

H12787

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Survey

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: H12787

LOCALITY

State(s): Louisiana

General Locality: Approaches to Atchafalaya Bay, LA

Sub-locality: 12 NM South Southwest of Point Au Fer

2015

CHIEF OF PARTY
Tara Levy

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H12787

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

State(s): **Louisiana**

General Locality: **Approaches to Atchafalaya Bay, LA**

Sub-Locality: **12 NM South Southwest of Point Au Fer**

Scale: **40000**

Dates of Survey: **08/01/2015 to 11/06/2015**

Instructions Dated: **08/01/2015**

Project Number: **OPR-K379-KR-15**

Field Unit: **C&C Technologies, An Oceaneering International Company**

Chief of Party: **Tara Levy**

Soundings by: **Multibeam Echosounder**

Imagery by: **Side Scan Sonar**

Verification by: **Atlantic Hydrographic Branch**

Soundings Acquired in: **meters at Mean Lower Low Water (MLLW)**

Remarks:

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

Descriptive Report to Accompany Survey H12787

Project: OPR-K379-KR-15

Locality: Approaches to Atchafalaya Bay, LA

Sublocality: 12 NM SSW of Point Au Fer

Scale: 1:40000

August 01, 2015 – November 06, 2015

R/V Sea Scout & R/V C-Ghost & R/V C-Wolf

Chief of Party: Tara Levy

A. Area Surveyed

The survey area is located 12 NM South Southwest of Point Au Fer off the coast of Louisiana, USA.

A.1. Survey Limits

Data was acquired within the following survey limits:

Northwest Limit	Southeast Limit
29.204 N	29.094 N
91.481 W	91.417 W

Table 1: Survey Limits

Survey limits were designed as outlined in the Project Instructions and the HSSD.

A.2. Survey Purpose

The purpose of this survey is to provide a contemporary survey to update National Ocean Service (NOS) nautical charting products. Survey H12787 covers 20.15 square nautical miles (SNM) near the Atchafalaya River. The river is the only expanding river delta in North America and the Port of Morgan City has been working to deepen and maintain the channel. The project area potentially covers altered area where depth contours may have migrated.

A.3. Survey Quality

The entire survey is adequate to supersede previous data.

A.4. Survey Coverage

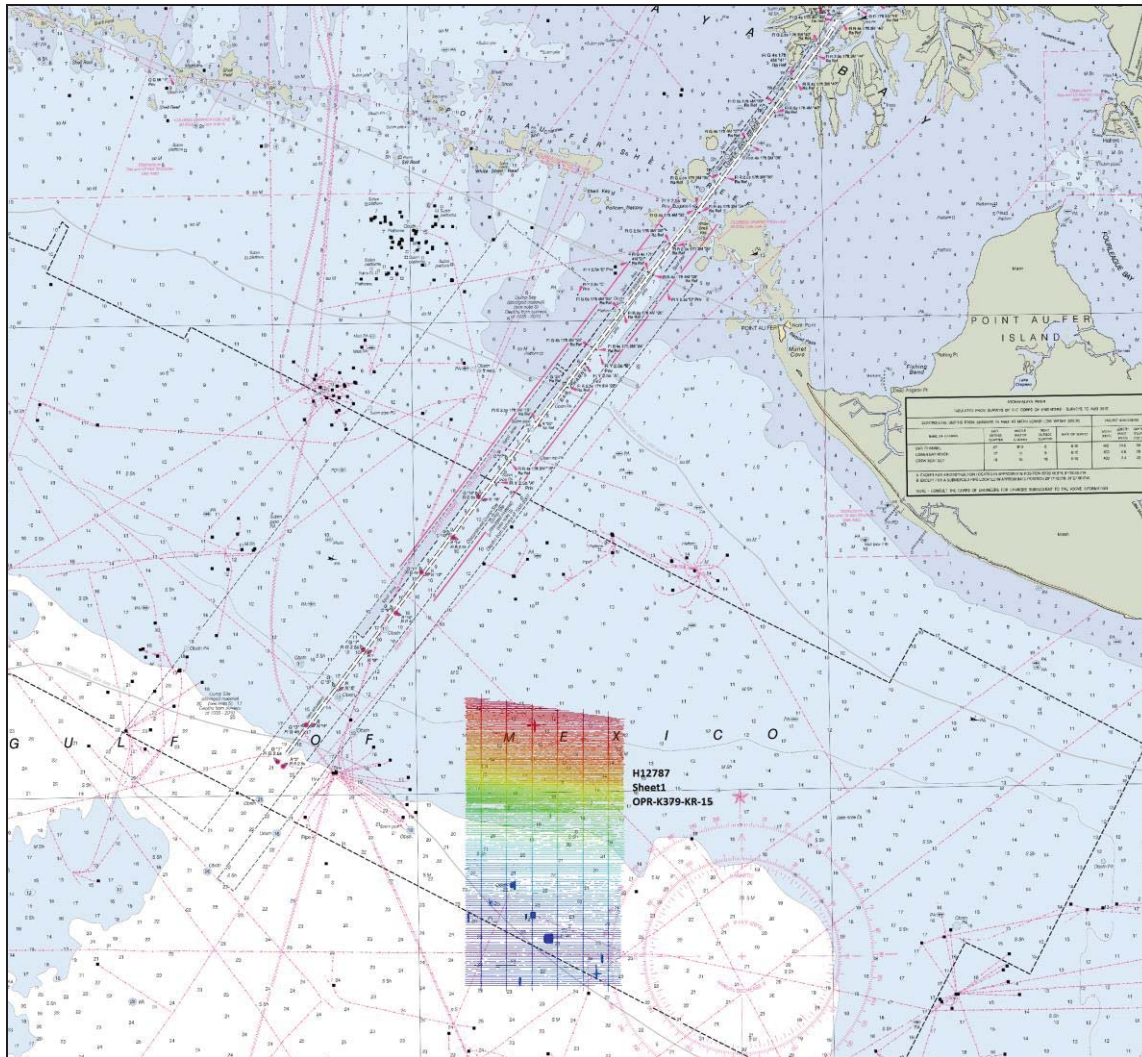


Figure 1. H12787 Survey Coverage

Survey coverage for H12787 (Figure 1) was collected in accordance with the requirements outlined in the Project Instructions and HSSD. 100% side scan sonar (SSS) coverage was acquired with concurrent multibeam echosounder (MBES) data. A combination of complete MBES with backscatter and/or water column data and/or SSS data was collected for feature investigations.

A.5. Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey. Note that 'MBES Mainscheme' excludes investigation and feature disproval lines. Detached positions include position fixes associated with bottom samples, CTD's and leadlines.

	Hull ID	1237094	JQN00027J708	JQN00023E707	Total
LNM	SBES Mainscheme	0	0	0	0
	MBES Mainscheme	0	0	0	0
	SSS Mainscheme	0	0	0	0
	SBES/MBES Combo Mainscheme	0	0	0	0
	SBES/SSS Combo Mainscheme	0	0	0	0
	MBES/SSS Combo Mainscheme	308.54	137.17	190.42	636.14
	SBES/MBES Combo Crosslines	30.75	6.82	0	37.57
	Lidar Crosslines	0	0	0	0
Number of Bottom Samples		5	0	0	5
Number of DPs		49	9	23	81
Number of Items Investigated by Dive OPs		0	0	0	0
Total Number of SNM		13.31	3.06	3.78	20.15

Table 2: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey:

15/08/01
15/08/02
15/08/03
15/08/04
15/08/05
15/08/06
15/08/13
15/08/14
15/08/20
15/08/21
15/08/22
15/09/04
15/09/06
15/09/07
15/09/08
15/09/25
15/09/26
15/09/29
15/09/30
15/10/04
15/10/05
15/10/06
15/10/07
15/10/16
15/10/28
15/10/29
15/10/30
15/11/03
15/11/04
15/11/05
15/11/06

Table 3: Dates of Hydrography

A.6. Shoreline Verification

There is no Shoreline Verification requirement for this survey.

A.7. Bottom Samples

Five (5) bottom samples were collected within the limits of H12787.

B. Data Acquisition and Processing

B.1. Equipment and Vessels

Refer to the OPR-K379-KR-15 Data Acquisition and Processing Report (DAPR) for additional information regarding survey systems as well as operational, processing and quality control procedures. A summary of the equipment and vessels used for this survey is provided below.

B.1.1. Vessels

The following vessels were used for data acquisition during this survey:

Hull ID	1237094	JQN00027J708	JQN00023E707
LOA	40.84 meters	9.14 meters	9.14 meters
Draft	1.98 meters	0.76 meters	0.76 meters

Table 4: Vessels Used

B.1.2. Equipment

The following major systems were used for data acquisition during this survey:

Manufacturer	Model	Type
Kongsberg	EM2040C	MBES
Kongsberg	EM3002	MBES
Klein	5000 V2	SSS
EdgeTech	4200 P	SSS
Coda Octopus	F180	Attitude and Positioning System
C-Nav	3050	Positioning System
YSI Electronics	600R-BCR-C-T	Sound Speed System
AML	SV Xchange	Sound Speed System
Sea-Bird Electronics, Inc.	SBE 19 and SBE 19 Plus	Sound Speed System

Table 5: Major Systems Used

B.2. Quality Control

B.2.1. Crosslines

Crosslines were run perpendicular to mainscheme lines so that quality control statistics could be performed on the data after completion of mainscheme survey lines. The total crossline miles were 37.57 NM and the total mainline miles were 636.14 NM; investigation and feature disapproval lines were not included in mainline totals. The crosslines comprise 5.9 percent of the total mainline miles.

Mainlines were compared to crosslines for which there was overlapping data using C & C's proprietary Hydromap software. The graphs generated from the comparison show the mean

difference, RMS difference and confidence interval for each beam. Refer to the DAPR for additional information and Separates II Digital Data for sample graphical documentation.

The surface difference tool in CARIS HIPS was used to evaluate crossline and mainscheme line agreement; investigation and feature disprovals were not included in the comparisons. The mainline BASE surface was used as Surface 1 and the crossline BASE surface as Surface 2. Statistical information about the difference surface was generated using the compute statistics tool (Figure 2). The analysis shows that the depth difference values range from -0.36 to 0.56 meters. Greater than 98% of depth difference values are between -0.25 and 0.25 meters. This is well within the maximum allowable TVU for the depths of the comparison area (3.81 – 7.83 m) which ranges from ± 0.502 to ± 0.510 m.

Statistical crossline information was also generated by comparing each of the crosslines to the depth layer of the 1-m BASE surface of the mainscheme survey lines using the CARIS QC report utility. In general, greater than 99% of crossline soundings fall within the selected Order 1a survey order, as outlined in the CARIS User Manual. Crossline comparisons generated with the CARIS QC report utility as well as the difference BASE surface are shown in the Separates II Digital Data\Checkpoint Summary & Crossline Comparisons folder.

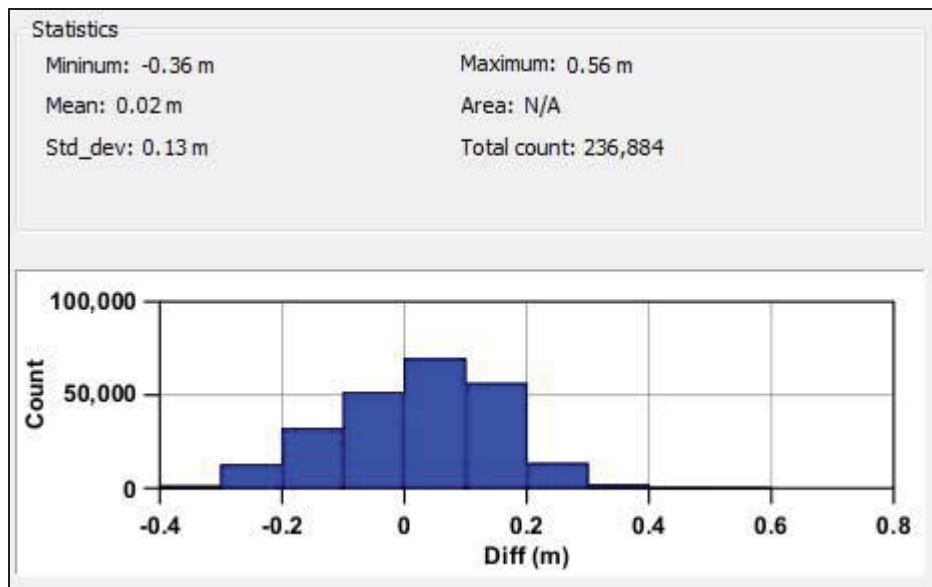


Figure 2. Crossline comparison statistical information and histogram output from CARIS compute statistics tool.

B.2.2. Uncertainty

Uncertainty of all components of the sounding measurement are included in the CARIS vessel file and detailed in the DAPR.

The following survey specific parameters were used for this survey.

Measured	Zoning
0.037 m	0.075 m

Table 6: Survey specific tide TPU values

Hull ID	Measured - CTD	Measured - MVP	Surface
1237094	2.00 m/s	n/a	0.8 m/s
JQN00027J708	2.00 m/s	n/a	0.8 m/s
JQN00023E707	2.00 m/s	n/a	0.8 m/s

Table 7: Survey specific sound speed TPU values

CARIS HIPS was used to compute the Total Propagated Uncertainty (TPU) for each sounding. An Uncertainty layer, child layer, is generated during BASE surface creation that shows the uncertainty at each node of the surface. For additional review and quality control, two new layers were generated for the H12787_MB_1m_MLLW surface. The first layer was named <TVU_Maximum> and shows the maximum allowable TVU at each node. The following formula was used during layer creation as outlined in the HSSD (2015):

$$\sqrt{(0.5^2) + (0.013 * Depth)^2}$$

The second layer generated was named <Uncertainty_QC> and defined as the difference between the TVU_Maximum and Uncertainty layers. Positive values indicate that the Uncertainty is less than the TVU_Maximum and that the data meet specifications, while negative values indicate that the Uncertainty is greater than the TVU_Maximum and that the data do not meet specifications. The two layers could have been combined into one for the Uncertainty_QC, as shown below for the finalized surfaces, but the TVU_Maximum layer also aided in determining the designation or examination status of critical soundings.

The uncertainty for the H12787_MB_1m_MLLW surface ranges from 0.20 – 0.30 meters. The Uncertainty_QC layer shows all positive values, which demonstrates that all uncertainty values are less than the maximum TVU for each node.

An Uncertainty_QC_Final layer was also generated for the finalized surface, defined by the below equation:

$$\sqrt{(0.5^2) + (0.013 * Depth)^2} - Uncertainty$$

The uncertainty for the H12787_MB_1m_MLLW_Final surface ranges from 0.20 to 0.47 meters. All Uncertainty_QC_Final values are greater than zero, which indicates all data meet specifications.

Note that when the surfaces are finalized, the TVU_Maximum and Uncertainty_QC layers are retained but Uncertainty_QC layer does not reflect the new Uncertainty values of the finalized surface. These layers can be removed, but if the finalized BASE surface is recomputed, it appears that these layers will be regenerated (after closing and re-opening the project). For this reason, the layers were not removed from the finalized surfaces.

B.2.3. Junctions

Registry Number	Scale	Year	Field Unit	Relative Location
H12788	40000	2015	C & C Technologies, Inc., An Oceaneering International Company	W
H12789	40000	2015	C & C Technologies, Inc., An Oceaneering International Company	S

Table 8. Junctioning Surveys

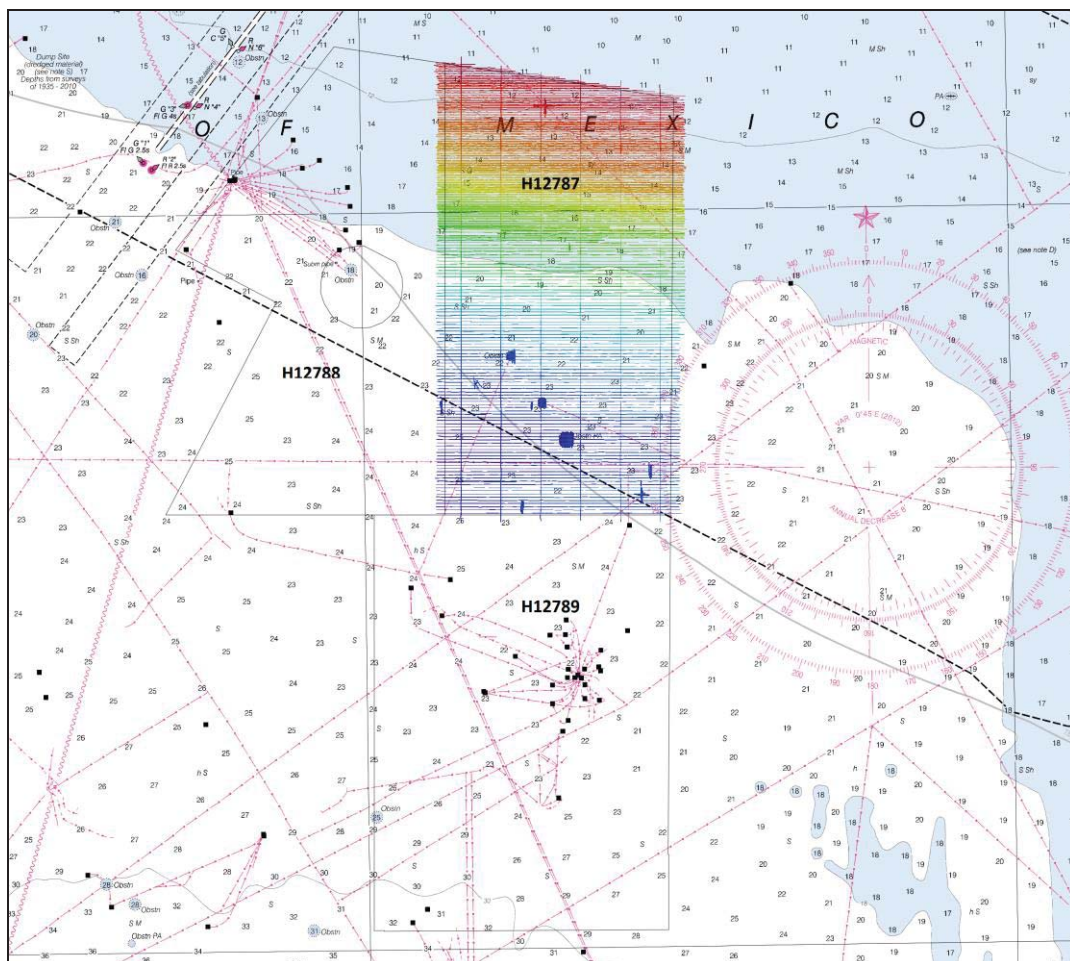


Figure 3. H12787 Junctions.

H12788

The areas of overlap between Sheets (Figure 3) were evaluated using the CARIS Difference Tool to ensure general agreement of depths. Junction analyses were conducted using 1 meter BASE surfaces. If necessary, data was further reviewed in Subset Editor.

The western margin of H12787 borders the eastern margin of H12788. Figure 4 shows statistical information for the junction generated with the CARIS compute statistics tool. It is evident that the data from H12787 agrees well with the data from H12788 with greater than 98% of depth difference values between -0.238 and 0.162 m.

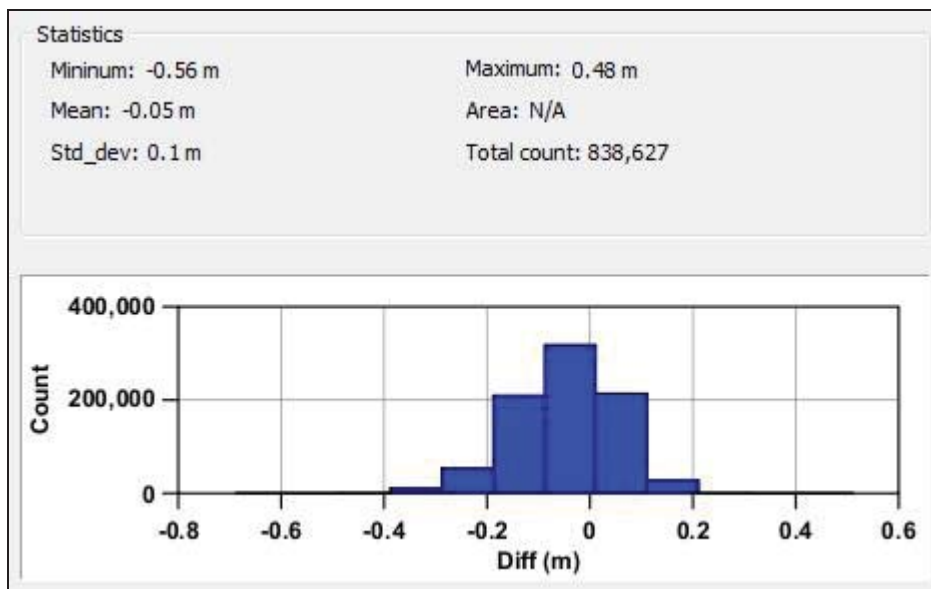


Figure 4. Statistical information and histogram output from CARIS Compute Statistics tool for the difference surface generated between H12787 and H12788.

H12789

The southern margin of H12787 borders the northern margin of H12789. Figure 5 shows statistical information for the junction generated with the CARIS compute statistics tool. It is evident that the depths between the 2 sheets match well with 100% of depth difference values between -0.17 and 0.20 m.

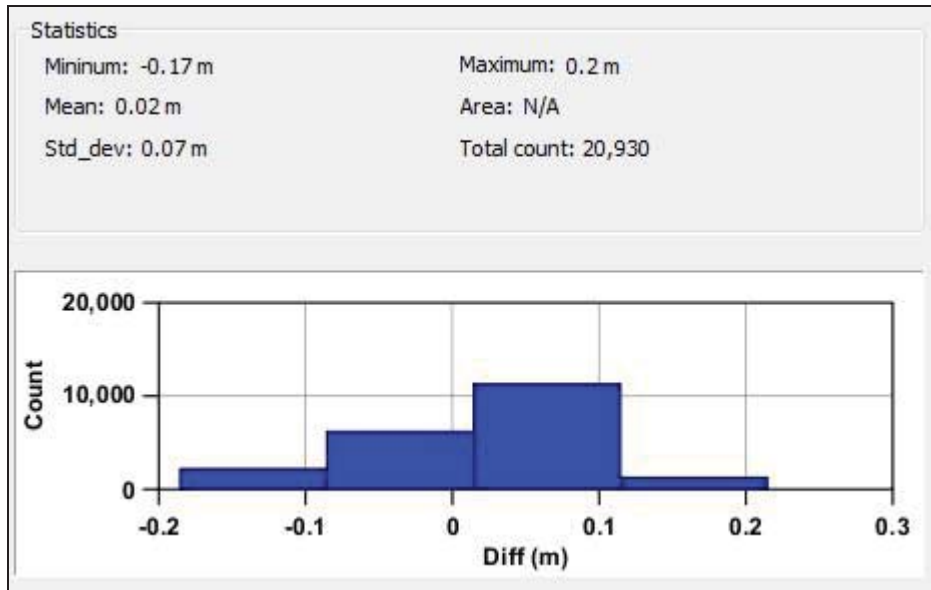


Figure 5. Statistical information and histogram output from CARIS Compute Statistics tool for the difference surface generated between H12787 and H12789.

B.2.4. Sonar QC Checks

Odom single beam echosounders were continuously operated and monitored during the survey as an independent check on the multibeam bottom-detect. The R/V *Sea Scout* (Hull ID 1237094) is equipped with an EchoTrac MK III, the R/V *C-Wolf* (Hull ID JQN00027J708) is equipped with an Odom CV100 and the R/V *C-Ghost* (Hull ID JQN00023E707) is equipped with an Odom Hydrotrac.

B.2.5. Equipment Effectiveness

If necessary, the angle of the multibeam sonars was modified in order to moderate the effects of factors such as increased sea state or to increase coverage; any changes are documented in the acquisition logs. An 80 meter line spacing and operation of the SSS at 50 m range ensured 100% SSS coverage. Due to environmental factors that limited the effective range of the side scan sonar in the northern portion of the survey area, the line spacing was decreased to 40 meters and the side scan sonar range decreased to 25 meters.

B.2.6. Factors Affecting Soundings

Weather, sea state, water column sound speed, thermoclines, and fish/marine life were all temporary factors that affected the data periodically throughout the duration of the survey; these are noted in the acquisition and processing logs.

B.2.7. Sound Speed Methods

Sea Bird Electronics SBE19 and SBE19plus CTDs were used for speed of sound measurements in the water column. Casts were conducted at least twice daily on board the R/V *Sea Scout*, once daily on board the R/V *C-Ghost* and R/V *C-Wolf* and more often as needed. The multibeam data was corrected for the water column sound speed in real-time using the SIS control software. To determine the sound speed at the transducers, Endeco YSI sondes were used on board the R/V *C-Ghost* and R/V *C-Wolf* and an AML SV•Xchange was used on board the R/V *Sea Scout*. The sound speed data and confidence checks are located in Separates II Digital Data\Sound Speed Data Summary.

B.2.8. Coverage Equipment and Methods

Complete Coverage, Option 2: SSS data and concurrent MBES data, as outlined in the HSSD (2015) was acquired in the survey area. 100% SSS coverage was acquired in accordance with the requirements stated in the project instructions for this survey. On board the R/V *Sea Scout*, MBES data was acquired with a Kongsberg EM2040C echosounder and on board the R/V *C-Ghost* and R/V *C-Wolf* MBES data was acquired with Kongsberg EM3002 echosounders. A Klein 5000 V2 side scan sonar was used aboard the R/V *Sea Scout* and EdgeTech 4200P side scan sonars were used aboard the R/V *C-Ghost* and R/V *C-Wolf*. In addition to MBES and backscatter data, water column and side scan sonar data were acquired over the majority of investigation items.

B.2.9. Density

According to section 5.2.2.2 of the HSSD (2015) at least 80% of all nodes on the surface shall be populated with at least 5 soundings for the Complete Coverage (100% SSS and concurrent MBES) data acquisition method. The Compute Statistics tool in CARIS HIPS was used to generate statistics about the density child layer of the H12787_MB_1m_MLLW_Final surface (Figure 6). A bin size of 1 was used and the data exported in ASCII format. The number of nodes in the first 4 bins were added together to determine the number of nodes that contain less than 5 soundings.

The H12787_MB_1m_MLLW_Final surface contains a total of 19,655,780 nodes and 19,507,040 nodes contain at least 5 soundings. Greater than 99% of all nodes on the surface contain at least 5 soundings.

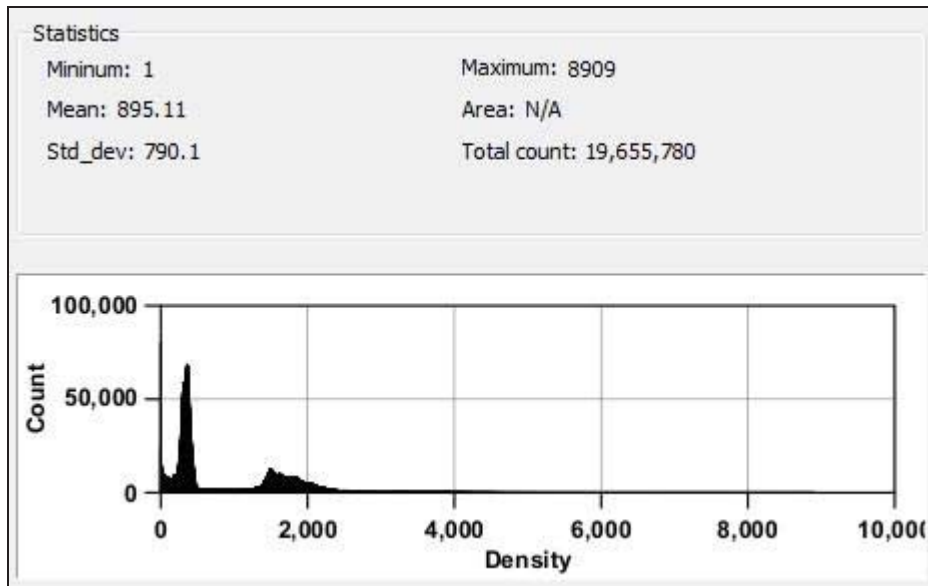


Figure 6. Statistical information about the density child layer of the H12787_MB_1m_MLLW_Final BASE surface, generated from the CARIS Compute Statistics tool.

B.3. Echo Sounding Corrections

B.3.1. Corrections to Echo Soundings

All corrections to echo sounding (instrument corrections, static and dynamic draft, speed of sound, and attitude corrections) follow the procedures outlined in the accompanying Data Acquisition and Processing Report (DAPR).

B.3.2. Calibrations

Prior to initiating survey operations, a standard patch test was performed for each vessel to determine correctors for pitch, roll, and heading (additional calibrations were performed as necessary). Squat and settlement tests were also conducted to determine the dynamic draft of the vessels. Refer to the Data Acquisition and Processing Report for additional information.

B.4. Backscatter

Backscatter was logged within each raw Kongsberg EM file. This data was imported during CARIS conversion and reviewed when necessary. Backscatter mosaics of the EM3002 data were able to be generated using CARIS. The EM2040C data was unable to be processed in CARIS; there is currently an open service request regarding this issue. All backscatter was imported and a mosaic generated using FMGT version 7.5.1.

B.5. Data Processing

B.5.1. Software updates

Software updates are detailed in the DAPR. No further software updates occurred after the submission of the DAPR.

The following Feature Object Catalog was used: NOAA Extended Attribute Files V5_3_2.

B.5.2. Surfaces

The following CARIS surfaces were submitted: A 1 meter surface (un-finalized and finalized) was generated to fulfill the Complete Coverage requirement for this survey. A 1 meter BASE surface was generated for the crosslines and mainlines separately in order to conduct the crossline comparison analysis.

Surface Name	Surface Type	Resolution	Depth Range	Purpose
H12787_MB_1m_MLLW	Uncertainty	1 m	3.74 m – 7.83 m	Complete Coverage
H12787_MB_1m_MLLW_Final	Uncertainty	1 m	3.74 m – 7.83 m	Complete Coverage
H12787_MB_Mainlines_1m_MLLW	Uncertainty	1 m	3.81 m – 7.83 m	QC
H12787_MB_Crosslines_1m_MLLW	Uncertainty	1 m	3.74 m – 7.55 m	QC

Table 9: CARIS surfaces

After initial data cleaning, the surfaces were reviewed a second time for fliers using the standard deviation layer and the 3D display window. Higher standard deviation is generally associated with bathymetric features, contacts and/or areas of bathymetric change. Areas of noisy MBES data, although cleaned, can also show higher standard deviation.

The HydroOffice SARScan utility, downloaded curtesy of NOAA and UNH CCOM/JHC, was used as additional quality control check to search the H12787_MB_1m_MLLW surface for fliers. The surface was exported to ASCII format and the ‘flier finder’ utility used to check for fliers at 1 m and 0.5 m. No fliers were found.

The highest standard deviation of the H12787_MB_1m_MLLW_Final BASE surface is 0.24 m. This corresponds to the overlap of mainlines with feature disapproval lines at 29.122 N, 91.453 W.

C. Vertical and Horizontal Control

A complete description of the horizontal and vertical control for the OPR-K379-KR-15 surveys is located within the accompanying Horizontal and Vertical Control Report (HVCR). A summary of the horizontal and vertical control is provided below.

C.1. Vertical Control

The vertical datum for this survey is Mean lower low water (MLLW).

Standard Vertical Control Methods Used:

Discrete Zoning

The following National Water Level Observation Network (NWLON) station(s) served as datum control of this survey.

Station Name	Station ID
LAWMA, Amerada Pass, LA	8764227

Table 10. Tide Stations

File Name	Status
8764227.tid	Verified

Table 11. Water Level Files (.tid)

File Name	Status
K379KR2015CORP.zdf	Final

Table 12: Tide Correctors (.zdf)

Preliminary zoning is accepted as the final zoning for project OPR-K379-KR-15 as outlined in the Tides and Water Levels Statement of Work section 1.5.1.

C.2. Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). All survey products are referenced to the Universal Transverse Mercator (UTM) zone 15 N, meters, projection. The C-Nav GPS systems aboard the vessels receive corrections through the C-Nav Subscription Services. This is “a premier worldwide subscription service providing 5 cm or better positioning accuracy. GNSS corrections are broadcast via Inmarsat geostationary satellites, providing highly accurate and reliable positioning coverage from 72 degrees north to 72 degrees south latitude.” (<http://www.cnavgns.com/products>)

D. Results and Recommendations

D.1. Chart Comparison

D.1.1. Raster Charts

The following are the largest scale raster charts, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNLM Date	NM Date
11340	458596	79	02/2016	02/09/2016	02/13/2016
11351	80000	43	03/2012	02/02/2016	02/13/2016
11356	80000	41	07/2014	02/02/2016	02/13/2016

Table 13. Largest Scale Raster Charts

11340

No Local Notice to Mariners were issued within the survey bounds subsequent to the date of the project instructions and before the end of the survey. The last Local Notice to Mariners reviewed was Chart: 11340, Current Edition: 79 Print Date: Feb. /2016, Mississippi River to Galveston.

Surveyed soundings range from 12.28 – 25.70 feet (3.74 – 7.83 meters). Depths increase from north to south within the survey area. User defined color range charts and a selected sounding layer were used to compare surveyed soundings to charted depths. The shoal biased selected sounding layer was generated with a single defined radius of 100 meters.

On chart 11340, the 3 fathom contour extends from northeast to southwest through the central portion of the survey area. It is evident that surveyed soundings greater than 3 fathoms extend over and northeast of the currently charted contour (Figure 7).

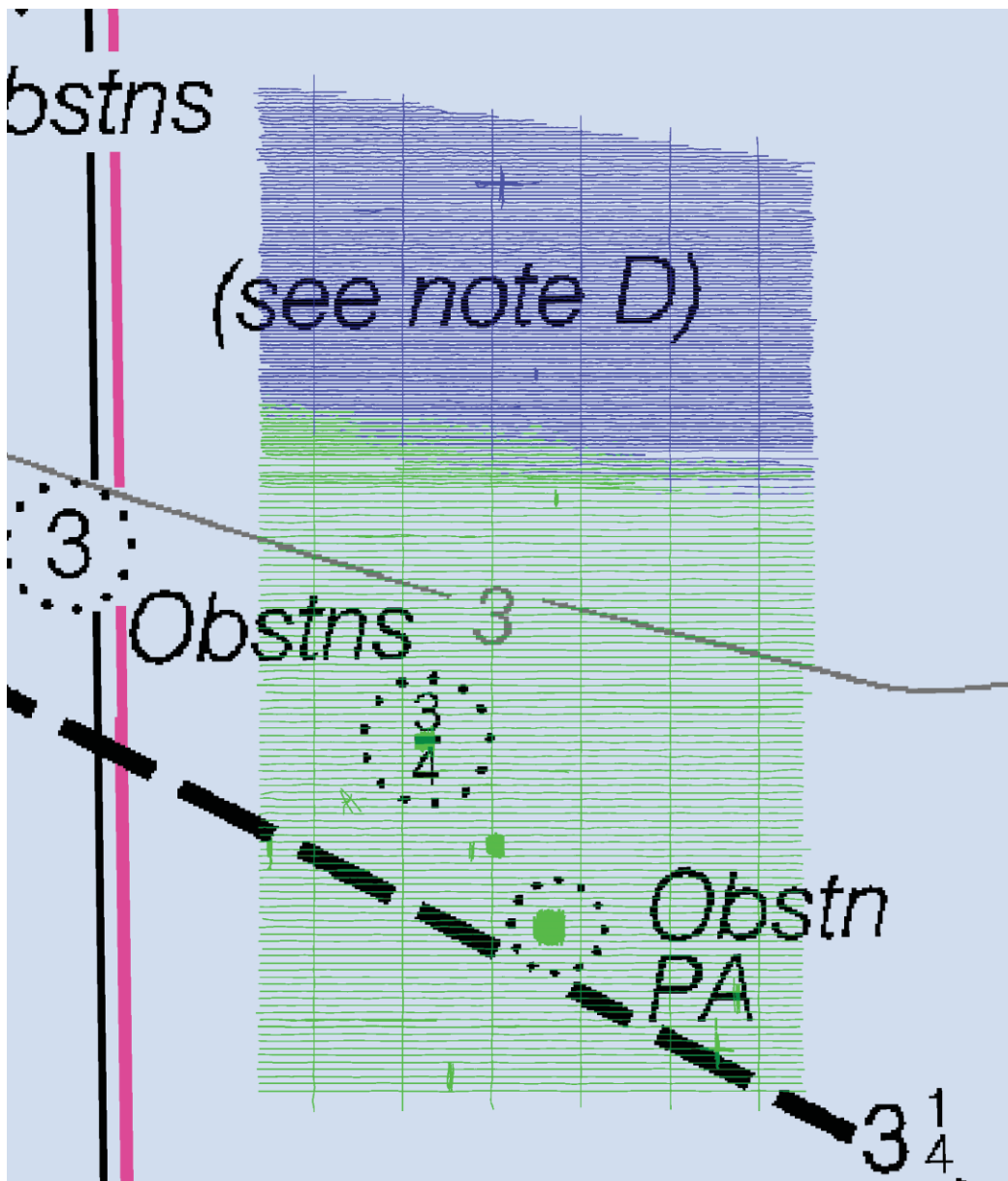


Figure 7. Comparison between surveyed soundings and charted 3 fathom contour. Blue represents area where soundings are 0 – 3 fathoms (5.4864 m) and green represents area where soundings are greater than 3 fathoms.

11351

No Local Notice to Mariners were issued within the survey bounds subsequent to the date of the project instructions and before the end of the survey. The last Local Notice to Mariners reviewed was Chart: 11351, Current Edition: 43, Print Date: Mar. /2012, Point au Fer to Marsh Island.

Surveyed soundings generally match charted depths on chart 11351 or are one foot deeper. There are several isolated areas where surveyed soundings are 1 – 2 feet shallower than charted depths. These are shown in the black circles in Figure 8. The charted 12 and 18 foot contours extend

through the survey area. It is evident from the depth layer that there are no surveyed soundings less than 12.28 feet, indicating that the 12 foot contour is north of the survey area. It is also evident that surveyed soundings greater than 18 feet extend over and northeast of the currently charted 18 foot contour (Figure 8).

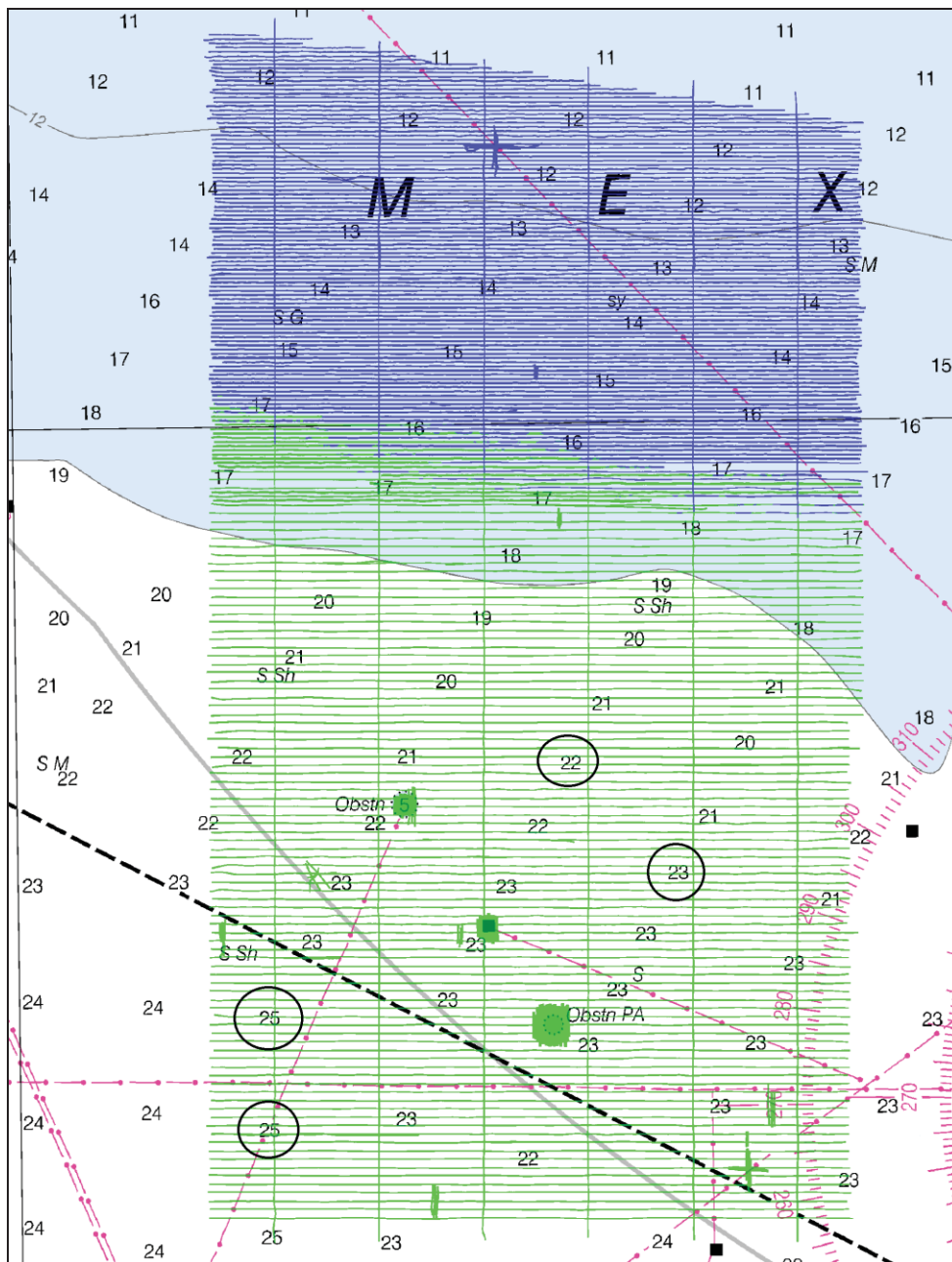


Figure 8. Comparison between surveyed soundings and charted depths, including the 12 and 18 foot contours. Blue represents area where surveyed soundings are at least 12 feet in depth and no more than 18 feet (3.658 - 5.4864 m) and green represents area where surveyed soundings are greater than 18 feet. Black circles indicate areas where surveyed soundings are greater than charted depths by 1 – 2 feet.

11356

No Local Notice to Mariners were issued within the survey bounds subsequent to the date of the project instructions and before the end of the survey. The last Local Notice to Mariners reviewed was Chart: 11356, Current Edition: 41, Print Date: Jul. /2014, Isles Dernieres to Point au Fer.

Charted depths on 11356 generally match those on chart 11351 though the charted depths are sparser in the northern portion of the survey area on chart 11356. Observations between surveyed soundings and charted depths and contours for 11351 are valid for chart 11356.

D.1.2. Electronic Navigational Charts

ENC Name	Scale	Edition	Update Application Date	Issue Date	Preliminary
US4LA20M	80000	4	2015-04-21	2016-01-20	NO
US4LA21M	80000	27	2015-03-25	2016-02-02	NO

Table 14. Largest Scale ENCs

US4LA20M

A small portion of ENC US4LA20M covers the northern portion of the survey area with 2 charted 12 foot depths. Surveyed soundings are 1 foot deeper than these charted depths.

US4LA21M

Depths and contours on ENC US4LA21M generally match those of chart 11351. The observations made between surveyed soundings and chart 11351 are valid for the ENC. Several ENC depths are one foot shallower than those of 11351 and surveyed soundings are generally 2 feet deeper than these depths.

D.1.3. AWOIS Items

AWOIS item investigations are not assigned for this project.

D.1.4. Maritime Boundary Points

No Maritime Boundary Points were assigned for investigation within H12787 survey bounds.

D.1.5. Charted Features

Chart 11340

There is a charted $\frac{3}{4}$ fathom obstruction and a charted Obstrn PA with no depth associated with it. Neither of these obstructions were observed within survey data. Refer to the final feature file for additional information.

Chart 11351

There is one charted platform and several charted pipelines within the survey area (refer to section D.2.6 and D.2.4, respectively for additional information). There is one charted 5 foot obstruction and a charted Obstrn PA with no depth associated with it. Complete coverage MBES data were acquired within an 80 m disproval radius and a 160 m disproval radius around the feature positions, respectively. Neither of these obstructions were observed within survey data. Refer to the Final Feature File for additional information.

Chart 11356

No additional charted features than what was previously described for charts 11340 and 11351 exist on chart 11356. Previously described feature remarks are valid for chart 11356.

US4LA21M

The charted pipelines on ENC US4LA21M match those of RNC 11351. The 2 obstructions described for RNC 11351 are also present on the ENC. The charted platform observed on 11351 is present as an 11 foot obstruction on the ENC. An obstruction was not observed in this location. Refer to the Final Feature File for additional information.

D.1.6. Uncharted Features

No uncharted features were observed visually or within survey data.

D.1.7. Dangers to Navigation

No Dangers to Navigation were observed visually or within survey data. One feature that appeared to be a pole sticking out of the water was further investigated and ultimately disproved with additional SSS data. The feature was likely partially submerged debris. The local coast guard was informed of the floating debris and sent personnel to investigate the area. Please refer to the Descriptive Report Appendices for additional information.

D.1.8. Shoal and Hazardous Features

No shoal or hazardous features were observed visually or within survey data.

D.1.9. Channels

No channels are currently charted within the survey limits, and none were observed during survey operations.

D.2. Additional Results

D.2.1. Prior Surveys

Prior survey data was not required to be evaluated for this survey.

D.2.2. Aids to Navigation

No Aids to Navigation are currently charted within the survey area, and none were observed either visually or within survey data.

D.2.3. Overhead Features

Overhead features do not exist for this survey.

D.2.4. Submarine Features

Several submarine pipelines are charted within the survey area. One feature representative of a pipeline exposure was observed in survey data (SSS and MBES) and further investigated. Refer to the Final Feature File for additional information.

D.2.5. Ferry Routes and Terminals

No ferry routes or terminals are currently charted within the survey limits, and none were observed during survey operations.

D.2.6. Platforms

One offshore platform is charted within the bounds of H12787. Complete coverage MBES data were acquired within an 80 meter radius around the platform position. No platforms were observed visually or within survey data. Refer to the Final Feature File for additional information.

D.2.7. Significant Features

No significant features were observed visually or within survey data.

D.2.8. Construction and Dredging

No active dredging or construction was observed during survey operations.

D.3. Recommendations

D.3.1. New Survey Recommendations

No new surveys or investigations are recommended for this area.

D.3.2. Inset Recommendations

No new insets are recommended for this area.

E. Approval Sheet

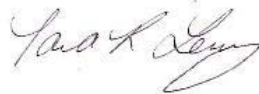
LETTER OF APPROVAL

REGISTRY NUMBER H12787

This report is respectfully submitted.

Field operations contributing to the accomplishment of the H12787 survey were conducted under my direct supervision with frequent personal checks of progress and adequacy. This report and CARIS project have been closely reviewed and are considered complete and adequate as per the Statement of Work.

This report is accompanied by the Data Acquisition and Processing Report for project OPR-K379-KR-15.



**Tara
Levy**

Digitally signed
by Tara Levy
Date:
2016.03.04
17:16:29 -06'00'

Tara Levy
Chief of Party
C & C Technologies
March 2016



Nicole Galloway
Geoscientist
C & C Technologies
March 2016

APPENDIX I
TIDES AND WATER LEVELS

FINAL TIDE NOTE and FINAL TIDE ZONING CHART

DATE: March 2016

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-K379-KR-15

HYDROGRAPHIC SHEET: H12787

LOCALITY: Approaches to Atchafalaya Bay

TIME PERIOD: August 01, 2015 – November 06, 2015

TIDE STATION USED: 8764227 LAWMA, LA

Lat. 29° 26.9' N Lon. 91° 20.3' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.00 m

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.3 m

REMARKS: RECOMMENDED ZONING

Use zones identified as: WGM279, WGM280, WGM281

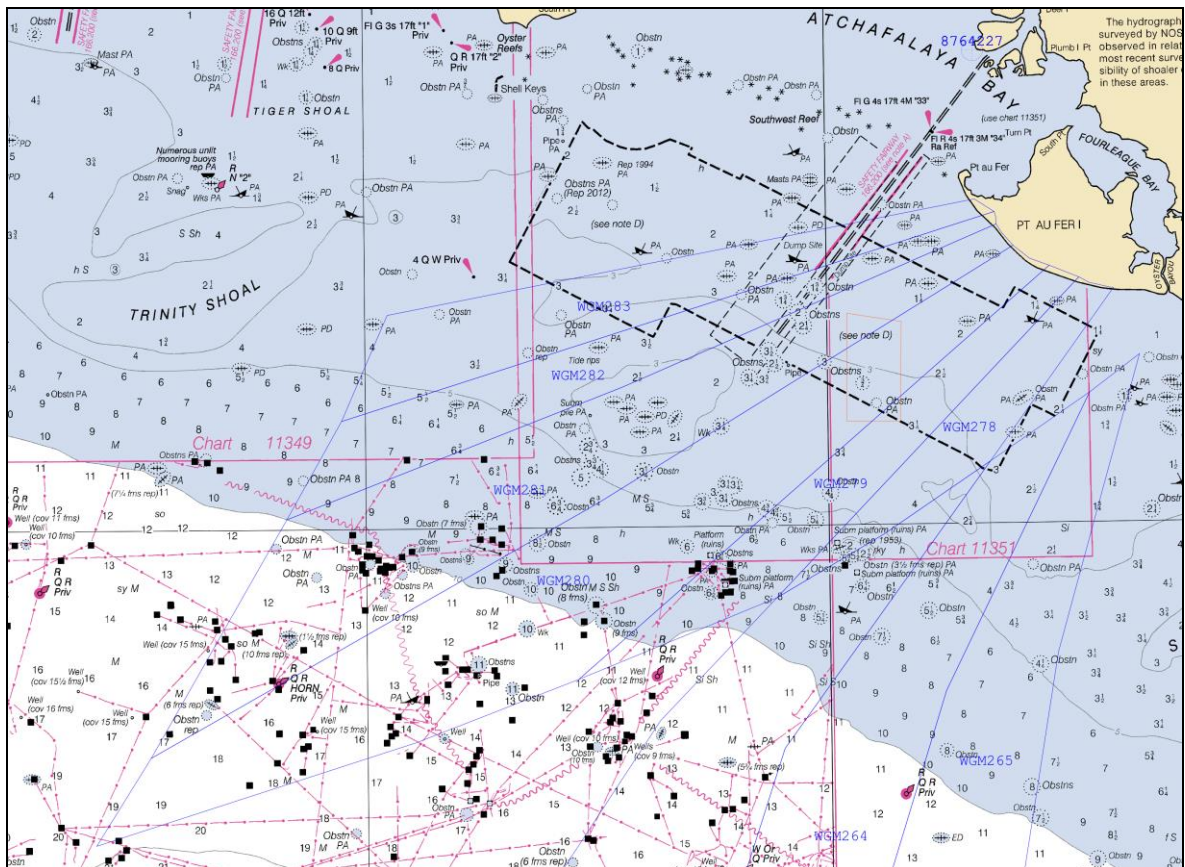


Figure 1. Final Tidal Zoning Chart

Note 1: Provided time series data are six minute time series data in meters, relative to MLLW and Greenwich Mean Time (GMT).

Note 2: For final processing, tidal zoning correctors were applied to verified observed data, acquired from the NOAA Tides and Currents website.

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

Re OPR0K379-KR-15 DTON update.txt

Subject:

Re: OPR0K379-KR-15 DTON update

From:

Tara Levy <tlevy@oceanengineering.com>

Date:

8/17/2015 1:50 PM

To:

Lucy Hick - NOAA Federal <lucy.hick@noaa.gov>

CC:

Christina Fandel - NOAA Federal <christina.fandel@noaa.gov>, Starla Robinson - NOAA Federal <starla.robinson@noaa.gov>, Castle Parker <castle.e.parker@noaa.gov>, Nikki Galloway <nicole.galloway@cctechnol.com>, "Jeremy L. Steward" <jeremy.steward@ccotech.us>

Lucy,

Thank you for the direction. I will contact the USCG this afternoon with this information.

Sincerely,

C&C Email Signature

Tara Levy

Manager

NOAA Division

Office: 337.210.0000

Fax: 337.210.0003

Direct: 337.210.0612

Cell: 337.296.3029

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United States

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On 8/17/2015 11:57 AM, Lucy Hick - NOAA Federal wrote:

> Hi Tara,

>

> Since the object is not longer there, I don't believe that it is necessary to submit to NOAA as a DTON, since it will not be necessary to chart. However, you may want to contact the USCG directly to inform them about the possibility of a floating danger.

>

> Best Regards,

> Lucy

>

> On Mon, Aug 17, 2015 at 9:58 AM, Tara Levy <tlevy@oceanengineering.com> wrote:

>

> Good Morning,

> I had the field crew try and collect some more multibeam data around the DTON. When they arrived on locations they did not find anything.

> Based in the data found so far and looking at the drag scar from the previous data collected with the side scan this could possibly be a telephone pole or log.

Re OPR0K379-KR-15 DTON update.txt

>
> How would we proceed in a situation like this? If the log/pole is still out there somewhere moving around is it still considered a DTON or would it fall into another category? Do we classify this type of debris?

>
> Thank you,

>
> --
> Tara Levy
> Manager

>
> NOAA Division
> Office: 337.210.0000
> Fax: 337.210.0003
> Direct: 337.210.0612
> Cell: 337.296.3029
> www.cctechnol.com
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>
> C&C TECHNOLOGIES, INC.

>
> C&C Technologies, Inc.
> 730 E. Kaliste Saloom Road
> Lafayette, LA, 70508
> United States

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>

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> --

> Lucy Hick
> Technical Advisor/Contracting Officer's Representative (COR)
> Navigation Services Division | Office of Coast Survey
> National Oceanic & Atmospheric Administration
> (301) 713-2750 x179 | Lucy.Hick@noaa.gov

>

Tara Levy <tara.levy@cctechnol.com>
NOAA Division Manager
C&C Technologies

Attachments:
tlevy.vcf 289 bytes

APPROVAL PAGE

H12787

Data meet or exceed current specifications as certified by the OCS survey acceptance review process. Descriptive Report and survey data except where noted are adequate to supersede prior surveys and nautical charts in the common area.

The following products will be sent to NCEI for archive

- H12787_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12787_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications, and the survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: _____

Lieutenant Commander Briana Welton Hillstrom, NOAA
Chief, Atlantic Hydrographic Branch