENC Longitude (W)	Surveyed Latitude (N)	Surveyed Longitude (W)	Remarks	Chart Recommendation
153	28-59-49.02	89-08-08.70	--	--	Disproved	Remove chd pile
162	28-59-54.41	89-08-12.10	--	--	Disproved	Remove chd pile
174	28-59-59.01	89-08-14.53	--	--	Disproved	Remove chd pile
180	29-00-02.85	89-08-17.62	--	--	Disproved	Remove chd pile
191	29-00-08.85	89-08-21.07	--	--	Disproved	Remove chd pile

**New:**

None

Concur, remove 5  
charted piles from chart.

OPR-J977-DE-08  
H11835  
Survey Features  
WRECKS

**Charted:**

None

**Mischarted:**

None

**Disproved:**

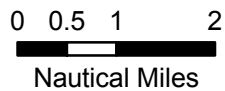
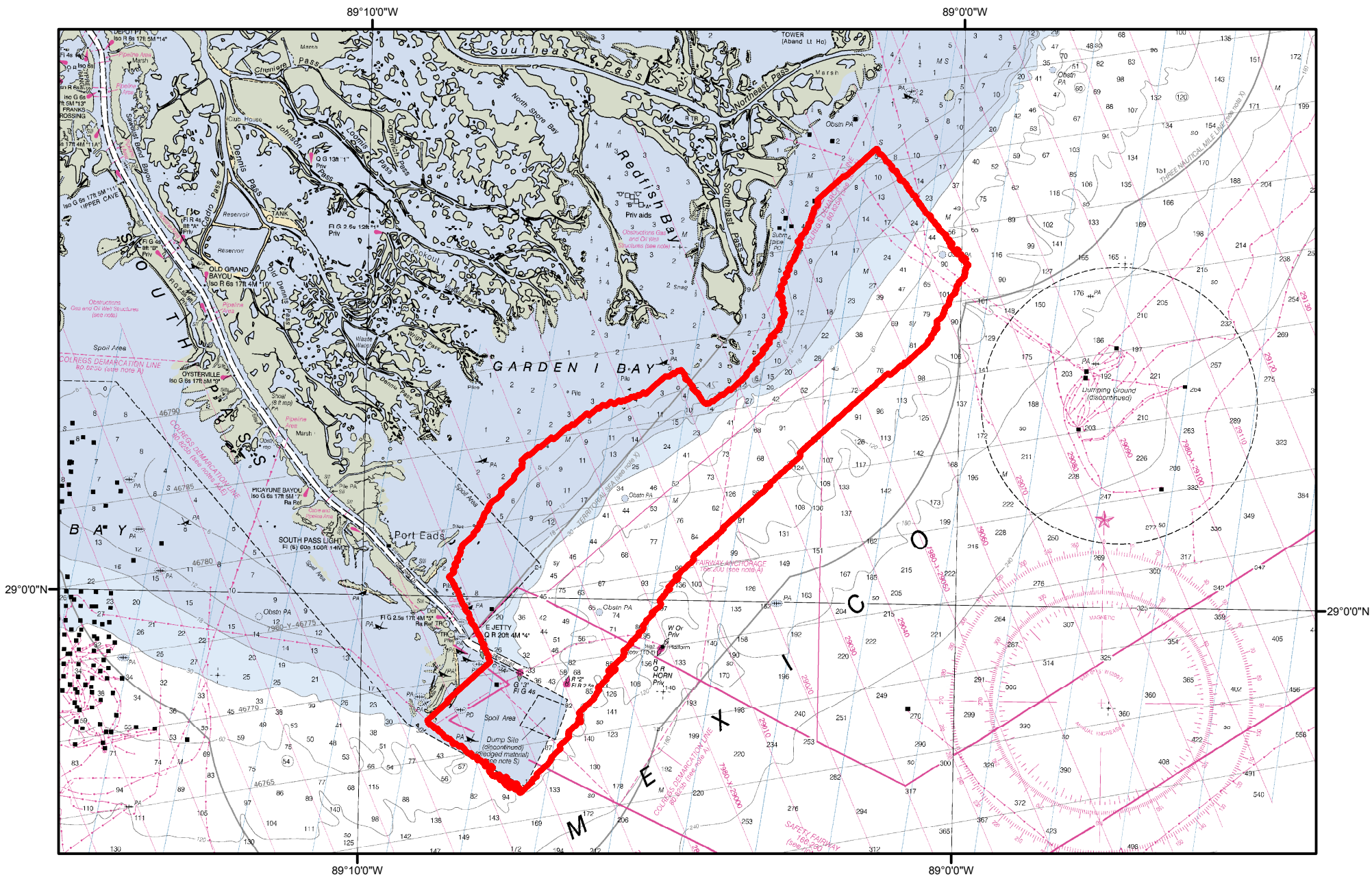
DEA Charted Feature ID	ENC Latitude (N)	ENC Longitude (W)	Surveyed Latitude (N)	Surveyed Longitude (W)	Remarks	Chart Recommendation
33	28-57-51.01	89-08-07.99	---	---	Disproved	Remove chd wreck <span style="color: red;">Concur.</span>
35	28-58-18.85	89-08-18.16	---	---	Disproved	Remove chd wreck <span style="color: red;">Concur.</span>
150	28-59-48.56	89-08-13.00	---	---	Disproved	Remove chd wreck <span style="color: red;">Concur.</span>

**New:**

None

**APPENDIX III**  
**FINAL PROGRESS SKETCH AND SURVEY OUTLINE**





# SURVEY OUTLINE

H11835  
 OPR-J977-DE-08  
 Gulf of Mexico  
 David Evans and Associates  
 Jon Dasler Lead Hydrographer  
 Chart 11361

**APPENDIX IV**  
**TIDES AND WATER LEVELS**

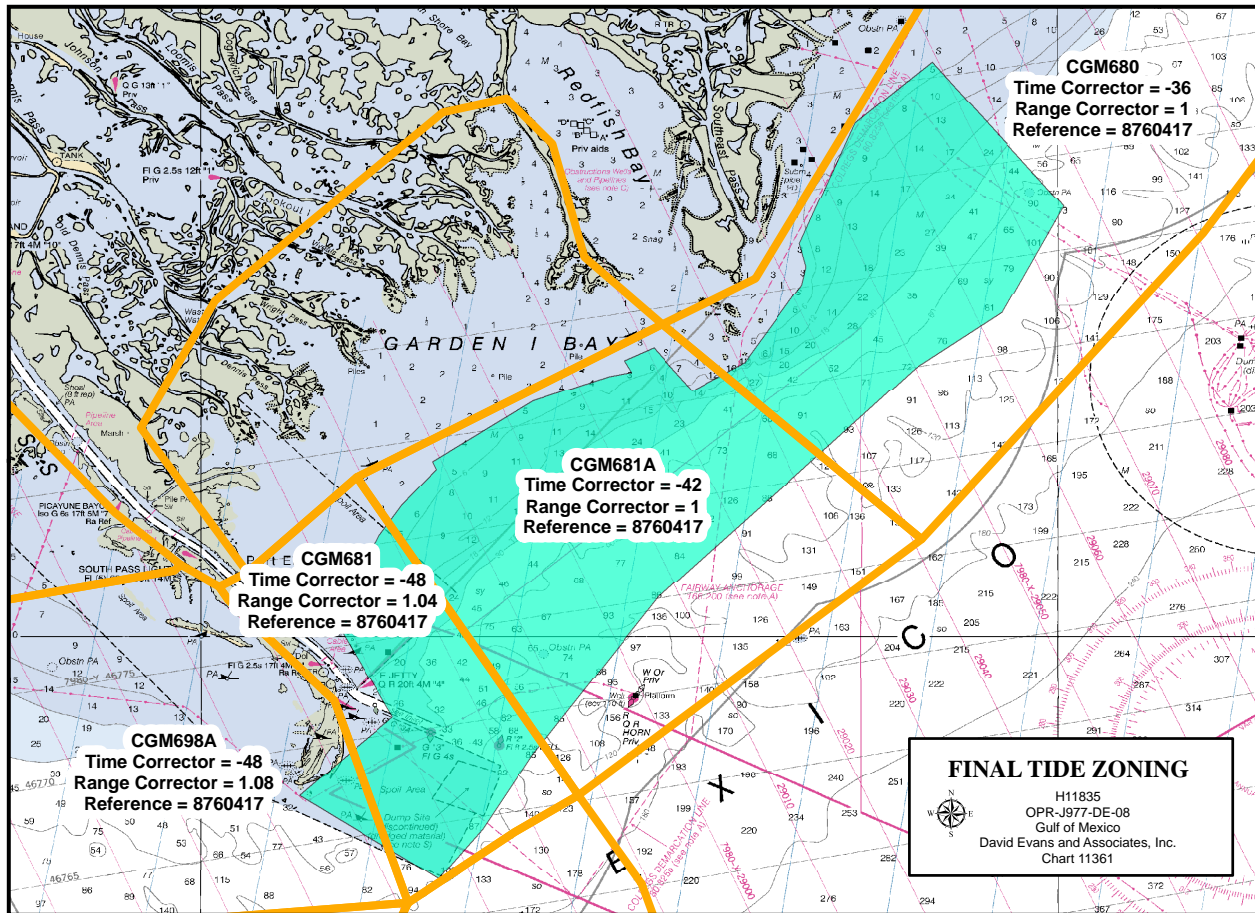
**OPR-J977-DE-08**  
**H11835**  
**Times of Hydrography**

Date	Start	End
5/21/2008	21:36:22	22:25:36
5/24/2008	13:28:35	22:00:00
5/27/2008	13:14:09	17:01:31
5/28/2008	13:04:00	21:52:15
5/29/2008	13:16:41	22:27:34
6/4/2008	13:18:51	15:11:50
6/8/2008	13:09:17	21:54:46
6/10/2008	13:11:03	22:17:32
6/11/2008	13:12:53	22:06:47
6/12/2008	13:05:49	21:34:41
6/13/2008	13:19:30	21:59:04
6/14/2008	13:22:46	19:13:15
6/16/2008	13:23:07	20:58:25
6/17/2008	13:12:15	21:57:03
6/18/2008	13:40:18	17:09:20
6/19/2008	13:25:32	21:57:27
6/20/2008	13:06:39	22:37:09
6/21/2008	13:04:34	17:54:00
6/22/2008	17:03:20	20:31:40
7/19/2008	17:13:26	22:06:24
7/20/2008	19:02:37	20:06:05
7/26/2008	13:48:29	21:12:41
8/20/2008	19:53:13	22:31:51

**FINAL TIDE ZONING  
H11835  
OPR-J977-DE-08**

<b>Zone</b>	<b>Time Corrector (Mins)</b>	<b>Range Ratio</b>	<b>Reference Station</b>
<b>CGM680</b>	<b>-36</b>	<b>X1.00</b>	<b>8760417</b>
<b>CGM681A</b>	<b>-42</b>	<b>X1.00</b>	<b>8760417</b>
<b>CGM681</b>	<b>-48</b>	<b>X1.04</b>	<b>8760417</b>
<b>CGM698A</b>	<b>-48</b>	<b>X1.08</b>	<b>8760417</b>





**Jason Creech**

---

**From:** Jon Dasler  
**Sent:** Monday, April 06, 2009 1:14 PM  
**To:** Jason Creech; Shyla Allen  
**Subject:** FW: FW: FW: Devon monthly mean revisions  
**Attachments:** Jeffrey\_Ferguson.vcf

FYI

---

**From:** Jeffrey Ferguson [mailto:Jeffrey.Ferguson@noaa.gov]  
**Sent:** Monday, April 06, 2009 1:10 PM  
**To:** Jon Dasler  
**Subject:** Re: FW: FW: Devon monthly mean revisions

Approved.

Jon Dasler wrote:

Jeff,

Related to our discussion today, if we apply the adjustments listed below the depths will increase. Holding the original water levels from Devon will be conservative (shoaler by 9 cm). That said, do we have your approval to submit with the old Pilot Station datum and 4 month datum computation? This would be discussed in the DR.

Jon

**Jon Dasler, P.E., P.L.S.**  
**Vice President, Director of Marine Services**

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**From:** Jon Dasler  
**Sent:** Wednesday, April 01, 2009 10:29 AM  
**To:** Jeffrey Ferguson  
**Subject:** FW: FW: FW: Devon monthly mean revisions

Jeff,

Not to drag this on but wanted you to be aware that the final adjustment at Devon is 9.6cm. The 9 month observation (end of TerraSond survey) vs. 4 month observation (end of DEA survey) turned out to be slightly more than we anticipated. However, it is unclear which more accurately represents a full year as the added 5 months was during heavier weather. JOA stated that the tides are so flat here that weather plays a significant roll in datum computations. That said, the final adjustments tally up as follows:

New Pilot Station Datum adjustment +5.3cm (may not be exactly a 1:1 relationship)  
3 revised monthly mean values adjustment - 0.5cm  
9 month datum adjustment +4.8cm (inferred)

In the end it is a 9.6cm adjustment if all of these are applied. Currently the two sheets we submitted are based on the Old Pilot Station datum and our final two sheets are ready for delivery without any of the adjustments at Devon listed above. Let us know how you would like us to proceed so we can complete this survey.

On another note, any idea when we will be able to start on the Chesapeake? We are hoping to start in early May.

Jon

**Jon Dasler, P.E., P.L.S.**  
**Vice President, Director of Marine Services**

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---

**From:** Mike Zieserl [<mailto:mzieserl@gmail.com>]  
**Sent:** Friday, March 27, 2009 9:53 PM

**To:** Jon Dasler  
**Cc:** Jason Creech; 'John Oswald (JOA)'  
**Subject:** Re: FW: FW: Devon monthly mean revisions

I don't know if the pilot station datum changes the devon datum in a 1:1 way, but generally you're right.

Mike Z

Jon Dasler wrote:

Thanks Mike. Jason was seeing a 9cm difference and this documents that it is a 9.8 cm difference. The 4 to 9 month datum must have been more than the 1cm quoted by Erik. It must be 4.8 cm.

New Pilot Station Datum adjustment +5.3cm  
 3 revised monthly mean values adjustment - 0.5cm  
 9 month datum adjustment +4.8cm

If you apply all three you get a +9.6cm adjustment.

Does this look right?

---

**From:** Mike Zieserl [<mailto:mzieserl@gmail.com>]  
**Sent:** Friday, March 27, 2009 3:38 PM  
**To:** Jon Dasler  
**Cc:** Jason Creech; John Oswald  
**Subject:** Re: FW: FW: Devon monthly mean revisions

Jon,

Summary of the Devon "datum" movement, relative to local station datum.

- 1) Original Devon Energy MLLW (4 months, old Pilot Station Datum): **11.925m**
- 2) Revised Devon Energy MLLW (4 months, old Pilot Station Datum, 3 revised monthly mean values from COOPS): **11.920m**
- 3) Devon Energy MLLW for Terrasond (9 months, new Pilot Station Datum, 3 revised monthly mean values from COOPS): **12.021m**

The range of the tide did not change much, 4 months vs 9 months, but mean sea level did. Water levels at Devon Sept - Dec were higher relative to Pilot Station. This pushed Mean Tide Level up in the 9 month datum, which in turn brings MLLW up too. MLLW is relatively higher in the 9 month datum vs the 4 month datum. Original MLLW tides would seem slightly closer to the 9 month new datum than a "revised" 4 month datum.

It's easy to get turned around on this stuff, but I think that using the original MLLW tides we sent you, your charted depths are shoaler than if you used the 9 month datum.

For example, a station datum water level height of 12.000m:

Original MLLW height =  $12.000 - 11.925 = 0.075\text{m}$   
New datum MLLW height =  $12.000 - 12.021 = -0.021\text{m}$

Sounding depth of 3.000m:  
Original MLLW depth =  $3.000 - 0.075 = 2.925\text{m}$   
New MLLW depth =  $3.000 + 0.021 = 3.021\text{m}$

Mike

Jon Dasler wrote:

Do we know if this is in addition to the 5.3cm datum adjustment for a 5.8 cm total difference or does this move the other way for a 4.8cm total adjustment?

-----Original Message-----

From: Jeffrey Ferguson [<mailto:Jeffrey.Ferguson@noaa.gov>]  
Sent: Friday, March 27, 2009 1:26 PM  
To: Jon Dasler  
Subject: Re: FW: Devon monthly mean revisions

Is this a 5mm on top of the 5mm, so we're really talking 10mm final depth error?...

Or is the 2nd a random error that may overlap the first?

Jeff

Jon Dasler wrote:

Jeff,

I know you commented about the 5cm datum revision issue on this project.

This is a slightly different issue relation to datum computation JOA on the order of 5mm. Currently our data is processed and rea

delivery based on JOA's original computation. We would like to h your thoughts on the need to reapply water levels for this 5mm

adjustment.

Our suggestion would be to have JOA resubmit to CO-OPS but not a

the 5mm adjustment to the data. Does HSD concur with this assess

Jon

Jon Dasler, P.E., P.L.S.  
Vice President, Director of Marine Services

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-----Original Message-----

From: Mike Zieserl [<mailto:mike@joasurveys.com>]  
Sent: Thursday, March 26, 2009 12:43 PM  
To: Jason Creech  
Cc: Jon Dasler  
Subject: Devon monthly mean revisions

Jason,

I used the COOPS monthly mean revisions to recompute the datum f  
Devon. I kept everything else the same (only 4 months of data,  
the old Pilot Station Datum and monthly means).

The difference between what we submitted and a revised datum:

MLLW, 5mm  
MHW, 3mm

COOPS has told us they use a 9mm tolerance when evaluating our  
computations, so I hope we're in the clear on this. I asked Man  
Samant if he could confirm this for me and he left me a message

"it's complicated, we'll have to talk to OCS" which sounds bad,



maybe OCS can talk some sense to COOPS.

I'm still traveling, will be back in the office Friday.

Mike Z

--

Mike Zieserl  
John Oswald & Associates, LLC  
2000 E. Dowling Rd., Suite 10  
Anchorage, AK 99507  
(907) 561-0136 office  
(907) 230-5789 cell  
[mike@joasurveys.com](mailto:mike@joasurveys.com)

**Jason Creech**

---

**From:** Jeffrey Ferguson [Jeffrey.Ferguson@noaa.gov]  
**Sent:** Wednesday, March 18, 2009 12:41 PM  
**To:** Jon Dasler  
**Cc:** Jason Creech  
**Subject:** Re: FW: [Fwd: [Fwd: Approval of DEA submitted Devon data]]  
**Attachments:** Jeffrey\_Ferguson.vcf

Approved.

Jon Dasler wrote:

Jeff,

Do we have your approval to hold the shorter series datum at Devon? John Oswald claims it is less than 1cm difference and all of our data is currently reduced to this datum.

Jon

**Jon Dasler, P.E., P.L.S.**  
**Vice President, Director of Marine Services**

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---

**From:** Manoj Samant [<mailto:Manoj.Samant@noaa.gov>]  
**Sent:** Wednesday, March 18, 2009 12:27 PM  
**To:** Jeffrey Ferguson; Jon Dasler  
**Subject:** [Fwd: [Fwd: Approval of DEA submitted Devon data]]

Hi Jon:

The approval has to come from OCS and on behalf of CO-OPS I can recommend what you are requesting.

Hi Jeff:

Jon Dassler of DEA has brought to CO-OPS' attention that DEA has submitted required deliverables to OCS based upon the verified data available for the control station at 8760922 Pilot Station east, S. W. Pass, LA. When the data was collected at a subordinate station installed by DEA between the time frame 7/1/2007 and 10/10/2007, the accepted MLLW above the station datum at the control station was 9.124 m based upon a shorter series. CO-OPS updated the datums based upon the longer series from September 2004 to August 2008 on February 9, 2009 for the NWLON control station at 8760922 Pilot Station and the new accepted MLLW is now 9.177 m above the station datum.

Since DEA has processed the data for the subordinate station based upon the verified data for the NWLON control station available from CO-OPS' website prior to February 9, 2009, CO-OPS recommends approval of Jon's request as listed below. DEA has already submitted the deliverables to OCS based upon the CO-OPS' verified data prior to February 9, 2009, and hence DEA does not have to re-process the data because CO-OPS updated the datums after February 9, 2009. Please inform DEA OCS decision. Thanks.

Manoj

---

----- Original Message -----

**Subject:**Approval of DEA submitted Devon data

**Date:**Thu, 12 Mar 2009 14:59:06 -0700

**From:**Jon Dasler <[Jld@deainc.com](mailto:Jld@deainc.com)>

**To:**Manoj Samant <[Manoj.Samant@noaa.gov](mailto:Manoj.Samant@noaa.gov)>

**CC:**Jason Creech <[Jasc@deainc.com](mailto:Jasc@deainc.com)>

Manoj

Based on our discussion today, can you approve the Devon site based on the datums in 08 (prior to the CO-OPS Feb adjustment)? I spoke with Erik and he thought the long term observation that ran through the Terra project was less than a cm difference. I know this was discussed at the start of our Task Order that we would close our observations at the end of our work but the station would keep running through TerraSond's work. We were to use the closing of our work for datum computations to move our deliverables forward. Do you need anything further from us to approve this portion of the Devon observations?

Jon

**Jon Dasler, P.E., P.L.S.**  
**Vice President, Director of Marine Services**

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----- Original Message -----

**Subject:**Re: Pilots Station East, SW Pass (8760922) Inquiry  
**Date:**Mon, 09 Mar 2009 18:27:17 -0400  
**From:**Manoj Samant <[Manoj.Samant@noaa.gov](mailto:Manoj.Samant@noaa.gov)>  
**To:**Jason Creech <[Jasc@deainc.com](mailto:Jasc@deainc.com)>  
**CC:**Jon Dasler <[Jld@deainc.com](mailto:Jld@deainc.com)>  
**References:**<[9504046871A48E4583F558EB6ECA9023052FBDFD@crpex1.deainc.com](mailto:9504046871A48E4583F558EB6ECA9023052FBDFD@crpex1.deainc.com)>

Hi Jason:

I know where the 5 cm difference is coming from. When the data was collected between the time frame 7/1/2007 and 10/10/2007 the accepted MLLW above the station datum was 9.124 m based upon a shorter series. CO-OPS updated the datums based upon the longer series from September 2004 to August 2008 and the new accepted MLLW is now 9.177 m above the station datum. Hence, you are seeing the 5 cm difference, now for the 2007 data when put on the MLLW.

Unless you have submitted the data to OCS, I recommend that you use the new accepted MLLW value 9.177 m i.e. use the 5.3 cm adjustment that is correct because of the datum recomputation and submit the required products to OCS based upon this new updated datum. At least we have solved the mystery now. Please let me know if you need any additional information.

Manoj

---

Jason Creech wrote:

Manoj

I've attached the verified file that we compiled from Verified data back in the fall of 2007.

We see a consistent 5.3 cm shift between this file and data that is currently available for download (our file has WL greater than the website). We also see the same relationship between our

preliminary file and the preliminary data that is currently available for download.

In addition when data are missing from the CO-OPS preliminary download and filled in the CO-OPS verified download this also occurs in the files that were downloaded in fall 2007 at the exact same records. It appears that there has just been a 5.3 cm adjustment applied to 8760922 since data were originally downloaded in 2007.

Let me know if you need anything else.

Thanks,

Jason

**APPENDIX V**  
**SUPPLEMENTAL RECORDS AND CORRESPONDENCE**



## Shyla Allen

---

**From:** william holton [wholton@researchplanning.com]  
**Sent:** Tuesday, June 03, 2008 7:06 AM  
**To:** Nir Barnea  
**Subject:** RE: [Fwd: Re: FW: Survey Area Coverage]

Nir,

I think this approach will be fine. Since the survey footprints will be posted for both the 100% and 200% coverage (Item 1) that will give me an idea of when to potentially expect the vetted contacts. It looks to me like the identifiers used for each contact will be the same for both the side-scan and multi-beam investigations providing an easy method for updating the least depths. If the identifiers change it will require a manual process.

Bill

-----Original Message-----

**From:** Nir Barnea [mailto:Nir.Barnea@noaa.gov]  
**Sent:** Tuesday, June 03, 2008 9:18 AM  
**To:** william holton  
**Subject:** [Fwd: Re: FW: Survey Area Coverage]

Bill, check the message below, an exchange between Jon Dasler (David Evans) and me, and let me know:

- Is the approach OK from your perspective?
- Item #5: Can you update target depth on your end if they can't update in on the SharePoint? I assume that this would require a manual update and require time.
- Any other suggestions?

Thanks --- Nir

**From:** Crescent Moegling [Crescent.Moegling@noaa.gov]  
**Sent:** Friday, June 27, 2008 1:41 PM  
**To:** Jon Dasler; Jason Creech  
**Subject:** [Fwd: Smoothing data for Contract Hydro S-J977-KR-DEA-2008 Plaquemines Southeast, LA] FYI...

----- Original Message -----

**Subject:** Smoothing data for Contract Hydro S-J977-KR-DEA-2008 Plaquemines Southeast, LA  
**Date:** Fri, 27 Jun 2008 13:46:47 -0400  
**From:** Gerald Hovis <[Gerald.Hovis@noaa.gov](mailto:Gerald.Hovis@noaa.gov)>  
**Organization:** National Ocean Service  
**To:** Crescent Moegling <[Crescent.Moegling@noaa.gov](mailto:Crescent.Moegling@noaa.gov)>  
**CC:** \_NOS.CO-OPS.HTP <[NOS.COOPS.HPT@noaa.gov](mailto:NOS.COOPS.HPT@noaa.gov)>, Peter Stone <[Peter.Stone@noaa.gov](mailto:Peter.Stone@noaa.gov)>, Manoj Samant <[Manoj.Samant@noaa.gov](mailto:Manoj.Samant@noaa.gov)>, Stephen Gill <[Stephen.Gill@noaa.gov](mailto:Stephen.Gill@noaa.gov)>

Crescent,

As per our phone discussion I spoke with Peter Stone so feel free to forward this to DEA for their records.

Observations collected at CO-OPS water level stations undergo a series of mechanical, mathematical, and analytical filters before being disseminated for use by the public. CO-OPS has evaluated the data being collected at Pilot Station East, LA (8760922) and determined that the "splashy" nature of the data is an accurate representation of the location. It is not the policy of CO-OPS to "smooth" data beyond the removal of obviously erroneous observations. However, CO-OPS also understands that the "splashy" observations at this location may be a result of ship traffic in the narrow channel where the station is located and may not accurately represent the conditions of several offshore zones in which DEA is collecting data. Under these circumstances CO-OPS supports the smoothing of data by contractor DEA for the sole purpose of survey S-J977-KR-DEA-2008 Plaquemines Southeast, LA. CO-OPS does request that DEA provide detailed documentation of the smoothing process to OCS and / or CO-OPS for NOAA records. The verified data collected, stored and disseminated by CO-OPS will not be altered.

Jerry

--

Jerry Hovis  
Tidal Datums & Hydrographic Support Team  
Center for Operational Oceanographic Products & Services  
Products and Services Division  
National Ocean Service  
National Oceanographic Atmospheric Administration  
<http://www.tidesandcurrents.noaa.gov/>

[gerald.hovis@noaa.gov](mailto:gerald.hovis@noaa.gov)

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--  
Crescent Moegling  
NOAA Hydrographic Surveys Division  
Branch Chief - Data Acquisition Control  
301.713.2700 x111

## Shyla Allen

---

**From:** Michael Hill  
**Sent:** Sunday, June 08, 2008 3:23 PM  
**To:** Jon Dasler  
**Cc:** Jason Creech  
**Subject:** Pass-a-Loutre Trackline for Tim Osborn  
**Attachments:** Pass-a-Loutre\_Trackline.pdf

Jon,

Tim asked today how we were doing with the Pass-a-Loutre SB.  
I told him we had data for most of it but not all.

He asked for something he could show to the State folks who have been asking him about this.

I asked if a trackline would be okay .. he said yes.

Is this okay to send to Tim?  
Suggestions?

Thanks,

MikeH

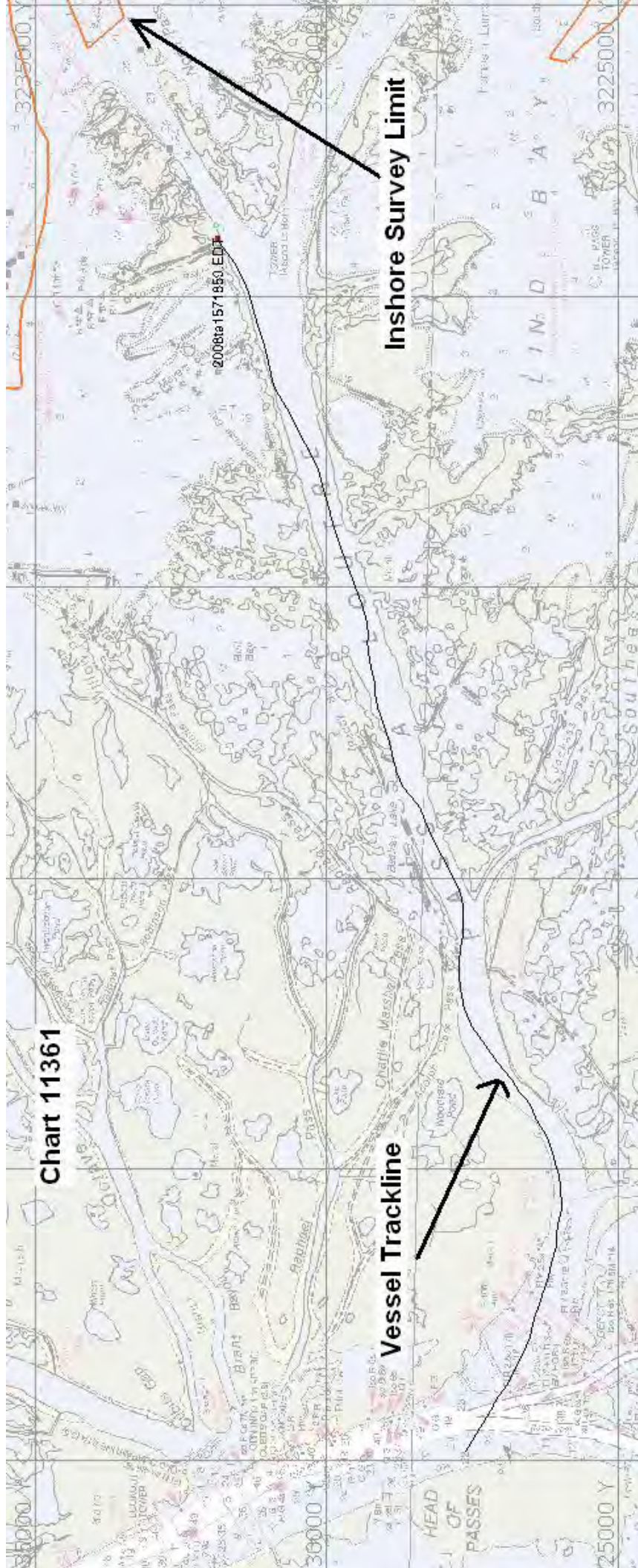
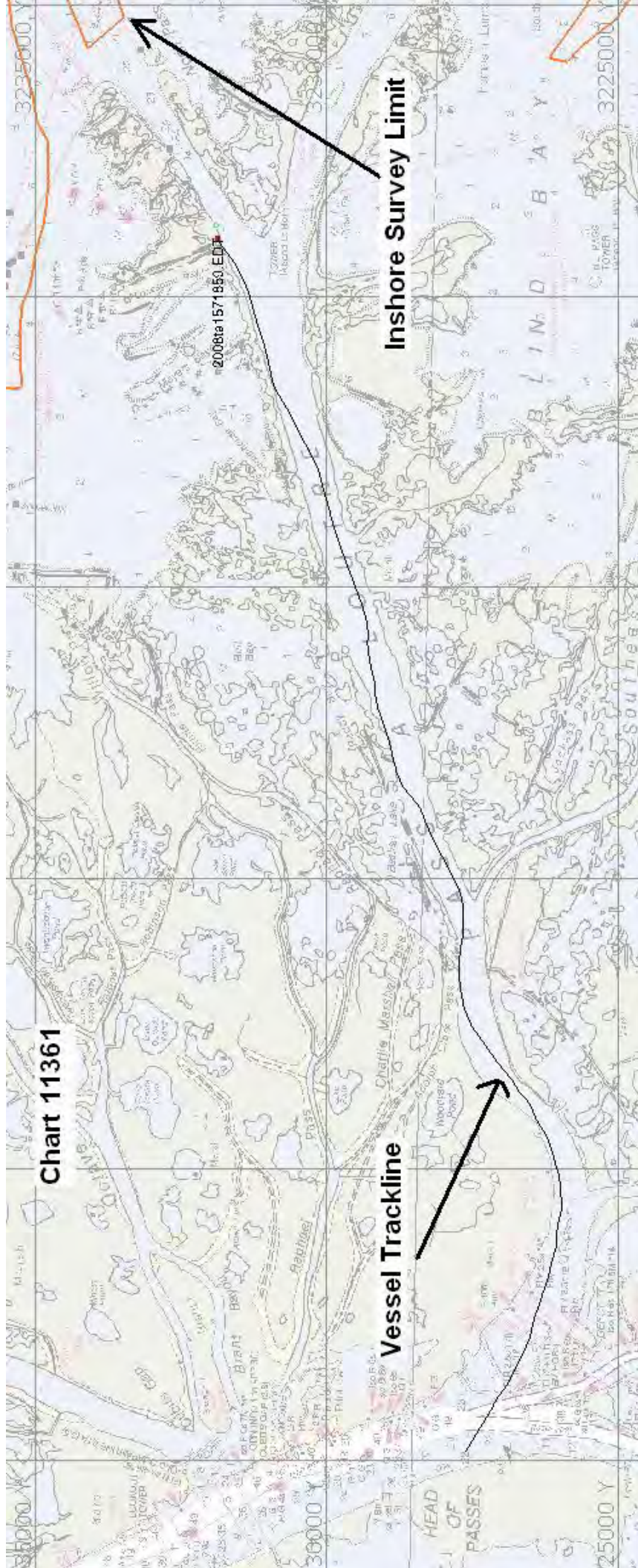


Chart 11361

Vessel Trackline

Inshore Survey Limit

2008ta 1571850 EDT



**Jon Dasler**

**To:** Jason Creech; John Staly; Michael Hill  
**Cc:** Donald P. Fusilli  
**Subject:** FW: [Fwd: Re: Start of NOAA Contract Surveying Operations, South Plaquemines Parish]  
**Attachments:** Pass a Loutre.jpg

I just talked with Tim about this issue that Greg from Louisiana Coastal Management Division has raised about silting in of Pass a loutre. We have been asked to collect some single beam data during our transits through the pass. Tim will send a map of area of concern. I have been told that boats no longer transit out North or South pass as it is silted in and too shallow. We had to take Lonesome Bayou pass to the north to get offshore (see green trackline in the image).

Jon L. Dasler, P.E., P.L.S.  
 Vice President, Director of Marine Services  
 David Evans and Associates, Inc.  
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 Main: (360) 314-3200 FAX (360) 314-3250  
 Direct: (360) 314-3202 Mobile: (503) 799-0168  
 e-mail: jld@deainc.com

**From:** Tim.Osborn [mailto:Tim.Osborn@noaa.gov]  
**Sent:** Wednesday, April 02, 2008 9:14 AM  
**To:** Jon Dasler  
**Subject:** [Fwd: Re: Start of NOAA Contract Surveying Operations, South Plaquemines Parish]

----- Original Message -----

**Subject:** Re: Start of NOAA Contract Surveying Operations, South Plaquemines Parish  
**Date:** Tue, 01 Apr 2008 08:47:24 -0400  
**From:** Crescent Moegling <[Crescent.Moegling@noaa.gov](mailto:Crescent.Moegling@noaa.gov)>  
**Organization:** National Oceanic and Atmospheric Administration  
**To:** [Tim.Osborn@noaa.gov](mailto:Tim.Osborn@noaa.gov)  
**CC:** Ed Martin <[Ed.Martin@noaa.gov](mailto:Ed.Martin@noaa.gov)>, Howard Danley <[Howard.Danley@noaa.gov](mailto:Howard.Danley@noaa.gov)>, Larry Krepp <[Lawrence.T.Krepp@noaa.gov](mailto:Lawrence.T.Krepp@noaa.gov)>, Patrick Fink <[Patrick.Fink@noaa.gov](mailto:Patrick.Fink@noaa.gov)>  
**References:** <[47F12602.5060000@noaa.gov](mailto:47F12602.5060000@noaa.gov)> <[64FAC11022DA5842BB89D5D26B9F336E047A8B3D67@MAILMBX02.MAIL.LA.GOV](mailto:64FAC11022DA5842BB89D5D26B9F336E047A8B3D67@MAILMBX02.MAIL.LA.GOV)> <[1287269501-1207053502-cardhu\\_decombobulator\\_blackberry.rim.net-2029289742-@bxel41.bisx.prod.on.blackberry](mailto:1287269501-1207053502-cardhu_decombobulator_blackberry.rim.net-2029289742-@bxel41.bisx.prod.on.blackberry)>

Tim,

This shouldn't be too difficult for DEA to do as I believe they'll be transiting this channel to and from their working grounds. Is single beam sufficient?

Crescent

tim.osborn wrote:  
 > Greg  
 >  
 > I will call this morning and talk this over with you. This is a significant issue  
 >  
 > /r  
 >  
 > Tim  
 > -----Original Message-----  
 > From: Gregory DuCote <[Gregory.DuCote@LA.GOV](mailto:Gregory.DuCote@LA.GOV)>  
 >  
 > Date: Tue, 01 Apr 2008 06:46:00  
 > To: "Tim.Osborn" <[Tim.Osborn@noaa.gov](mailto:Tim.Osborn@noaa.gov)>  
 > Cc: Bren Haase <[Bren.Haase@LA.GOV](mailto:Bren.Haase@LA.GOV)>, David Fruge <[David.Fruge@LA.GOV](mailto:David.Fruge@LA.GOV)>, Jim Rives <[Jim.Rives@LA.GOV](mailto:Jim.Rives@LA.GOV)>  
 > Subject: RE: Start of NOAA Contract Surveying Operations,  
 > South Plaquemines Parish  
 >  
 >  
 > Tim  
 >  
 > We are in discussions with the NOD/COE about Pass-a-loutre (PAL) and the hopper dredge disposal site at the head of PAL and whether or not  
 > ve refuges and management areas.  
 >  
 >  
 > Gregory J. DuCote  
 > Coastal Management Division  
 > P.O. Box 44487  
 > Baton Rouge, LA 70804-4487  
 > P - 225.342.5052  
 > F - 225.242.3458  
 >  
 > -----Original Message-----  
 > From: Tim.Osborn [mailto:[Tim.Osborn@noaa.gov](mailto:Tim.Osborn@noaa.gov)]  
 > Sent: Monday, March 31, 2008 12:57 PM  
 > To: Mike Capt Lorino Jr Mississippi River Bar Pilots  
 > Cc: Michael Hill; Jon Dasler; Gaude, III, Albert P.  
 > Subject: Start of NOAA Contract Surveying Operations, South Plaquemines Parish  
 >  
 > Captain Lorino  
 >  
 > Thank you for the coordination in the last few weeks with the Bar Pilots and NOAA.  
 >  
 > NOAA's contract survey team is arriving in Louisiana this week to make preparations for the start of the surveys in south Plaquemines Pari  
 >  
 > The NOAA survey project area is depicted in the attached graphic. A Local Notice to Mariners is also attached for your information and us

4/2/2008

>  
> Again, thank you and for the hospitality and collaboration with the Pilots on this project  
>  
> /r  
>  
> Tim Osborn  
> NOAA  
>  
>

--  
Crescent Moegling  
NOAA Hydrographic Surveys Division  
Branch Chief - Data Acquisition Control  
301.713.2700 x111



Recent conversation with Gene DTONS and S-57.txt

From: Jason Creech

Sent: Wednesday, July 16, 2008 9:26 AM

To: Jon Dasler

Cc: Michael Christy; Michael Hill; John Staly; Verena Kellner; Shyla Allen; Amanda Bittinger; Erin Campbell

Subject: Recent conversation with Gene

Follow Up Flag: Follow up

Flag Status: Red

I just had another very informative conversation with Gene.

I called to discuss some recent guidance from him regarding determination of Dtons near charted features and S-57 file generalization.

In a nut shell he asked us not to submit Dtons for items within a 3mm radius (at largest chart scale) of charted features. For instance if there is a submerged pile within the 3mm radius (at 1:80k = 240 meters) then we don't need to worry about submitting a Dton. This pile should be included in the S-57 feature file as long as it meets the next rule....

We are to use 3mm at survey scale (1:10k) which is 30m for determination of items to include in the feature file. If the submerged pile discussed above is less than 30 meters from a charted platform then we would not submit but would make a note about the pile in the S-57 INFORM field of the platform. This same rule is used for all new items as well. We are to start with the most significant item (significant in this case means tallest baring feature) and all items within the 30m radius are not to be depicted in the feature file, but they would be noted in the INFORM field.

Jason

## Shyla Allen

---

**From:** Jason Creech  
**Sent:** Tuesday, October 28, 2008 5:04 PM  
**To:** Michael Christy; Shyla Allen  
**Subject:** FW: GOM baring dton questions  
**Follow Up Flag:** Follow up  
**Flag Status:** Red  
**Attachments:** Card for Castle.E.Parker

FYI

This is the email from Gene regarding wellheads vs platforms for your reference while preparing the objects for and conversion to S-57.

---

**From:** Castle.E.Parker [mailto:Castle.E.Parker@noaa.gov]  
**Sent:** Wednesday, May 28, 2008 5:08 AM  
**To:** Jason Creech  
**Subject:** Re: GOM baring dton questions

Jason,

I don't think the definitions accurately define what you see in the real world. I have seen well heads above MLLW and not always submerged. I determine the difference between plat and well head is that the **platform should have a "specially designed working surface..."** The **well consists of valves and piping without a working surface.**

Let's call a well head a well if it has minimum structure (no vertical or horizontal support bracing or support structure) surrounding a valve or series of valves. If the well appears damaged, then call it an Obstrn.

If the structure has vertical or horizontal frame around a well or series of valves and piping, then call it a platform no matter what the size or dimension of the structure.

Referencing the word doc you sent with images, the bottom image on page two is listed as charted platform.

This object appears to be a combination of plat and well. By definition of plat is does not have a specially designed working surface, unless it is below the water surface. As it exists in the image, I would call it a well, recommend to delete the charted plat, and add a well at the surveyed location.

The top image on page 3 would be well, as there is no working surface.

I agree with the definition for well, and this is usually where the well and valves are submerged covered by lots of water. However, the water depth that you are working is shallow and the exposed portion of the well would normally be submerged in deeper water. Thus, a well is a well, no matter what the water depth. The well would be elevated above the sea floor the same distance or height no matter what the water depth is. In shallow near shore areas, the well just happens to be elevated above the water surface. Just because the well is above the water surface doesn't change the well to a platform.

The S57 objects and attributes give us issue a lot of the times. We have to use them to match or correlate to the raster chart as well. Since, AHB and HSD H-cell is not truly an ENC, we can deviate if clearly explained or documented.

The bottom line, is that you call it what you think it should be. AHB would really like to have photos for the features which are not definitive, such that we can make a decision based upon your recommendation and the photo.

Is this OK with you and am I clear with the differences and AHB's preference?

Jason Creech wrote:

Gene

Based on your documentation it looks like wellheads are always submerged and we are seeing platforms some of which may be ruined, dismantled or just oddities that don't fit nicely into the rule book. If this is the case, what should we do about the items like valves which are baring and just above the waters surface? They are charted as platforms so one would say they are charted correctly, but could also be considered hazardous to surface navigation. If we see evidence of broken piles or debris in the water we could submit as ruined, in other cases I'm not exactly sure.

This is a tricky situation. Your guidance is appreciated.

Thanks,  
Jason

-----Original Message-----

From: Castle.E.Parker [<mailto:Castle.E.Parker@noaa.gov>]

Sent: Tuesday, May 27, 2008 6:33 AM

To: Jason Creech

Subject: Re: GOM baring dton questions

> Good Morning Jason,

I'm finally getting back to this issue of Plats and Well heads. I have place a three documents at the DEA FTP site. Reference the path below:  
[ftp://ftp.deainc.com/Portland/Marine%20Services/NOAA/4JasonCreech\\_FromNOAA-AHB/](ftp://ftp.deainc.com/Portland/Marine%20Services/NOAA/4JasonCreech_FromNOAA-AHB/)

1. The documents include NOAA Encoding-Part\_1-3\_AHB.pdf
2. H-Cell Specifications\_3.0.pdf
3. Well-Plat Definitions.doc

These documents are for reference only and should supplement the NOS Hydrographic Surveys Specifications and Deliverables. The definitions

are quoted from FPM and Nautical Chart Manual. Just use your best judgment when deciding what to call the feature. The NOAA Encoding Part 1-3 is really for the final charting disposition of features. AHB is using this document for H-cells. The document has not been approved by OCS so it remains as a preliminary document.

I hope these documents can assist you. If you have any remaining questions or new issues, you know where I'll be.

Have a great week!  
Gene

> Jason Creech wrote:  
>  
> Hello Gene  
>  
>  
>  
> I have attached a word document with several examples of items that we are seeing down in LA and have questions about submitting as Dtons and S-57 attribution. Once you have reviewed the file would you mind calling me to discuss? I have several questions and the conversation may go a little faster over the phone.  
>  
>  
>  
> Thanks,  
>  
> Jason  
>  
>  
>  
> Jason Creech  
>  
> Lead Hydrographer  
>  
> David Evans and Associates, Inc.  
>  
> (804) 516-7829  
>  
>  
>  
>  
> Name:  
H11833\_Possible\_DTONS\_forAHB.doc  
> Type: WINWORD File  
(application/msword)  
> H11833\_Possible\_DTONS\_forAHB.doc Encoding: base64  
> Description:  
H11833\_Possible\_DTONS\_forAHB.doc  
> Download Status: Not downloaded

with message

## Jason Creech

---

**From:** Castle.E.Parker [Castle.E.Parker@noaa.gov]  
**Sent:** Wednesday, January 21, 2009 3:59 AM  
**To:** Jason Creech  
**Cc:** Crescent Moegling; Shep.Smith; Matthew Wilson  
**Subject:** OPR-J977-DE-08 Deviation from SOW

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Attachments:** Card for Castle.E.Parker



Castle.E.Parker.vcf  
(546 B)

Good day Jason,

Based upon our recent discussions during your visit to Atlantic Hydrographic Branch (AHB), this email serves as AHB's notification and request calling for a deviation from the OPR-J977-DE-08 Statement of Work (SOW). As detailed in the SOW, referencing Section 6.2.3 S-57 Feature File, the requirement is to include single beam soundings at survey scale within the submitted S-57 format deliverable. AHB requests that DEA's submitted feature file not include the VBES soundings. This increases the file size and serves no intended purpose during AHB's processing of the surveys. Depth data reviewed and verified will be sourced from the bathymetric grid and will not source or verify the depth data represented as survey scale soundings.

AHB would also request that DEA provide information concerning offshore platforms located during the surveys as an additional feature file that contains only the platforms. Based upon the number of platforms located within the survey limits, AHB requests that these features be included in a separate S-57 format file.

AHB respectfully requests these deviations from the survey deliverable specifications. Please respond as necessary.

Regards,  
Gene Parker

## Michael Christy

---

**From:** Jason Creech  
**Sent:** Tuesday, December 16, 2008 8:21 AM  
**To:** Jon Dasler; Shyla Allen; Michael Christy  
**Subject:** FW: H11834 S-57 Feature File Deliverable to AHB

**Follow Up Flag:** Follow up  
**Flag Status:** Red

-----Original Message-----

From: Castle.E.Parker [mailto:Castle.E.Parker@noaa.gov]  
Sent: Tuesday, December 16, 2008 8:18 AM  
To: Jason Creech  
Cc: Crescent Moegling; Shep.Smith; Matthew Wilson  
Subject: H11834 S-57 Feature File Deliverable to AHB

Good Day Jason,

This email serves as written documentation concerning an issue that was discussed during our telephone conversation on Tuesday 12/16/2008.

Bearing in mind the number of platforms and well heads contained within H11834 and AHB's H-cell specifications, AHB requests that all offshore platforms (OFSPLF) and well heads be separated from the submitted S57 feature file. It is requested that DEA submit a separate S57 format file that contains only offshore platforms and well heads.

Our previous discussions related to the generalization of features (3mm@ chart scale) that included well heads, platforms, and associated baring piles located in close proximity to each other should only be used when evaluating and determining the Danger to Navigation status and selections.

It would be in AHB's best interest not to generalize the survey's final feature selections. This request would eliminate DEA's additional evaluation time and effort in determining which features would be represented in the submitted S57 feature file. The added evaluation time by DEA would delay the survey submission to AHB and add time onto the total "ping to chart" time period. Submitting all the features with no generalization would allow AHB to view these features and make compilation decisions that would be appropriate for the chart scale product.

If any portion of these agreements are not according to our discussions, please respond. If not, proceed with generating the AHB deliverables according to NOS HSSD and the deviations mentioned in this email.

Regard,  
Gene Parker



# OPRJ977DEA08 BOTTOM SAMPLING

Sheet C, H11835

Sample	Time (UTC)	Day Number	Easting	Northing	Depth (m)	COLOR	NATSUR	NATQUA
C1	16:41:01	202	292146.61	3206244.46	11.54	7	2	1
C2	16:45:33	202	294178.71	3206260.5	30.31	7-8	1	1
C3	17:26:56	202	294178.71	3208256.23	16.26	2	1	1
C4	18:44:00	206	292182.2	3210258.76	4.2	8	4-17	2
C5	18:55:00	206	294149.64	3210154.54	13.64	7	1	1
C6	19:02	206	296173.33	296173.33	24.74	7	1	1
C7	17:42:22	202	294153.3	3212235.89	4.87	2	2	1
C8	19:22:00	206	296247.23	3212249.88	12.59	7	1	1
C9	19:14:08	206	298183.56	3212219.15	23.33	7-8	1	1
C10	19:35:00	206	296235.33	3214318.7	5.6	7	1-17	1
C11	19:42:00	206	298180.55	3214324.37	8.26	7	3-17	1
C12	19:50:00	206	300201.98	3214308.68	21.27	7	1	1
C13	20:14:15	202	300185.11	3216270.44	8.39	7	3-4	2
C14	20:01:00	206	300202.81	3216454.01	16.11	7	2	7
C15	20:34:39	202	302184.73	3218260.4	8.06	7	3-4	1
C16	20:18:55	206	304354.84	3218452.36	18.99	7	3-4	1
C17	20:59:19	202	302171.07	3220271.28	3.98	7-8	3-4	1
C18	20:59:08	202	304211.61	3220267.18	6.19	7	3-4	1











C O O 6

2 cm





C O O 7

2 cm





C

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0

9

2 cm



C O 1 0

2 cm



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1

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2 cm





CO13

2 cm



Small text or logo, possibly a brand name like 'SnoilPro'.





C O 1 5



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1

6



C

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1

7

2 cm



C

0

1

8

2 cm



**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT to ACCOMPANY  
SURVEY H11835 (2008)**

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

**A. AREA SURVEYED**

No changes from DR.

**B. DATA ACQUISITION AND PROCESSING**

**B.1 DATA PROCESSING**

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

CARIS HIPS/SIPS version 6.1 SP2  
CARIS Bathy Manager version 2.1 SP1  
CARIS HOM version 3.3 SP3  
CARIS S57 Composer version 2.0

**B.2. QUALITY CONTROL**

**B.2.1. H-Cell**

The final products from the review of H11835 were three surfaces: two were derived from singlebeam data, both of 2m resolution, one which encompasses the eastern portion of the survey area, and one which encompasses the west. The third surface was a 50cm resolution surface encompassing all of the areas of multibeam developments over features.

The shoal layers were first extracted from each singlebeam surface and the depth layers regenerated. The three surfaces were then combined at a 4m resolution. The dense sounding set was generated from this surface with a shoal-biased radius of 1mm at chart scale (1:40,000 in the area of South Pass, and 1:80,000 in the remaining area). A TIN was generated from the dense sounding set, and two surfaces were interpolated from the TIN, one with a 20m resolution and one with a 50m resolution.

The 20m resolution interpolated surface was used to generate chart scale soundings. The chart sounding selection was taken from this surface using a shoal-biased radius commensurate with the corresponding chart scale in the respective geographic area. A filter was used to exclude interpolated soundings, ensuring the chart sounding selection to be a subset of the dense sounding selection.

The 50m resolution interpolated surface was shifted by a factor of -0.229m to account for NOAA's sounding rounding convention when creating depth curves. The depth curves were then generated from this interpolated, shifted surface, and are included in the submission to MCD for reference only.

Meta borders were hand-drawn to encompass all of the survey soundings. The spoil area, dump site, and dredged area associated with South Pass were removed from the meta coverage. No soundings or features are included in these areas removed from compilation, however blue notes remain in these areas. In addition, the southwestern edge of the meta coverage was trimmed to align with the meta coverage of DEA junction survey H11834 (previously compiled).

M\_CSCL meta objects have been included in the H-Cell to encompass those areas not covered by the largest scale chartlet (1:40,000) associated with chart 11361. These regions were compiled at the scale of the remaining chart area (1:80,000).

Bottom samples were taken by the field unit and are included in the H-Cell as SBDARE objects. Recommend these seabed areas supersede the currently charted seabed areas.

Orthophotos obtained from the U.S. Geological Survey (USGS) National Map Seamless Server (<http://seamless.usgs.gov/index.php>) were used extensively in the H-Cell Compilation (discussed below in ER Section D.1.1 Hydrography). The full source data for the orthophotos utilized are as follows: National Agriculture Imagery Program (NAIP) Orthoimagery for Zone 16 Louisiana State Quarter Quadrangleation, Date: 20080122. The ID #'s of the NAIP orthoimagery used:

- n\_2908964\_nw\_16\_1\_20071011
- n\_2908956\_sw\_16\_1\_20071011
- n\_2908963\_sw\_16\_1\_20070920
- n\_2908955\_nw\_16\_1\_20070920

The pre-compilation components include depth area (DEPARE), un-surveyed areas (UNSARE), depth contours (DEPCNT), sounding selection (SOUNDG), features (COALNE, LNDARE, OBSTRN, OFSPLF, SBDARE), meta objects (M\_COVR, M\_CSCL, M\_QUAL), and cartographic blue notes (\$CSYMB).

All of the components with the exception of the dense sounding selection and depth contours were inserted into one feature layer (including the blue notes, as dictated by Hydrographic Technical Directive 2008-8), and this layer was exported into S-57 format in order to create the H-Cell deliverable. Similarly, the dense sounding selection and depth contours were exported into S-57 format separately, and then both S-57 files were processed in Caris HOM to convert the metric unit to feet. The final products are two S-57 files, one that contains the chart soundings, features, meta objects, and blue notes (H11835\_CS.000), and one that contains the dense sounding selection and depth contours (H11835\_SS.000). Finally quality assurance checks were made utilizing Caris S-57 Composer validation checks.

Chart compilation was performed by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

**H11835 CARIS H-Cell final deliverables include the following products:**

H11835_CS.000	1:80,000 Scale	H11835 H-Cell with Chart Scale Selected Soundings
H11835_SS.000	1:10,000 Scale	H11835 Selected Soundings (Survey Scale)

**B.2.2. Junctions**

H11835 junctions with H11834 to the southwest (adequately addressed in the H11834 Descriptive Report), and H11836 to the north (adequately addressed in the H11835 Descriptive Report). Over 98% of the soundings associated with overlapping nodes between H11834 and H11835 are within 0.45 meters, and over 95% of the soundings associated with overlapping nodes between H11835 and H11836 are within 0.25 meters.

**C. VERTICAL AND HORIZONTAL CONTROL**

Final corrections applied by the field unit and no additional processing required by the Atlantic Hydrographic Branch. Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM projection zone 16.

**D. RESULTS AND RECOMMENDATIONS**

**D.1 CHART COMPARISON                      11361 3 (75<sup>th</sup> Edition, 08/01/2009)**

Corrected through NM 08/01/2009  
Corrected through LNM 08/01/2009  
Scale 1:40,000

**11361 1 (75<sup>th</sup> Edition, 08/01/2009)**

Corrected through NM 08/01/2009  
Corrected through LNM 08/01/2009  
Scale 1:80,000

**ENC COMPARISON                                      US4LA30M**

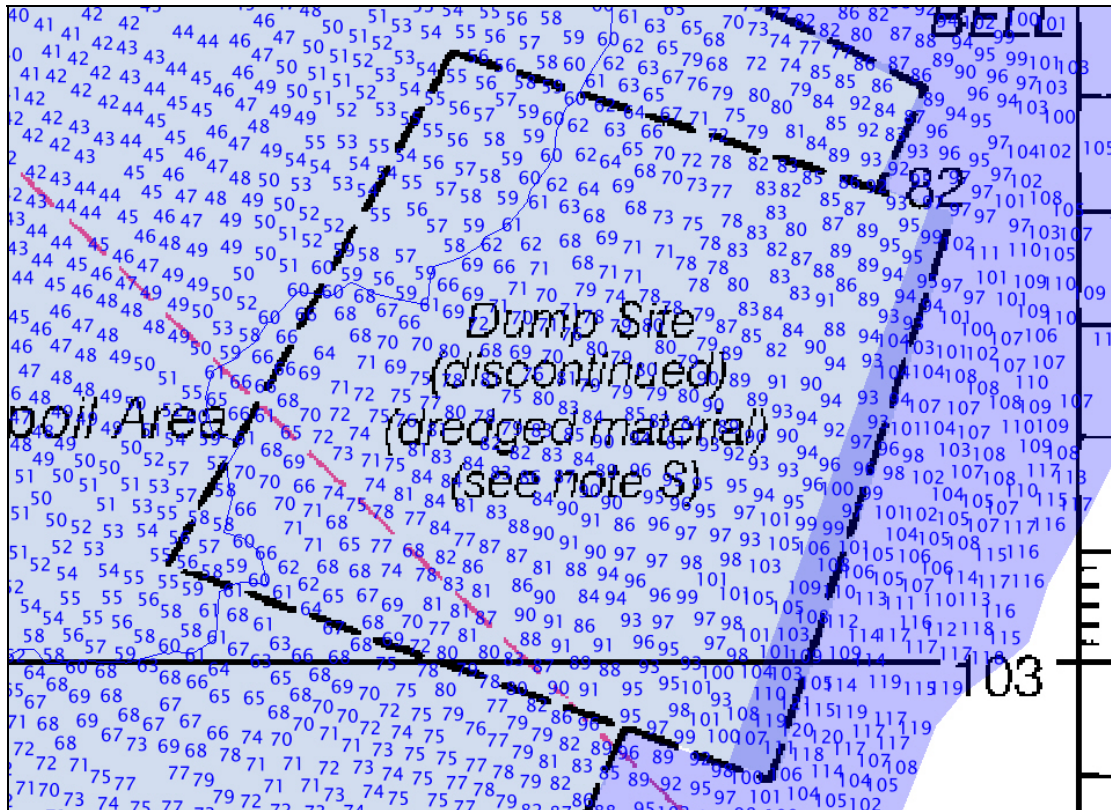
Pilottown  
Edition 14  
Application Date 2009-08-04  
Issue Date 2009-08-04  
Chart 11361



### D.1.1 Hydrography

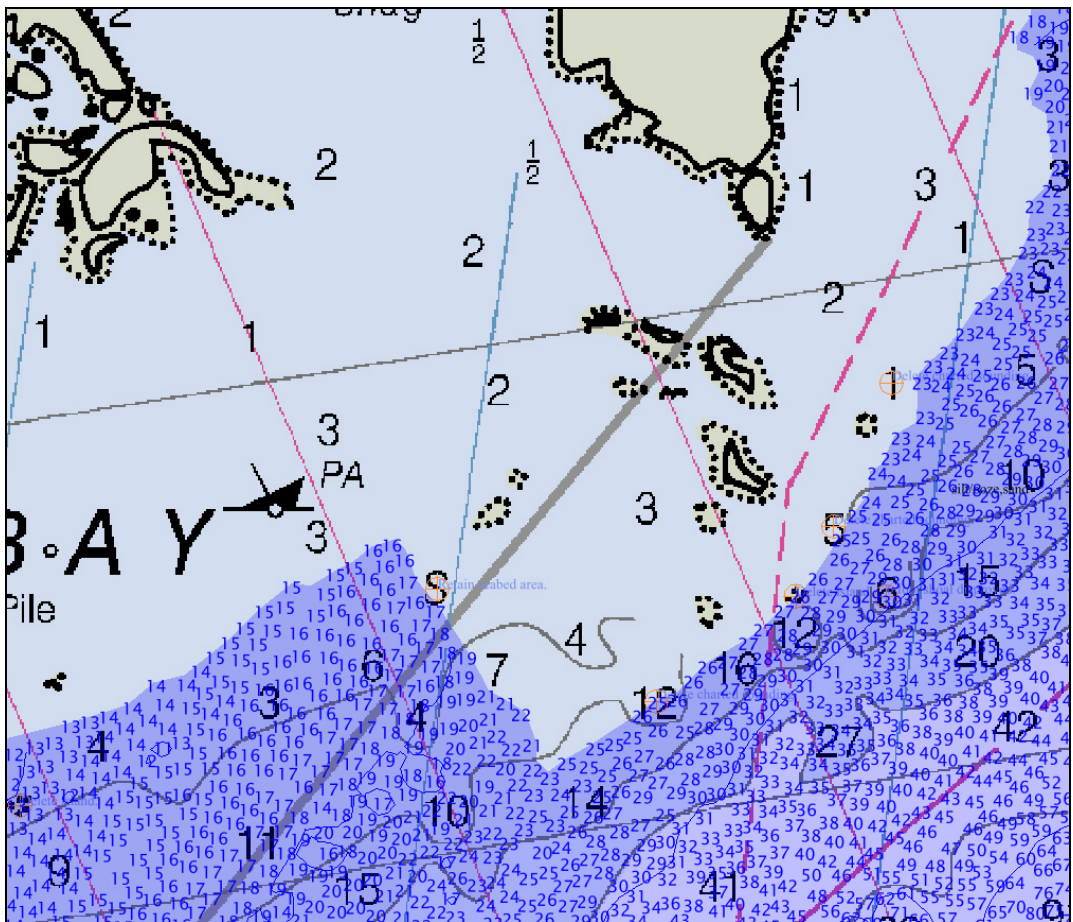
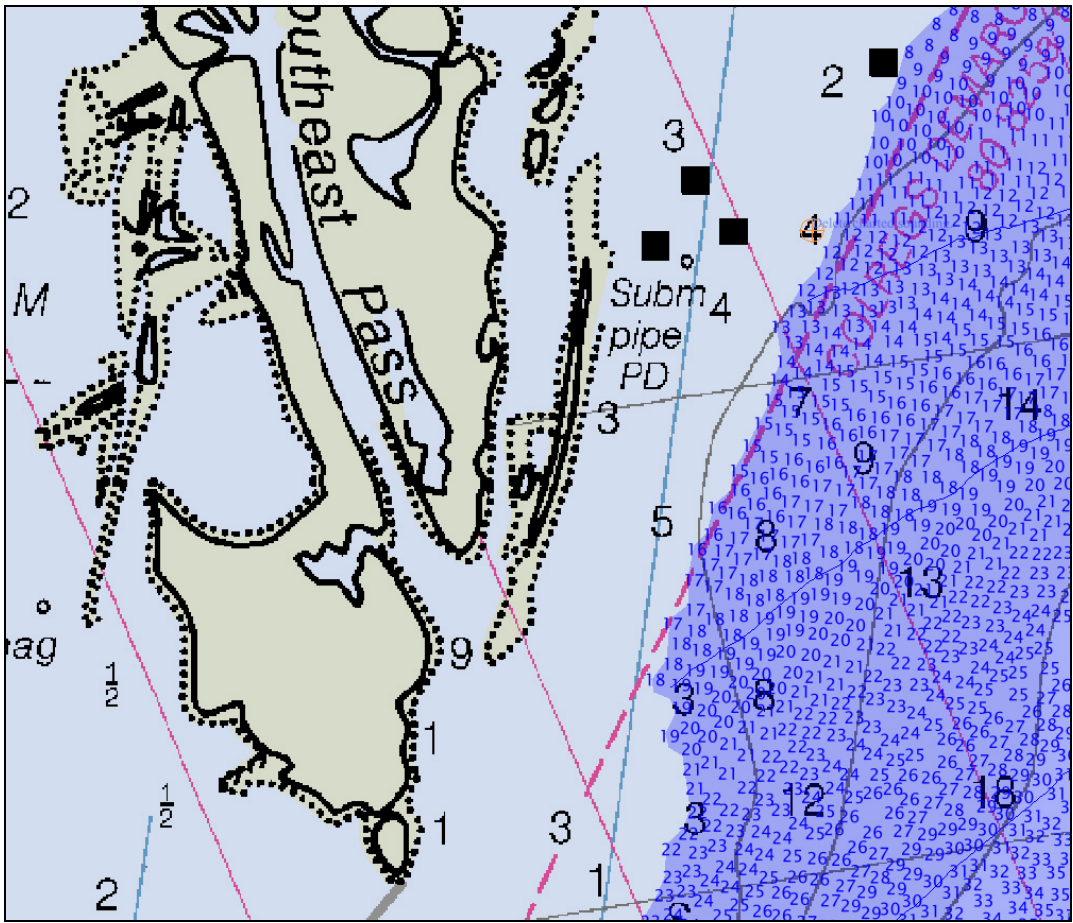
The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section “D” and Appendix 1&2 of the Descriptive Report. The following exceptions are noted:

- a. The limiting depth on the discontinued Dump Site for dredged materials (located at approximately 28-58-14N, 089-06-53W) is 54 feet according to the present survey findings (see screen capture below).



Recommend to attribute the discontinued Dump Site with this controlling depth information. Additional information from the field unit regarding the discontinued Dump Site can be found in the DR Appendix II.

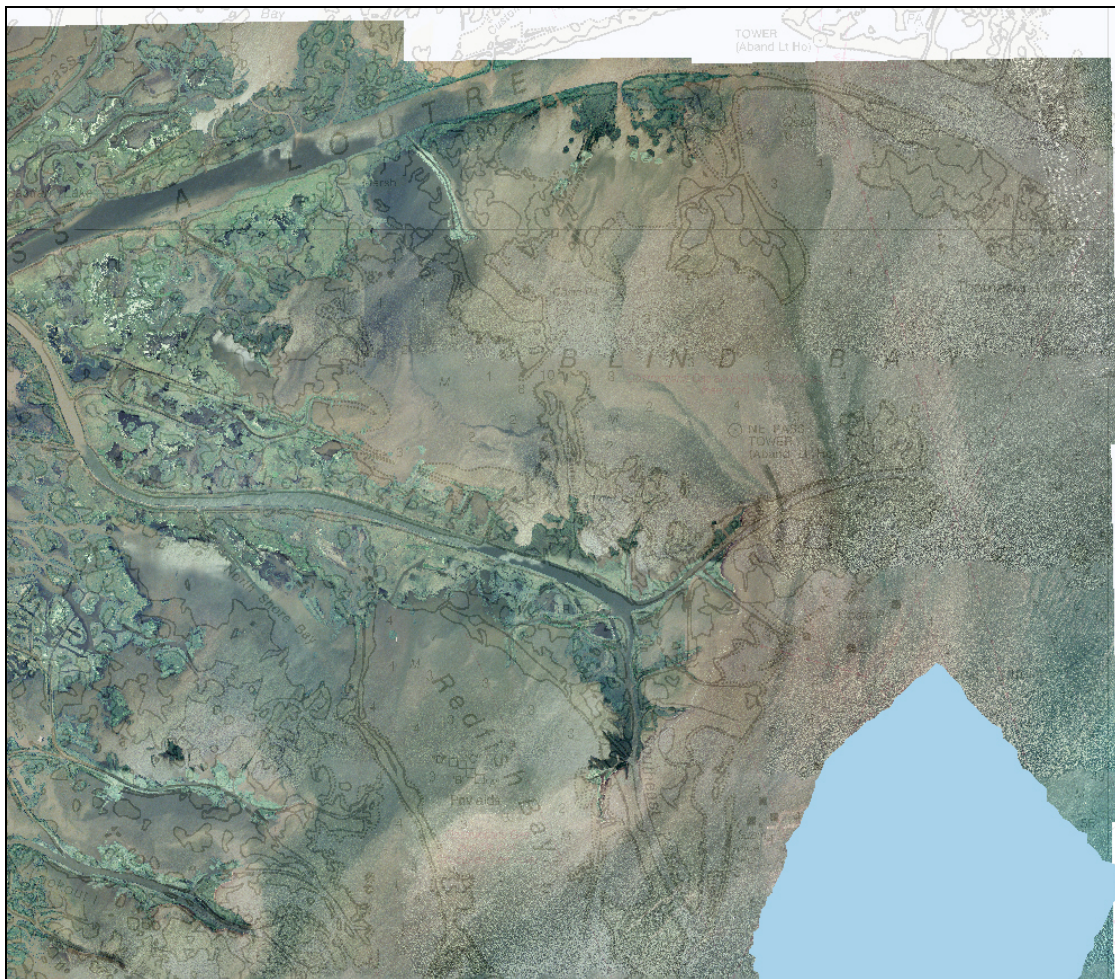
- b. According to the statement of work, the inshore limit of hydrography is the charted 4 foot contour, not the actual 4 foot contour—this particular specification was necessary for contractual stipulations. The result is an awkward charting situation along much of the western border of the survey area where deepening is observed. Surveyed soundings in the order of 10-20 feet are in close proximity to charted soundings between 1-10 feet, as observed in the screen captures below.

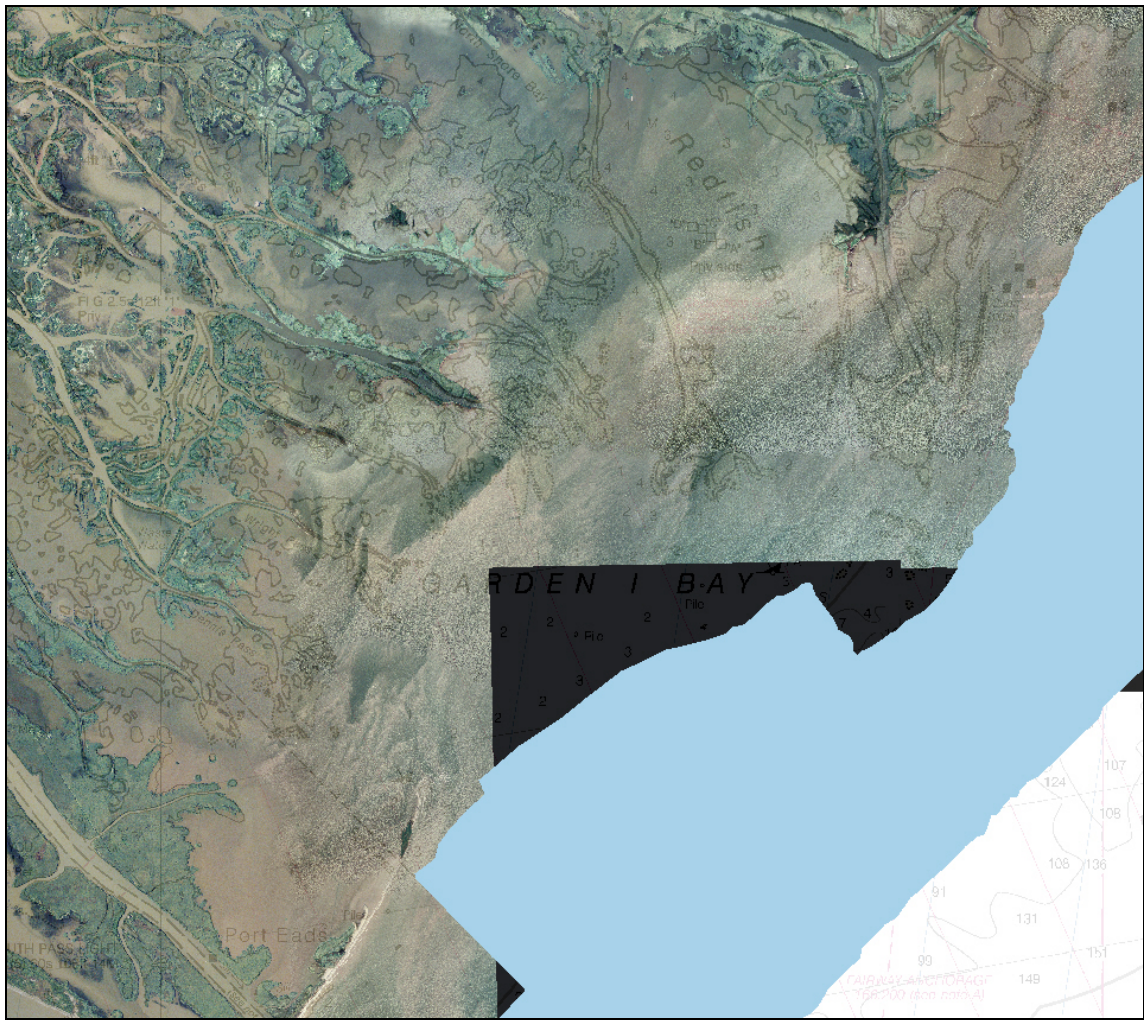




Representation of the survey soundings alongside the existing charted soundings outside of the survey area would result in a cartographic ledge, or drop-off, which likely does not exist, as deepening has likely occurred throughout the entire area. The recommendation is to place “un-surveyed areas” (UNSARE) in the location between the H11835 survey area and charted land. **In the un-surveyed area, recommend to remove all charted soundings, however all charted features should be retained.**

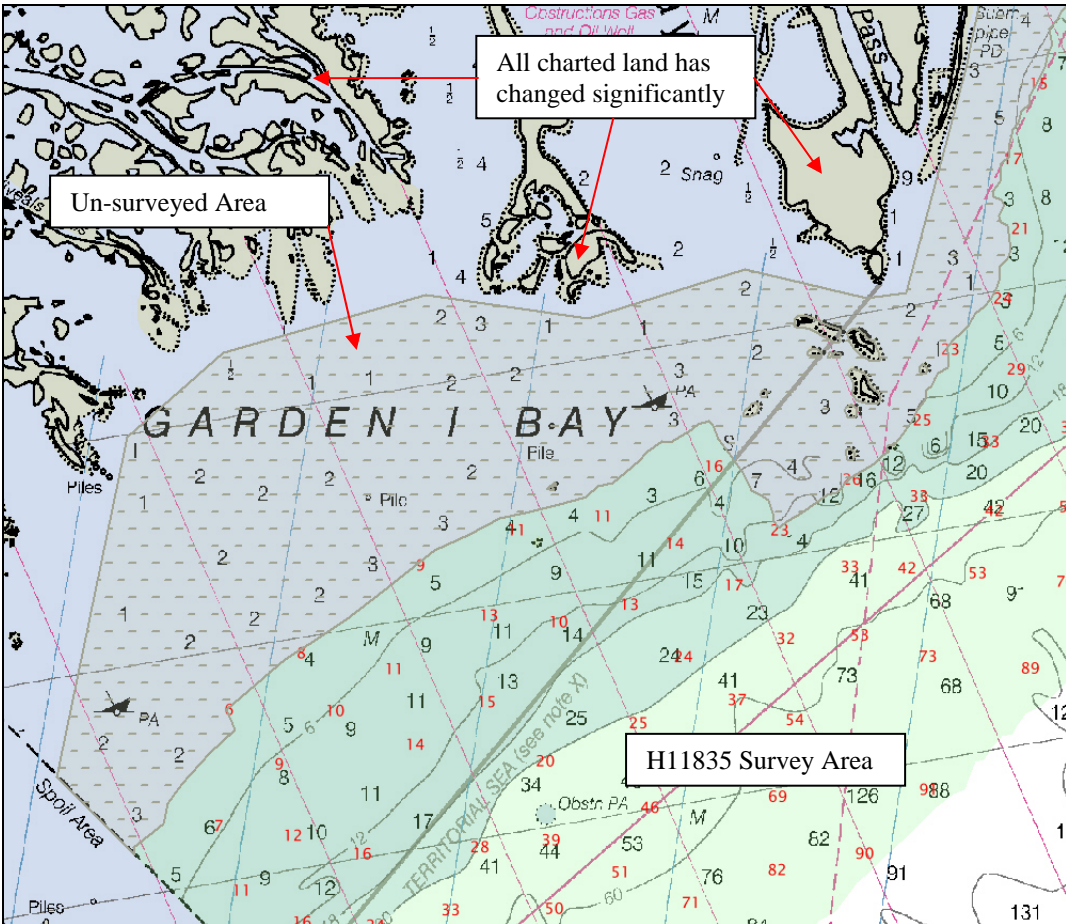
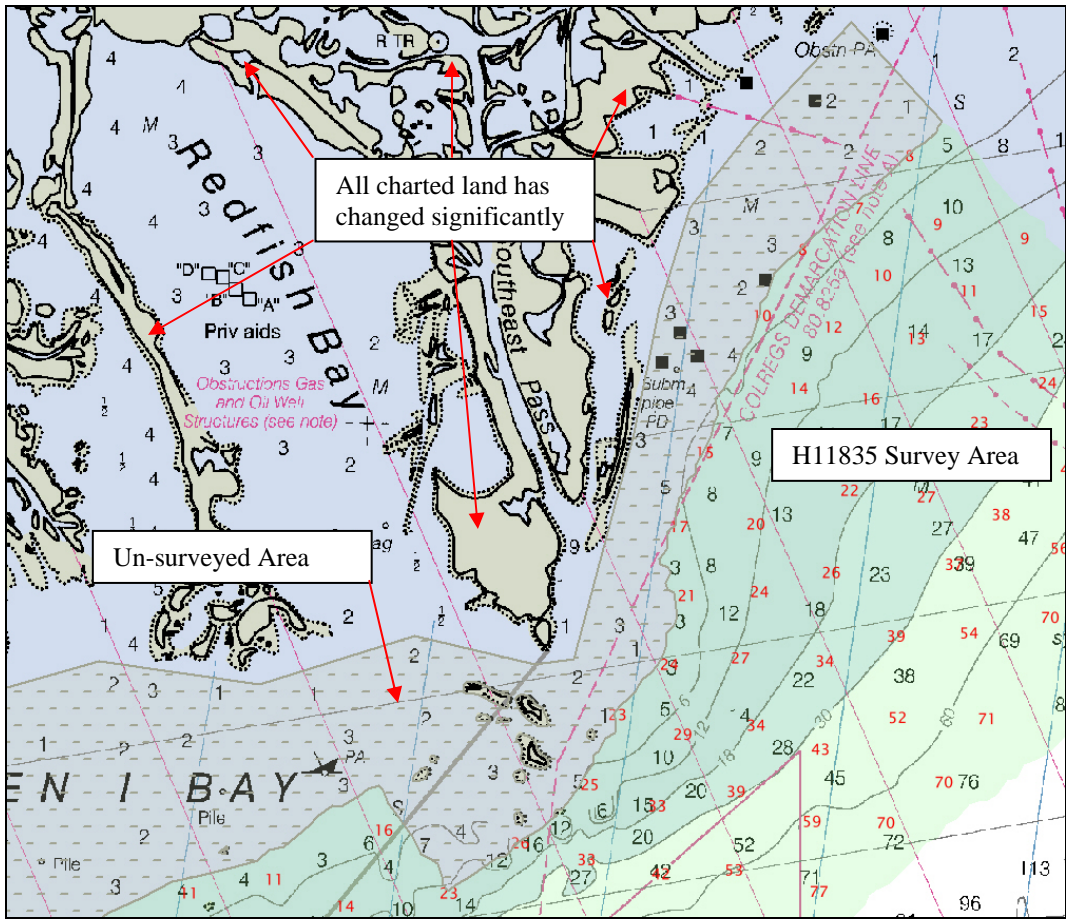
In addition, the shoreline to the west of the survey area is composed of hundreds of islands and peninsulas associated with the Mississippi River delta. Drastic change is observed between the charted land and the shoreline as seen in the 2008 USGS orthophotos. See below for screen captures which depict the observed drastic change in shoreline:



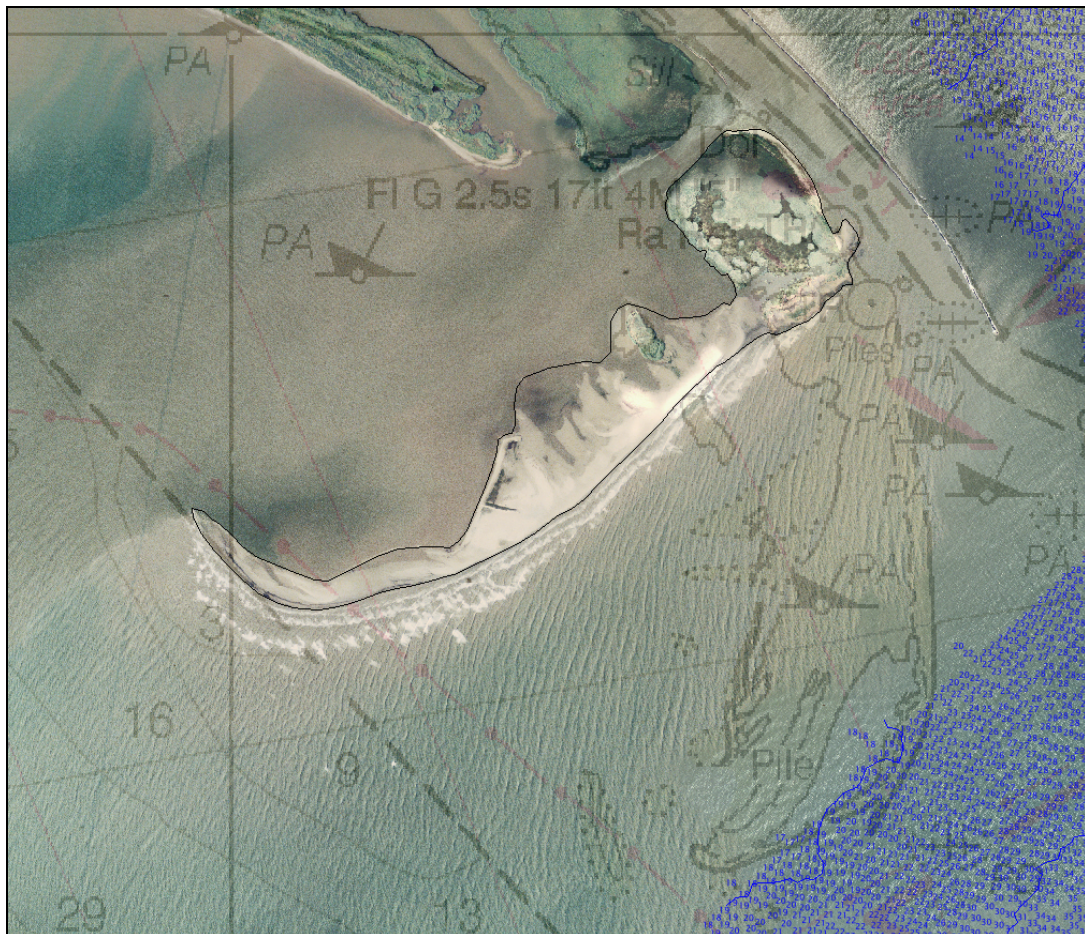


Recommend an entirely new shoreline be delineated, with the area between shoreline and the H11835 survey area designated as “un-surveyed area” (UNSARE) as observed in the following screen captures:





For the purposes of the H-Cell, only the shoreline which falls within the survey limits will be addressed. This means the islands around South Pass and in Garden Bay. Several islands no longer exist, and blue notes have been placed in the H-Cell recommending their removal. One island has shrunk and shifted position considerably, and a new coastline has been delineated with use of the USGS orthophotos. The coastline of this island is included in the H-Cell as a COALNE object, with an associated land area (LNDARE). The following image depicts the chart overlaid on the orthophotos. The proposed coastline is drawn on the top layer.



## **D.2. ADDITIONAL RESULTS**

### **D.2.1. Aids to Navigation**

No changes from DR.

## **D.3. MISCELLANEOUS**

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. See Section D.1. of this report for a list of the Raster Charts and Electronic Navigation Charts (ENC) used for compiling the present survey.

## **D.4. ADEQUACY OF SURVEY**

The present survey is adequate to supersede the charted bathymetry within the common area. Any features not specifically addressed either in the H-Cell BASE Cell File or the Blue Notes should be retained as charted. Refer to the Descriptive Report for further recommendations by the hydrographer.



**APPROVAL SHEET**  
**H11835**

**Initial Approvals:**

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, representation of critical depths, cartographic symbolization, and verification or disproval of charted data. All revisions and additions made to the H-Cell files during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with National Ocean Service and Office of Coast Survey requirements except where noted in the Descriptive Report and the Evaluation Report.

All final products have undergone a comprehensive review per the Hydrographic Surveys Division Office Processing Manual and are verified to be accurate and complete except where noted.

---

**Matthew J. Wilson**  
Physical Scientist  
Atlantic Hydrographic Branch

I have reviewed the H-Cell files, accompanying data, and reports. This survey and accompanying Marine Chart Division deliverables meet National Ocean Service requirements and standards for products in support of nautical charting except where noted.

Approved: \_\_\_\_\_  
**Richard Brennan**  
LCDR, NOAA  
Chief, Atlantic Hydrographic Branch