

H12838

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

DESCRIPTIVE REPORT

Type of Survey: Basic Hydrographic Survey

Registry Number: H12838

LOCALITY

State(s): Louisiana

General Locality: Gulf of Mexico

Sub-locality: 29 NM South of Calcasieu Pass

2016

CHIEF OF PARTY
Alex T. Bernier

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H12838

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: **Gulf of Mexico**

Sub-Locality: **29 NM South of Calcasieu Pass**

Scale: **40000**

Dates of Survey: **04/24/2016 to 06/18/2016**

Instructions Dated: **08/21/2015**

Project Number: **OPR-K371-KR-15**

Field Unit: **Leidos**

Chief of Party: **Alex T. Bernier**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Side Scan Sonar Multibeam Echo Sounder Backscatter**

Verification by: **Atlantic Hydrographic Branch**

Soundings Acquired in: **meters at Mean Lower Low Water**

Remarks:

Contract: EA-133C-14-CQ-0033/T-001/M0001.

Contractor: Leidos, 221 Third Street, Newport, RI 02840 USA.

Subcontractors: Divemasters, Inc., 15 Pumpshire Road, Toms River, NJ 08753 and OARS, 8705 Shoal Creek Blvd, Suite 109, Austin, TX 78757.

Leidos Doc 16-TR-026.

All times were recorded in UTC.

Data were collected in UTM Zone 15.

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/>.

Table of Contents

| | |
|--|----|
| A. Area Surveyed..... | 1 |
| A.1 Survey Limits..... | 1 |
| A.2 Survey Purpose..... | 2 |
| A.3 Survey Quality..... | 2 |
| A.4 Survey Coverage..... | 3 |
| A.5 Survey Statistics..... | 4 |
| B. Data Acquisition and Processing..... | 6 |
| B.1 Equipment and Vessels..... | 6 |
| B.1.1 Vessels..... | 7 |
| B.1.2 Equipment..... | 7 |
| B.2 Quality Control..... | 8 |
| B.2.1 Crosslines..... | 8 |
| B.2.2 Uncertainty..... | 8 |
| B.2.3 Junctions..... | 9 |
| B.2.4 Sonar QC Checks..... | 11 |
| B.2.5 Equipment Effectiveness..... | 11 |
| B.2.6 Factors Affecting Soundings..... | 11 |
| B.2.7 Sound Speed Methods..... | 12 |
| B.2.8 Coverage Equipment and Methods..... | 13 |
| B.2.9 Coverage Analysis..... | 13 |
| B.3 Echo Sounding Corrections..... | 14 |
| B.3.1 Corrections to Echo Soundings..... | 14 |
| B.3.2 Calibrations..... | 14 |
| B.4 Backscatter..... | 14 |
| B.5 Data Processing..... | 14 |
| B.5.1 Primary Data Processing Software..... | 14 |
| B.5.2 Surfaces..... | 15 |
| B.5.3 Side Scan Sonar Coverage Analysis..... | 15 |
| C. Vertical and Horizontal Control..... | 16 |
| C.1 Vertical Control..... | 16 |
| C.2 Horizontal Control..... | 17 |
| D. Results and Recommendations..... | 18 |
| D.1 Chart Comparison..... | 18 |
| D.1.1 Raster Charts..... | 18 |
| D.1.2 Electronic Navigational Charts..... | 20 |
| D.1.3 Maritime Boundary Points..... | 21 |
| D.1.4 Charted Features..... | 21 |
| D.1.5 Uncharted Features..... | 21 |
| D.1.6 Dangers to Navigation..... | 21 |
| D.1.7 Shoal and Hazardous Features..... | 22 |
| D.1.8 Channels..... | 22 |
| D.1.9 Bottom Samples..... | 22 |
| D.2 Additional Results..... | 22 |

| | |
|---|--------------------|
| D.2.1 Shoreline | 22 |
| D.2.2 Prior Surveys | 22 |
| D.2.3 Aids to Navigation | 23 |
| D.2.4 Overhead Features | 23 |
| D.2.5 Submarine Features | 23 |
| D.2.6 Ferry Routes and Terminals | 23 |
| D.2.7 Platforms | 23 |
| D.2.8 Significant Features | 23 |
| D.2.9 Construction and Dredging | 24 |
| D.2.10 New Survey Recommendation | 24 |
| D.2.11 Designated Soundings | 24 |
| D.2.12 Final Feature S-57 File | 24 |
| D.2.13 Side Scan Sonar Contacts S-57 File | 24 |
| D.2.14 Inset Recommendation | 25 |
| E. Approval Sheet | 26 |

List of Tables

| | |
|---|--------------------|
| Table 1: Survey Limits | 1 |
| Table 2: Hydrographic Survey Statistics | 5 |
| Table 3: Dates of Hydrography | 6 |
| Table 4: Vessels Used | 7 |
| Table 5: Major Systems Used | 7 |
| Table 6: Junctioning Surveys | 10 |
| Table 7: Submitted Surfaces | 15 |
| Table 8: NWLON Tide Stations | 16 |
| Table 9: Water Level Files (.tid) | 16 |
| Table 10: Tide Correctors (.zdf or .tc) | 16 |
| Table 11: USCG DGPS Stations | 18 |
| Table 12: Largest Scale Raster Charts | 18 |
| Table 13: Largest Scale ENCs | 20 |
| Table 14: DTON Reports | 21 |

List of Figures

| | |
|---|--------------------|
| Figure 1: H12838 Survey Bounds | 2 |
| Figure 2: Final Bathymetry Coverage for H12838 | 4 |
| Figure 3: Summary of Crossing Analysis | 8 |
| Figure 4: General Locality of H12838 with Contemporary Surveys | 10 |
| Figure 5: CUBE Depth Delta and Heave Artifact Resulting From Local Weather Events | 12 |
| Figure 6: DTON Feature Numbers | 22 |

Descriptive Report to Accompany Survey H12838

Project: OPR-K371-KR-15

Locality: Gulf of Mexico

Sublocality: 29 NM South of Calcasieu Pass

Scale: 1:40000

April 2016 - June 2016

Leidos

Chief of Party: Alex T. Bernier

A. Area Surveyed

The area surveyed was a section of the Gulf of Mexico South of Calcasieu Pass, LA (Figure 1).

A.1 Survey Limits

Data were acquired within the following survey limits:

| Northwest Limit | Southeast Limit |
|---------------------------------------|---------------------------------------|
| 29° 18' 16.73" N 093° 27' 19.65" W | 29° 15' 07.59" N 093° 15' 19.78" W |

Table 1: Survey Limits

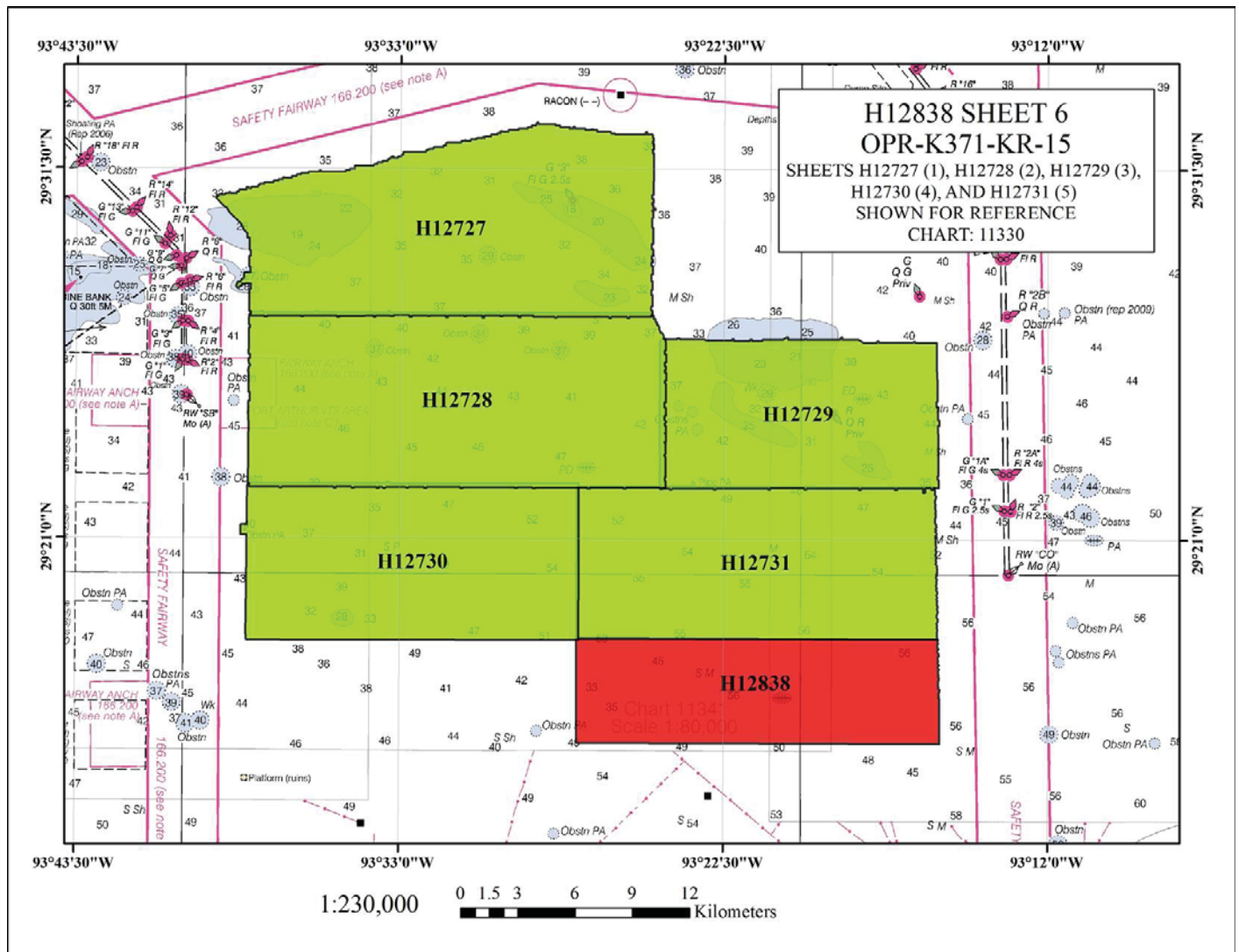


Figure 1: H12838 Survey Bounds

Survey limits were acquired in accordance with the requirements in the Project Instructions and the NOS Hydrographic Survey Specifications and Deliverables (HSSD).

A.2 Survey Purpose

The purpose of this survey is to update existing NOS nautical charts. This project is located in a highly trafficked critical area south of the Louisiana coast as designated in the 2012 NOAA Hydrographic Survey Priorities.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Leidos warrants only that the survey data acquired by Leidos and delivered to NOAA under Contract EA-133C-14-CQ-0033 reflects the state of the sea floor in existence on the day and at the time the survey was conducted.

H12838 was surveyed in accordance with the following documents:

1. Project Instructions, OPR-K371-KR-15, dated 21 August 2015
2. NOS Hydrographic Survey Specifications and Deliverables (HSSD), May 2015
3. OPR-K371-KR-15 Statement of Work, dated 21 August 2015

A.4 Survey Coverage

The following table lists the coverage requirements for this survey as assigned in the project instructions:

| Water Depth | Coverage Required |
|----------------------------|---|
| All waters in survey area. | Either A) Complete MBES with backscatter, OR B) 100% SSS with concurrent set line spacing MBES with backscatter. Note: Complete MBES is sufficient for both determination of least depth identified with SSS and for disproving a feature – 100% SSS is insufficient to disprove a feature. Refer to Section 6.1.2 of the HSSD to confirm proper SSS acquisition parameters. Gaps in SSS coverage should be treated as gaps in MBES coverage and addressed accordingly. |

Leidos chose to achieve the coverage requirement using 100% side scan sonar with concurrent set line spacing multibeam echo-sounder with backscatter. Survey coverage was in accordance with the requirements in the Project Instructions and the HSSD.

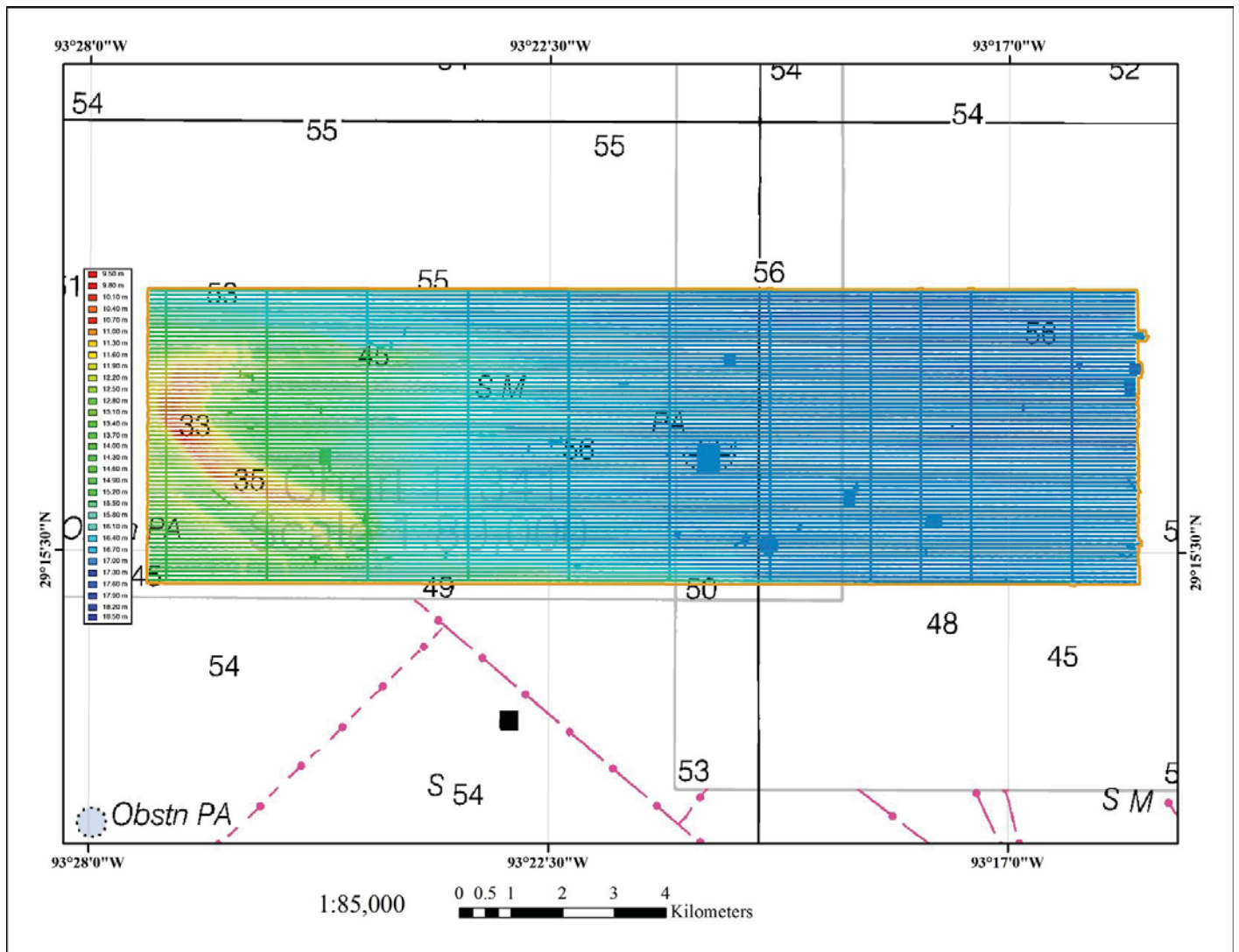


Figure 2: Final Bathymetry Coverage for H12838

A.5 Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey:

| | HULL ID | <i>M/V Atlantic Surveyor</i> | Total |
|---|---------------------------------|--------------------------------------|--------------|
| LNM | SBES Mainscheme | 0 | 0 |
| | MBES Mainscheme | 0 | 0 |
| | Lidar Mainscheme | 0 | 0 |
| | SSS Mainscheme | 0 | 0 |
| | SBES/SSS Mainscheme | 0 | 0 |
| | MBES/SSS Mainscheme | 807.25 | 807.25 |
| | SBES/MBES Crosslines | 34.13 | 34.13 |
| | Lidar Crosslines | 0 | 0 |
| Number of Bottom Samples | | | 5 |
| Number Maritime Boundary Points Investigated | | | 0 |
| Number of DPs | | | 0 |
| Number of Items Investigated by Dive Ops | | | 0 |
| Total SNM | | | 31.97 |

Table 2: Hydrographic Survey Statistics

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

| Survey Dates | Day of the Year |
|---------------------|------------------------|
| 04/24/2016 | 115 |
| 04/25/2016 | 116 |
| 04/26/2016 | 117 |
| 04/27/2016 | 118 |
| 04/28/2016 | 119 |
| 04/29/2016 | 120 |
| 05/01/2016 | 122 |
| 05/02/2016 | 123 |
| 05/03/2016 | 124 |
| 05/04/2016 | 125 |
| 05/05/2016 | 126 |
| 06/06/2016 | 158 |
| 06/18/2016 | 170 |

Table 3: Dates of Hydrography

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Leidos used their ISS-2000 software on a Windows 7 platform to acquire these survey data. Survey planning and data analysis were conducted using the Leidos SABER software on Red Hat Enterprise 6 Linux platforms. L-3 Klein 3000 side scan sonar data were collected on a Windows 7 platform using L-3 Klein's SonarPro software. Subsequent processing and review of the side scan sonar data, including the generation of coverage mosaics, were accomplished using SABER.

A detailed description of the systems and vessel used to acquire and process these data is included in the Data Acquisition and Processing Report (DAPR) revision 1 for OPR-K371-KR-15, delivered on 11 August 2016. There were no variations from the equipment configuration described in the DAPR Rev 1.

B.1.1 Vessels

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

| | |
|----------------|--------------------------------------|
| Hull ID | <i>M/V Atlantic Surveyor</i> |
| LOA | 110 feet |
| Draft | 9 feet |

Table 4: Vessels Used

The M/V Atlantic Surveyor was used to collect multibeam sonar (RESON Seabat 7125 SV), side scan sonar (L-3 Klein 3000), and sound speed data during twenty-four hours per day survey operations.

A detailed description of the vessel used is included in Section A of the DAPR Rev 1.

B.1.2 Equipment

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

| Manufacturer | Model | Type |
|---------------------|------------------------------------|------------------------------------|
| RESON | SeaBat 7125 SV | MBES |
| L-3 Klein | 3000 | SSS |
| Applanix | POS/MV 320 V4 and POS/MV 320 V5 | Positioning and Attitude System |
| Trimble | Probeacon | Positioning System |
| ODIM Brooke Ocean | MVP-30 | Sound Speed System |

Table 5: Major Systems Used

A detailed description of the equipment installed is included in Section A of the DAPR Rev 1.

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 4.23% of mainscheme acquisition.

There were 34.13 linear nautical miles of crosslines and 807.25 linear nautical miles of mainscheme lines surveyed on H12838. This resulted in crossline mileage of approximately 4.23% of the mainscheme mileage which meets the requirement (Section 5.2.4.3 of the 2015 HSSD) to achieve at least four percent for a complete coverage multibeam survey. H12838 requirements were for complete coverage based on the classifications defined in Section 5.2.2 of the 2015 HSSD (“...100% side scan sonar coverage with set line spacing bathymetry and complete coverage multibeam developments of significant contacts”).

The mainscheme lines were orientated 90°/270° and spaced 80 meters apart. Crosslines were oriented 0°/180° and generally spaced 1950 meters apart. Refer to the “Multibeam Processing Log” section within Separates I for information on the delineation of mainscheme and crossline data files.

In the field, hydrographers conducted daily comparisons of mainscheme to near nadir crossline data to ensure that no systematic errors were introduced, and to identify potential problems with the survey systems. After the application of all correctors and completion of final processing in the office, separate one-meter grids were built. One grid contained the full valid swath ($\pm 60^\circ$ from nadir) of mainscheme multibeam and the other included only the near nadir swath ($\pm 5^\circ$ from nadir) crossline data. Difference grids were then generated by subtracting one grid from the other.

The SABER Frequency Distribution Tool was used to analyze the difference grids. All comparisons fell within the requirement defined in Section 5.2.4.3 of the HSSD, which states that at least 95% of the depth difference values are to be within the maximum allowable total vertical uncertainty. Figure 3 summarizes the comparison results. See Separates II for a complete discussion of the analysis and tabular results.

| DIFFERENCE GRID | Minimum and Maximum CUBE Depth (Meters) of Crossline Grid | IHO 1A Maximum Allowable Uncertainty (Meters) for the Range of Depths | Percent of Depth Differences Less than IHO Order 1A Maximum |
|---|--|--|--|
| M/V Atlantic Surveyor Multibeam Crossline (Class 1) to Mainscheme | 10.578 – 17.446 | 0.519 – 0.549 | 100 |

Figure 3: Summary of Crossing Analysis

B.2.2 Uncertainty

The Total Propagated Uncertainty (TPU) model that Leidos has adopted had its genesis at the Naval Oceanographic Office (NAVOCEANO), and is based on the work by Rob Hare and others (“Error Budget Analysis for NAVOCEANO Hydrographic Survey Systems, Task 2 FY 01”, 2001, HSRC FY01 Task 2 Final Report). Once the TPU model is applied to the Generic Sensor Format (GSF) bathymetry data, each beam

is attributed with the horizontal uncertainty and the vertical uncertainty at the 95% confidence level. For specific details on the use and application of the SABER Total Propagated Uncertainty model, see Section B.1 in the DAPR Rev 1.

The vertical and horizontal uncertainty values that were estimated by the TPU model for individual multibeam soundings varied little across the dataset, tending to be most affected by beam angle. During application of horizontal and vertical uncertainties to the GSF files, individual beams where either the horizontal or vertical uncertainty exceeded the maximum allowable IHO S-44 5th Edition Order 1a specifications were flagged as invalid. As a result, all individual soundings used in development of the final CUBE depth surface had modeled vertical and horizontal uncertainty values at or below the allowable IHO S-44 5th Edition, Order 1a uncertainty.

During the creation of the CUBE surface, two separate vertical uncertainty surfaces are calculated by the SABER software. One surface contains the standard deviation of all soundings that are contributing to the CUBE hypothesis (Hyp. StdDev), and the other contains the average of the vertical uncertainty of all soundings contributing to the CUBE hypothesis (Hyp. AvgTPE). A third vertical uncertainty surface is generated from the larger value of these two uncertainties at each node and is referred to as the Hypothesis Final Uncertainty. For specific details on this process see Section B.2 of the DAPR Rev 1.

The final one-meter PFM CUBE surface contained final vertical uncertainties that ranged from 0.470 to 0.933 meters. The IHO Order 1a maximum allowable vertical uncertainty was calculated to range between 0.516 to 0.551 meters, based on the minimum CUBE depth (9.826 meters) and maximum CUBE depth (17.828 meters). The SABER Check PFM Uncertainty function was used to highlight all instances in the Hypothesis Final Uncertainty surface where a given node exceeded the IHO Order 1a allowable vertical uncertainty for the CUBE depth at that node. The final one-meter PFM CUBE surface contained 36 individual CUBE nodes with final vertical uncertainties that exceeded IHO Order 1a allowable vertical uncertainty. The nodes that exceed the IHO Order 1a allowable vertical uncertainty for the CUBE depth are primarily located around features where there is a high variability in the depth soundings.

The SABER Frequency Distribution Tool was used to review the Hypothesis Final Uncertainty surface within the final one-meter PFM grid. The results show that in the final one-meter PFM grid, 99.43% of all nodes had final uncertainties less than or equal to 0.480 meters.

B.2.3 Junctions

An analysis of H12838 junctions with contemporary surveys was performed. Figure 4 shows the general locality of H12838 as it relates to the contemporary sheets for which junction analysis was performed. Table 6 provides details for each contemporary sheet junction analysis performed. See Separates II for a complete discussion of the junction results and tabular listings.

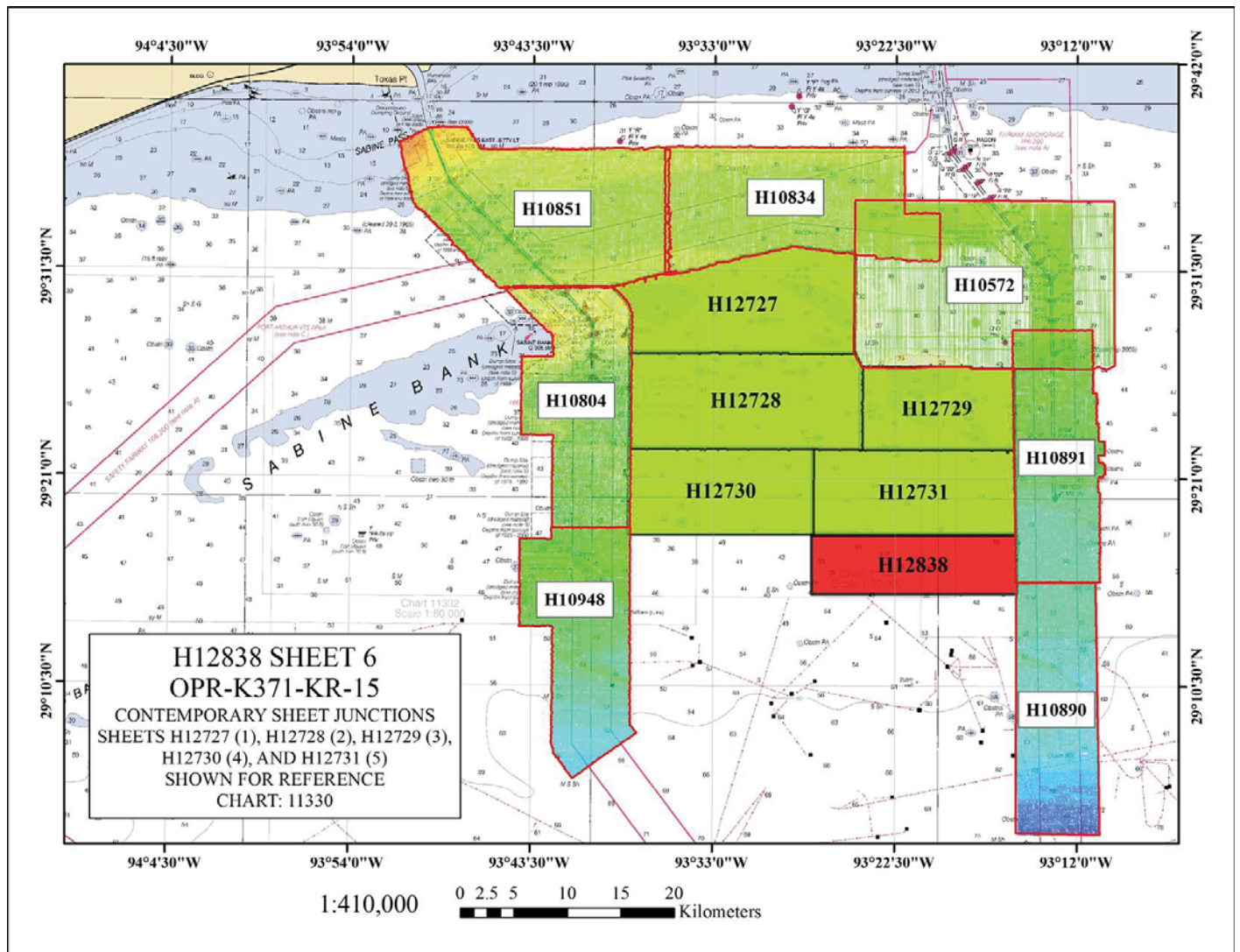


Figure 4: General Locality of H12838 with Contemporary Surveys

The following junctions were made with this survey:

| Registry Number | Scale | Year | Field Unit | Relative Location |
|-----------------|---------|------|----------------------------|-------------------|
| H10890 | 1:20000 | 1999 | C and C Technologies, Inc. | E |
| H10891 | 1:20000 | 1999 | C and C Technologies, Inc. | E |
| H12730 | 1:40000 | 2015 | Leidos | N |
| H12731 | 1:40000 | 2016 | Leidos | N |

Table 6: Junctioning Surveys

H10890

H12838 junctions with H10890 to the east; 98.35% of the comparisons agreed within ± 0.40 meters.

H10891

H12838 junctions with H10891 to the east; 96.90% of the comparisons agreed within ± 0.30 meters

H12730

H12838 junctions with H12730 to the north; 95.82% of the comparisons agreed within ± 0.30 meters.

H12731

H12838 junctions with H12731 to the north; 96.49% of the comparisons agreed within ± 0.30 meters.

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed in Section A.5, Multibeam Systems and Operations, of the DAPR Rev 1.

B.2.5 Equipment Effectiveness

There were no conditions or deficiencies that affected equipment operational effectiveness.

B.2.6 Factors Affecting Soundings

During localized weather events, an artifact resulting from a difference in water levels between the survey area and the water level gauge (Calcasieu Pass, LA) was observed in the multibeam CUBE surface. The artifact generally ranged between 10 to 30 centimeters when present (Figure 5). In addition, some of these adverse weather conditions resulted in a visible heave artifact in the final CUBE surface of H12838. The occasional vertical offsets and heave artifacts observed within H12838 were within the IHO Order 1a allowable vertical and horizontal uncertainty for these water depths.

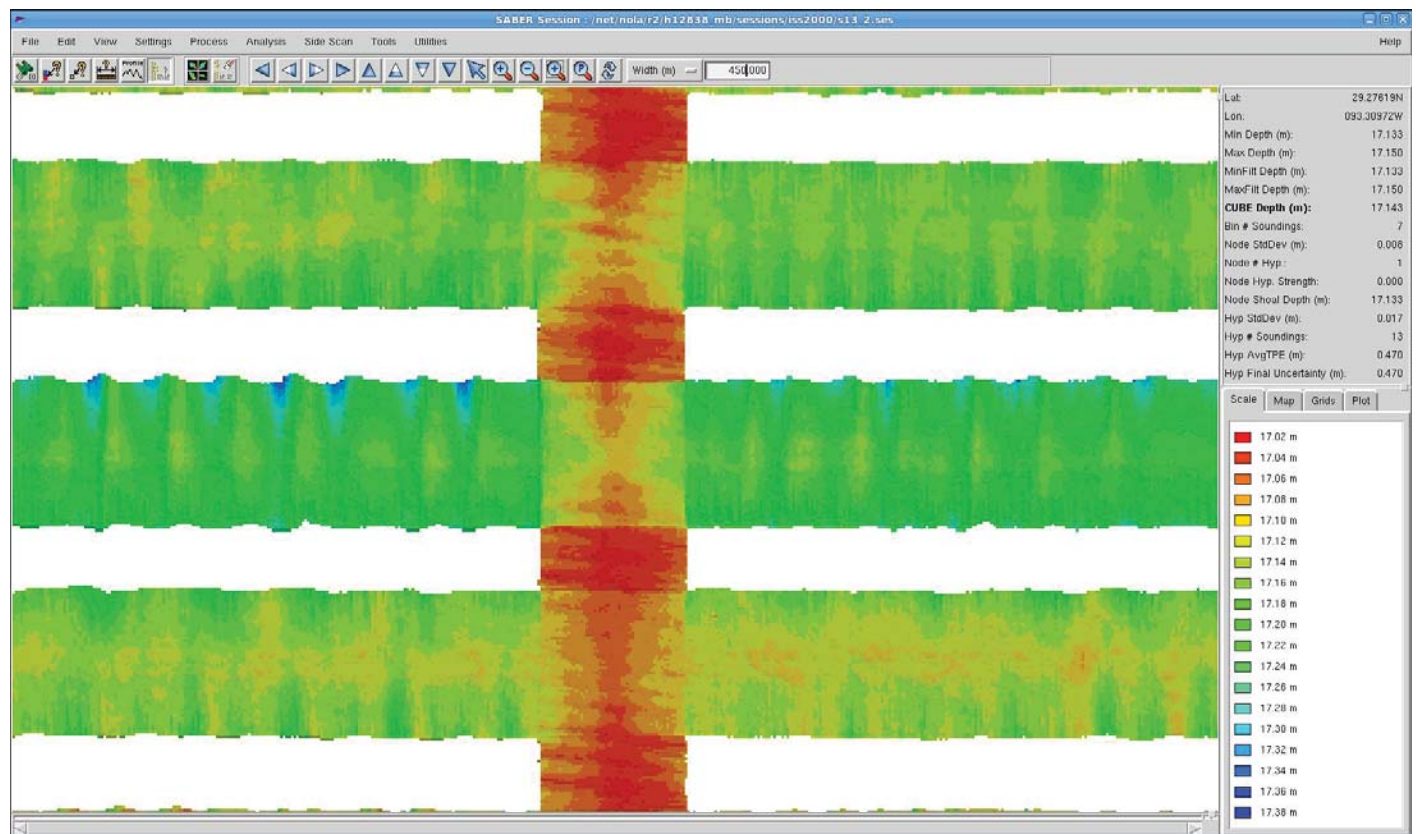


Figure 5: CUBE Depth Delta and Heave Artifact Resulting From Local Weather Events

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: On the M/V Atlantic Surveyor, the MVP-30 was used to collect sound speed profile (SSP) data. SSP data were obtained at intervals frequent enough to meet depth accuracy requirements. Section 5.2.3.3 of the HSSD requires that if the sound speed measured at the sonar head differs by more than two meters/second from the commensurate profile data, then another cast shall be acquired. There were times when the sound speed values exceeded the two meters/second threshold due to the local temporal and tidal variability. During these times, several profiles were acquired and reapplied in an effort to reduce these effects. The product of this effort resulted in the final data bearing no significant artifacts due to sound speed differences.

All sound speed profiles that were applied for online bathymetry data collection were acquired within 250 meters of the bounds of the survey area. Please refer to the DAPR Rev 1 for specific details regarding acquisition (Section A.7) and application (Section C.1.3) of sound speed profiles.

Confidence checks of the sound speed profile casts were conducted by comparing at least two consecutive casts taken with different Smart SV and P sensors. Seven sound speed confidence checks were conducted during H12838 and the results can be found in Separates II within the “Comparison Cast Log” section.

All individual sound speed profile files are delivered with the H12838 data and are broken out into sub-folders, which correspond to the purpose of each cast. Also, all individual sound speed profiles for H12838

have been concatenated into four separate files based on the purpose of the cast, provided in CARIS format files (.svp), and delivered under (H12838/Data/Processed/SVP/CARIS_SSP) on the delivery drive. Refer to Separates II for more details.

B.2.8 Coverage Equipment and Methods

All equipment and survey methods are detailed in the DAPR Rev 1.

B.2.9 Coverage Analysis

Leidos chose to achieve the coverage requirement using 100% side scan sonar with concurrent set line spacing multibeam echo-sounder with backscatter. To achieve this coverage, the M/V Atlantic Surveyor used a towed L-3 Klein 3000 side scan sonar set to a 50-meter range scale. Mainscheme line spacing was 80 meters, which ensured 100% side scan coverage.

Both the Project Instructions and the HSSD stated that 100% side scan sonar was insufficient to disprove a charted feature. Therefore, Leidos reviewed the BSB and ENC charts and completed an additional 100% side scan sonar coverage with resulting multibeam coverage over common charted objects not found during survey in order to verify disproval. A search radius for each charted feature disproval was determined from the Project Instructions, which stated, “In the case of the unassigned offshore oil platforms within the survey area, should the field unit observe that the feature is not visible, then a formal disproval is required. For the purposes of disproval, charted features labeled with a “PA” will have a search radius of 160 meters, a “PD” will have a search radius of 240 meters, and all other features without a position qualifier will have a search radius of 80 meters.”

Backscatter data were acquired for all water depths.

The SABER Gapchecker routine was used to flag data gaps within each of the 100% side scan sonar coverage mosaics, as well as the multibeam CUBE surface. Additionally, the entirety of each SSS and MBES surface was visually scanned for holidays at various points during the data processing effort. Additional survey lines were run to fill any holidays that were detected. A final review of each 100% side scan sonar coverage mosaic showed that there were no holidays, as defined by Section 5.2.2.2 of the HSSD to be three by three nodes in the surface at the required one-meter resolution (see Section B.5.3 for more details). A final review of the CUBE Depth surface of the one-meter PFM containing all multibeam showed that there were a few instances where a three by three node gap exists. These gaps generally resulted from either the holiday line data being slightly offset from the original line due to vessel line steering, or the swath width of the holiday lines being reduced compared to the original line due to water level differences. One additional instance of a three by three node gap, 29° 16' 56.93"N 093° 22' 16.16"W, exists on a crossline where data were turned off, and additional crossline data were not needed, as the crossline percentage requirement had already been met.

The one-meter PFM (containing all multibeam) was examined for the number of soundings contributing to the chosen CUBE hypotheses for each node by running SABER's Frequency Distribution Tool on the

Hypothesis Number of Soundings (Hyp # Soundings) surface for the one-meter PFM. The Hyp # Soundings surface reports the number of soundings that were used to compute the chosen hypothesis. Analysis of the H12838 final one-meter PFM grid revealed that 98.55% of all nodes contained five or more soundings; satisfying the requirements for complete coverage surveys, as specified in Section 5.2.2.2 of the HSSD.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

All data reduction procedures conform to those detailed in the DAPR Rev 1.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR Rev 1.

B.4 Backscatter

In accordance with the HSSD and Project Instructions, Leidos collected multibeam echo-sounder backscatter with all GSF data acquired by the RESON Seabat 7125 SV. The multibeam settings used were checked to ensure acceptable quality standards were met and to avoid any acoustic saturation of the backscatter data. The multibeam backscatter data acquired were written to the GSF in real-time by ISS-2000 and are delivered in the final GSF files for this sheet. Backscatter was not processed by Leidos.

B.5 Data Processing

B.5.1 Primary Data Processing Software

The following Feature Object Catalog was used: NOAA Extended Attribute File V5-4. The primary data processing software used for both bathymetry and imagery was SABER. There were no software configuration changes after the DAPR Rev 1 was submitted.

B.5.2 Surfaces

The following surfaces and/or BAGs were submitted to the Processing Branch:

| Surface Name | Surface Type | Resolution | Depth Range | Surface Parameter | Purpose |
|------------------------|---------------------------|------------|------------------------------------|-------------------|--|
| H12838_MB_1m_MLLW | BAG | 1 meters | 9.826 meters - 17.828 meters | N/A | Concurrent set line spacing MBES |
| H12838_ss_1_100_mosaic | SSS Mosaic (.tif;.tfw) | 1 meters | 0 meters - 0 meters | N/A | Complete Coverage (100% SSS) |
| H12838_ss_2_100_mosaic | SSS Mosaic (.tif;.tfw) | 1 meters | 0 meters - 0 meters | N/A | 200% SSS Charted Object Disproval |

Table 7: Submitted Surfaces

A PFM CUBE Depth surface was used to assess and document multibeam survey coverage. The CUBE depth is populated with either the node's chosen hypothesis or the depth of a feature or designated sounding set by the hydrographer, which overrides the chosen hypothesis (see Section D.2.11 for details of the GSF feature and designated sounding flags). The range of CUBE depths in H12838 was from 9.826 meters (32.237 feet, 0.470-meter uncertainty) to 17.828 meters (58.491 feet, 0.558-meter uncertainty). Section 5.2.2.2 of the HSSD requires a one-meter grid resolution for depths ranging from zero meters to 20 meters for Complete Coverage.

The final gridded bathymetry data are delivered as a Bathymetric Attributed Grid (BAG). The BAG file was exported from the CUBE PFM grid as detailed in Section B.2.5 of the DAPR Rev 1.

B.5.3 Side Scan Sonar Coverage Analysis

For all details regarding side scan sonar data processing, see Section B.3 of the DAPR Rev 1. The Project Instructions required 100% side scan sonar coverage with concurrent set line spacing MBES with backscatter. Both the Project Instructions and the HSSD stated that 100% side scan was insufficient to disprove a charted feature. Therefore, 100% side scan sonar coverage was collected and verified for the entire survey area, and an additional 100% side scan sonar coverage was collected over charted objects that were not found to verify disproval. Leidos generated two separate 100% coverage mosaics at one-meter cell size resolution as specified in Section 8.3.1 of the HSSD. The first and second 100% coverage mosaics were independently reviewed using tools in SABER to verify data quality and swath coverage. A final review of each 100% side scan sonar coverage mosaic showed that there were no holidays, as defined by Section 5.2.2.2 of the HSSD to be three by three nodes in the surface at the required one-meter resolution. Both coverage mosaics are determined to be complete and sufficient to meet the requirements contained within

the Project Instructions, and the HSSD. The mosaics are delivered as TIFF (.tif) images with accompanying world files (.tfw), refer to Table 7.

Side scan sonar contacts were investigated and confirmed using SABER Contact Review. All side scan sonar contacts and accompanying images are delivered in the Side Scan Sonar Contacts S-57 file; for specifics refer to Section D.2.13.

C. Vertical and Horizontal Control

No vertical or horizontal controls were established, recovered, or occupied during data acquisition for OPR-K371-KR-15, which includes H12838. Therefore, a Horizontal and Vertical Control Report was not required.

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

Standard Vertical Control Methods Used:

Discrete Zoning

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

| Station Name | Station ID |
|--------------------|------------|
| Calcasieu Pass, LA | 8768094 |

Table 8: NWLON Tide Stations

| File Name | Status |
|--|-------------------|
| 8768094_verified_01April16_to_30June16.tid | Verified Observed |

Table 9: Water Level Files (.tid)

| File Name | Status |
|--------------------|--------|
| K371KR2015CORP.zdf | Final |

Table 10: Tide Correctors (.zdf or .tc)

No final tide note was provided by the NOAA Center for Operational Oceanographic Products and Services (CO-OPS). Leidos is not required to have a final tide note from CO-OPS for H12838 however, a final tide note has been provided by Leidos in Appendix I.

The Tides Statement of Work specified NOAA tide station 8768094 Calcasieu Pass, LA as the source for water level correctors for OPR-K371-KR-15. A full explanation of the tide zone assessment is detailed in Section C.4 of the DAPR Rev 1. For H12838, 8768094 Calcasieu Pass, LA was the source of all final verified water level heights for determining correctors to soundings. All data for H12838 were contained within three tide zones (WGM400, WGM401, and WGM407) which were provided from NOAA.

Leidos did not revise the delivered tide zones for tide station 8768094 Calcasieu Pass, LA as the water level zoning parameters in the file K371KR2015CORP.zdf, provided by National Ocean Service (NOS) were deemed adequate for the application of observed verified water levels. As a result, they were accepted as final and applied to all H12838 bathymetry data.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The projection used for this project is UTM Zone 15, North.

Please refer to the DAPR Rev 1 for details regarding all antenna and transducer offsets.

During survey data acquisition, the ISS-2000 real-time system provided a continuous view of the positioning comparison between the POS/MV and the Trimble DGPS. An alarm was triggered within ISS-2000 if the comparisons were not within an acceptable range. Any soundings with total horizontal uncertainties exceeding the maximum allowable IHO S-44 5th Edition Order 1a specifications were flagged as invalid and therefore were not used in the CUBE Depth calculations.

The following DGPS Stations were used for horizontal control:

| DGPS Stations |
|----------------------------|
| English Turn, LA (293 kHz) |
| Angleton, TX (301 kHz) |
| Aransas Pass, TX (304 kHz) |

Table 11: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

The chart comparisons were conducted using the Leidos SABER software to view the BSB raster charts with overlain data for H12838 such as the CUBE gridded surface, selected soundings, contacts, and features. Charting recommendations for depths follow Section 5.1.2 of the HSSD where depths and uncertainties are to be rounded by standard arithmetic rounding (round half up) and accompanying chart depth units are rounded using NOAA cartographic rounding (0.75 round up).

For ENC comparisons, a combination of CARIS' EasyView and SABER were used.

United States Coast Guard (USCG) District 8 Local Notice to Mariners publications were reviewed for changes subsequent to the date of the Hydrographic Survey Project Instructions and before the end of survey (as specified in Section 8.1.4 of the HSSD). The Notice to Mariners reviewed were from week 16/16 (20 April 2016) until week 27/16 (06 July 2016).

H12838 data meet data accuracy standards and bottom coverage requirements. Recommend updating the common areas of all charts using data from this survey. Charting recommendations for all features are provided in the S-57 Final Feature File.

D.1.1 Raster Charts

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

| Chart | Scale | Edition | Edition Date | LNM Date | NM Date |
|-------|---------|---------|--------------|------------|------------|
| 11341 | 1:80000 | 44 | 03/2013 | 07/19/2016 | 07/16/2016 |
| 11344 | 1:80000 | 40 | 08/2014 | 07/19/2016 | 07/16/2016 |

Table 12: Largest Scale Raster Charts

11341

Chart 11341 covers the H12838 survey area west of 093° 19' 00.88"W.

CUBE depths within sheet H12838 agreed with the charted depths across most of the survey area and were generally within ±5 feet of the charted depths. There were discrete areas where the depths varied as much as 10 feet such as in 29° 15' 46.26"N 093° 24' 35.26"W.

The charted dangerous wreck labeled PA in approximately 29° 16' 30.35"N 093° 20' 35.87"W was not found. A search radius of at least 160 meters was covered by 200% side scan and resulting 100% multibeam coverage around this position. See Section D.1.4 for more details.

The charted 53-foot dangerous wreck labeled Wk in approximately 29° 15' 37.08"N 093° 20' 08.90"W was found with a CUBE depth of 53.550 feet in 29° 15' 37.08"N 093° 20' 08.90"W (Feature 03, DTON 01). See Sections D.1.6 for more details.

Additional charted objects such as submarine pipelines and platforms are discussed in the sections below.

All new uncharted features found, and updates to charted features, are documented in the Final Feature File (S-57).

11344

Chart 11344 covers the H12838 survey area east of 093° 21' 00.47"W.

CUBE depths within sheet H12838 agreed with the charted depths across most of the survey area and were generally within ±3 feet of the charted depths.

The charted dangerous wreck labeled PA in approximately 29° 16' 29.98"N 093° 20' 36.25"W was not found. A search radius of at least 160 meters was covered by 200% side scan and resulting 100% multibeam coverage around this position. See Section D.1.4 for more details.

The charted 53-foot dangerous wreck labeled Wk in approximately 29° 15' 37.08"N 093° 20' 08.90"W was found with a CUBE depth of 53.550 feet in 29° 15' 37.08"N 093° 20' 08.90"W (Feature 03, DTON 01). See Sections D.1.6 for more details.

Additional charted objects such as submarine pipelines and platforms are discussed in the sections below.

All new uncharted features found, and updates to charted features, are documented in the Final Feature File (S-57).

D.1.2 Electronic Navigational Charts

The following are the largest scale ENC's, which cover the survey area:

| ENC | Scale | Edition | Update Application Date | Issue Date | Preliminary? |
|----------|---------|---------|-------------------------|------------|--------------|
| US4LA10M | 1:80000 | 10 | 11/03/2014 | 07/21/2016 | NO |
| US4LA14M | 1:80000 | 16 | 09/05/2012 | 07/22/2016 | NO |

Table 13: Largest Scale ENC's

US4LA10M

ENC US4LA10M covers the H12838 survey area, west of 093° 21' 00.53"W.

CUBE depths within sheet H12838 agreed with the charted depths across most of the survey area and were generally within ±2 meter of the charted depths.

Additional charted objects such as submarine pipelines and platforms are discussed in the sections below.

All new uncharted features found, and updates to charted features, are documented in the Final Feature File (S-57).

US4LA14M

ENC US4LA14M covers the H12838 survey area, east of 093° 21' 00.53"W.

CUBE depths within sheet H12838 agreed with the charted depths across most of the survey area and were generally within ±2 meter of the charted depths.

The charted dangerous wreck with least depth unknown in 29° 16' 29.21"N 093° 20' 36.29"W (from ENC) or 29° 16' 29.21"N 093° 20' 36.30"W (from CSF) was not found. A search radius of at least 160 meters was covered by 200% side scan and resulting 100% multibeam coverage around these positions. See Section D.1.4 for more details.

The charted 16.1-meter dangerous wreck in 29° 15' 37.10"N 093° 20' 08.90"W was found with a CUBE depth of 16.322 meters in 29° 15' 37.08"N 093° 20' 08.90"W (Feature 03, DTON 01). See Sections D.1.6 for more details.

Additional charted objects such as submarine pipelines and platforms are discussed in the sections below.

All new uncharted features found, and updates to charted features, are documented in the Final Feature File (S-57).

D.1.3 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.4 Charted Features

There was one charted dangerous Wreck PA within the survey bounds of H12838 in 29° 16' 29.21"N 093° 20' 36.29"W (from ENC) or 29° 16' 29.21"N 093° 20' 36.30"W (from CSF) which was not found. A search radius of at least 160 meters was covered by 200% side scan and 100% multibeam around these positions. There were no significant contacts or features identified within the coverage of the search radius. This charted dangerous Wreck PA falls on raster charts 11341 and 11344, as well as ENC US4LA14M, and is recommended to be deleted from all charts as stated in the H12838 S-57 Final Feature File (FFF).

D.1.5 Uncharted Features

See the S-57 Final Feature File (FFF) for all the details and recommendations regarding new uncharted features investigated.

D.1.6 Dangers to Navigation

The following DTON reports were submitted:

| DTON Report Name | Date Submitted |
|-------------------|----------------|
| H12838_DT0N01.000 | 2016-07-12 |
| H12838_DT0N02.000 | 2016-07-13 |

Table 14: DTON Reports

Leidos submitted two Danger to Navigation Reports (DTON) in S-57 format to the Atlantic Hydrographic Branch (AHB) for H12838. AHB did not submit DT0N02 to the Nautical Data Branch (NDB)/Marine Chart Division (MCD), but rather submitted a Navigation Manager Report to the to the Office of Coast Surveys (OCS) Navigation Manager. AHB did submit DT0N01 to MCD. Copies of the AHB verification email and AHB DT0N report, in PDF format, submitted to the Nautical Data Branch (NDB)/Marine Chart Division (MCD) are included in a sub-directory within Appendix II of this Data Report. Also included is the Navigation Manager Report, which AHB submitted for DT0N02. Figure 6 provides a list of DT0Ns and their associated Feature number and object class in the H12838 S-57 FFF.

| DTON Report Name | AHB submitted to MCD | Feature Number | S-57 Object Class |
|-------------------------|---|-----------------------|--------------------------|
| H12838_DT0N01.000 | 2016-07-13 | 03 | WRECKS |
| H12838_DT0N02.000 | Nav. Mgr. Report named H12838_Exposed Pipeline.pdf (2016-07-15) | 02 | PIPSOL |

Figure 6: DT0N Feature Numbers

D.1.7 Shoal and Hazardous Features

All hazardous features were discussed in Sections D.1.1 and D.1.2 for each chart, Section D.1.6, and the H12838 S-57 Final Feature File (FFF).

D.1.8 Channels

There were no channels within the area covered by H12838.

D.1.9 Bottom Samples

In accordance with both the Project Instructions and Section 7.1 of the HSSD, bottom characteristics were obtained for H12838. Bottom characteristics were acquired at the five locations proposed in the Project Reference File (PRF) by NOAA. Leidos did not modify any bottom sample locations from the locations provided by NOAA. Bottom characteristics collected during H12838 are included in the H12838 S-57 FFF, H12838.FFF.000, within the Seabed Area (SBDARE) object and are classified according to the requirements set forth in Appendix H of the HSSD.

D.2 Additional Results

D.2.1 Shoreline

All features within the Composite Source File (CSF) were resolved. There were no assigned features inshore of the NALL.

D.2.2 Prior Surveys

Junction analysis with prior surveys H10890, H10891, H12730, and H12731 (collected in 1999, 2015, and 2016, respectfully) were conducted, and the results are presented in Section B.2.3 of this Data Report and Separates II.

D.2.3 Aids to Navigation

There were no aids to navigation that fell within the area of H12838.

D.2.4 Overhead Features

There were no overhead features within the H12838 survey area.

D.2.5 Submarine Features

One pipeline (PIPSOL) object is delivered in the S-57 FFF (Feature 02) to represent a section of exposed pipeline found, utilizing both multibeam and side scan sonar data, within the bounds of H12838. See Section D.1.6 for additional information. Additional charted pipelines fall within the H12838 survey coverage; however, the multibeam and side scan sonar data do not show evidence of them.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist within the H12838 survey area.

D.2.7 Platforms

Eight platforms are charted within the bounds of H12838 and all eight were not found; an area with a radius of at least 80 meters was covered by 200% side scan sonar and 100% multibeam for each charted platform. There was no evidence of the platforms existence in the side scan or multibeam data and no platforms were visible above the waterline. See the S-57 FFF, H12838.FFF.000, Offshore Platform (OFSPLF) objects, for details and charting recommendations on each platform.

D.2.8 Significant Features

During data acquisition on H12838, intermittent adverse weather conditions and sea state were observed, in many cases causing the survey to be suspended due to the achievable data quality. Many of these localized weather events caused an observed offset between the survey area and the water level gauge located at Calcasieu Pass, LA. The adverse weather conditions also resulted in heave artifacts visible in the final CUBE surface of H12838. However, the vertical offsets and heave artifacts observed were within the IHO Order 1a allowable vertical and horizontal uncertainty for the H12838 water depths. See Section B.2.6 for more information regarding the water level offsets and heave artifacts.

No other significant features as defined in Section 8.1.4 of the HSSD exist within the H12838 survey area.

D.2.9 Construction and Dredging

No construction or dredging exists for the H12838 survey.

D.2.10 New Survey Recommendation

No new survey recommendations are made for the area covered by the H12838 survey.

D.2.11 Designated Soundings

Designated soundings are used to help better preserve the shallowest sounding relative to the computed depth surface. Separate flags exist in the GSF (version 3.06) for designated soundings and features. All depths flagged as either a feature or a designated sounding in the GSF override the CUBE best estimate of the depth in the final BAG file. Both the designated sounding and feature flags as defined within GSF are mapped to the same Hydrographic Data Cleaning System (HDGS) flag when ingested into CARIS (PD_DEPTH_DESIGNATED_MASK). Note that there were only three feature flags set within the H12838 data and no GSF “designated soundings” were set. Therefore, there are only three overrides to the CUBE best estimate of the depth for H12838, all of which are also presented in the S-57 FFF, H12838.FFF.000.

D.2.12 Final Feature S-57 File

Included with the H12838 delivery is the S-57 FFF, H12838.FFF.000. Details on how this file was generated and quality controlled can be found in Section B.2.6 of the DAPR Rev 1. The S-57 FFF delivered for H12838 contains millimeter precision for the value of sounding (VALSOU) attribute. As specified in Section 8.2 of the HSSD, the S-57 FFF is in the WGS84 datum and is unprojected with all depth units in meters. All significant, and recommended for charting, features found in H12838 are included within the S-57 FFF.

In accordance with the HSSD, Leidos addressed all assigned objects within the bounds of H12838 from the provided CSF S-57 file in the delivered H12838 S-57 FFF. Additionally, several charted objects, derived from the largest scale ENC, were disproven by the results of this survey, and are addressed within the delivered H12838 S-57 FFF.

For each feature contained in the FFF (S-57), a Feature Correlator Sheet was exported as an image file (.jpg) and is included in the S-57 FFF under the NOAA Extended Attribute field “images”.

D.2.13 Side Scan Sonar Contacts S-57 File

Included with the H12838 delivery is the Side Scan Sonar Contact S-57 File, H12838.SSCon.000. Details on how this file was generated and quality controlled can be found in Section B.3.5 of the DAPR Rev 1. As specified in Section 8.2 of the HSSD, the S-57 feature file is in the WGS84 datum and is unprojected with all depth units in meters.

All side scan contacts are retained within the Side Scan Sonar Contact S-57 File. For each contact included in this S-57 file, a JPEG image of the side scan contact is included under the NOAA Extended Attribute field “images”.

D.2.14 Inset Recommendation

No inset recommendations are made for the area covered by the H12838 survey.

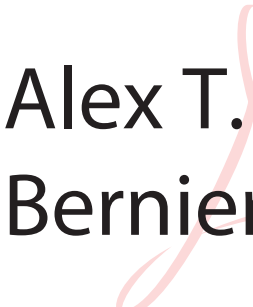
E. Approval Sheet

As Chief of Party, field operations for this hydrographic survey were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports.

The BAG file, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys Specifications and Deliverables, Project Instructions, and the OPR-K371-KR-15 Statement of Work. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of any deficiencies noted in the Descriptive Report. Previously submitted deliverables for OPR-K371-KR-15 are provided in the table below. Note that there were no sea turtle sightings and therefore there is no associated deliverable listed.

| Report Name | Report Date Sent |
|--|------------------|
| OPR-K371-KR-15_DAPR.pdf | 2016-02-12 |
| OPR-K371-KR-15_Coast Pilot Review Report.pdf | 2016-02-12 |
| H12727_DR.pdf | 2016-02-12 |
| H12728_DR.pdf | 2016-02-26 |
| H12729_DR.pdf | 2016-03-24 |
| H12730_DR.pdf | 2016-03-30 |
| OPR-K371-KR-15_DAPR_rev1.pdf | 2016-08-11 |
| H12731_DR.pdf | 2016-08-11 |
| OPR-K371-KR-15_Marine_Mammal_Observation_Log.pdf | 2016-08-29 |

| Approver Name | Approver Title | Approval Date | Signature |
|-----------------|-------------------|---------------|--|
| Alex T. Bernier | Lead Hydrographer | 08/29/2016 |  <p>Digitally signed by Alex T. Bernier DN: cn=Alex T. Bernier, o=Marine Survey and Engineering Solutions, ou=Leidos, email=alex.t.bernier@leidos.com, c=US Date: 2016.08.25 14:52:55 -04'00'</p> |

APPENDIX I
TIDES AND WATER LEVELS

APPENDIX I. TIDES AND WATER LEVELS

Field Tide Note

A field tide note was not required for H12838.

Final Tide Note

Observed verified water levels for the station in Calcasieu Pass, LA (8768094) were downloaded from the [NOAA Tides and Currents](#) web site. Water Level correctors were prepared for each zone using the **SABER Create Water Level Files** software. The **SABER Apply Correctors** software applied the water level data to the multibeam data according to the zone containing the nadir beam of each ping.

Please refer to the H12838 Descriptive Report Section C.1 for details regarding final tides for H12838. The water level zoning correctors applied to all multibeam data for H12838 were based entirely on Calcasieu Pass, LA (8768094).

No final tide note was provided by NOAA Center for Operational Oceanographic Products and Services (CO-OPS), Leidos is not required to have a final tide note from CO-OPS.

The on-line times for acquisition of valid hydrographic data are presented in the Abstract Times of Hydrography, H12838 (Table A-1).

Abstract Times of Hydrography

Project: OPR-K371-KR-15

Registry No.: H12838

Contractor Name: Leidos

Date: 29 August 2016

Sheet Designation: 6

Inclusive Dates: 24 April 2016 – 18 June 2016

Field work is complete.

| Begin Date | Begin Julian Day | Begin Time | End Date | End Julian Day | End Time |
|------------|------------------|------------|------------|----------------|----------|
| 04/24/2016 | 115 | 00:57:17 | 04/25/2016 | 116 | 04:03:33 |
| 04/26/2016 | 117 | 21:40:12 | 04/29/2016 | 120 | 09:43:49 |
| 05/01/2016 | 122 | 12:12:03 | 05/01/2016 | 122 | 19:09:14 |
| 05/02/2016 | 123 | 20:41:44 | 05/05/2016 | 126 | 05:09:02 |
| 06/06/2016 | 158 | 02:48:51 | 06/06/2016 | 158 | 10:09:35 |
| 06/18/2016 | 170 | 00:08:44 | 06/18/2016 | 170 | 03:30:18 |

Table A-1: Abstract Times of Hydrography, H12838

Transmittal Letter to CO-OPS

A transmittal letter to CO-OPS was not required for H12838.

Other Correspondence Relating to Tides

There is no other correspondence relating to tides and/or water levels.

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

APPENDIX II. SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

This appendix contains copies of email exchanges between Leidos and NOAA concerning various aspects of the survey, data processing, and submittal topics.

In addition, the following three standalone PDF files have been provided in the *II_Supplemental_Survey_Records_&Correspondence* folder of Descriptive Report Appendices:

- The single DTON recommendation file (PDF file only) submitted by AHB to MCD, which references a single wreck
- The associated verification e-mail from NDB for the DTON
- An H12838 Exposed Pipeline report (submitted by Leidos to NOAA as “DTON 2”) submitted by AHB to the NOAA Navigation Manager regarding an unburied pipeline section. The item was determined by AHB to not pose a Danger to Navigation and therefore was not submitted to the Nautical Data Branch for charting, but was sent to the Office of Coast Surveys Gulf of Mexico Regional Navigation Manager for informational purposes only.

CORRESPONDENCE

From: Mark Lathrop - NOAA Federal [mark.t.lathrop@noaa.gov]

Sent: Thursday, July 30, 2015 1:11 PM

To: Evans, Rod E.

Cc: Michael Gonsalves - NOAA Federal; Eric Berkowitz - NOAA Federal

Subject: Environmental Compliance/Marine Mammal Observers

Attachments: Copy of Sea Turtle Observation Log.xls; Form 11US.pdf; ENVIRONMENTAL COMPLIANCE__MarineMammalTrainedObserverLetter_Leidos.pdf

Rod,

Please see attached for a memo from Captain Berkowitz, which clarifies the 2015 Hydrographic Surveys Specifications and Deliverable (HSSD) environmental compliance requirements.

Best Regards,

Mark

From: Emily Clark - NOAA Federal [mailto:emily.clark@noaa.gov]
Sent: Thursday, September 17, 2015 1:22 PM
To: Boyles, Robert L.
Cc: Evans, Rod E.; Quintal, Rebecca T.; Mark Lathrop - NOAA Federal; Lepore, Christine A.; christina.fandel@noaa.gov
Subject: Re: Hydrographic Survey, Request for Quote, T-0001 MOD 1

Good Afternoon,

Please find attached a copy of EA-133C-14-CQ-0033/T-0001/M-0001. This task incorporates the additional survey area. Please review and provide a signed copy back to me at your earliest convenience.

Thanks

v/r,

Emily

From: Mark Lathrop - NOAA Federal [<mailto:mark.t.lathrop@noaa.gov>]
Sent: Tuesday, October 27, 2015 8:53 AM
To: Bernier, Bridget W.
Subject: Re: OPR-K371-KR-15 questions
Attachments: QualityControl.xsd; CorrectionsToEchoSoundings.xsd; DR_Stylesheet.sps

Bridget,

Attached are a few more files you may need for the DR. For reference, everything you need should be here <http://www.nauticalcharts.noaa.gov/hsd/xmlldr/>

Mark

From: Mark Lathrop - NOAA Federal [<mailto:mark.t.lathrop@noaa.gov>]
Sent: Monday, October 26, 2015 4:03 PM
To: Bernier, Bridget W.
Subject: Re: OPR-K371-KR-15 questions
Attachments: OPR-K371-KR-15 Coast Pilot Field Report.pdf; Sea Turtle Observation Log.xls; DR_Stylesheet.xslt

Bridget,

Please see my responses below in red.

Mark

1. The Project Instructions for Sheets 1 through 4 references the 2014 edition of the HSSD, while the Project Instructions for Sheets 5 and 6 references the 2015 edition of the HSSD.
 - a. Question: May Leidos perform the survey for all six sheets and deliver to the 2015 edition? **Yes.**
2. In the Project Instructions received for Sheets 5 and 6 (Mod 001) the scale for Sheet 6 is listed at "4000".
 - a. Question: Is this Sheet 6 scale supposed to be 40,000? **Yes.**
3. Coast Pilot
 - a. Question: Are the Coast Pilot Investigation Items part of the Coast Pilot Field Report? **Yes.**
4. In the Special Data Handling Requirements, item 2 "Submit all Conductivity, Temperature, and Depth (CTD) data to the National Oceanographic Data Center (NODC) ensuring data are in an appropriate file format as outlined on the NODC website at <http://www.nodc.noaa.gov/access/dataformats.html>."

- a. Question: Are we only to deliver CTD data or are we to also send data from the MVP? **Only deliver CTD data.**
 - b. Question: Where is the data to be submitted? **I'll get back to you on a specific address.**
 - c. Question: When is the data to be submitted by? **Same as survey delivery date.**
 - d. Question: Is the data to be submitted project wide or is it to be separated by sheet? **Submit by sheet.**
 - e. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the CTD data with Sheet 6? **No. Deliver data from each sheet separately.**
 - f. Question: If it happens that during the project a CTD was not used, how are we to document that no CTD data were collected? **There is no need to document this.**
5. There is a difference between the Shoreline and Nearshore Features section between the Award for TO-0001 and the Mod.
- a. The original states: "Verify all features within the composite source file (CSF). All features with attribute asgnmt populated with 'Assigned' shall be addressed even if they are inshore of the NALL. All other submerged or visible cultural features inside the limit of survey shall be verified."
 - b. Whereas the Mod states: "Conduct a limited shoreline verification using the composite source file (CSF). All features with attribute 'asgnmt' populated with 'Assigned' shall be addressed even if they are inshore of the NALL. In the case of the unassigned offshore oil platforms within the survey area, should the field unit observe that the feature is not visible, then a formal disapproval is required. For the purposes of disapproval, charted features labeled with a "PA" will have a search radius of 160 meters, a "PD" will have a search radius of 240 meters, and all other features without a position qualifier will have a search radius of 80 meters."
 - c. Question: Leidos will address any 'Assigned' feature from the CSF. For disapproval, should Leidos follow the guidelines from the Mod Project Instructions? **Yes.**

Questions from the HSSD:

1. On page 111, it states, "If created, the difference surface shall be include in the final deliverables."
 - a. Question: Leidos performs the crossline/main scheme review by reviewing a difference surface that is generated in SABER. Is Leidos to deliver these difference grids? **Yes. Submit the difference surface as you would the rest of the SABER data.**
 - b. Question: The Contractor Data Directory Structure (pg 186) does not identify where the difference surface is to be delivered, should Leidos delivery them under a new folder within "Data/Processed/Bathymetry_&_SSS/"? **That should be fine.**
2. On page 118, Coast Pilot Data it states, "A Coast Pilot Field Report will be provided by HSD Operations."
 - a. Question: Leidos has not received the Coast Pilot Field Report, can it please be provided? **See attached.**
3. Page 118, it states, "The consolidated Coast Pilot Review Report shall be submitted in a PDF format and shall include answers to the specific questions, updates to the actual paragraph text, and the original Coast Pilot Field Report."
 - a. Question: Is Leidos to submit edits in both the Coast Pilot Review Report and to the full Coast Pilot? **Yes.**
 - b. Question: Are we to merge the Leidos edited Coast Pilot Review Report and the original Coast Pilot Field Report that we received from HSD Operations into one PDF or should Leidos deliver as two separate PDF files? **You can merge them.**
 - c. Question: If they are to be delivered as two separate PDF files, what is the file naming convention for delivering the original Coast Pilot Field Report; is it acceptable for Leidos to retain the naming convention as it was delivered to Leidos?
4. Page 118, it states "A Coast Pilot Review Report shall be submitted following the completion of operations within a project area, and no later than at the time of submission of the first Descriptive Report for that project."
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the Coast Pilot with the first delivery? **Yes.**
 - b. Question; Should Leidos identify an edit to the Coast Pilot upon returning to the project area to complete Sheet 5 and Sheet 6 is it acceptable for Leidos to

submit a revision with the naming convention similar to page 123 “Revised reports shall be identified by inclusion of a revision number in the name.”? **Yes. I don't imagine there will be any changes, though.**

5. Page 118, it states, “If an updated edition of the Coast Pilot was used, this shall be noted.”
 - a. Question: Please clarify the “updated edition”, is this if Leidos downloads the Coast Pilot that is more recent than what was provided to Leidos in the Coast Pilot Review Report? **Yes.**
6. Environmental Compliance Requirements, page 119, it states “The marine mammal observation log and associated photographs shall be submitted to pop.information@noaa.gov (with a CC to the HSD Project Manager/COR) at the end of each project.”
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 to 4, is it acceptable for Leidos to deliver the marine mammal observation log and associated photographs with the delivery of the last sheet? **Yes.**
 - b. Question: Leidos assumes that this is a project-wide deliverable and does not plan on separating the sightings by sheet bounds, is this correct? **Yes.**
7. Environmental Compliance Requirements, page 119, it states “Sea turtle sightings shall be recorded for each project and an email including the species (if known), number, size, date, time, coordinates, and sea state shall be sent (with a CC to the HSD Project Manager/COR) to: Larisa Avens on the East Coast (larisa.avens@noaa.gov), Jeff Seminoff on the West Coast (jeffrey.seminoff@noaa.gov), or George Balazs in Hawaii and Pacific Islands (george.balazs@noaa.gov).”
 - a. Question: Is there a specific form that Leidos should fill out should there be any sea turtle sightings? **See attached.**
 - b. Question: A delivery timeline is not listed for the Sea Turtle sightings documentation, is Leidos to assume the same delivery requirements as for the Marine Mammal Observation Log with corresponding photographs? **Yes.**
8. On page 128 it states, “Contractors will be provided an XML schema and stylesheet by their COR.”
 - a. Leidos has not received an XML schema and stylesheet that correspond to the Descriptive Report as outlined in the 2015 HSSD, can these files be provided to Leidos? **It should be the same as last year. I've attached it just in case.**
9. On page 134, for the Approval Sheet it states, “List all reports and data not included with the survey records or Descriptive Report that have been submitted to the processing office or to another office (e.g., Data Acquisition and Processing Report, Vertical and Horizontal Report, Tides and Water Levels Package, Coast Pilot Report).”

- a. Question: Should Leidos also include, if applicable, the submission of the Marine Mammal Observation Log and Sea Turtle Sightings? **Yes.**

10. Page 135, Sound Speed Data Summary. "Submit a list that can be imported into a GIS for office verifiers to analyze the distribution and frequency of the SVP casts."

- a. Question: In previous years Leidos has supplied AHB both a tabular file of the sound speed data acquired for each sheet as well as a files that contain concatenated SSP data that have been formatted for use in CARIS, *.svp files. Is it acceptable for Leidos to deliver only the CARIS *.svp files? **Yes.**

11. Page 142, NOAA extended attributes, special feature type (sftype), was modified from previous HSSD in that the AWOIS option has been removed.

- a. Question: Has the Feature Object Catalogue been changed, the version that Leidos was last provided with is NOAA Extended Attribute File V5-2? **I don't know of a new version. I'll check and get back to you.**
- b. Question: If the version is now different, can that version please be provided to Leidos.

12. CARIS BASE Surface and/or BAG, page 153, "Non-CARIS users may submit their Navigation Surfaces as a Bathymetric Attributed Grid (BAG)."

- a. Leidos assumes the following, based on previous instruction from AHB:
 - i. To deliver BAG version 1.5.1
 - ii. The BAG is to be compressed
 - iii. The BAG file is not to exceed: 2 GB
- b. Question: Are Leidos' assumptions correct? **Yes.**

13. Contractors Data Delivery Structure, page 186:

- a. Question: Leidos identified that there is no place holder under Project Reports for the Coast Pilot, should Leidos create a folder for the Coast Pilot under Project Reports or will the Coast Pilot only be delivered via email? **You can deliver by email.**
- b. Question: Leidos identified that there is no place holder for either the Marine Mammal Observation Log and photographs or the Sea Turtle Sightings, are these submissions only made via email? **Yes.**

On Mon, Oct 19, 2015 at 1:01 PM, Bernier, Bridget W.
<BRIDGET.W.BERNIER@leidos.com> wrote:

Greetings,

After review of the HSSD 2015 as well as the OPR-K371-KR-15 Project Instructions for TO-0001 and the TO-0001 modification we have several questions, these are listed below.

Questions from the Project Instructions:

1. The Project Instructions for Sheets 1 through 4 references the 2014 edition of the HSSD, while the Project Instructions for Sheets 5 and 6 references the 2015 edition of the HSSD.
 - a. Question: May Leidos perform the survey for all six sheets and deliver to the 2015 edition?

2. In the Project Instructions received for Sheets 5 and 6 (Mod 001) the scale for Sheet 6 is listed at "4000".
 - a. Question: Is this Sheet 6 scale supposed to be 40,000?

3. Coast Pilot
 - a. Question: Are the Coast Pilot Investigation Items part of the Coast Pilot Field Report?

4. In the Special Data Handling Requirements, item 2 "Submit all Conductivity, Temperature, and Depth (CTD) data to the National Oceanographic Data Center (NODC) ensuring data are in an appropriate file format as outlined on the NODC website at <http://www.nodc.noaa.gov/access/dataformats.html>."
 - a. Question: Are we only to deliver CTD data or are we to also send data from the MVP?

 - b. Question: Where is the data to be submitted?

 - c. Question: When is the data to be submitted by?

 - d. Question: Is the data to be submitted project wide or is it to be separated by sheet?

 - e. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the CTD data with Sheet 6?

 - f. Question: If it happens that during the project a CTD was not used, how are we to document that no CTD data were collected?

5. There is a difference between the Shoreline and Nearshore Features section between the Award for TO-0001 and the Mod.

- a. The original states: "Verify all features within the composite source file (CSF). All features with attribute asgmt populated with 'Assigned' shall be addressed even if they are inshore of the NALL. All other submerged or visible cultural features inside the limit of survey shall be verified."
- b. Whereas the Mod states: "Conduct a limited shoreline verification using the composite source file (CSF). All features with attribute 'asgmt' populated with 'Assigned' shall be addressed even if they are inshore of the NALL. In the case of the unassigned offshore oil platforms within the survey area, should the field unit observe that the feature is not visible, then a formal disapproval is required. For the purposes of disapproval, charted features labeled with a "PA" will have a search radius of 160 meters, a "PD" will have a search radius of 240 meters, and all other features without a position qualifier will have a search radius of 80 meters."
- c. Question: Leidos will address any 'Assigned' feature from the CSF. For disapproval, should Leidos follow the guidelines from the Mod Project Instructions?

Questions from the HSSD:

1. On page 111, it states, "If created, the difference surface shall be include in the final deliverables."
 - a. Question: Leidos performs the crossline/main scheme review by reviewing a difference surface that is generated in SABER. Is Leidos to deliver these difference grids?
 - b. Question: The Contractor Data Directory Structure (pg 186) does not identify where the difference surface is to be delivered, should Leidos delivery them under a new folder within "Data/Processed/Bathymetry_&_SSS/"?
2. On page 118, Coast Pilot Data it states, "A Coast Pilot Field Report will be provided by HSD Operations."
 - a. Question: Leidos has not received the Coast Pilot Field Report, can it please be provided?
3. Page 118, it states, "The consolidated Coast Pilot Review Report shall be submitted in a PDF format and shall include answers to the specific questions, updates to the actual paragraph text, and the original Coast Pilot Field Report."
 - a. Question: Is Leidos to submit edits in both the Coast Pilot Review Report and to the full Coast Pilot?

- b. Question: Are we to merge the Leidos edited Coast Pilot Review Report and the original Coast Pilot Field Report that we received from HSD Operations into one PDF or should Leidos deliver as two separate PDF files?
 - c. Question: If they are to be delivered as two separate PDF files, what is the file naming convention for delivering the original Coast Pilot Field Report; is it acceptable for Leidos to retain the naming convention as it was delivered to Leidos?
- 4. Page 118, it states “A Coast Pilot Review Report shall be submitted following the completion of operations within a project area, and no later than at the time of submission of the first Descriptive Report for that project.”
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the Coast Pilot with the first delivery?
 - b. Question; Should Leidos identify an edit to the Coast Pilot upon returning to the project area to complete Sheet 5 and Sheet 6 is it acceptable for Leidos to submit a revision with the naming convention similar to page 123 “Revised reports shall be identified by inclusion of a revision number in the name.”?
- 5. Page 118, it states, “If an updated edition of the Coast Pilot was used, this shall be noted.”
 - a. Question: Please clarify the “updated edition”, is this if Leidos downloads the Coast Pilot that is more recent than what was provided to Leidos in the Coast Pilot Review Report?
- 6. Environmental Compliance Requirements, page 119, it states “The marine mammal observation log and associated photographs shall be submitted to pop.information@noaa.gov (with a CC to the HSD Project Manager/COR) at the end of each project.”
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 to 4, is it acceptable for Leidos to deliver the marine mammal observation log and associated photographs with the delivery of the last sheet?
 - b. Question: Leidos assumes that this is a project-wide deliverable and does not plan on separating the sightings by sheet bounds, is this correct?
- 7. Environmental Compliance Requirements, page 119, it states “Sea turtle sightings shall be recorded for each project and an email including the species (if known), number, size, date, time, coordinates, and sea state shall be sent (with a CC to the HSD Project Manager/COR) to: Larisa Avens on the East Coast (larisa.avens@noaa.gov), Jeff Seminoff on the West Coast (jeffrey.seminoff@noaa.gov), or George Balazs in Hawaii and Pacific Islands (george.balazs@noaa.gov).”

- a. Question: Is there a specific form that Leidos should fill out should there be any sea turtle sightings?
 - b. Question: A delivery timeline is not listed for the Sea Turtle sightings documentation, is Leidos to assume the same delivery requirements as for the Marine Mammal Observation Log with corresponding photographs?
8. On page 128 it states, "Contractors will be provided an XML schema and stylesheet by their COR."
 - a. Leidos has not received an XML schema and stylesheet that correspond to the Descriptive Report as outlined in the 2015 HSSD, can these files be provided to Leidos?
9. On page 134, for the Approval Sheet it states, "List all reports and data not included with the survey records or Descriptive Report that have been submitted to the processing office or to another office (e.g., Data Acquisition and Processing Report, Vertical and Horizontal Report, Tides and Water Levels Package, Coast Pilot Report)."
 - a. Question: Should Leidos also include, if applicable, the submission of the Marine Mammal Observation Log and Sea Turtle Sightings?
10. Page 135, Sound Speed Data Summary. "Submit a list that can be imported into a GIS for office verifiers to analyze the distribution and frequency of the SVP casts."
 - a. Question: In previous years Leidos has supplied AHB both a tabular file of the sound speed data acquired for each sheet as well as a files that contain concatenated SSP data that have been formatted for use in CARIS, *.svp files. Is it acceptable for Leidos to deliver only the CARIS *.svp files?
11. Page 142, NOAA extended attributes, special feature type (sftype), was modified from previous HSSD in that the AWOIS option has been removed.
 - a. Question: Has the Feature Object Catalogue been changed, the version that Leidos was last provided with is NOAA Extended Attribute File V5-2?
 - b. Question: If the version is now different, can that version please be provided to Leidos.
12. CARIS BASE Surface and/or BAG, page 153, "Non-CARIS users may submit their Navigation Surfaces as a Bathymetric Attributed Grid (BAG)."
 - a. Leidos assumes the following, based on previous instruction from AHB:
 - i. To deliver BAG version 1.5.1
 - ii. The BAG is to be compressed

iii. The BAG file is not to exceed: 2 GB

b. Question: Are Leidos' assumptions correct?

13. Contractors Data Delivery Structure, page 186:

a. Question: Leidos identified that there is no place holder under Project Reports for the Coast Pilot, should Leidos create a folder for the Coast Pilot under Project Reports or will the Coast Pilot only be delivered via email?

b. Question: Leidos identified that there is no place holder for either the Marine Mammal Observation Log and photographs or the Sea Turtle Sightings, are these submissions only made via email?

Please let me know if there are any clarifications needed to what I have listed above.

Thank you,

-Bridget

From: Evans, Rod E.
Sent: Thursday, November 19, 2015 1:53 PM
To: Quintal, Rebecca T.; Bernier, Bridget W.
Cc: Donaldson, Paul L.
Subject: FW: HTD 2014-04 Revision of Feature Flagging Guidance

From: Eric Berkowitz - NOAA Federal [eric.w.berkowitz@noaa.gov]
Sent: Thursday, November 19, 2015 1:50 PM
To: _NOS OCS HSD; CO.Thomas Jefferson - NOAA Service Account; holly Jablonski - NOAA Federal; CO.Ferdinand Hassler - NOAA Service Account; OPS.Thomas Jefferson - NOAA Service Account; _OMAO MOP CO Rainier; OPS.Ferdinand Hassler - NOAA Service Account; _OMAO MOP CO Fairweather; _OMAO MOP OPS Fairweather; OPS.Rainier@noaa.gov; Thomas Newman; Millar, David FPI; jld@deainc.com; Evans, Rod E.; tara.levy@cctech.us; George Reynolds; Arthur Wright; David Neff
Cc: Russell Proctor - NOAA Federal
Subject: HTD 2014-04 Revision of Feature Flagging Guidance
Attachment: HTD2015-04_RevisionOfFeatureFlaggingGuidance.pdf

All,

Attached is HTD 2015-04 - Revision of Feature Flagging Guidance. The directive serves to revise the feature flagging guidance for survey deliverables from field units to the Hydrographic Processing Branches.

Please contact Katrina Wyllie at katrina.wyllie@noaa.gov if you have any questions or comments concerning this directive.

CAPT Eric W. Berkowitz, NOAA
Chief, Hydrographic Surveys Division
1315 East-West Highway, SSMC3 Room 6823
Silver Spring, MD 20910
[301-713-2700](tel:301-713-2700) x 124 w
[301-204-2791](tel:301-204-2791) - c

From: Mark Lathrop - NOAA Federal [mailto:mark.t.lathrop@noaa.gov]
Sent: Monday, November 30, 2015 2:18 PM
To: Bernier, Bridget W.
Cc: Gene Parker; Matthew Jaskoski - NOAA Federal (matthew.jaskoski@noaa.gov); Evans, Rod E.; Quintal, Rebecca T.; Donaldson, Paul L.
Subject: Re: Follow up on the Coast Pilot Field Report

Bridget,

Sabine Bank is charted on Sheets 1 and 3 of your project. Please report on those areas you surveyed.

Mark

On Mon, Nov 30, 2015 at 1:49 PM, Bernier, Bridget W.
<BRIDGET.W.BERNIER@leidos.com> wrote:

Mark,

Can you please provide clarification regarding the wording in the Coast Pilot Field Report.

From the Coast Pilot Field Report it states the following:

CP5 - Chapter 9 – Paragraph 530

Please verify the shoal depth range:

Sabine Bank is a succession of detached shoal spots parallel with and distant about 17 miles from the mainland. From the vicinity of Calcasieu Pass, the bank extends about 38 miles W to the vicinity of Sabine Pass and has several passages between the detached shoals. Depths on the shoals range from 16 to 30 feet and are subject to change.

Note that Sabine Bank is a large shoal which extends outside of our survey bounds. Can you please confirm that we are only to verify the shoal depth range within the Statement of Work survey bounds.

Thanks,
-Bridget

Bridget W. Bernier | Leidos

Asst. Data Processing Manager | Marine Survey and Engineering Solutions
phone: [401.847.4210](tel:401.847.4210)
bridget.w.bernier@leidos.com | leidos.com

Please consider the environment before printing this email.

From: Quintal, Rebecca T.
Sent: Tuesday, February 02, 2016 10:04 AM
To: Mark.T.Lathrop@noaa.gov
Cc: Rhodri E. Evans
Subject: Follow-up on December meeting

Hello Mark,

Just want to follow up on 2 items from our meeting in December.

1. The last NOAA Extended Attribute File that Leidos received was V5-2. Can you please confirm that this is the correct version that we should be using for our TO-0001 deliveries?
2. Just documenting what we discussed in December regarding delivering difference grids... which was... since the requirement to deliver difference grids is only found in the 2015 HSSD in Section 5.3.4.3 Lidar Crossline (page 110-111), that it is not a requirement for our multibeam surveys for TO-0001.

Thanks Mark!
-Rebecca

Rebecca T. Quintal | Leidos
Hydrographic Survey & Data Solutions Manager
Marine Survey & Engineering Solutions
office: 401.848.4607
mobile: 401.829.6242
rebecca.t.quintal@leidos.com

From: Christina Fandel - NOAA Federal [mailto:christina.fandel@noaa.gov]
Sent: Monday, February 08, 2016 4:33 PM
To: Quintal, Rebecca T.
Cc: Castle Parker - NOAA Federal; Mark Lathrop - NOAA Federal; Michael Gonsalves - NOAA Federal
Subject: Re: H12727 XML DR test

Gene, Rebecca,

The XML file for H12727 is valid and I have attached a revised file that is readable in Pydro.

Pydro's inability to open the file and noting that the XML is invalid is related to the header information within the XML file.

In short, the XML file requires the root directory of the reference schema to be identified. Because contractor field units often store their reference schema in a different location than NOAA, the specified local schema path is not recognized by Pydro and the XML file is marked as invalid

Pydro's inability to read this file was related to the descriptive report namespace reference which was specified as <http://www.w3.org/2001/XInclude> whereas Pydro is looking for <http://svn.pydro.noaa.gov/2015/02/DescriptiveReport>.

That being said, the XML file that Leidos submitted was valid and I will work with our software programmer to determine if we can automatically update the schema-location reference and DR namespace reference upon import in Pydro. In the meantime, if this issue arises again, please forward the XML file to me and I can make the necessary changes.

Thank you,

Christy

On Fri, Feb 5, 2016 at 2:23 PM, Quintal, Rebecca T.
<REBECCA.T.QUINTAL@leidos.com> wrote:

Thanks for looking at this Gene.

Christina, any guidance is greatly appreciated! We are planning to make the H12727 delivery next week.

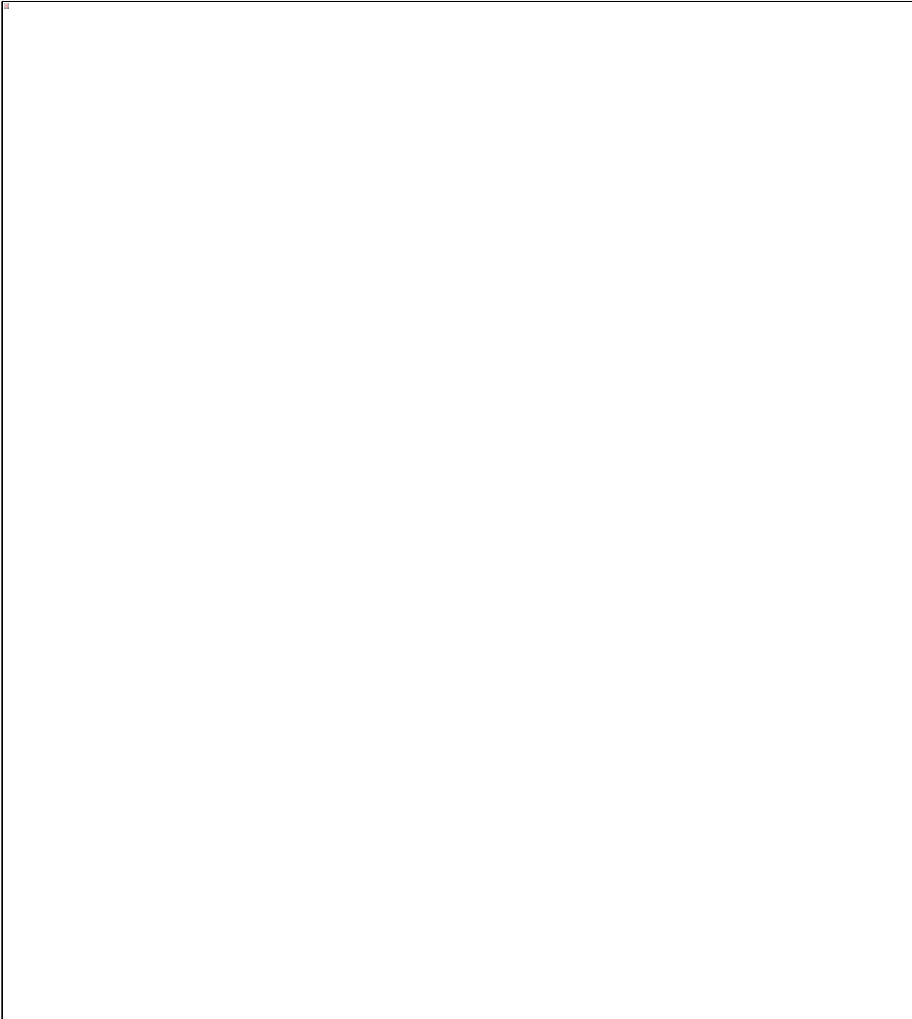
Thanks,

-Rebecca

From: Castle Parker - NOAA Federal [mailto:castle.e.parker@noaa.gov]
Sent: Friday, February 05, 2016 1:26 PM
To: Quintal, Rebecca T.
Cc: Christina Fandel - NOAA Federal
Subject: RE: H12727 XML DR test

Rebecca,

The XML file will not open in Pydro as non-validating. The error message upon opening the test XML file is as follows:



Selected to open the XML file as non-validating. The results were the same as the original error message above. Rebecca I have forwarded your email with the attached to Christy Fandel for review and insight.

To summarize, the submitted XML file will not open.

Sorry.

Gene

Castle Eugene Parker
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
Hydrographic Team Lead / Physical Scientist
castle.e.parker@noaa.gov
office (757) 441-6746 x115

From: Quintal, Rebecca T. [mailto:REBECCA.T.QUINTAL@leidos.com]
Sent: Friday, February 05, 2016 12:54 PM
To: Castle Eugene Parker (castle.e.parker@noaa.gov)
Subject: H12727 XML DR test

Gene,

Thanks for taking a look at this for us. This XML validates in the XML Spy software we are using. I've also attached the schema and stylesheet that we were provided for our 2015 sheets in case that helps.

Let me know how it looks on your end.

Many thanks!
-Rebecca

Rebecca T. Quintal | Leidos
Hydrographic Survey & Data Solutions Manager
Marine Survey & Engineering Solutions
office: [401.848.4607](tel:401.848.4607)
mobile: [401.829.6242](tel:401.829.6242)
rebecca.t.quintal@leidos.com

From: Donaldson, Paul L.
Sent: Friday, February 12, 2016 10:51 AM
To: 'OCS.NDB@NOAA.GOV'; 'Coast.Pilot@NOAA.GOV'; 'Mark.T.Lathrop@noaa.gov'; 'christina.fandel@noaa.gov'
Subject: OPR-K371-KR-15 Coast Pilot Review Report
Attachment: OPR-K371-KR-15_Coast Pilot Review Report.pdf

Please find attached the Coast Pilot Review results for Contract: EA133C-14-CQ-0033, Project Number OPR-K371-KR-15, Task Order #01 (Sabine, LA). The one attached .pdf file submitted addresses the specific questions within OPR-K371_KR-15 Coast Pilot Field Report. Information was updated for the general operations area and ports of call utilized during survey operations for chapters 9 and 10 based on the August 23, 2015 US Coast Pilot 5, , Gulf of Mexico, Puerto Rico and Virgin Islands.

Please contact me if there are any questions or problems with the attached.

Paul L. Donaldson CH (NSPS #241)|Leidos
Survey Operations Coordinator/Chief Hydrographer
Phone: 401.848.4757
Mobile: 860.857.8802
Fax: 401.849.1585
Email: paul.l.donaldson@leidos.com

221 Third Street, Building A
Newport, RI 02840 USA
Leidos.com

From: Christina Fandel - NOAA Federal [mailto:christina.fandel@noaa.gov]
Sent: Thursday, July 07, 2016 4:09 PM
To: Quintal, Rebecca T.
Cc: Kathryn Pridgen - NOAA Federal (kathryn.pridgen@noaa.gov)
Subject: Re: FW: new point of contact

Hi Rebecca,

For TO-0001, I will serve as the project manager/COR for the remainder of period of performance. For TO-0002, please include both Katy and I on all correspondence. Thank you and please let me know if you have any more questions.

Christy

On Thu, Jul 7, 2016 at 3:30 PM, Quintal, Rebecca T.
<REBECCA.T.QUINTAL@leidos.com> wrote:
Hi Christy,

I know Katy is at sea, but is it possible to get an email that states our POCs for both TO-0001 and TO-0002 since I would like to include it in the supplemental correspondence for the 2 sheets we will be delivering on TO-0001 by the end of August 2016. The below is all I have in writing to date.

Thanks!
-Rebecca

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

From: Evans, Rod E.
Sent: Wednesday, June 29, 2016 3:16 PM
To: Quintal, Rebecca T.
Cc: Donaldson, Paul L.
Subject: FW: new point of contact

From: Mark Lathrop - NOAA Federal [mark.t.lathrop@noaa.gov]
Sent: Wednesday, June 29, 2016 1:27 PM
To: Evans, Rod E.
Cc: Kathryn Pridgen - NOAA Federal
Subject: new point of contact

Rod,

I just want to remind you that your new point of contact for TO2 will be Katy Pridgen. Please direct all task order correspondence to her.

Thanks,

Mark

--

Physical Scientist
Hydrographic Surveys Division
Office of Coast Survey, NOAA
Christina.Fandel@noaa.gov
(301) 713 - 2702 x 133

From: Bernier, Alex T.
Sent: Tuesday, July 12, 2016 3:02 PM
To: ahb.dton@noaa.gov; christina.fandel@noaa.gov
Cc: Castle.E.Parker@noaa.gov; Quintal, Rebecca T.; Evans, Rod E.; Bernier, Bridget W.; Donaldson, Paul L.
Subject: OPR-K371-KR-15 Danger to Navigation Report 01 for H12838
Attachment: H12838_DTON_01.zip

Please find attached one Danger to Navigation Reports:

- H12838 DTON #1

The files for the DTON submission are provided within a single zip folder containing:

- One (1) S-57 file (*.000)
- Image files that are referenced within the S-57 file (*.jpg)

Please feel free to contact us if there are any questions with the attached file.

Thank you,

Alex Bernier | Leidos

Lead Hydrographer | Marine Scientist
Marine Survey and Engineering Solutions
office: 401.847.4210
mobile: 508.494.3485
alex.t.bernier@leidos.com | leidos.com



This email and any attachments to it are intended only for the identified recipients. It may contain proprietary or otherwise legally protected information of Leidos. Any unauthorized use or disclosure of this communication is strictly prohibited. If you have received this communication in error, please notify the sender and delete or otherwise destroy the email and all attachments immediately.

From: OCS NDB - NOAA Service Account [mailto:ocs.ndb@noaa.gov]
Sent: Wednesday, July 13, 2016 10:54 AM
To: Castle Parker - NOAA Federal
Cc: Mark Lathrop - NOAA Federal; Christina Fandel - NOAA Federal; Bernier, Alex T.; Quintal, Rebecca T.; Kathryn Pridgen - NOAA Federal; Donaldson, Paul L.; Bernier, Bridget W.; NSD Coast Pilot; Benjamin K Evans - NOAA Federal; James Crocker - NOAA Federal; Matt Kroll - NOAA Federal; Nautical Data Branch; Tara Wallace - NOAA Federal; Pearce Hunt - NOAA Federal; _NOS OCS PBA Branch; _NOS OCS PBB Branch; _NOS OCS PBC Branch; _NOS OCS PBD Branch; _NOS OCS PBE Branch; _NOS OCS PBG Branch
Subject: Re: H12838 DtoN #1: 53ft Uncharted Wreck
Attachment: H12838_DtoN_1_53ftWreck.zip

L-567/16 and DD-27455 have been registered by the Nautical Data Branch and directed to Products Branch G for processing.

The DtoN reported is one wreck in the Gulf of Mexico, located approximately 29 NM south of Calcasieu Pass, LA.

The following charts are affected:

11341 kapp 124

11344 kapp 123

11330 kapp 195

11340 kapp 49

The following ENC's are affected:

US4LA14M

US3GC02M

References:

H12838

OPR-K371-KR-15

This information was discovered by a NOAA contractor and was submitted by AHB.

Nautical Data Branch/Marine Chart Division/

Office of Coast Survey/National Ocean Service/

Contact: ocs.ndb@noaa.gov



On Wed, Jul 13, 2016 at 8:32 AM, Castle Parker - NOAA Federal

<castle.e.parker@noaa.gov> wrote:

Good day,

Please find attached compressed file for H12838 DtoN #1 for submission to Nautical Data Branch (NDB) and Marine Chart Division (MCD). This danger submission contains one 53ft wreck (uncharted).

The information originates from NOAA contract field unit Leidos and was submitted to the Atlantic Hydrographic Branch (AHB) for review and processing. The contents of the attached WinZip file were generated at AHB. The attached zip file contains a DtoN Letter (PDF), associated image files, and a Pydro XML file.

If you have any questions, please direct them back to me via email or phone [757-441-6746 x115](tel:757-441-6746).

Thank you for your assistance with this matter.

Regards,
Gene Parker

Castle Eugene Parker
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
Hydrographic Team Lead / Physical Scientist
castle.e.parker@noaa.gov
office [757-441-6746 x115](tel:757-441-6746)

From: Laura Jeffery - NOAA Federal [mailto:laura.jeffery@noaa.gov]
Sent: Wednesday, July 13, 2016 2:05 PM
To: Donaldson, Paul L.
Cc: OCS.NDB@NOAA.GOV; Coast.Pilot@NOAA.GOV; Christina Fandel - NOAA Federal
Subject: Re: OPR-K371-KR-15 Coast Pilot Review Report

Hello Paul,

Thank you for your email regarding this report.

-Nautical Publications Branch, NOS

On Wed, Jul 13, 2016 at 2:00 PM, Donaldson, Paul L.

<PAUL.L.DONALDSON@leidos.com> wrote:

A Coast Pilot Review Report for Contract: EA133C-14-CQ-0033, Project Number OPR-K371-KR-15, Task Order #01 (Sabine, LA) was submitted on February 12, 2016 after the initial data collection under this task order was completed. The report addressed the specific questions within OPR-K371_KR-15 Coast Pilot Field Report. Information was updated for the general operations area and ports of call utilized during survey operations for chapters 9 and 10 based on the August 23, 2015 US Coast Pilot 5, Gulf of Mexico, Puerto Rico and Virgin Islands. The final data collection for Project Number OPR-K371-KR-15 has now been completed and there are no changes to the Coast Pilot Review Report submitted on February 12, 2016. Therefore no revised Coast Pilot Field Report is being issued for Contract: EA133C-14-CQ-0033, Project Number OPR-K371-KR-15, Task Order #01 (Sabine, LA).

Please contact Leidos if there are any questions.

Paul L. Donaldson CH (NSPS #241)|Leidos
Survey Operations Coordinator/Chief Hydrographer
Phone: [401.848.4757](tel:401.848.4757)
Mobile: [860.857.8802](tel:860.857.8802)
Fax: [401.849.1585](tel:401.849.1585)
Email: paul.l.donaldson@leidos.com
221 Third Street, Building A
Newport, RI 02840 USA
Leidos.com

From: OCS NDB - NOAA Service Account [mailto:ocs.ndb@noaa.gov]
Sent: Wednesday, July 13, 2016 2:06 PM
To: Donaldson, Paul L.
Cc: Coast.Pilot@NOAA.GOV; Christina Fandel - NOAA Federal
Subject: Re: OPR-K371-KR-15 Coast Pilot Review Report

Mr. Donaldson,

Thank you for informing us of the status of the Coast Pilot Review Report. The report was processed by the Nautical Data Branch and forwarded to Coast Pilot.

Lance Roddy
Cartographer
Nautical Data Branch/Marine Chart Division/
Office of Coast Survey/National Ocean Service/
Contact: ocs.ndb@noaa.gov



On Wed, Jul 13, 2016 at 2:00 PM, Donaldson, Paul L.
<PAUL.L.DONALDSON@leidos.com> wrote:

A Coast Pilot Review Report for Contract: EA133C-14-CQ-0033, Project Number OPR-K371-KR-15, Task Order #01 (Sabine, LA) was submitted on February 12, 2016 after the initial data collection under this task order was completed. The report addressed the specific questions within OPR-K371_KR-15 Coast Pilot Field Report. Information was updated for the general operations area and ports of call utilized during survey operations for chapters 9 and 10 based on the August 23, 2015 US Coast Pilot 5, Gulf of Mexico, Puerto Rico and Virgin Islands. The final data collection for Project Number OPR-K371-KR-15 has now been completed and there are no changes to the Coast Pilot Review Report submitted on February 12, 2016. Therefore no revised Coast Pilot Field Report is being issued for Contract: EA133C-14-CQ-0033, Project Number OPR-K371-KR-15, Task Order #01 (Sabine, LA).

Please contact Leidos if there are any questions.

Paul L. Donaldson CH (NSPS #241)|Leidos
Survey Operations Coordinator/Chief Hydrographer
Phone: [401.848.4757](tel:401.848.4757)
Mobile: [860.857.8802](tel:860.857.8802)
Fax: [401.849.1585](tel:401.849.1585)
Email: paul.l.donaldson@leidos.com
221 Third Street, Building A
Newport, RI 02840 USA
Leidos.com

From: Bernier, Alex T.
Sent: Wednesday, July 13, 2016 3:23 PM
To: ahb.dton@noaa.gov; christina.fandel@noaa.gov
Cc: Castle.E.Parker@noaa.gov; Quintal, Rebecca T.; Evans, Rod E.; Bernier, Bridget W.; Donaldson, Paul L.
Subject: OPR-K371-KR-15 Danger to Navigation Report 02 for H12838
Attachment: H12838_DTON_02.zip

Please find attached one Danger to Navigation Reports:

- H12838 DTON #2

The files for the DTON submission are provided within a single zip folder containing:

- One (1) S-57 file (*.000)
- Image files that are referenced within the S-57 file (*.jpg)

Please feel free to contact us if there are any questions with the attached file.

Thank you,

Alex Bernier | Leidos

Lead Hydrographer | Marine Scientist
Marine Survey and Engineering Solutions
office: 401.847.4210
mobile: 508.494.3485
alex.t.bernier@leidos.com | leidos.com



This email and any attachments to it are intended only for the identified recipients. It may contain proprietary or otherwise legally protected information of Leidos. Any unauthorized use or disclosure of this communication is strictly prohibited. If you have received this communication in error, please notify the sender and delete or otherwise destroy the email and all attachments immediately.

From: Castle Parker - NOAA Federal [mailto:castle.e.parker@noaa.gov]
Sent: Thursday, July 14, 2016 1:04 PM
To: Tim Osborn - NOAA Federal
Cc: Bernier, Alex T.; Quintal, Rebecca T.; Bernier, Bridget W.; Donaldson, Paul L.; Christina Fandel - NOAA Federal; Kathryn Pridgen - NOAA Federal
Subject: FW: OPR-K371-KR-15 Report 02 for H12838
Attachment: H12838_Exposed Pipeline.pdf

Good day Tim,

Leidos has found an exposed and unburied pipeline within survey H12838 29 NM South of Calcasieu Pass. The submission arrived yesterday and I have generated a report for you. This feature is not going to be submitted to Nautical Data Branch for chart application. The information submitted by Leidos follows Danger submission protocol, however this feature is not a danger to surface navigation as the location is on a charted pipeline.

This report is intended for informational purposes only.

Regards,
Gene

Castle Eugene Parker
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
Hydrographic Team Lead / Physical Scientist
castle.e.parker@noaa.gov
office (757) 441-6746 x115

From: Tim Osborn - NOAA Federal [mailto:tim.osborn@noaa.gov]
Sent: Thursday, July 14, 2016 6:18 PM
To: Castle Parker - NOAA Federal
Cc: Bernier, Alex T.; Quintal, Rebecca T.; Bernier, Bridget W.; Donaldson, Paul L.; Christina Fandel - NOAA Federal; Kathryn Pridgen - NOAA Federal
Subject: Re: OPR-K371-KR-15 Report 02 for H12838

Gene

Thank you. Will be distributed.

On Jul 14, 2016, at 12:04 PM, Castle Parker - NOAA Federal
<castle.e.parker@noaa.gov> wrote:

Good day Tim,
Leidos has found an exposed and unburied pipeline within survey H12838 29 NM South of Calcasieu Pass. The submission arrived yesterday and I have generated a report for you. This feature is not going to be submitted to Nautical Data Branch for chart application. The information submitted by Leidos follows Danger submission protocol, however this feature is not a danger to surface navigation as the location is on a charted pipeline.

This report is intended for informational purposes only.
Regards,
Gene

*Castle Eugene Parker
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
Hydrographic Team Lead / Physical Scientist
castle.e.parker@noaa.gov
office (757) 441-6746 x115*

From: Bernier, Alex T. [mailto:ALEX.T.BERNIER@leidos.com]
Sent: Wednesday, July 13, 2016 3:23 PM
To: ahb.dton@noaa.gov; christina.fandel@noaa.gov
Cc: Castle.E.Parker@noaa.gov; Quintal, Rebecca T.; Evans, Rod E.; Bernier, Bridget W.; Donaldson, Paul L.
Subject: OPR-K371-KR-15 Danger to Navigation Report 02 for H12838

Please find attached one Danger to Navigation Reports:

- H12838 DTON #2

The files for the DTON submission are provided within a single zip folder containing:

- One (1) S-57 file (*.000)
- Image files that are referenced within the S-57 file (*.jpg)

Please feel free to contact us if there are any questions with the attached file.

Thank you,

Alex Bernier | Leidos

Lead Hydrographer | Marine Scientist
Marine Survey and Engineering Solutions
office: 401.847.4210
mobile: 508.494.3485
alex.t.bernier@leidos.com | leidos.com

This email and any attachments to it are intended only for the identified recipients. It may contain proprietary or otherwise legally protected information of Leidos. Any unauthorized use or disclosure of this communication is strictly prohibited. If you have received this communication in error, please notify the sender and delete or otherwise destroy the email and all attachments immediately.

<H12838_Exposed Pipeline.pdf>

From: Bernier, Alex T.
Sent: Friday, July 15, 2016 5:02 PM
To: survey.outlines@noaa.gov; christina.fandel@noaa.gov
Cc: Evans, Rod E.; Donaldson, Paul L.; Bernier, Bridget W.; Quintal, Rebecca T.
Subject: OPR-K371-KR-15 Survey Outline for H12838
Attachment: H12838_Survey_Outline.000

Christy,

Please find attached the Survey Outline file for H12838 (Sheet 6), from OPR-K371-KR-15, Sabine, LA, Task Order-0001.

The survey outline has been generated as S-57 Feature Object Class M_COVR in .000 format (WGS84 datum, un-projected) as specified in the May 2015 HSSD (Section 8.1.2).

Please let me know if you have any questions.

Thank you,

Alex Bernier | Leidos

Lead Hydrographer | Marine Scientist
Marine Survey and Engineering Solutions
office: 401.847.4210
mobile: 508.494.3485
alex.t.bernier@leidos.com | leidos.com



This email and any attachments to it are intended only for the identified recipients. It may contain proprietary or otherwise legally protected information of Leidos. Any unauthorized use or disclosure of this communication is strictly prohibited. If you have received this communication in error, please notify the sender and delete or otherwise destroy the email and all attachments immediately.

APPROVAL PAGE

H12838

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

- H12838_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12838_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