

H12435

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic Multibeam & 200% Sidescan

Project No. OPR-K354-KR-12

Registry No. H12435

LOCALITY

State Louisiana

General Locality Gulf of Mexico

Sub-locality 32 NM S of Atchafalaya Bay

2012

CHIEF OF PARTY
Tara Levy

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DATE: _____

NOAA FORM 77-28 (11-72)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION		REGISTRY No: H12435
HYDROGRAPHIC TITLE SHEET				
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:	<u>Louisiana</u>			
General Locality:	<u>Gulf of Mexico</u>			
Locality:	<u>32 NM S of Atchafalaya Bay</u>			
Scale:	<u>1:40,000</u>			
Date of Survey:	<u>05/24/2012 to 11/29/2012</u>			
Instructions Dated:	<u>April 2012</u>			
Project Number:	<u>OPR-K354-KR-12</u>			
Vessels:	<u>R/V Sea Scout</u>			
Chiefs of Party:	<u>Tara Levy</u>			
Surveyed by:	<u>C&C Technologies Personnel</u>			
Soundings by echosounder:	<u>Simrad EM3002 Multibeam Echo sounder</u>			
Verification by:	<u>Atlantic Hydrographic Branch</u>			
Soundings in:	Feet: <u> X </u> Fathoms: <u> </u> Meters: <u> </u> at MLW: <u> </u> MLLW: <u> X </u>			
Remarks: <i>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 Geophysical Data Center (NGDC) and can be retrieved via http://www.ngdc.noaa.gov/.</i>				

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Descriptive Report to Accompany Survey H12435

Project: OPR-K354-KR-12

Locality: Gulf of Mexico

Sub locality: 32 NM S of Atchafalaya Bay

Scale: 1:40000

May 24th, 2012 – November 29th, 2012

R/V Sea Scout

Chief of Party: Tara Levy

A. Area Surveyed

The survey is located 32 NM S of Atchafalaya Bay.

A.1. Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
28.879 N	28.818 N
91.322 W	91.429 W

Table 1: Survey limits.

A.2. Survey Purpose

The purpose of this survey is to provide accurate hydrographic data in order to update existing NOS nautical charts. Charted hydrography originates with 1934-36 surveys, and unreliable charted depths have been reported. In addition, this area is a high commercial traffic area with a high concentration of oil & gas platforms and associated pipelines. The survey covers 19.66 square nautical miles of critical survey area as designated in the NOAA Hydrographic Survey Priorities, 2011 edition.

A.3. Survey Quality

The entire survey is adequate to supersede previous data.

A.4. Survey Coverage

Two hundred percent (200%) side scan sonar (SSS) coverage and concurrent set line spacing multibeam echo sounder (MBES) data were acquired in accordance with the coverage requirements as stated in the Project Instructions for this survey. Object detection coverage was obtained over significant features. Figure 1 shows the survey area in relation to the Louisiana coastline.

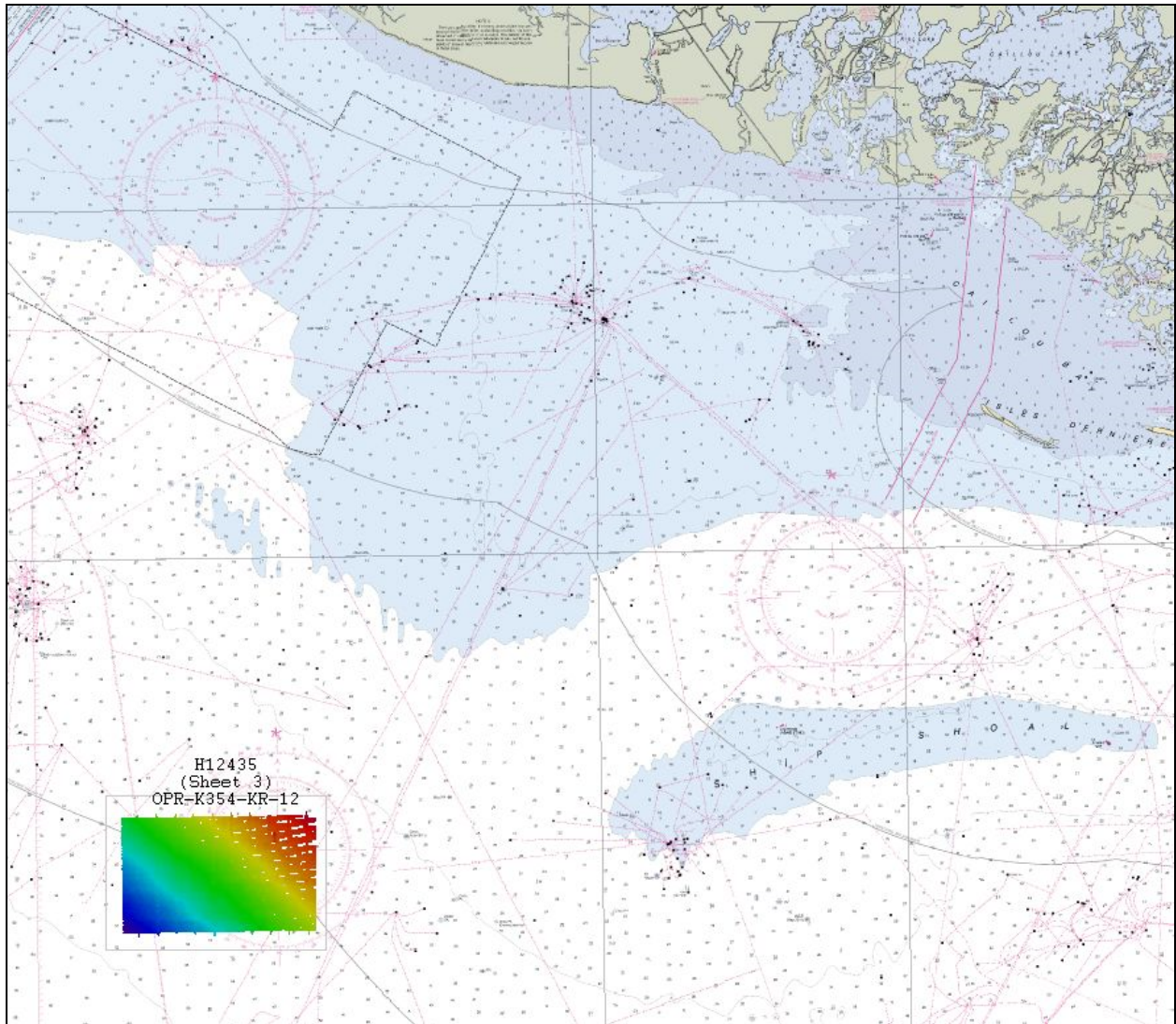


Figure 1. H12435 survey coverage.

A.5. Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey as well as pertinent survey information:

	Hull ID	AAP34141H011
LNM	SBES Mainscheme (only)	0.00
	MBES Mainscheme (only)	0.00
	SSS Mainscheme (only)	0.00
	SBES/MBES Combo Mainscheme	0.00
	SBES/SSS Combo Mainscheme	0.00
	MBES/SSS Combo Mainscheme	386.54
	SBES/MBES Combo Crosslines	34.42 (no singlebeam)
	Lidar Crosslines	0.00
Number of Bottom Samples		4
Number of Items Investigated		2
Number of Items Investigated by Dive OPs		0.00
Total Number of SNM		19.66

Table 2: Hydrographic Survey Statistics.

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

<i>Survey Dates</i>
May 24 - May 30
June 2, 3
July 14
November 29

Table 3: Dates of Hydrography.

A.6. Shoreline

No shoreline exists within the limits of H12435.

A.7. Bottom Samples

Four (4) bottom samples were collected within the limits of H12435.

B. Data Acquisition and Processing

Refer to the OPR-K354-KR-12 Data Acquisition and Processing Report (DAPR) for additional information regarding survey systems as well as operational, processing and quality control procedures. Additional and supplemental information is included in this descriptive report.

B.1. Equipment and Vessels

B.1.1. Vessels

C & C Technologies' R/V *Sea Scout* was used as the platform for data acquisition during this survey.

Hull ID	AAP34141H011
LOA	40.84 m
Draft	1.98 m

Table 4: Vessels Used.

B.1.2. Equipment

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

Manufacturer	Model	Type
Kongsberg	EM3002	MBES (port and starboard)
Klein	5000 V2	SSS (primary and back-up)
CodaOctopus	F180	Attitude and Positioning System
CNAV	3050	Positioning System (primary and secondary)
YSI Electronics	600R-BCR-C-T	Sound Speed System (at transducer)
Sea-Bird Electronics, Inc	SBE 19 and SBE 19 Plus	CTD

Table 5: Major Systems Used.

A C-Nav 3050 was used as the primary positioning system for mainline data collection in H12435. The CodaOctopus F180 was used as the primary positioning system for collection of investigation data.

B.2. Quality Control

B.2.1. Crosslines

Crosslines were run perpendicular to the mainscheme lines so that quality control statistics could be generated after completion of the mainscheme survey lines. The total crossline miles were 34.4 nm and the total main line miles were 386.54 nm. The crosslines comprise 8.9 percent of the total line miles, compliant with set line spacing crossline requirements of Section 5.2.4.3 of the HSSD (2012). Rerun line miles are not included in these totals.

During data acquisition, each main line was compared to all crosslines for which there was overlapping data using C & C's proprietary Hydromap software. The graphs generated from the comparison show the mean difference, RMS difference, and confidence interval for each beam. Refer to the DAPR for additional information and Separates II: Digital Data for graphical documentation.

The Surface Difference tool in CARIS HIPS was also used to evaluate crossline and mainscheme line agreement. Separate 2-m BASE surfaces of the mainscheme lines and crosslines were generated and a difference surface was computed. The mainline surface was Surface 1 and the crossline surface was Surface 2. The surface difference BASE surface is submitted in the Separates II\Digital Data folder.

Statistical information, (Table 6) was generated using the Compute Statistics tool in CARIS HIPS. The associated histogram is shown in Figure 2. The majority of the depth differences between the mainlines and crosslines are within -0.2 and 0.2 m. The mainline and crossline depth difference values do not differ by more than the maximum allowable TVU (total vertical uncertainty) for the depth range of the survey (10.84 – 18.09 m), which ranges from ± 0.519 to ± 0.552 m.

Bin Size	0.01 m
Minimum	-0.43 m
Maximum	0.49 m
Mean	0.02 m
Standard Deviation	0.08 m

Table 6: Statistical information about the crossline/mainline difference surface.

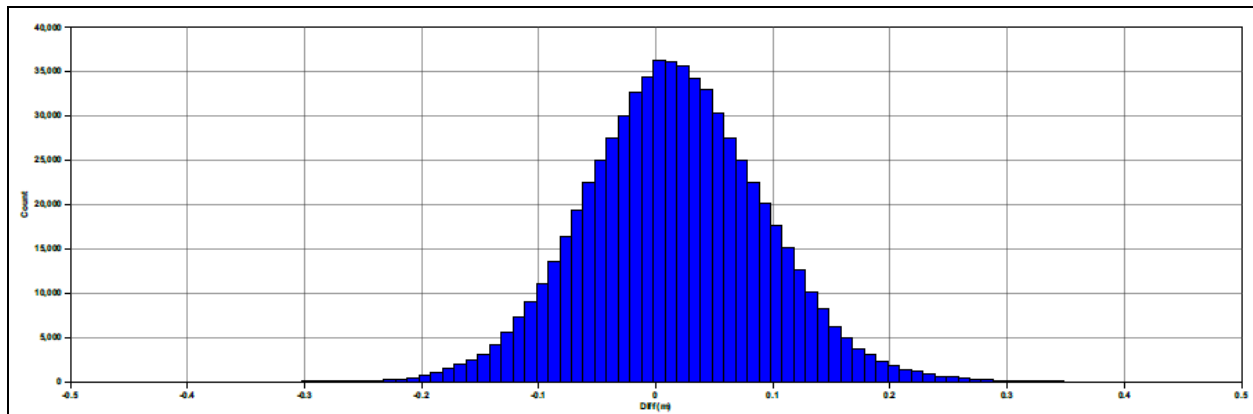


Figure 2: Histogram shows that the majority of depth difference values between the crosslines and mainlines for H12435 are between -0.2 and 0.2 m.

Statistical crossline information was also generated by comparing each of the crosslines to the depth layer of the 2-m BASE surface of the mainscheme survey lines using the CARIS QC report utility. Greater than 99% of crossline soundings were considered to meet IHO Order 1a standards. Crossline comparisons generated with the CARIS QC report utility are shown in the Separates II\Digital Data folder.

B.2.2. Uncertainty

CARIS HIPS was used to compute the Total Propagated Uncertainty (TPU) for each sounding. The following parameters were used for this survey:

Measured	Zoning
0.076 m	0.102 m

Table 7: Survey specific tide TPU values.

Measured	Surface
2.00 m/s	0.8 m/s

Table 8: Survey specific sound speed TPU values.

The uncertainty surface of H12435_2m has values that range from 0.49 m to 0.54 m. Uncertainty does not vary by more than the maximum allowable TVU (total vertical uncertainty) for water depths of 10.84 – 18.09 m, which ranges from ± 0.519 to ± 0.552 m.

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

B.2.3. Junctions

This survey has junctions with one (1) contemporary survey and two (2) prior surveys. Details of these surveys are shown in Table 9 and Figure 3. Although continuous multibeam coverage is not obtained within a survey or between surveys due to the set-line spacing multibeam survey operations, the CARIS difference tool was used to ensure general agreement of depths where overlap of survey data occurred. Difference surfaces were generated with H12435 as Surface 1 and the adjoining survey as Surface 2. A summary of each junction analysis follows.

Registry Number	Scale	Year	Field Unit	Relative Location
H12334	40000	2011	C&C Technologies	E
H12335	40000	2011	C&C Technologies	E
H12436	40000	2012	C&C Technologies	N

Table 9: H12345 Survey Junctions.

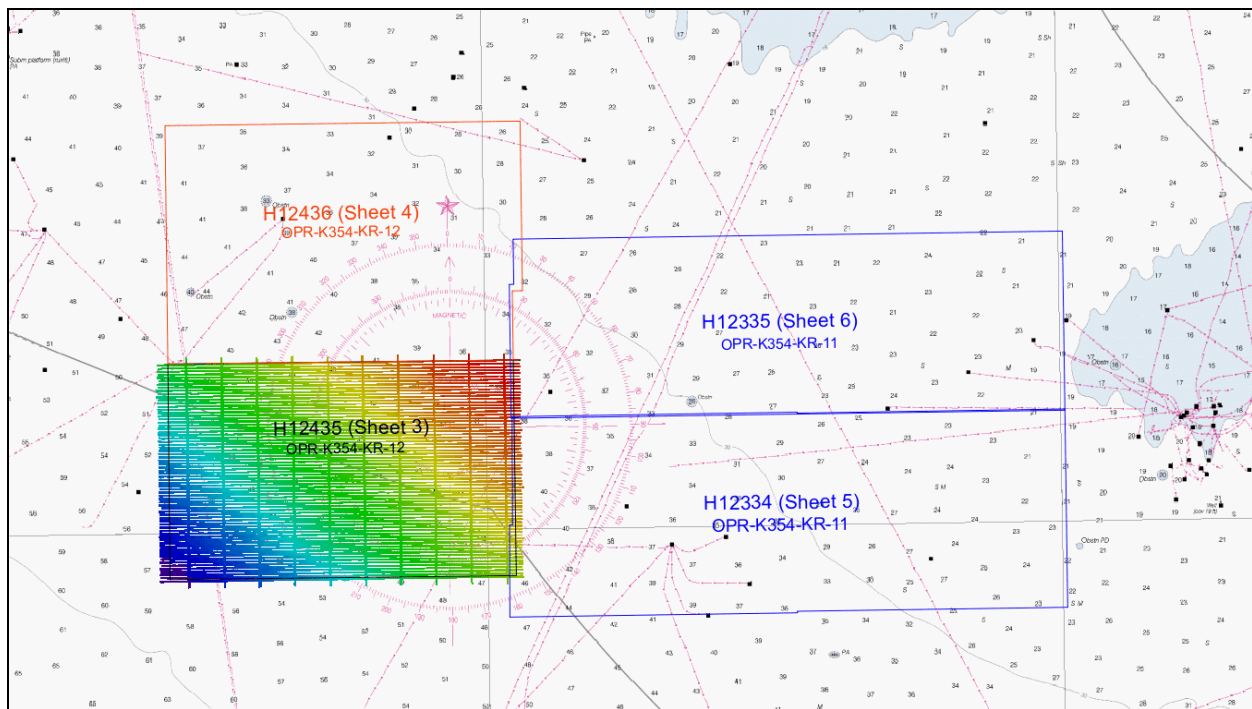


Figure 3. Junctions with survey H12435.

H12334 (Sheet 5 of OPR-K354-KR-11)

The northwest margin of survey H12334 borders the southeast margin of survey H12435 (Figure 3). The depth difference values between H12435 and H12334 range from -0.69 to 0.10 m with the majority of difference values between -0.4 and -0.2 m. The difference surface was exported in ASCII format and imported into Excel for calculation purposes. 533 out of 149017 difference values were found to be -0.5 m or greater. Therefore, only 0.36% of depth difference values are -0.5 m or greater. Depth data from H12435 is consistently shallower than that of H12334.

H12335 (Sheet 6 of OPR-K354-KR-11)

The southwest margin of survey H12335 borders the northeast margin of survey H12435 (Figure 3). The depth difference values between H12435 and H12335 range from -0.54 to 0.14 m with the majority of difference values between -0.4 and 0.0 m. There are only three (3) small areas where the difference values are greater than -0.5 m. In general, the depth values of H12435 were shallower than those of H12335.

H12436 (Sheet 4 of OPR-K354-KR-12)

The southern margin of survey H12436 borders the northern margin of survey H12435 (Figure 3). Crossline data from each survey overlaps mainline data from the adjacent survey. The depth difference values between H12436 and H12435 range from -0.44 to 0.38 m with the majority of difference values between -0.2 and 0.2 m.

B.2.4. Sonar QC Checks

An Odom Echotrac MKIII single beam echosounder was continuously operated and monitored during the survey as an independent check on the multibeam bottom-detect. In addition, lead line comparisons were conducted when possible as an independent check on the multibeam bottom-detect. The lead line logs are included in Separate I – Data Acquisition and Processing Logs.

B.2.5. Equipment Effectiveness

Equipment generally performed as expected.

B.2.6. Factors Affecting Soundings

No observable factors affected the soundings in survey H12435.

B.2.7. Sound Speed Methods

Sea-Bird Electronics SBE19 CTDs were used for water column speed of sound measurements. Casts were conducted at least twice daily and more often as needed. The multibeam data was corrected for the water column sound speed in real-time using the SIS control software. An Endeco YSI sonde was used to be able to calculate the sound speed at the transducer. The sound speed logs are included in Separates I – Data Acquisition and Processing Logs. The sound speed data and confidence checks are located in Separates II – Digital Data.

B.2.8. Coverage Equipment and Methods

For management purposes the survey area was divided into two subareas (labeled 1 and 2) with separate line-plans in order to conduct efficient survey operations. The main survey lines were oriented east to west throughout both subareas. Two hundred percent (200%) side scan sonar (SSS) coverage was acquired with a Klein 5000 V2 towfish. Concurrent set line spacing multibeam echo sounder (MBES) data were acquired with dual Kongsberg EM3002 echo sounders. Additional high-resolution multibeam developments (object detection coverage) were conducted over potentially significant features. The side scan sonar was operated with a range of 100 m per channel and a line spacing of 90 m for the entirety of the survey; coverage was acquired in accordance with the requirements stated in the Project Instructions for this survey.

B.2.9. Density

According to section 5.2.2.3 of the HSSD (2012) for set line spacing coverage, at least 95% of all nodes on the surface will be populated with at least 3 soundings. The Compute Statistics tool in CARIS HIPS/SIPS was used to generate statistics about the Density child layer of the H12435_2m BASE surface (Table 10).

Bin Size	2
Total count	11,398,903
Minimum	1
Maximum	32,602
Mean	419.02
Standard Deviation	231.68

Table 10: Statistical information about the density child layer of the H12435_2m base surface.

A bin size of 2 was used and the data exported in ASCII format to determine the number of surface nodes that contain less than three soundings. 62,175 nodes are populated by less than 3 soundings. The total count of nodes within the surface is 11,398,903. Therefore, greater than 99% of nodes contain 3 soundings or more. Those that do not contain 3 or more soundings are concentrated on the outer edges of the swath where there is no data overlap due to the set line spacing operations of the survey.

B.3. Echo Sounding Corrections

B.3.1. Corrections to Echo Soundings

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

B.3.2. Calibrations

Prior to initiating survey operations, a standard patch test was performed to determine correctors for pitch, roll, and heading of the MBES transducers. A second patch test was performed on June 9, 2012 as a check on quality of the first calibration. Refer to the Data Acquisition and Processing Report and the Patch Test Report for additional information.

B.4. Backscatter

Backscatter was logged within each raw EM3002 file; this data was not processed.

B.5. Data Processing

B.5.1. Software updates

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

The following Feature Object Catalog was used: NOAA Extended Attribute Files V5_2.

B.5.2. Surfaces

The following CARIS surfaces were submitted:

Surface Name	Surface Type	Resolution	Depth Range (m)	Purpose
H12435_2m	Uncertainty	2 m	10.84 - 18.09	Set Line Spacing/ Object Detection
H12435_2m_Final	Uncertainty	2 m	10.84 - 18.09	Set Line Spacing/ Object Detection
H12435_Investigations_50cm	Uncertainty	0.5 m	11.22 - 15.62	Object Detection
H12435_Investigations_50cm_Final	Uncertainty	0.5 m	11.12 - 15.62	Object Detection
H12435_Crosslines_2m	Uncertainty	2 m	10.89 - 17.81	Quality Control/Crossline Comparison
H12435_Mainlines_2m	Uncertainty	2 m	10.84 - 18.09	Quality Control/Crossline Comparison

Table 11: Caris surfaces.

Although the line plan for survey H12435 was set up for data collection as two separate subareas, these subareas were combined into one CARIS project for the entire sheet for processing and analysis. One BASE surface was generated at a scale of 1:40000 with a resolution of 2 meters, in accordance with section 5.2.2.3 of the HSSD (2012), which states that a 2-m BASE surface will be created for 0 – 20 m water depths. One BASE surface was created for all investigations at a scale of 1:40000 and a resolution of 0.5 m, compliant with Object Detection Coverage in water depths of 0 – 20 m. All BASE surfaces were created based upon the IHO Order 1a standards.

After initial data cleaning, the surfaces were reviewed a second time for fliers using a combination of viewing the data in 3D as well as using the standard deviation child layer of the BASE surfaces. The maximum standard deviation is 0.27 m which corresponds to a large drag feature in the northeastern portion of the survey area. The shallowest point of this feature has been submitted as a DtoN. See section D.1.7. Dangers to Navigation for more information.



C. Vertical and Horizontal Control

Additional information regarding the vertical or horizontal control for this survey can be found in the HVCR.

C.1. Vertical Control

The vertical datum for this survey is Mean Lower Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at Grand Isle, LA served as datum control for the short-term Texas Oil Platform, LA gauge. The operating water level station at Port Fourchon, LA also provides water level reducers for this survey. The Texas Oil Platform gauge was established and maintained throughout the survey by C & C Technologies' personnel.

Preliminary zoning was supplied by CO-OPS and revised by JOA Surveys, LCC. The geometry of the zoning was not changed but the zoning factors were modified to make them relative to the Texas Oil Platform gauge instead of Port Fourchon.

Station Name	Station ID
Port Fourchon	8762075
Grand Isle (NWLON)	8761724
Texas Gas Platform (Subordinate)	8763535

Table 12: Tide Stations.

File Name	Status
8763535.tid	Verified (Final smoothed)

Table 13: Water Level Files (.tid).

File Name	Status
K354KR2012_JOA_20130118.zdf	Final

Table 14: Tide Correctors (.zdf).

A request for final verified tides was sent to JOA on 12/24/2012. The final tides were received on 01/18/2013. JOA has maintained the CO-OPS preliminary zoning geometry, only having changed the tidal zoning factors.

C.2. Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83). Fieldsheets are referenced to Universal Transverse Mercator (UTM) zone 15 N, meters.

All position data were acquired using one (1) of two (2) C-Nav 3050 receivers or using an F180 positioning/inertial motion unit with a DGPS correction provided by one (1) of two (2) C-Nav 3050 receivers.

D. Results and Recommendations

D.1. Chart Comparison

The RNC (Table 15) and ENC (Table 16) described below are the latest editions of the largest scale charts covering the project area. These differ from the charts described in the Project Instructions by one edition.

D.1.1. Raster Charts

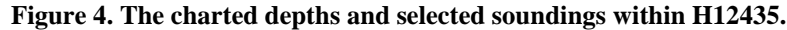
Chart Number	Scale	Edition Number	Edition Date	LNK Date	NM Date
11356	80000	39	06/2012	3/19/2013	3/30/2013

Table 15: Latest edition of raster nautical chart (RNC) 11356.

Surveyed water depths range from 35 to 59 feet and there is a general increase in depth from the northeast to the southwest.

A shoal biased selected sounding layer was generated in CARIS with a single-defined radius of 150 m (distance on the ground). Surveyed water depths generally agree with charted depths within 1 – 2 feet.

Figure 4 shows the charted depths and selected soundings within the survey area. For display purposes, the selected soundings in the figure were generated at a radius of 300 m. Although there are no charted contours passing through the area, Figure 4 shows the water depths gradually increasing from the northeast corner to the southwest corner of the survey area.



ENC Name	Scale	Edition	Update Application Date	Issue Date	Preliminary
US4LA25M	80000	16	8/24/2012	3/18/2013	No

ENC US4LA25M depths generally match those of RNC 11356, although some ENC US4LA25M depths in the northeast quadrant of the survey area are 1 foot shallower than those of RNC 11356.

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D.1.5. Charted Features

At the time the Project Instructions for this survey were assigned, there was one (1) charted platform within the survey area, which corresponds to the item assigned in the provided CSF file. This platform remains present in the latest nautical chart used for chart comparisons for this survey.

D.1.6. Uncharted Features

One (1) uncharted feature was found during survey operations; refer to section D.1.7 for additional information.

D.1.7. Dangers to Navigation

One (1) significant feature was observed during survey operations and was submitted as a Danger to Navigation (Dton). This feature is inferred to be a large drag scour with associated sediment mound. The original Dton information from the Dton verification material provided by NOAA is presented in Table 17. This feature was submitted as a Dton with the feature object type as sounding from the investigation data. Updated Dton information is shown in Table 18, after final review of the data, which includes finalized tides.

The data suggests that the feature is comprised of sediment, which may erode over time. Although the investigation data may be representative of a sediment mound in the process of erosion, the final least depth was chosen as the shallowest point to be conservative. The final least depth recorded is from mainline 3081-1 which was found to have the shallowest least depth of 11.073 meters.

Item #	Feature	Latitude (N)	Longitude (W)	Depth (ft)	Depth (m)
Dton1	SHOAL	28-52-02.9	91-20-43.9	36	11.15

Table 17: Original Dton submission information

Item	Feature	Latitude N	Longitude W	Depth (ft)	Depth (m)	DpTPU (m)	HxTPU (m)	Comments
Dton1	Sounding	28-52-02.90	91-20-43.92	36.329	11.073	0.487	0.678	Least depth from mainline 3081-1 instead of investigation data

Table 18: Updated Dton information after final evaluation of data.

D.1.8. Shoal and Hazardous Features

There was one (1) shoal feature that was submitted as a Dton. Refer to section D.1.7 Dangers to Navigation for details.

D.1.9. Channels

No channels exist within the boundaries of survey H12435.

D.2. Additional Results

D.2.1. Shoreline

There is no shoreline within the boundaries of survey H12435.

D.2.2. Prior Surveys

Refer to Section B.2.4 for information on survey junctions and Section D.1 for comparison to nautical charts.

D.2.3. Aids to Navigation

No Aids to Navigations are currently charted within the survey limits and none were found during survey operations.

D.2.4. Overhead Features

There are no overhead features within the limits of H12435.

D.2.5. Submarine Features

Several submarine pipelines are charted within the survey area. No pipelines were observed in the multibeam or side scan sonar data.

D.2.6. Ferry Routes and Terminals

No ferry routes or terminals exist in the survey area and none were observed during survey operations.

D.2.7. Platforms

During survey operations, one (1) charted platform was observed in the charted location (Table 19). Position is determined from the layback corrected Primary SSS contact.

Platform Name	Latitude (N)	Longitude (W)	Comments	Additional Comments
SGY-EI166A	28-50-36.54	91-20-54.81	Observed in charted location	Retain on charts

Table 19: Platform documentation within survey area.

D.2.8. Significant Features

One (1) drag feature and associated sediment mound was observed in the northeast portion of the survey area. Refer to section D.1.7 Dangers to Navigation for details.

D.2.9. Construction and Dredging

No dredging or construction was observed within the boundaries of survey H12435 during survey operations.



E. Approval Sheet

LETTER OF APPROVAL

REGISTRY NUMBER H12435

This report is respectfully submitted.

Field operations contributing to the accomplishment of the survey H12435 were conducted under my direct supervision with frequent personal checks of progress and adequacy. This report and CARIS project have been closely reviewed and are considered complete and adequate as per the Statement of Work.

This report is accompanied by the Data Acquisition and Processing Report for project OPR-K354-KR-12.

A handwritten signature in black ink, appearing to read 'Tara Levy'.

Tara Levy
Chief of Party
C & C Technologies
March 2013

F. Table of Acronyms

ATON	Aid to Navigation
AWOIS	Automated Wreck and Obstruction Information System
C/I	Cable in
C/O	Cable out
CSF	Composite Source File
CTD	Conductivity Temperature Depth
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
EOL	End of line
GPS	Global Positioning System
HM	Harmonic mean
HSSDM	Hydrographic Survey Specifications and Deliverables Manual (2012)
HVF	HIPS Vessel File
LL	Lead line
MB	Multibeam
MLLW	Mean Lower Low Water
P/L	Pipeline
P/F	Platform
RR	Re-run
SB	Singlebeam
SOL	Start of line
SS	Ship Shoal (block name)
SSS	Side scan sonar
SSP	Sound Speed Profile
SWMB	Shallow Water Multibeam
TPU	Total Propagated Uncertainty
WD	Water depth
WOW	Wait on weather
Wpt	Waypoint
ZDF	Tide Zone Definition File

APPENDIX I

TIDES AND WATER LEVELS

Appendices to Accompany Descriptive Report of Hydrographic Survey H12435



Field Tide Note

TIDE STATION - SITE REPORT												
jms New Service NOAA - National Ocean Service - Center for Operational Oceanographic Products and Services												
STATION INFO	Station Name: Texas Gas Platform, Caillou Bay, LA				Station Number: 876-3535							
	Lat: 28° 10' 28.2" N		Long: 090° 58' 35.2" W		Lat / Long. by GPS ? (Y/N) Yes							
	Facility Name: Texas Gas Platform, Caillou Bay, LA				Time Meridian: 0 W		GMT Offset: +8					
	Address: n/a (see owner contact below)											
	City: n/a				State: Louisiana		Zip: n/a					
INSPECT INFO	Date of Visit: 12/18/2012											
	Established:		Team Leader: Jim Wade									
	Inspected:		Member: Riley Chapple									
	Repaired:		Member: Valerie Hawkins									
	Retrieved: X		Member: Amy Nau									
OWNER	TYPE: Full		Emergency:									
	Owner: Texas Gas Transmission, LLC				City/State/Zip: Owensboro, KY 42301							
	Owner Contact: Dexter Faulk				Work Phone: 337 662 8386		Work Fax:					
	Address: 3800 Frederica St				Home Phone:		Cell Phone:					
	Address:				Email: dexter.faulk@bawmco.com							
CONTACT	Comments:											
	#1 Contact Name: Tara Levy				#2 Contact Name: Valerie Hawkins							
	#1 Address: 730 E. Kaliste Saloom Rd.				#2 Address: 730 E. Kaliste Saloom Rd.							
	#1 Cell Work: 3372963028				#1 Office Phone: 3372810880				#1 Cell Work: 3372124448			
	#1 Email: tara.levy@cofeshnol.com				#1 Office Phone: ex. 3618				#1 Cell Work: 3372810880			
SHELTER	Shelter type:											
	Date Installed: 6/25/2010		AC Power (Y/N): No		Combo: n/a		Key Location: n/a					
	Comments: Gaugeco secured to an aluminum frame which was lag bolted into dock top. This is an exposed structure.											
	Comments:											
	Comments:											
WELL/ SUMP	Purpose:	Dia:	Length:	Material:	Intake Type:	Top Hat:	Copper Inset:	Pendul Plates:	# Brackets:	Stump Pumped:	Valve Turns:	Blower Rating:
	Aquatrak	3"	6 m	Alum.	Baffle	STD	Yes	No	4			4/25/2012
	Comments: There are two Aquatrak wells at this station. Both wells are mounted on a wood boat landing that protrudes from the main platform. An aluminum frame was fabricated to house the data loggers, batteries, antennas, and solar panels. The Aquatrak sounding wells are mounted using a steel support bracket fixed to the 1" x 1" wooden support beams. These brackets provide the main support for the well.											
	Comments:											
	Comments:											
Primary DCP	Date Installed: 4/25/2012	DATA Model: H-622+	RTU S/N: n/a	DCP Phone: n/a								
	16-522+ OS Ver: 3.03	Battery Type: Sealed Gel	Battery Amp/Hr: 98	Battery Date: Apr-12								
	Power Supply S/N:	Digital I/O S/N:	PEC Ver D1:	Cellular (Y/N):								
	Modem S/N:	Analog I/O S/N:	PEC Ver A1:	Ph.dendat date:								
	16-522+ Display S/N: 4378	Analog I/O S/N:	PEC Ver A2:	AC (Y/N): No								
Primary GOES	IP #: na	Sat Phone #:	Radio ID: na	Solar (Y/N): Yes								
	GOES radio S/N:	Sat Version:	GOES Radio Type:									
	DCP Comments: 04/25/2012: Data Logger 4378 was reinstalled 12/18/2012: Data Logger 4378 removed from tide station											
	Module Comments:											
	Comments:											
Solar Panels	GOES ID #: 8070663C	GOES Channel: 146	Transmit Time: 00:40:26	Transmit Intvl: 1 hour								
	Antenna S/N: n/a	Date Installed: 7/23/2012	Azimuth: 180	Elev from Horiz: 68								
	Cable Length: 6 m	Cable Type: RG8 A/U	Transmit Power: n/a	Magnetic Var: 0								
	Solar Panel #1: 60 w	Date Installed: 6/25/2010	Solar Panel #2: 60 w	Date Installed: 8/28/2010								
	Back-up Panel #1: n/a	Date Installed: 6/25/2010	Back-up Panel #2: n/a	Date Installed: n/a								
Solar Panels	Elev from Horiz: 26	Cable Length: 6 m	Elev from Horiz: 26	Cable Length: 4 m								
	Comments: Solar panels are mounted on top of aluminum support frame, and the GOES antenna is mounted on the top corner of the SE side of the frame.											
	Comments:											
	Comments:											
	Comments:											

Appendices to Accompany Descriptive Report of Hydrographic Survey H12435



Primary Aquatrak Sensor (Gauge 1)	Date Installed	4/26/2012	Aquatrak S/N	2042-4312	Matched Tube S/N	1882	
	Sensor Offset	-0.105	SNS	-0.105	DAT	10.1323	Aquatrak Core S/N 120437
	Comments	04/26/2012: DAT from install leveling is 10.1335 12/18/2012: DAT remains the same within 8mm at demobilization (measured 10.1323 this date)					
Primary Aquatrak Sounding Tube (Gauge 1)	Sound tube length (level pt to copper tube end)	4.628m	Copper Tube Length	0.28			
	SNS from above	-0.105	T1-T2 Separation				
	Aquatrak value during dock test	N/A	T1-T2 Cable Length				
PARO-SCIENTIFIC DIGIQUARTZ SENSOR	Difference (less than +/- 0.05m passes)	N/A	Sounding Tube Cleared (Y/N)	Yes	Number of Balls	4	
	Comments	12/18/2012: Station removed, primary sounding tube removed and brought back to office for cleaning. Dock test not performed at removal.					
PARO-SCIENTIFIC DIGIQUARTZ SENSOR	Delta Dual Orifice(m)		(Note: N1 is Primary and Lower Orifice)				
	Model		Date Installed	Model		Date Installed	
	N1 S/N		Range	T1 S/N		Range	
9210 Xlite Backup DCP	Unit Value	Flow	Feed	Unit Value	Flow	Feed	
	Tide Staff Installed (Y/N)		Staff Value of Orifice Zero	RS-232 Speed			
	Comments	No Paros at this tide station for 2012					
9210 Xlite Backup DCP	Date Installed	4/26/2012	9210 Xprt Dk	70688	RTU S/N		Primary (Y/N) No
	Dark OS Var		Xprt display S/N		Analog I/O S/N		A1 PKC Var
	Modem S/N	n/a	Power Supply S/N		Digital I/O S/N		D1 PKC Var
Backup Aquatrak Sensor (Gauge 2)	SatLink S/N	n/a	Sat Version	n/a	SatLink Type	n/a	Power Source Battery
	Battery Date	Apr-12	Battery Type	Sealed Gel	Batt Amp/hr		
	Comments	4/26/2012: 9210 Data logger was installed to be used as secondary logger. No GCE3 radio included. 7/31/2012: New installation of back-up battery for secondary tide gauge 12/18/2012: Data logger was removed from tide station during demobilization					
Backup Aquatrak Sounding Tube (Gauge 2)	Date Installed	4/26/2012	Aquatrak S/N	2246-4455	Matched Tube S/N	1748	
	Sensor Offset	-0.1054	SNS	-0.105	DAT	9.8186	Aquatrak Core S/N 120218
	Comments	04/26/2012: DAT from install leveling is 9.8186m. DAT six month leveling after Hurricane Isaac within 8mm tolerance (measured at 9.8186m). 12/18/2012: DAT from demobilization leveling is 9.8186m.					
Backup Aquatrak Sounding Tube (Gauge 2)	Sound tube length (level pt to copper tube end)	4.32m	Copper Tube Length	.826m			
	SNS from above	-0.105	T1-T2 Separation	n/a			
	Aquatrak value during dock test	N/A	T1-T2 Cable Length	n/a			
LEVELS	Difference (less than +/- 0.05m passes)	N/A	Sounding Tube Cleared (Y/N)	Yes	Number of Balls	4	
	Comments	04/26/12: New sounding tube was installed. The new Aquatrak sounding tube has 3 PVC tubes plus the trimmed copper antifoulant tube. PVC cap covering the Aquatrak sensor did not fit properly over the sensor so wooden mounting blocks were inserted and tape was used to cover openings. 12/18/2012: Back-up sounding tube removed from tide station during demobilization					
GPS	Date of Levels	12/18/2012	# BMs Connected	6	# BMs Recovered	6	# BMs Established 0
	Primary BM Designation	8783636 A			PTM Elevation above Station Datum	10.000	
	Datum Offset (DAT) in H-522	n/a	Levels type (Optical / Barcode / Mixed)	Optical			
GPS	Datum Offset (DAT) from Abstract	10.1335	Levels agree with history (Y/N)	Yes	Staff Connected (Y/N)	Yes	
	Difference (Change if > +/- 0.050m)	n/a	Downdraft Leveling Rec'd (Y/N)	No	Orifice(s) Connected (Y/N)	N/A	
	Comments	04/26/2012: Leveling was conducted and the DAT for the primary gauge was found to be 10.1335m while the DAT was found to be 9.8186m. The values are different from previous years because the location of the primary and secondary transducers were swapped. 12/18/2012: Leveling was conducted at demobilization and the DAT for the primary gauge was found to be 10.1323 while the DAT for the secondary gauge was found to be 9.8186m. Both values are within 8mm tolerance.					
GPS	GPS accomplished this A1 (Y/N)	N/A	GPS Bench Mark Designation	8783636 A	OPUS (Y/N)		
	Session Number	001	UTC	Hrs	Meters		
	Date Started	4/26/2012	Time Started	1441	4h	1.484	98.00%
GPS	Session Length	1818	ARP Height	1.689	Percent Obs Used	-21.328	3.011
GPS	Average of Session Heights						
	Comments	04/26/2012 Monument 8783636 A was observed during installation 12/18/2012 Monument 8783636 A was observed during demobilization. The OPUS processing with precise ephemeris does not meet the quality standards for publication in OPUS-DB (>4cm peak to peak for Lat and Lon).					

Appendices to Accompany Descriptive Report of Hydrographic Survey H12435



	Dive this year (Y/N)	Last Dive Date	Marine growth (Low/Med/High)	Dive Time (hrs)
DIVE INFO	<p>no diving required</p> <p>Comments</p>			
STATION HISTORY (Significant highlights from inspections)	<p>Recovered 2008 historical tide station</p> <p>05/26/2010 - Installation of primary Aquatrak gauge</p> <p>06/24/2010 - Installation of backup Aquatrak gauge</p> <p>12/06/2010 - Six month leveling</p> <p>06/09/2011 - Tide station visit and six month leveling prior to starting new hydro survey project</p> <p>09/16/2011 - Tide station visit to replace Data Logger and Aquatrak, re-start primary gauge.</p> <p>01/27/2012 - Tide station visit to dismantle tide gauge</p> <p>04/23/2012 - Reinstallation of tide station with primary and back-up Aquatrak gauges</p> <p>07/23/2012 - GPS antenna replaced</p> <p>08/26/2012 - Tide station disassembled for Hurricane Isaac (batteries, cables, Waterlogger, Sutron, Aquatrak controllers removed)</p> <p>09/02/2012 - Tide station reconstructed and leveled for post-hurricane and six month mark</p> <p>12/18/2012 - Tide station dismantled for season</p>			
STATION NOTES (Pre-visit notifications, items stored in shelter, etc)	<p>Station is best visited from Thibodaux, LA. Do not dock on the back side of main structure, the water is very shallow and dry at low tide. Bring bug spray. Stay in Houma, LA. Hotels, hardware stores, and restaurants available. This station was installed by C&C Technologies to support OCS hydrographic survey contract OPR-K354-KR-2011.</p>			
WORK REQUESTS (For next annual inspection)				

Final Tide Note

FINAL TIDE NOTE and FINAL TIDE ZONING CHART

DATE: March 26th, 2013

HYDROGRAPHIC PROJECT: OPR-K354-KR-12
HYDROGRAPHIC SHEET: H12435

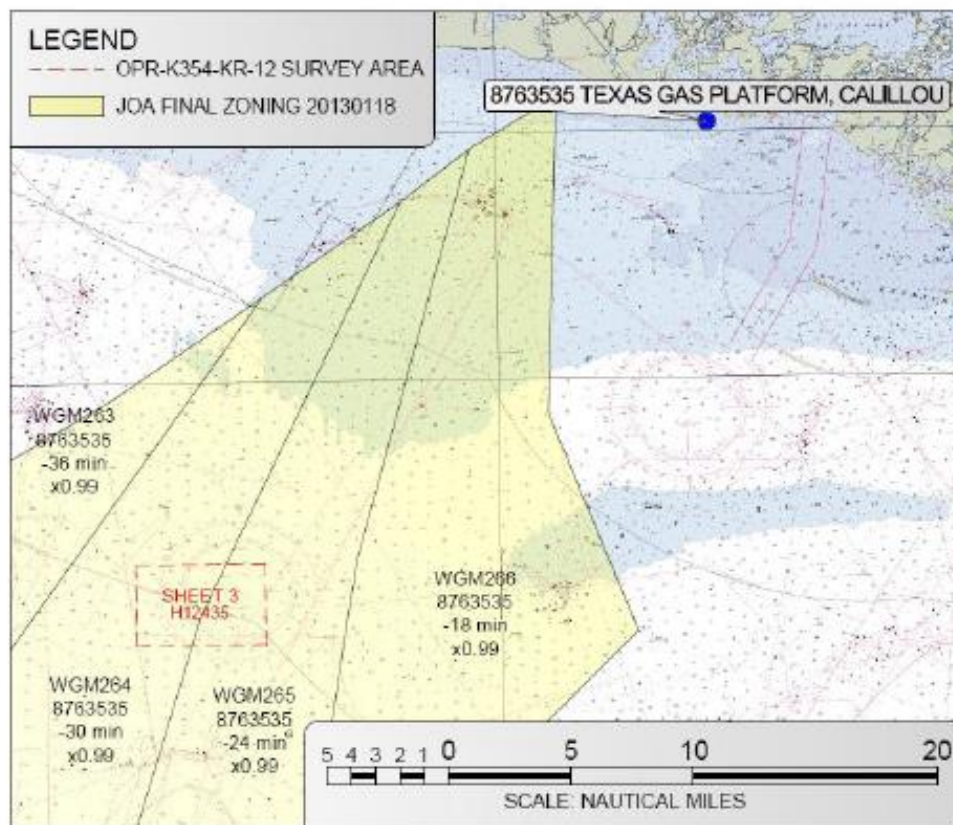
LOCALITY: 32 NM S of Atchafalaya Bay

TIME PERIOD: May 24-November 29, 2012

TIDE STATION USED: 876-3535 Texas Oil Platform, Caillou Bay, LA
Lat. 29° 10' 29.2" Lon. 090° 58' 35.2"
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000m
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.6634m

REMARKS: RECOMMENDED ZONING
Use zones identified as: WGM 264, WGM 265

Refer to the Vertical Control Report for additional zoning information.



Appendices to Accompany Descriptive Report of
Hydrographic Survey H12435



Abstract of Times of Hydrography

Project: OPR-K354-KR-12 Registry No.: H12435

Contractor Name: C & C Technologies, Inc.

Date: March 2013

Sheet Number: 3

Inclusive Dates: May 24th, 2012- November 29th, 2012

Field Work is Complete

Time (UTC)

Day (yy/m/dd)	Julian Day	Start	End	Year
12/5/24	145	850	900	2012
12/5/24	145	2330	2348	2012
12/5/25	146	0230	0308	2012
12/5/25	146	0515	1039	2012
12/5/25	146	1204	1243	2012
12/5/25	146	1303	2352	2012
12/5/26	147	0028	1102	2012
12/5/26	147	1132	1159	2012
12/5/26	147	1214	1629	2012
12/5/26	147	1640	2400	2012
12/5/27	148	0000	0011	2012
12/5/27	148	0025	0834	2012
12/5/27	148	0852	0910	2012
12/5/27	148	0944	1127	2012
12/5/27	148	1207	1706	2012
12/5/27	148	1728	1929	2012
12/5/27	148	2002	2359	2012
12/5/28	149	0008	0323	2012
12/5/28	149	0353	0621	2012
12/5/28	149	0633	1051	2012
12/5/28	149	1112	1630	2012
12/5/28	149	1631	1700	2012
12/5/28	149	1709	2400	2012
12/5/29	150	0000	0257	2012
12/5/29	150	0310	0753	2012
12/5/29	150	0809	1037	2012
12/5/29	150	1105	1145	2012
12/5/29	150	1159	1229	2012
12/5/29	150	1339	1533	2012
12/5/29	150	1548	1822	2012
12/5/29	150	1850	1922	2012
12/5/29	150	1935	2231	2012

Appendices to Accompany Descriptive Report of
Hydrographic Survey H12435



Day (yy/m/dd)	Julian Day	Start	End	Year
12/5/29	150	2258	2323	2012
12/5/29	150	2348	2354	2012
12/5/30	151	0016	0255	2012
12/6/02	154	1502	1521	2012
12/6/02	154	1533	1833	2012
12/6/02	154	1908	1929	2012
12/6/02	154	2000	2023	2012
12/6/02	154	2056	2141	2012
12/6/02	154	2201	2400	2012
12/6/03	155	0000	0006	2012
12/6/03	155	0329	0340	2012
12/7/14	196	0004	0014	2012
12/7/14	196	0019	0043	2012
12/11/29	334	0104	0232	2012

CO-OPS Transmittal Letter



January 31st, 2013

Paul Turner
Hydrographic Surveys Division
Office of Coast Survey
NOAA National Ocean Service
Paul.turner@noaa.gov

Reference: 8763535 Texas Gas Platform Removal Report

Paul,

The Removal report for 8763535 Texas Gas Platform has been posted to an FTP site for CO-OPS to download. CO-OPS should confirm it reception within the week. If there is anything else that is needed please let me know.

Sincerely



Tara Levy
taralevy@cctechnol.com

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

Bottom Samples

The table below summarizes the sediment grab samples collected during survey H12435. Sediment grab sample data are submitted in the CARIS .hob final feature file for this survey.

Sample Name	Date	Latitude (N)	Longitude (W)	Water Depth (m)	Description
H35-Sub1-GS1	09/26/2012	28.85234057	91.40417165	15.56	Well sorted fine gray silt
H35-Sub2-GS1	09/26/2012	28.8662761	91.35809723	13.01	Well sorted fine gray silt
H35-Sub2-GS2	09/27/2012	28.82626832	91.3661439	15.32	Well sorted fine gray silt with few shells
H35-Sub2-GS3	09/27/2012	28.83393892	91.3308411	13.69	Well sorted fine gray silt



DtoN Verification

One (1) submerged feature was submitted and accepted as a Danger to Navigation. The most recent edition of RNC 11356 and ENC US4LA25M (Tables 1 and 2) do not yet reflect this submission. The verification DtoN emails and letters received from AHB are included.

Chart Number	Scale	Edition Number	Edition Date	LNLM Date	NM Date
11356	80000	39	06/2012	3/19/2013	3/30/2013

Table 1. Latest edition of raster nautical chart (RNC) 11356.

ENC Name	Scale	Edition	Update Application Date	Issue Date	Preliminary
US4LA25M	80000	16	8/24/2012	3/18/2012	No

Table 2. Latest edition of electronic nautical chart (ENC) US4LA25M.

Additional Correspondence

Supplemental DtoN Correspondence

Subject:

H12435 DtoN#1 36ft Sounding: Submission to NDB

From:

Castle Parker <castle.e.parker@noaa.gov>

Date:

8/3/2012 2:50 PM

To:

OCS.NDB@noaa.gov

CC:

Abigail Higgins <abigail.higgins@noaa.gov>, Marc Moser <marc.s.moser@noaa.gov>, Paul Turner <paul.turner@noaa.gov>, Kathleen Jamison <kathleen.jamison@noaa.gov>, Nicole Kuenzel <nicole.kuenzel@cctechnol.com>

Good Day,

Please find attached a zip file for survey H12435 DtoN#1, a 36ft Sounding for submission to Nautical Data Branch / Marine Chart Division (MCD). The contents of the attached WinZip file were generated at Atlantic Hydrographic Branch. The Danger submission was submitted to AHB from contract field unit C&C Technologies, Inc.

The attached zip file contains a DtoN Letter (PDF), a Pydro XML file, and data images. If you have any questions, please direct them back to me, email me or call 757-441-6746 x115.

Thank you for your assistance with this matter,

Gene Parker

Attachments:

H12435_DtoNs#1_36ftSounding.zip 838 KB

Appendices to Accompany Descriptive Report of
Hydrographic Survey H12435



Subject:
RE: Potential DTONs
From:
Castle Parker <castle.e.parker@noaa.gov>
Date:
8/2/2012 11:55 AM
To:
nicole.kuenzel@cctechnol.com
CC:
Tara Levy <tara.levy@cctechnol.com>, Paul Turner <paul.turner@noaa.gov>

Good Day Nikki,

Thanks for the opportunity to review potential Dangers.

1. H12435: yes submit as DtoN with feature object type as sounding. The feature is not an obstruction as it's a sediment pile from the dragging of whatever object it was. The least depth is the shoalest within the common area in comparison to what's charted.

2. H12434: I'd say no to DtoN submission. Go ahead and create the S57 file for submission to AHB. AHB will not submit to NDB/MCD but will forward to the Nav Manager, Tim Osborn. We will pass this feature to the Navigation Manager Tim Osborn to find the owner and notify of the PIPSOL exposure.

The chart image that you submitted appears to be an outdated chart, or a different chart. In the image below, the geographic location and the charted depth in my image is a 16ft depth, your image has 17ft depth. AHB downloaded the chart 11356 on 06/26/12; NTM updated on 06/30/2012, edition dated 06/01/2012. I don't think that you may be referencing the latest version of the chart. You should check the date of the edition you reference.

I'd say not to submit as a Danger to Nav, but submit an S57 file as if it were a DtoN submission. Do not attribute as a Danger, just a feature object. There is a charted 16 ft depth just to the south; the object with LD of 16ft is in line between the charted 15ft depth and the 16ft depth as portrayed in the image; in line as 16ft between the charted 18ft and 17ft . I think you should develop with MB and add to the survey's feature file.

Thanks. You have the correct perspective with this inquiry! Anytime you need a second opinion, send me an email like this. Good Job!

Gene

Appendices to Accompany Descriptive Report of
Hydrographic Survey H12435



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

From: Nicole Kuenzel [mailto:nicole.kuenzel@cctechnol.com]
Sent: Thursday, August 02, 2012 12:17 PM
To: Gene Parker
Cc: Tara Levy
Subject: Potential DTONs

Good Morning Gene,

We have two potential DTONs (one from Sheet 2-H12434 and one from Sheet

3-H12435) that we would like your perspective on before we fully submit them. I have attached two word documents highlighting the features and our conclusions thus far; we would appreciate a preliminary review.

If you need any other information, please let me know.

Thank-you,

Nikki

--

Nicole Kuenzel
Geoscientist
C&C Technologies, Inc.
Lafayette, LA
email:nicole.kuenzel@cctechnol.com

APPENDIX III

SURVEY FEATURES REPORT

- i. DTONS (1)
- ii. AWOIS (0)
- iii. WRECKS (0)
- iv. Maritime Boundary (0)

H12435 Danger to Navigation

Registry Number: H12435
State: Louisiana
Locality: Gulf of Mexico
Sub-locality: 32 NM S of Atchafalaya Bay
Project Number: OPR-K354-KR-12
Survey Date: 11/29/2012

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11356	38th	06/01/2008	1:80,000 (11356_1)	[L]NTM: ?
11340	73rd	08/01/2008	1:458,596 (11340_1)	[L]NTM: ?
1116A	73rd	08/01/2008	1:458,596 (1116A_1)	[L]NTM: ?
411	52nd	09/01/2007	1:2,160,000 (411_1)	[L]NTM: ?

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

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	DTON 1: 11.1m Shoal	Shoal	11.07 m	28° 52' 02.9" N	091° 20' 43.9" W	---

1.1) DTON 1: 11.1m Shoal

DANGER TO NAVIGATION

Survey Summary

Survey Position: 28° 52' 02.9" N, 091° 20' 43.9" W
Least Depth: 11.07 m (= 36.33 ft = 6.055 fm = 6 fm 0.33 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2012-334.00:00:00.000 (11/29/2012)
Dataset: H12435_Pydro_Features.000
FOID: US 0000407141 00001(0226000636650001/1)
Charts Affected: 11356_1, 1116A_1, 11340_1, 411_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12435_Pydro_Features.000	US 0000407141 00001	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

36ft (11356_1)

6fm (1116A_1, 11340_1, 411_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)
Attributes: OBJNAM - DtoN1
 QUASOU - 1:depth known
 SORDAT - 20121129
 SORIND - US,US,graph,H12435
 TECSOU - 2,3:found by side scan sonar,found by multi-beam

Office Notes

SAR Note: The Dton is visible in the object detection coverage MBES data and the 200% side scan sonar data. COMPILATION: Concur. Feature determined to be shoal area. Update 36 ft designated sounding with least known depth (11.073 m) at survey position.

Feature Images



Figure 1.1.1

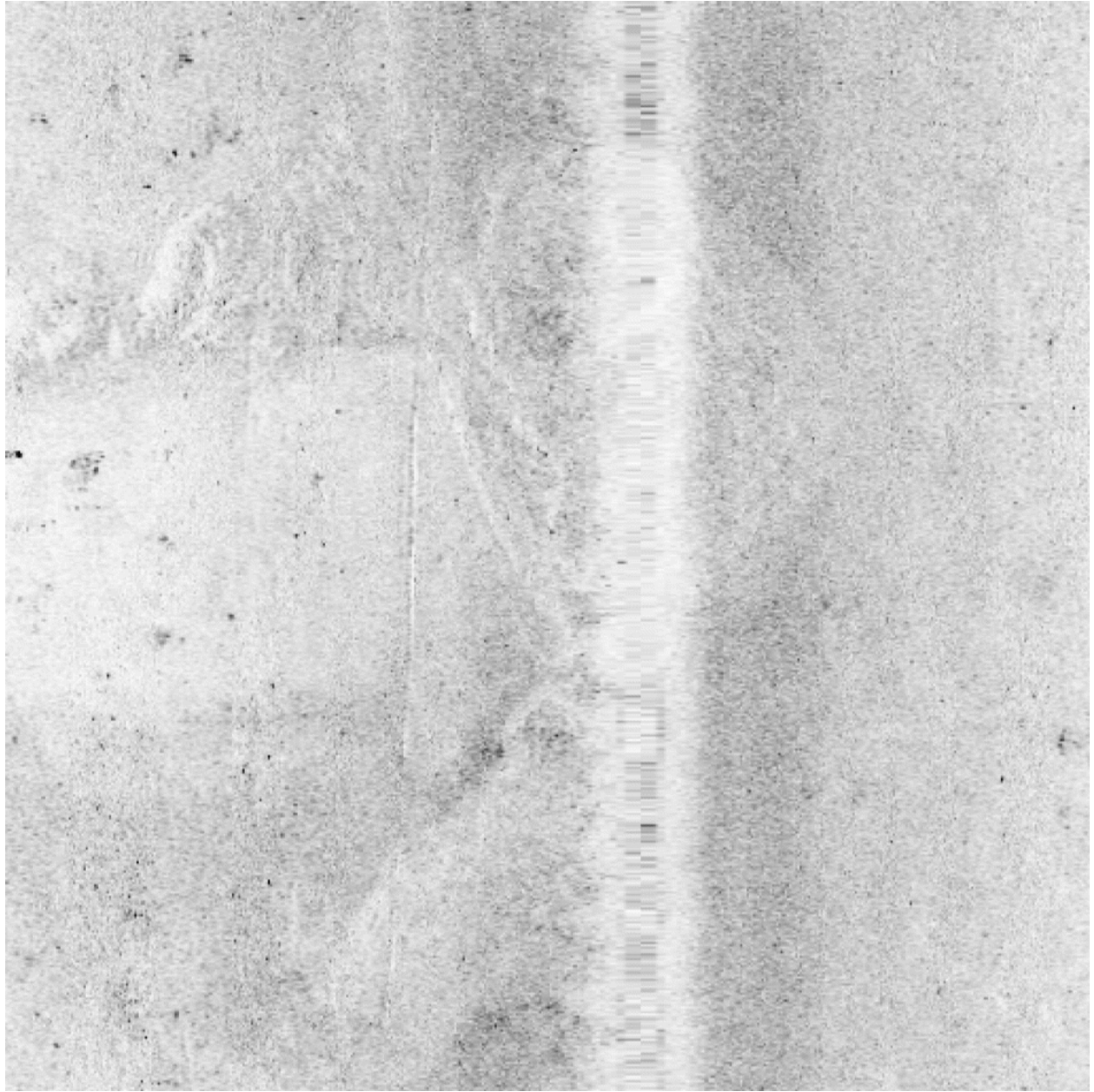


Figure 1.1.2

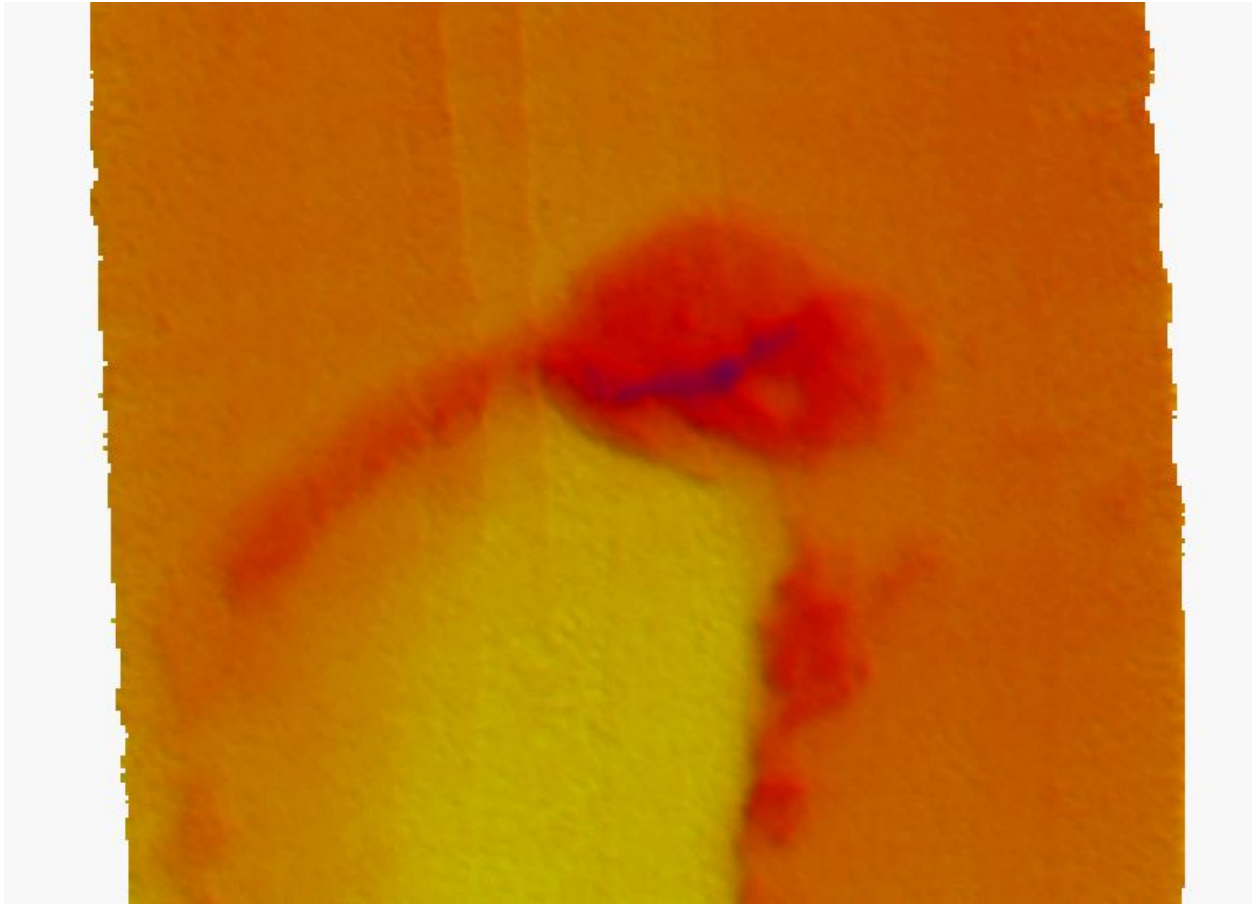


Figure 1.1.3

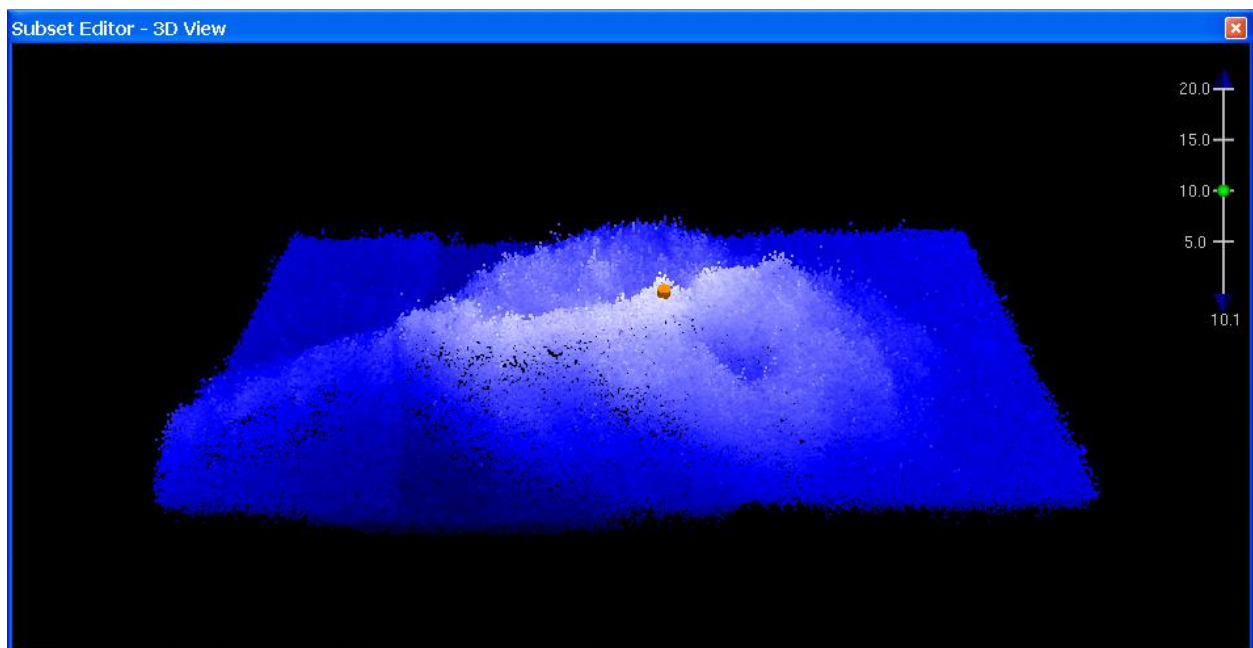


Figure 1.1.4

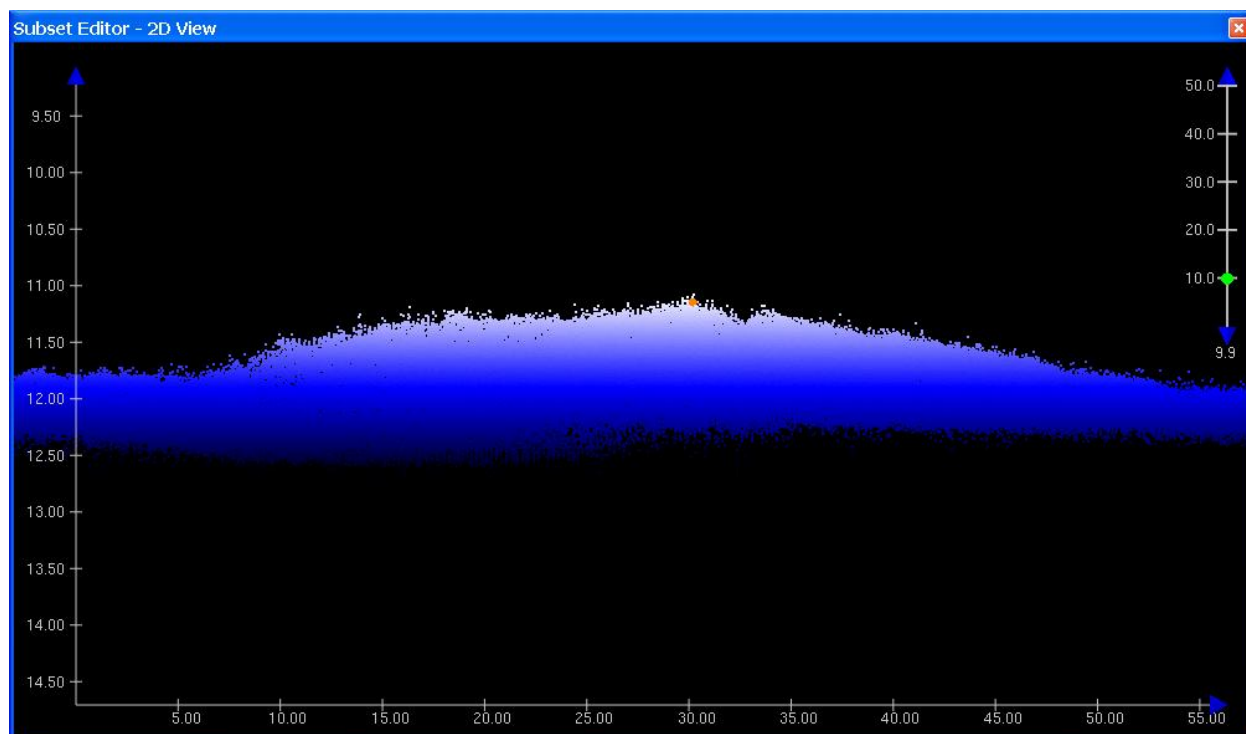
*Figure 1.1.5*



Figure 1.1.6



Figure 1.1.7

APPROVAL PAGE

H12435

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 NGDC for archive

- H12435_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12435_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: _____

LCDR Abigail Higgins, NOAA
Chief, Atlantic Hydrographic Branch