H11528

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: **Basic Hydrographic**

Field No.: NRT4

Registry Number: **H11528**

LOCALITY

State: Texas

General Locality: Galveston Bay

Sub-locality: Bolivar Roads

~~**2004**~~ **2006**

CHIEF OF PARTY
Lucy Massimillo

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28 (11-72) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

H11528

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:	**Texas**		
General Locality:	**Galveston Bay**		
Sub-Locality:	**Bolivar Roads**		
Scale:	**1:10,000**	Date of Survey:	**9/27/2005 to 5/30/2006**
Instructions Dated:	12/**15/2005**	Project Number:	**OPR-K414-NRT4-06**
Vessel:	**S3001**		
Chief of Party:	**Lucy Massimillo**		
Surveyed by:	**Lucy Massimillo, Sarah Borakove, & Jason McDonald**		
Soundings by:	**SBES**		
Graphic record scaled by:	**N/A**		
Graphic record checked by:	**N/A**		
Verification by:	**Atlantic Hydrographic Branch Personnel**		
Soundings in:	**feet at MLLW**		

Remarks: ***1) All Times are UTC.***
2) This is a Navigable Area Hydrographic Survey.
3) Projection is UTM Zone ~~19~~ 15.
4) Survey data in Anchorage Area A were collected during the Hurricane RITA response.

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DESCRIPTIVE REPORT

to accompany
Hydrographic Survey H11528
OPR-K414-NRT4-06

Scale of Survey 1:10,000
Year of Survey: 2006
Navigation Response Team 4
NOAA Launch S3001
Lucy Massimillo - Team Leader

A. AREA SURVEYED

This basic hydrographic survey was conducted in accordance with the Project Letter Instructions for project OPR-K414-NRT-06, Galveston Bay and Vicinity, Texas. The area encompassed by Sheet B of this project is Bolivar Roads. The instructions are dated December 15, 2005.

Bolivar Roads is the large deepwater area between the jetties extending west between Bolivar Peninsula on the north and Pelican Island and Galveston Island on the south. On the south and west it connects with the ship channels to Galveston, Texas City, and Houston. The Intracoastal Waterway crosses its northwest side.

NRT4 was assigned two areas to survey in Sheet B. The first area is the alternate route for vessels proceeding northbound from the Intracoastal Waterway to the Houston Ship Channel. This area is charted between the Bolivar Peninsula Buoy 20 and the Houston Ship Channel Light 28. It is not regularly maintained and has no project depth. The second area consists of Bolivar Roads Anchorages A, B, & C, as well as the area between the northern boundary of the Outer Bar Channel and the Spoil Area, north of the channel.

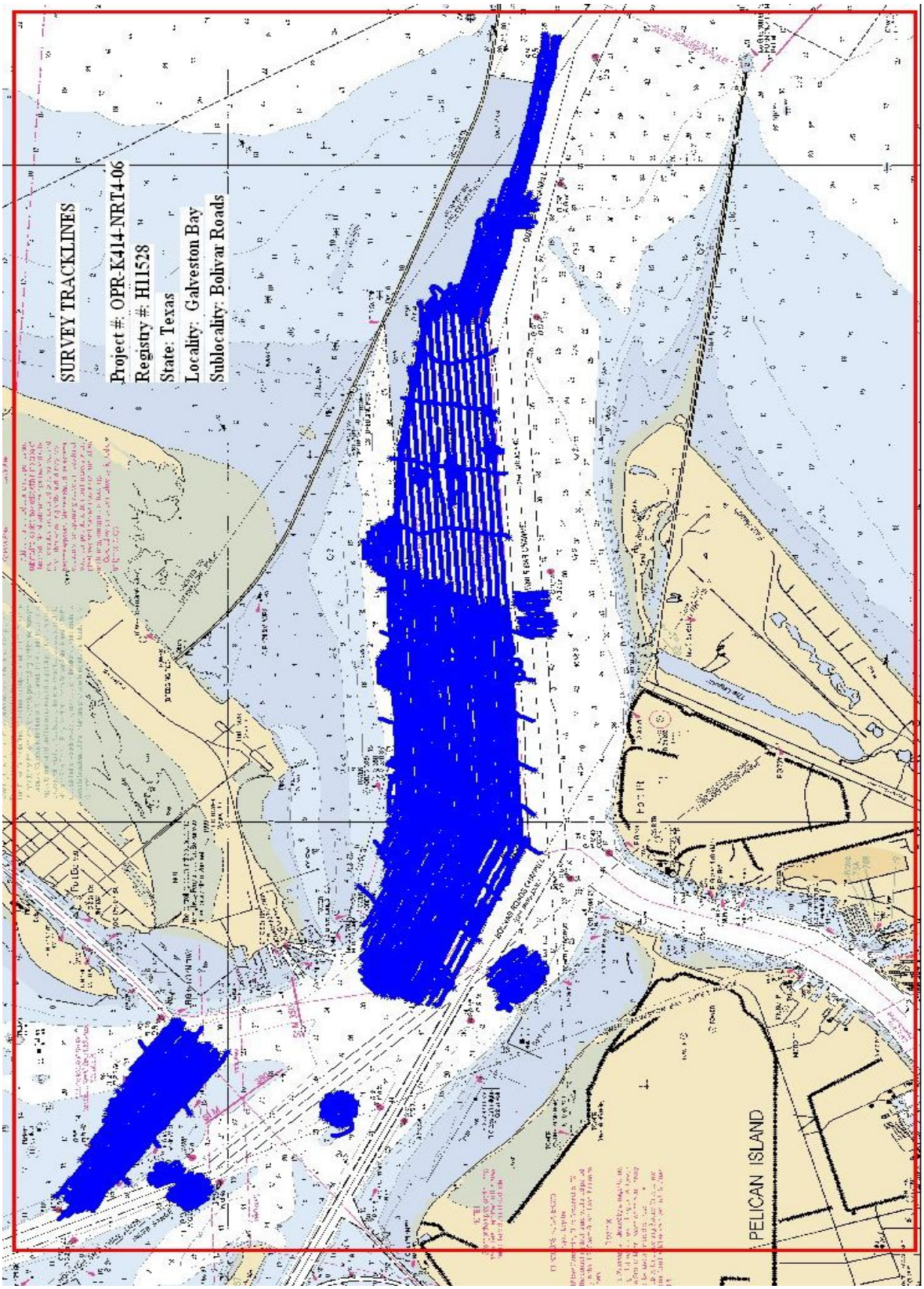
Anchorage Area A was recently surveyed by NRT4 during a response to Hurricane RITA. This area was not resurveyed for this project. However, any sidescan sonar contacts, identified during the response, were developed. The response data is included as part of this project

The survey was conducted from September 27, 2005 (DN: 270) to April 30, 2006 (DN: 120).

The Title sheet shows the end date as May 30, 2006 and this value was used for SORDAT and SOREND during compilation.
The approximate survey limits for this project are as follows:

94.8091738º W 29.3397643º N
94.6844251º W 29.3824922º N

Survey limits are displayed graphically on the following page.


SURVEY TRACKLINES
Project #: OPR-K414-NRT4-06
Registry #: H11528
State: Texas
Locality: Galveston Bay
Sublocality: Bolivar Roads
PELICAN ISLAND

B. DATA ACQUISITION AND PROCESSING

B.1. EQUIPMENT

Data were acquired by Navigation Response Team 4 using Survey Launch 3001. The vessel was configured as described in the Data Acquisition and Processing Report (DAPR) for this project. Major data acquisition systems are summarized below.

2006 DAPR is on file.

NOAA Survey Launch 3001 was used to acquire position, sounding, imagery, and sound velocity data. Positions were acquired with a Trimble DSM212L Differential GPS (DGPS) beacon receiver. Soundings were acquired with an ODOM CVX2 single-beam echosounder (SBES) system. Imagery was acquired with a stern-towed KLEIN 3000 side scan sonar (SSS) system. Water column sound velocity data was acquired with an ODOM Digibar Pro DB1200 sound velocity profiler.

There were no unusual vessel configurations encountered during this project.

B.2. QUALITY CONTROL

Following the Field Procedures Manual v2.1 Beta, dated May, 2006, and the NOS Hydrographic Surveys Specifications and Deliverables Manual, dated March 2003, has insured the integrity of the survey data for H11528.

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey.

Side Scan Sonar Quality Control

The side scan sonar system frequencies used were 100kHz and 500kHz. The recorder was set to 50 meter range scale. There were no water depths greater than 20 meters in areas where side scan data was collected ***Concur.***

Daily confidence checks were conducted by observing side scan imagery in the vicinity of known contacts, such as buoys or sand waves. Side scan data were considered satisfactory if these contacts could be distinguished throughout the entire range of the side scan trace. The confidence checks were performed daily at both frequencies. Coverage of 200% was obtained wherever possible in the required survey areas and where water depth and/or hazards permitted. Side scan sonar coverage was conducted to the 12-foot depth curve where possible. ***OK***

When operating in shoal waters, a short tow is required for the Klein system. When cable-out was approximately 7 meters or less, minor degradation of the side scan imagery was noted due to cross-talk between the Klein and the Odom echosounder.

Crosslines

Twenty-one crosslines for a total of 10.45 linear nautical miles were acquired by the field party. This is approximately 8.7 percent of the 120.02 LNM of mainscheme acquisition. A visual inspection of crossline data and main scheme data showed good comparison. ***Concur.***

Junctions

The following is a list of previous surveys that junction with this project:

Registry #	Year of Survey	Survey Scale
H10584	1994	1:10,000
H10589	1995	1:10,000
F-00470	2001	1:10,000
S-K921	2005	1:10,000

B.3. CORRECTIONS TO ECHO SOUNDING

Corrections to echo soundings did not deviate from the method explained in the Data Acquisition and Processing Report (DAPR). Sound speed data can be found in the Preliminary Smooth Sheet, accompanying this report. ***OK***

C. VERTICAL AND HORIZONTAL CONTROL

C.1. VERTICAL CONTROL

All soundings were reduced to Mean Lower Low Water (MLLW) with verified water levels and preliminary zoning.

The operating National Water Level Observation Network (NWLON) and PORTS stations at North Jetty, Texas (877-1341), and Galveston Pier 21, Texas (877-1450) served as datum control for the survey area.

Verified water levels from the N/OPS1 CO-OPS website were downloaded and applied to all soundings for this sheet. Water level corrections were applied to the soundings using CARIS HIPS and SIPS v6.0, Service Packs 1 & 2.

Zoning was provided on the project CD. Field personnel made no changes to zoning, time correctors, or range ratios.

A Request for Approved Water Levels letter was sent to N/OPS1 on July 18, 2006 and is included in Appendix IV.

Final Zoning was applied by AHB in April 2007.

C.2. HORIZONTAL CONTROL

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 15N. The control reference station used for this survey was the USCG DGPS Beacon in the auto-select mode.

Horizontal dilution of precision (HDOP) was monitored daily on Hypack. At no point did HDOP exceed 4.00, and adequate satellite coverage was maintained throughout the survey period.

All positioning equipment was operated in a manner consistent with the manufacturer requirements and as described in the DAPR. There were no equipment malfunctions which affected the positional quality of the data.

Horizontal and Vertical Control Report is on file at AHB.

D. RESULTS AND RECOMMENDATIONS

D.1. CHART COMPARISON

The following charts are affected by this survey as detailed in the project instructions:

Chart Number	Edition	Edition Date	Next Planned Edition*
11322	28th	3/1/05	4/1/2006
11323	61st	8/1/05	3/1/2007
11324	34th	10/1/04	2/1/2007
11325	37th	6/1/05	6/1/2007
11326	34th	5/1/06	8/1/2006
11327	32nd	10/1/04	11/1/2006
11328	24th	9/1/04	5/1/2008
11329	37th	6/1/05	11/1/2007
11331	19th	11/1/03	11/1/2006

ENC Cell	Last Updated	Corresponding Chart	Version	Edition
US5TX51M	10/25/05	11322	2	2
US5TX52M	11/29/05	11323	2	4
US5TX53M	11/10/05	11324	2	7
US5TX54M	11/22/05	11327	2	4
US5TX55M	11/9/05	11328	2	6
US5TX56M	10/25/05	11329	2	4
US5TX57M	10/25/05	11325	2	4
US5TX61M	7/2/04	11331	2	1

- Next print date is approximate. Actual print date depends on the amount of source data pending application to the charts.

Only charts 11323, 11324, and ENC US5TX53M were pertinent to this survey. (See Evaluation Report)

General Agreement with Charted soundings

In general, survey soundings compared favorably with charted depths within 1-2 feet. There were six notable cases in which survey depths differed from charted depths.

1) 29°22’15.4”N, 94°47’14.09”W to 29°22’12.9”N, 94°47’13.3”W- There is an uncharted shoaling inside the area between these two positions, which is currently charted as having depths between 18 and 30 feet. Several 15ft, 16ft and 17ft soundings now occur in this area.
Do not concur. In general, current surveyed soundings are deeper than charted. It is

recommended that current surveyed soundings supercede charted soundings.

2) 29°22'18.3"N, 94°47'18.5"W to 29°22'13.0"N, 94°47'16.7"W- The 30ft contour between these positions has migrated approximately 150ft to the west. Several soundings between 25ft and 29ft occur in this area which is currently charted as deeper than 30ft.

Concur. Current soundings supercede previously charted soundings.

3) 29°21'23.2"N, 94°46'38.4"W- An 11ft sounding occurs in a charted 12-18ft depth area.

Concur with clarification. Appears 12-ft contour (Chart 11324) needs to be adjusted.

4) 29°21'22.5"N, 94°46'41.8"W to 29°21'21.4"N, 94°46'41.2"W- The 18 ft contour between these positions has migrated approximately 90ft to the southwest. Several soundings between 15ft and 17ft occur in this area which is currently charted as having depths between 18 and 30 feet. ***Concur.***

5) 29°20'45.2"N, 94°46'5.9"W and 29°20'42.8"N, 94°45'58.1"W and 29°20'40.7"N, 94°45'48.4"W- The 30ft contour has migrated varying distances south at these locations. Shoal 26ft, 27ft and 29ft soundings occur in these areas that are currently charted as having depths deeper than 30ft. ***Current soundings supercede charted; contours to be updated as necessary.***

6) 29°20'49.1"N, 94°46'0.5"W- The charted 18ft contour has migrated approximately 140ft to the southeast. A 17ft sounding occurs at this position that is currently charted as having depths between 18 and 30 feet. ***Concur. Current soundings supercede charted; contours to be updated as necessary.***

AWOIS Item Investigations

There were twenty-seven AWOIS items assigned within the sheet boundaries. Sixteen AWOIS items- 9052, 9108, 11501, 13343, 13344, 13345, 13350, 13422, 13423, 13424, 13426, 13430, 13431, 13432, 13433 & 13434-were investigated by the field party. Eleven AWOIS items-9064, 9066, 9033, 9034, 9043, 9044, 9054, 10097, 13427, 13428, 13429- were recommended for further investigation. Results of these investigations are contained in Appendix II.

Do not concur. Further scrutiny found 15 addressed AWOIS items and are detailed in the Evaluation Report.

Dangers to Navigation

One Danger to Navigation (DTONs) was identified by the field party. The DTON was submitted to the Marine Charting Division (MCD) on July 18, 2006. Refer to Appendix I for detailed information on this item. ***OK. DtoN is also AWOIS 13434.***

D. 2. ADDITIONAL RESULTS

Aids to Navigation and Other Detached Positions

LL # 22858.07, "Houston Ship Channel Buoy 4", appears to have been dragged 192 meters WNW from its charted location. The buoy continues to serve its intended purpose. ***OK***

Ferry Routes

There is an auto ferry operating between Galveston and Port Bolivar. This ferry route was not investigated by the field party. ***Concur.***

Submarine Cables and Pipelines

In the northwest corner of this sheet, there is a charted cable area. In the southwest corner of this sheet, there is a charted cable and pipeline area. In the northeast corner of the sheet, there is a charted submerged pipeline. No cable or pipeline areas were investigated by the field party. ***OK***

Bridges and Overhead Cables

There are no charted bridges or overhead cables in the survey area. ***Concur.***

APPROVAL SHEET

OPR-K414-NRT4-06
Basic Hydrographic Survey
Galveston Bay
Bolivar Roads
Texas
Registry No. H11528

Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy. All field sheets, this Descriptive Report, and all accompanying records and data are approved.

This survey is adequate to supersede all prior surveys in common areas, and for application to the relevant NOS nautical charts.

Respectfully,
Submitted:

Lucy Massimillo

Lucy Massimillo
Team Leader, Navigation Response Team 4

H11528 Danger to Navigation

Registry Number: H11528

State: Texas

Locality: Galveston Bay

Sub-locality: Bolivar Roads

Project Number: OPR-K414-NRT4-06

Survey Dates: September 27, 2005 - April 30, 2006

This report contains information regading a Danger to Navigation found during survey H11528

Charts Affected

Number	Version	Date	Scale
11324	34th Ed.	10/01/2004	1:25000
11322	30th Ed.	02/01/2006	1:40000
11331	19th Ed.	11/01/2003	1:40000
11323	61st Ed.	08/01/2005	1:80000
11326	33rd Ed.	03/01/2005	1:80000
11330	17th Ed.	02/01/2006	1:250000
1116A	70th Ed.	08/01/2005	1:458596
11340	70th Ed.	08/01/2005	1:458596
1117A	40th Ed.	12/01/2004	1:460732
11300	40th Ed.	12/01/2004	1:460732
411	50th Ed.	09/01/2005	1:2160000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Obstruction	7.26 m	029° 20' 43.442" N	94° 47' 07.946" W	13434

1 - Danger To Navigation

1.1) Profile/Beam - 2064/1 from h11528 / 3001sb / 2006-120 / 000_1833

DANGER TO NAVIGATION

Primary Feature for AWOIS Item #13434

Search Position: 029° 20' 41.000" N, 94° 46' 56.000" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,ES,SD

Technique Notes: [None]

History Notes:

LNM 27/96-- A CURRENT METER BUOY CHARTED AS SUBMEREGED BUOY AT 29/20/41.0 - 94/46/56.0. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 029° 20' 43.442" N, 94° 47' 07.946" W

Least Depth: 7.26 m

Timestamp: 2006-120.18:35:37.200 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1833

Profile/Beam: 2064/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This contact is believed to be the current meter addressed by AWOIS 13434 even though it was not found within the search radius of AWOIS item 13434. The very large contact was seen on a 100% SSS record. SB investigation was conducted and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is significantly shoaler than the surrounding depth. This contact is significant and may be a danger to navigation.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1833	2064/1	0.00	000.0	Primary
h11528/3001sss500k/2006-102/br060412174400	0002	21.90	223.1	Secondary (grouped)
Awois items	AWOIS # 13434	331.78	283.2	Secondary (grouped)

Hydrographer Recommendations

Hydrographer recommends relocating the "Subm buoy" obstruction symbol from its charted location, at AWOIS 13434, to the location as found by present survey findings.

Cartographically-Rounded Depth (Affected Charts):

24ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

4fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	INFORM - Submerged Buoy
	QUASOU - 7:least depth unknown, safe clearance at value shown
	TECSOU - 1:found by echo-sounder
	VALSOU - 7.259 m
	WATLEV - 3:always under water/submerged

From <Lucy.Massimillo@noaa.gov>
Sent Tuesday, July 18, 2006 2:57 pm
To MCD.DTON@noaa.gov
Cc Jon.Swallow@noaa.gov , Lyn.Preston@noaa.gov , Tod.Schattgen@noaa.gov , Jake.Yoos@noaa.gov , Alan.Bunn@noaa.gov
Bcc
Subject H11528 DToN
Attachments H11528_DToN.zip 578K

Please see the attached zipped archive file for a Danger to Navigation discovered by NRT4, while surveying for Project# OPR-K414-NRT4-05, Registry# H11528, Sheet B, Galveston Harbor & Bolivar Roads, TX.

Please confirm receipt of this e-mail.

If you have any questions or comments, please do not hesitate to contact us.

Regards,

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

From <Lucy.Massimillo@noaa.gov>
Sent Tuesday, July 25, 2006 10:18 am
To Alan.Bunn@noaa.gov
Cc Darren Wright <Darren.Wright@noaa.gov> , David Jones <David.Jones@noaa.gov> , "Torok, Jerry CDR" <JTorok@vtshouston.uscg.mil> , thomas.a.hunt@swg02.usace.army.mil , Steve Soherr <Steve.Soherr@noaa.gov>
Bcc
Subject Re: [Fwd: H11528 DToN]
Alan,

I don't know if this is the PORTS current meter. The AWOIS data base simply states the following:

LNM 27/96-- A CURRENT METER BUOY CHARTED AS SUBMEREGED BUOY AT 29/20/41.0 - 94/46/56.0. (ENTERED CEH 12/05)

We didn't identify any contacts within the AWOIS radius that resembled a current meter. The DToN that we sent in is the location of an relatively tall object that appears to have a circular shape (are submerged current meters circular?). Because of it's proximity to the charted current meter, we assumed that perhaps this is what it was. However, none of us are divers, so we were not able to visually verify this.

Perhaps, we are wrong to assume that this is the current meter. But it certainly is a significant uncharted obstruction.

Lucy

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

FYI - The PORTS current meter? Noting newly surveyed location differing from the charted location. Will be updated on new charts.

ARB.

-------- Original Message -------- Subject: H11528 DToN
Date: Tue, 18 Jul 2006 14:57:23 -0500
From: Lucy.Massimillo@noaa.gov
To: mcd.dton@noaa.gov
CC: Jon.Swallow@noaa.gov, Lyn.Preston@noaa.gov, Tod.Schattgen@noaa.gov, Jake.Yoos@noaa.gov, Alan.Bunn@noaa.gov

Please see the attached zipped archive file for a Danger to Navigation discovered by NRT4, while surveying for Project# OPR-K414-NRT4-05, Registry# H11528, Sheet B, Galveston Harbor & Bolivar Roads, TX.

Please confirm receipt of this e-mail.

If you have any questions or comments, please do not hesitate to contact us.

Regards,

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

From <Lucy.Massimillo@noaa.gov>
Sent Tuesday, July 25, 2006 11:14 am
To Alan.Bunn@noaa.gov
Cc Darren Wright <Darren.Wright@noaa.gov> , David Jones <David.Jones@noaa.gov> , "Torok, Jerry CDR" <JTorok@vtshouston.uscg.mil> , thomas.a.hunt@swg02.usace.army.mil , Steve Soherr <Steve.Soherr@noaa.gov>
Bcc
Subject Re: [Fwd: H11528 DToN]

I just spoke with Dave Jones, the PORTS Manager. He assured me that this is not the PORTS current meter, but is most likely an old Coast Guard meter.

According to Dave, the PORTS current meter was originally located at 29d20.609'N, 94d46.499'W and has since been moved to somewhere around 29d20.531'N, 94d46.389'W. He believes it to be near the GR "P" buoy. If you have any questions about the PORTS meter, Dave can be reached at (206)526-6362.

This is outside of our survey area for this sheet and was not assigned as an AWOIS item. Therefore, NRT4 did not look for the PORTS buoy.

As I said in my last e-mail, we cannot confirm that the contact that we found is indeed a buoy, since we do not have dive capability. Perhaps, we can contact the Coast Guard about this also?

Regards,

Lucy

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

From Steve Soherr <Steve.Soherr@noaa.gov>
Sent Tuesday, July 25, 2006 10:17 am
To Richard Sillcox <Richard.Sillcox@noaa.gov>
Cc Alan Bunn <Alan.Bunn@noaa.gov> , Lucy Massimillo <Lucy.Massimillo@noaa.gov>
Bcc
Subject [Fwd: Re: H11528 R4 Discrepancy]
Attachments C:DOCUME~1STEVE~1.SOHLOCALS~1Tempnsmail34.TMP 508K

Rich,

FYI on buoy that was found to be significantly offstation by NRT 4. Can you guys contact the USCG about this one?

Tks,

Steve

-------- Original Message --------
Subject: Re: H11528 R4 Discrepancy
Date: Tue, 25 Jul 2006 09:55:26 -0500

```
        From: "CDR. Alan R. Bunn" <Alan.Bunn@noaa.gov>
    Reply-To: Alan.Bunn@noaa.gov
Organization: NOAA/NOS
          To: Lucy.Massimillo@noaa.gov
          CC: Steve Soherr <Steve.Soherr@noaa.gov>, Ed Martin
              <Ed.Martin@noaa.gov>
  References: <41772641d9d5.41d9d5417726@noaa.gov>

Done!

Lucy.Massimillo@noaa.gov wrote:

> Alan,
>
> I am sorry that this took so long, but we have been absolutely
> swamped.  We were in the middle of processing 4 different surveys,
> including Lake Charles & Chicago.
>
> We are just about finished with the Galveston project and will be
> submitting the data and the Project report to AMC by the end of the
> month.  We will get you a chartlet tomorrow that will show you the
> area surveyed, along with LNM, SNM, & # of AWOIS investigated.  Take
> a
> look at it and if you want any changes made, let us know.
>
> We will also be letting you know about any significant chart
> discrepancies that we found, which do not necessarily fall into the
> DToN category.  Here is the first:
>
> This discrepancy refers to Project# OPR-K414-NRT4-05, Registry#
> H11528, Sheet B, Galveston Harbor & Bolivar Roads, TX.
>
> Buoy R "4", USCG Light #22858.07, appears to be off its charted
> station.  We took a DP on the buoy and found it to be approximately
> 192m WNW of its charted location.  The position collected in the
> field
> for this buoy is 29d22'40.08"N, 94d48'04.23"W.  Thr buoy is marking
> the NE boundry of the one way alternate route between the Port
> Bolivar
> Assembling Basin and the Houston Ship Channel.  The buoy still
> appears
> to be serving its intended purpose.  Please see the accompanying JPG
> for an illustration of this.
>
> Is there someone at the Coast Guard that could be contacted about
> this
> buoy?
>
> Please call if you have any questions of comments.
>
> Thanks,
> Lucy
>
> Lucy Massimillo
> National Oceanic & Atmospheric Administration
> Team Leader, Navigation Response Team 4
> (312) 923-9006  office
```

> (312) 330-5074 cell
> Lucy.Massimillo@noaa.gov
>
>
>   --
>   [Image]
>

Rich,

FYI on buoy that was found to be significantly offstation by NRT 4.
Can you guys contact the USCG about this one?

Tks,

Steve

-------- Original Message -------- Subject: Re: H11528 R4 Discrepancy
Date: Tue, 25 Jul 2006 09:55:26 -0500
From: "CDR. Alan R. Bunn" <Alan.Bunn@noaa.gov>
Reply-To: Alan.Bunn@noaa.gov
Organization: NOAA/NOS
To: Lucy.Massimillo@noaa.gov
CC: Steve Soherr <Steve.Soherr@noaa.gov>, Ed Martin
<Ed.Martin@noaa.gov>
References: <41772641d9d5.41d9d5417726@noaa.gov>

Done!

Lucy.Massimillo@noaa.gov wrote:

Alan,

I am sorry that this took so long, but we have been absolutely
swamped. We were in the middle of processing 4 different surveys,
including Lake Charles & Chicago.

We are just about finished with the Galveston project and will be
submitting the data and the Project report to AMC by the end of the
month. We will get you a chartlet tomorrow that will show you the
area surveyed, along with LNM, SNM, & # of AWOIS investigated. Take a
look at it and if you want any changes made, let us know.

We will also be letting you know about any significant chart
discrepancies that we found, which do not necessarily fall into the
DToN category. Here is the first:

This discrepancy refers to Project# OPR-K414-NRT4-05, Registry#
H11528, Sheet B, Galveston Harbor & Bolivar Roads, TX.

Buoy R "4", USCG Light #22858.07, appears to be off its charted station. We took a DP on the buoy and found it to be approximately 192m WNW of its charted location. The position collected in the field for this buoy is 29d22'40.08"N, 94d48'04.23"W. Thr buoy is marking the NE boundry of the one way alternate route between the Port Bolivar Assembling Basin and the Houston Ship Channel. The buoy still appears to be serving its intended purpose. Please see the accompanying JPG for an illustration of this.

Is there someone at the Coast Guard that could be contacted about this buoy?

Please call if you have any questions of comments.

Thanks,
Lucy

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

FYI - The PORTS current meter? Noting newly surveyed location differing from the charted location. Will be updated on new charts.

ARB.

-------- Original Message -------- Subject: H11528 DToN
Date: Tue, 18 Jul 2006 14:57:23 -0500
From: Lucy.Massimillo@noaa.gov
To: mcd.dton@noaa.gov
CC: Jon.Swallow@noaa.gov, Lyn.Preston@noaa.gov, Tod.Schattgen@noaa.gov, Jake.Yoos@noaa.gov, Alan.Bunn@noaa.gov

Please see the attached zipped archive file for a Danger to Navigation discovered by NRT4, while surveying for Project# OPR-K414-NRT4-05, Registry# H11528, Sheet B, Galveston Harbor & Bolivar Roads, TX.

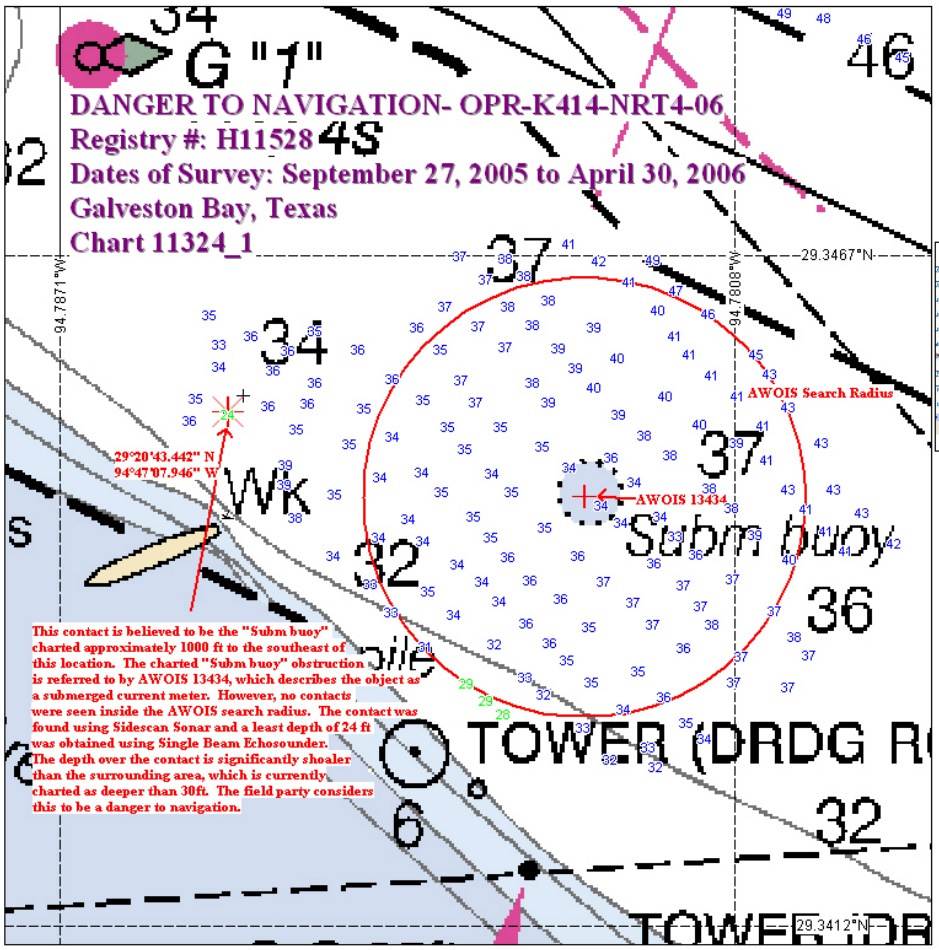
Please confirm receipt of this e-mail.

If you have any questions or comments, please do not hesitate to

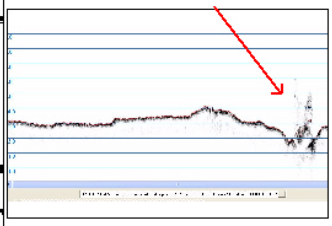
contact us.

Regards,

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov



Screenshot of Echosounder hit on object



SSS image of contact

H11528 Appendix II

H11528 AWOIS

Registry Number: H11528

State: Texas

Locality: Galveston Bay

Sub-locality: Bolivar Roads

Project Number: OPR-K414-NRT4-06

Survey Dates: 09/27/2005 - 09/18/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11324	35th	08/01/2007	1:25,000 (11324_1)	USCG LNM: 05/27/2008 (05/27/2008) NGA NTM: 01/08/2000 (05/31/2008)
11324	34th	10/01/2004	1:25,000 (11324_2)	[L]NTM: ?
11322	30th	02/01/2006	1:40,000 (11322_1)	[L]NTM: ?
11331	19th	11/01/2003	1:40,000 (11331_4)	[L]NTM: ?
11323	62nd	12/01/2006	1:80,000 (11323_1)	USCG LNM: 03/25/2008 (05/27/2008) NGA NTM: 08/28/2004 (05/31/2008)
11326	33rd	03/01/2005	1:80,000 (11326_6)	[L]NTM: ?
11330	17th	02/01/2006	1:250,000 (11330_1)	[L]NTM: ?
11340	70th	08/01/2005	1:458,596 (11340_1)	[L]NTM: ?
1116A	70th	08/01/2005	1:458,596 (1116A_1)	[L]NTM: ?
1117A	40th	12/01/2004	1:460,732 (1117A_1)	[L]NTM: ?
11300	40th	12/01/2004	1:460,732 (11300_1)	[L]NTM: ?
411	50th	09/01/2005	1:2,160,000 (411_1)	[L]NTM: ?

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

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	SSS	[None]	29° 20' 57.2" N	094° 46' 00.7" W	13432
1.2	SSS	[None]	29° 20' 46.4" N	094° 45' 34.6" W	13430
1.3	SSS	[None]	29° 22' 11.0" N	094° 48' 15.5" W	9108
1.4	Sounding	13.86 m	29° 20' 54.7" N	094° 42' 51.3" W	13350

1.5	Obstruction	6.09 m	29° 22' 17.4" N	094° 48' 08.2" W	13422
1.6	Shoal	11.93 m	29° 21' 15.4" N	094° 46' 54.9" W	13424
1.7	Obstruction	10.46 m	29° 21' 15.1" N	094° 44' 19.9" W	11501
1.8	Obstruction	13.93 m	29° 20' 35.8" N	094° 44' 48.6" W	13343
1.9	Obstruction	14.01 m	29° 20' 37.1" N	094° 44' 39.3" W	13344
1.10	Obstruction	13.64 m	29° 21' 00.7" N	094° 42' 59.9" W	13345
1.11	Obstruction	6.82 m	29° 21' 29.0" N	094° 47' 45.7" W	13423
1.12	Obstruction	9.13 m	29° 20' 56.2" N	094° 45' 48.5" W	13431
1.13	Sounding	9.62 m	29° 21' 11.5" N	094° 45' 04.5" W	13433

1 - DR_AWOIS

1.1) Contact/Point - 0001/1 from h11528 / 3001sss500k / 2006-076 / br060317184700

Primary Feature for AWOIS Item #13432

Search Position: 29° 21' 00.0" N, 094° 46' 00.0" W

Historical Depth: [None]

Search Radius: 350

Search Technique: S2, ES

Technique Notes: [None]

History Notes:

LNM 36/04-- AN OIL PRODUCTION PLATFORN SUNK AND CHARTED AS SUBMEREGED OBSTRUCTION WITH POSITION APPROXIMATE AT 29/21/00.0 - 94/46/00.0. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 29° 20' 57.2" N, 094° 46' 00.7" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-081.08:16:24 (03/22/2006)

Survey Line: h11528 / 3001sss500k / 2006-076 / br060317184700

Contact/Point: 0001/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact is within the radius of AWOIS item 13432 and is approximately 90m S of the current charted Subm Obst PA. The unknown contact, with a sidescan sonar shadow measuring approximately 1.15 meters, was seen on 3 seperate passes of the SSS. The field party investigated this region using a star-pattern search and was unable to locate the item using single beam echosounder. There is no least depth for this position.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sss500k/2006-076/br060317184700	0001	0.00	000.0	Primary
h11528/3001sss500k/2006-087/br060328175300	0001	22.65	293.1	Secondary
h11528/3001sss500k/2006-075/br060316183600	0001	27.15	308.6	Secondary
Awois items	AWOIS # 13432	89.97	192.5	Secondary

Hydrographer Recommendations

Hydrographer recommends charting obstruction as per present survey findings. Hydrographer recommends moving charted Obstn PA from the current location (AWOIS 13432) to 29°20'57.159" , -094°46'00.720" (the location of this SSS contact). The hydrographer further recommends future investigation of this item to determine if the least depth is shoaler than the surrounding depth.

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	QUASOU - 2:depth unknown
	TECSOU - 2:found by side scan sonar
	WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart 23 rep Obstn PA

1.2) Contact/Point - 0001/1 from h11528 / 3001sss500k / 2006-086 / br060327181900

Primary Feature for AWOIS Item #13430

Search Position: 29° 20' 50.0" N, 094° 45' 31.0" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

LNM 01/99-- AN ANCHOR AND CHAIN CHARTED AS SUBMERGED OBSTRUCTION AT 29/20/50.0 - 94/45/31.0. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 29° 20' 46.4" N, 094° 45' 34.6" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-088.07:20:00 (03/29/2006)

Survey Line: h11528 / 3001sss500k / 2006-086 / br060327181900

Contact/Point: 0001/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact is within the radius of AWOIS item 13430 and is located approximately 148m SE of the currently charted Subm Obst PA. The unknown contact, with a sidescan sonar shadow measuring approximately 1.4 meters, was located using 200% side scan sonar and seen on two SSS passes. The field party investigated this region using a star-pattern search and was unable to locate the item using single beam echosounder. There is no least depth for this position.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sss500k/2006-086/br060327181900	0001	0.00	000.0	Primary
h11528/3001sss500k/2006-076/br060317172000	0002	4.96	062.8	Secondary
Awois items	AWOIS # 13430	147.85	220.7	Secondary

Hydrographer Recommendations

Chart obstruction as per present survey findings. The hydrographer recommends further investigation of this item to determine if the least depth is shoaler than the surrounding depth. Hydrographer recommends moving current charted Subm Obstn PA , from its current position to the SSS contact position, 29°20'46.373", -094°45'34.561".

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	QUASOU - 2:depth unknown
	TECSOU - 2:found by side scan sonar
	WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.3) Contact/Point - 0006/1 from h11528 / 3001sss500k / 2006-102 / br060412154700

Primary Feature for AWOIS Item #9108

Search Position: 29° 22' 10.0" N, 094° 48' 15.0" W

Historical Depth: 8.60 m

Search Radius: 150

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

SURVEY REQUIREMENT COMMENTS■ 100M SEARCH RADIUS REQUIRED FOR DISPROVAL, DO NOT SEARCH INSIDE MAINTAINED CHANNEL LIMITS, UNLESS TO DETERMINE EXTENT OF ROCK PILE.■■ HISTORY■ ****SOURCE UNKNOWN; SUBMERGED ROCK PILE APPEARS ON 1ST ED OF CHART 11324, 5/17/65 IN POS. LAT.29-22-10N, LONG.94-48-15W (SCALED FROM 28TH ED OF CHT.11324 IN NAD 83).■ NM4/67--ROCK PILE BOUY 27, RENAMED HOUSTON SHIP CHANNEL ROCK PILE BUOY 25A. (ENTERED 9/94 MCR)■ H10589/95--OPR-K204-AHP; A SUBMERGED ROCK PILE WAS FOUND IN LAT 29/22/10.00N, LONG 094/48/15.00 (NAD 83) APPROXIMATELY 10 METERS FROM BUOY NUMBER "25A". THE ROCK PILE LEAST DEPTH WAS 9.2 METERS (30.2 FEET) WHICH REDUCES TO 8.6 METERS (28.2 FEET) WITH TIDES AT MLLW. (ENT 07/02, PSH)

Survey Summary

Survey Position: 29° 22' 11.0" N, 094° 48' 15.5" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2008-262.01:25:22 (09/18/2008)

Survey Line: h11528 / 3001sss500k / 2006-102 / br060412154700

Contact/Point: 0006/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

AWOIS 9108 Primary

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sss500k/2006-102/br060412154700	0006	0.00	000.0	Primary
h11528/3001sss500k/2006-102/br060412154400	0002	8.98	223.5	Secondary

Awois items	AWOIS # 9108	33.04	333.7	Secondary
h11528/3001sss500k/2006-102/br060412160000	0004	35.94	088.8	Secondary
h11528/3001sss500k/2006-102/br060412154700	0004	46.28	117.6	Secondary (grouped)
ChartGPs - Digitized	3	66.06	350.8	Secondary (grouped)
h11528/3001sb/2006-120/000_2056	927/1	74.78	290.8	Secondary (grouped)
h11528/3001sb/2006-120/000_2059	8796/1	76.80	005.4	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412155400	0001	81.14	297.1	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154700	0002	81.99	322.1	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154400	0001	83.17	292.0	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412155400	0002	86.87	148.3	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154700	0005	90.98	115.6	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154700	0003	95.06	146.2	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412160000	0001	98.88	049.5	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412160500	0001	109.70	041.6	Secondary (grouped)
h11528/3001sb/2006-120/000_2042	577/1	115.79	038.4	Secondary (grouped)

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: TECSOU - 2:found by side scan sonar

WATLEV - 3:always under water/submerged

Office Notes

Define area as "Rky." See H-Cell.

1.4) Profile/Beam - 10419/1 from h11528 / 3001sb / 2006-120 / 000_1516

Primary Feature for AWOIS Item #13350

Search Position: 29° 20' 54.7" N, 094° 42' 51.3" W

Historical Depth: 13.11 m

Search Radius: 100

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

CL1797/02--10/28/02, 8TH CGD; DANGER TO NAVIGATION (DTON) FROM S-K14-WH-02. OBSTRUCTION 43-FT IN POSITION 29 20 54.70 N, 094 42 51.29 W (NAD 83). UPDATED 9/22/2005 JCM.

Survey Summary

Survey Position: 29° 20' 54.7" N, 094° 42' 51.3" W

Least Depth: 13.86 m (= 45.46 ft = 7.577 fm = 7 fm 3.46 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.15:27:24.300 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1516

Profile/Beam: 10419/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

AWOIS item 13350 was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is deeper than the maintained turning basin depth and is also deeper than the charted obstruction.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1516	10419/1	0.00	000.0	Primary
Awois items	AWOIS # 13350	1.13	191.2	Secondary
h11528/3001sss500k/2006-090/br060331181800	0001	2.14	140.0	Secondary
h11528/3001sss500k/2005-270/r050927163200	0005	5.84	053.2	Secondary
h11528/3001sss500k/2005-270/r050927171800	0001	9.66	256.7	Secondary

h11528/3001sss500k/2006-090/br060331172500	0001	13.10	270.7	Secondary

Hydrographer Recommendations

Retain as charted.

S-57 Data

[None]

Office Notes

Concur.

1.5) Profile/Beam - 7291/1 from h11528 / 3001sb / 2006-120 / 000_2017

Primary Feature for AWOIS Item #13422

Search Position: 29° 22' 17.4" N, 094° 48' 08.2" W

Historical Depth: [None]

Search Radius: 100

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

CL 1797/02-- ADDED AN OBSTRUCTION WITH 19 FOOT DEPTH. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 29° 22' 17.4" N, 094° 48' 08.2" W

Least Depth: 6.09 m (= 19.97 ft = 3.329 fm = 3 fm 1.97 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.20:24:41.600 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_2017

Profile/Beam: 7291/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

AWOIS item 13422 was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is slightly deeper than the charted obstruction and is comparable to the surrounding depth.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_2017	7291/1	0.00	000.0	Primary
Awois items	AWOIS # 13422	1.24	100.4	Secondary
h11528/3001sss500k/2006-102/br060412153600	0001	12.69	357.9	Secondary
h11528/3001sss500k/2006-102/br060412153900	0001	13.14	301.4	Secondary
h11528/3001sss500k/2006-102/br060412153400	0001	39.84	122.0	Secondary (grouped)

Hydrographer Recommendations

Retain as charted.

Cartographically-Rounded Depth (Affected Charts):

20ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

3 ¼fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	QUASOU - 1:depth known
	TECSOU - 1:found by echo-sounder
	VALSOU - 6.088 m
	WATLEV - 3:always under water/submerged
Geo object 2:	Sounding (SOUNDG)
Attributes:	TECSOU - 1:found by echo-sounder

Office Notes

Concur with clarification. Depth known = 20 ft

1.6) Profile/Beam - 1724/1 from h11528 / 3001sb / 2006-102 / 507_1814

Primary Feature for AWOIS Item #13424

Search Position: 29° 21' 15.4" N, 094° 46' 54.5" W

Historical Depth: [None]

Search Radius: 250

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

****UNKNOWN SOURCE ADDED A 22 FOOT OBSTRUCTION AT CHARTED POSITION 29/21/15.40-94/46/54.52. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 29° 21' 15.4" N, 094° 46' 54.9" W

Least Depth: 11.93 m (= 39.12 ft = 6.521 fm = 6 fm 3.12 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-102.18:16:46.721 (04/12/2006)

Survey Line: h11528 / 3001sb / 2006-102 / 507_1814

Profile/Beam: 1724/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest sounding in vicinity of charted 22ft shoal.

The entire search radius of AWOIS 13424 was surveyed using 200% SSS and SB echosounder. Several contacts were seen inside the search radius on the SSS records and a few were further investigated using a SB Echosounder search pattern. None of these contacts are thought to be the charted shoal, as they were either not seen on the Echosounder trace or they were found to be comparable to the surrounding depth. Several echosounder lines were also surveyed over the shoal and, with the deepest depth (reduced with observed verified tides to MLLW) being 38 ft. The Hydrographer concludes that this AWOIS item does not exist as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-102/507_1814	1724/1	0.00	000.0	Primary
Awois items	AWOIS # 13424	9.01	276.1	Secondary

Hydrographer Recommendations

Hydrographer recommends updating the chart as per present survey findings and removing the charted shoal.

Cartographically-Rounded Depth (Affected Charts):

39ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

6 ½fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Sounding (SOUNDG)
Attributes:	TECSOU - 1:found by echo-sounder

Office Notes

Concur.

1.7) Profile/Beam - 1538/1 from h11528 / 3001sb / 2006-102 / 536_2020

Primary Feature for AWOIS Item #11501

Search Position: 29° 21' 15.0" N, 094° 44' 20.0" W

Historical Depth: [None]

Search Radius: 250

Search Technique: ES,S2

Technique Notes: [None]

History Notes:

HISTORY■ LNM37/00--09/12/00, 8TH CGD; ANCHOR AND CHAIN IN LAT 29-21-15N, LONG 094-44-20W (NAD 83) ADD OBSTRUCTION PA. (ENT 07/02, PSH)

Survey Summary

Survey Position: 29° 21' 15.1" N, 094° 44' 19.9" W

Least Depth: 10.46 m (= 34.30 ft = 5.717 fm = 5 fm 4.30 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-102.20:21:35.828 (04/12/2006)

Survey Line: h11528 / 3001sb / 2006-102 / 536_2020

Profile/Beam: 1538/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest depth in vicinity of Subm Obstn.

The entire search radius of AWOIS 11501 was surveyed using 200% SSS and SB echosounder. The only SSS contacts seen within the search radius were in very close proximity to the buoy. The Hydrographer concludes that this Obstn PA does not exist.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-102/536_2020	1538/1	0.00	000.0	Primary
Awois items	AWOIS # 11501	4.36	065.7	Secondary

Hydrographer Recommendations

Hydrographer recommends updating the chart as per current survey findings and removing the Obstn PA.

Cartographically-Rounded Depth (Affected Charts):

34ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

5 ¾fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	VALSOU - 10.456 m

Office Notes

AWOIS 11501 disproved

1.8) Profile/Beam - 769/1 from h11528 / 3001sb / 2006-102 / 617c1945

Primary Feature for AWOIS Item #13343

Search Position: 29° 20' 35.8" N, 094° 44' 48.2" W

Historical Depth: [None]

Search Radius: 100

Search Technique: S2, ES, DI

Technique Notes: [None]

History Notes:

LNM25/03--6/24/03, 8TH CGD; SUBMERGED OBSTRUCTION PA BUOY IN POSITION 29 29 35.83 N, 094 44 48.16 W (NAD 83). UPDATED 9/22/2005 JCM.

Survey Summary

Survey Position: 29° 20' 35.8" N, 094° 44' 48.6" W

Least Depth: 13.93 m (= 45.69 ft = 7.615 fm = 7 fm 3.69 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-102.19:45:48.968 (04/12/2006)

Survey Line: h11528 / 3001sb / 2006-102 / 617c1945

Profile/Beam: 769/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest sounding in vicinity of charted Subm Obstn.

The entire search radius of AWOIS 13343 was surveyed using 200% SSS and SB echosounder. No contacts were seen inside the search radius on the 200% SSS records. The Hydrographer concludes that this AWOIS item does not exist as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-102/617c1945	769/1	0.00	000.0	Primary
Awois items	AWOIS # 13343	12.11	260.2	Secondary

Hydrographer Recommendations

Hydrographer recommends updating chart as per present survey findings and removing the charted Subm Obstn PA.

Cartographically-Rounded Depth (Affected Charts):

45ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

7 ½fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	VALSOU - 13.926 m

Office Notes

Concur. AWOIS 13343 disproved

1.9) Profile/Beam - 774/1 from h11528 / 3001sb / 2006-102 / 623_2003

Primary Feature for AWOIS Item #13344

Search Position: 29° 20' 37.4" N, 094° 44' 38.8" W

Historical Depth: [None]

Search Radius: 100

Search Technique: S2, ES, DI

Technique Notes: [None]

History Notes:

LNM34/05--8/24/05, 8TH CGD; SUBMERGED OBSTRUCTION PA IN POSITION 29 20 37.36 N, 094 44 38.82 W (NAD 83). UPDATED 9/22/2005 JCM.

Survey Summary

Survey Position: 29° 20' 37.1" N, 094° 44' 39.3" W

Least Depth: 14.01 m (= 45.97 ft = 7.662 fm = 7 fm 3.97 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-102.20:04:40.406 (04/12/2006)

Survey Line: h11528 / 3001sb / 2006-102 / 623_2003

Profile/Beam: 774/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest sounding in vicinity of charted Subm Obstn PA.

The entire search radius of AWOIS 13344 was surveyed using 200% SSS and SB echosounder. No contacts were seen inside the search radius on the 200% SSS records. The Hydrographer concludes that this AWOIS item does not exist as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-102/623_2003	774/1	0.00	000.0	Primary
Awois items	AWOIS # 13344	15.53	233.8	Secondary

Hydrographer Recommendations

Hydrographer recommends updating chart as per present survey findings and removing the charted Obstn PA.

Cartographically-Rounded Depth (Affected Charts):

46ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

7 ½fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	VALSOU - 14.013 m

Office Notes

Concur. AWOIS 13344 disproved

1.10) Profile/Beam - 9647/1 from h11528 / 3001sb / 2005-270 / 006_1842

Primary Feature for AWOIS Item #13345

Search Position: 29° 21' 00.0" N, 094° 43' 00.0" W

Historical Depth: [None]

Search Radius: 150

Search Technique: S2, ES

Technique Notes: [None]

History Notes:

LNM32/04--8/10/04, 8TH CGD; A 39-RT P/C HAS REPORTEDLY SUNK IN THE VICINITY OF THE NORTH GALVESTON JETTY IN APPROXIMATE POSITION 29 20 37.36 N, 094 44 38.82 W (NAD 83). THE WRECK IS REPORTEDLY NOT MARKED. MARINERS ARE URGED TO USE EXTREME CAUTION IN THE AREA. UPDATED 9/22/2005 JCM.

Survey Summary

Survey Position: 29° 21' 00.7" N, 094° 42' 59.9" W

Least Depth: 13.64 m (= 44.75 ft = 7.458 fm = 7 fm 2.75 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2005-270.18:53:09.705 (09/27/2005)

Survey Line: h11528 / 3001sb / 2005-270 / 006_1842

Profile/Beam: 9647/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest sounding in vicinity of Subm Wk PA.

The entire search radius of AWOIS 13345 was surveyed using 200% SSS and SB echosounder. No contacts were seen inside the search radius on the 200% SSS records. The Hydrographer concludes that this AWOIS item does not exist as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2005-270/006_1842	9647/1	0.00	000.0	Primary
Awois items	AWOIS # 13345	20.82	008.2	Secondary

Hydrographer Recommendations

Hydrographer recommends updating chart as per present survey findings and removing the charted Subm Wk PA.

Cartographically-Rounded Depth (Affected Charts):

44ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

7 ½fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	VALSOU - 13.639 m

Office Notes

Concur. AWOIS 13345 disproved

1.11) Profile/Beam - 896/1 from h11528 / 3001sb / 2006-102 / 525_1739

Primary Feature for AWOIS Item #13423

Search Position: 29° 21' 29.7" N, 094° 47' 45.3" W

Historical Depth: [None]

Search Radius: 150

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

LNM 16/05-- OBSTRUCTION IN POSITION APPROXIMATE AT 29/21/29.7 - 94/47/45.3. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 29° 21' 29.0" N, 094° 47' 45.7" W

Least Depth: 6.82 m (= 22.37 ft = 3.729 fm = 3 fm 4.37 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-102.17:40:14.136 (04/12/2006)

Survey Line: h11528 / 3001sb / 2006-102 / 525_1739

Profile/Beam: 896/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest sounding in vicinity of Subm Obst PA.

The entire search radius of AWOIS 13423 was surveyed using 200% SSS and SB echosounder. No contacts were seen inside the search radius on the 200% SSS records. The Hydrographer concludes that this AWOIS item does not exist as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-102/525_1739	896/1	0.00	000.0	Primary
Awois items	AWOIS # 13423	24.89	202.6	Secondary

Hydrographer Recommendations

Hydrographer recommends updating chart as per present survey findings and removing the charted Subm Obst PA.

Cartographically-Rounded Depth (Affected Charts):

22ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

3 ¾fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: VALSOU - 6.819 m

Office Notes

Concur. AWOIS 13423 disproved

1.12) Profile/Beam - 4502/1 from h11528 / 3001sb / 2006-101 / 908_1655

Primary Feature for AWOIS Item #13431

Search Position: 29° 20' 56.0" N, 094° 45' 48.0" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

LNM 22/02-- ANCHOR AND CHAIN CHARTED AS SUBMERGED OBSTRUCTION WITH POSITION APPROXIMATE AT 29/20/56.0 - 94/45/48.0. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 29° 20' 56.2" N, 094° 45' 48.5" W

Least Depth: 9.13 m (= 29.94 ft = 4.990 fm = 4 fm 5.94 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-101.16:59:54.644 (04/11/2006)

Survey Line: h11528 / 3001sb / 2006-101 / 908_1655

Profile/Beam: 4502/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shallowest sounding in vicinity of charted Subm Obst PA.

The entire search radius of AWOIS 13431 was surveyed using 200% SSS and SB echosounder. No contacts were seen inside the search radius on the 200% SSS records. The Hydrographer concludes that this AWOIS item does not exist as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-101/908_1655	4502/1	0.00	000.0	Primary
Awois items	AWOIS # 13431	14.33	300.6	Secondary

Hydrographer Recommendations

Hydrographer recommends updating the chart as per present survey findings and removing charted Subm Obst PA.

Cartographically-Rounded Depth (Affected Charts):

30ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

5fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	VALSOU - 9.126 m

Office Notes

Concur. AWOIS 13431 disproved

1.13) Profile/Beam - 4726/1 from h11528 / 3001sb / 2006-086 / 220_2009

Primary Feature for AWOIS Item #13433

Search Position: 29° 21' 12.1" N, 094° 45' 04.0" W

Historical Depth: [None]

Search Radius: 200

Search Technique: S2,ES

Technique Notes: [None]

History Notes:

CL 1797/02-- 27 FOOT OBSTRUCTION AT 29/21/12.1 - 94/45/04.0. (ENTERED CEH 12/05)

Survey Summary

Survey Position: 29° 21' 11.5" N, 094° 45' 04.5" W

Least Depth: 9.62 m (= 31.56 ft = 5.260 fm = 5 fm 1.56 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-086.20:14:19.527 (03/27/2006)

Survey Line: h11528 / 3001sb / 2006-086 / 220_2009

Profile/Beam: 4726/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest sounding in vicinity of charted Subm Obst.

The entire search radius of AWOIS 13433 was surveyed using 200% SSS and SB echosounder. No contacts were seen inside the search radius on the 200% SSS records. Several SBES lines were also driven over charted shoal with the shallowest depth being 31 ft. The Hydrographer concludes that this AWOIS item does not exist as charted.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-086/220_2009	4726/1	0.00	000.0	Primary
Awois items	AWOIS # 13433	23.10	215.2	Secondary

Hydrographer Recommendations

Hydrographer recommends updating chart as per present survey findings and removing charted Subm Obst.

Cartographically-Rounded Depth (Affected Charts):

31ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

5 ¼fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

[None]

Office Notes

Concur. AWOIS 13433 disproved

H11528 Charted

Registry Number: H11528

State: Texas

Locality: Galveston Bay

Sub-locality: Bolivar Roads

Project Number: OPR-K414-NRT4-06

Survey Dates: 03/31/2006 - 09/18/2008

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11324	35th	08/01/2007	1:25,000 (11324_1)	USCG LNM: 05/27/2008 (05/27/2008) NGA NTM: 01/08/2000 (05/31/2008)
11324	34th	10/01/2004	1:25,000 (11324_2)	[L]NTM: ?
11322	30th	02/01/2006	1:40,000 (11322_1)	[L]NTM: ?
11331	19th	11/01/2003	1:40,000 (11331_4)	[L]NTM: ?
11323	62nd	12/01/2006	1:80,000 (11323_1)	USCG LNM: 03/25/2008 (05/27/2008) NGA NTM: 08/28/2004 (05/31/2008)
11326	33rd	03/01/2005	1:80,000 (11326_6)	[L]NTM: ?
11330	17th	02/01/2006	1:250,000 (11330_1)	[L]NTM: ?
11340	70th	08/01/2005	1:458,596 (11340_1)	[L]NTM: ?
1116A	70th	08/01/2005	1:458,596 (1116A_1)	[L]NTM: ?
1117A	40th	12/01/2004	1:460,732 (1117A_1)	[L]NTM: ?
11300	40th	12/01/2004	1:460,732 (11300_1)	[L]NTM: ?
411	50th	09/01/2005	1:2,160,000 (411_1)	[L]NTM: ?

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

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Daybeacon, front range	[None]	29° 21' 10.9" N	094° 42' 44.5" W	---
1.2	Red buoy, lighted	[None]	29° 21' 13.4" N	094° 45' 51.9" W	---
1.3	Red buoy, lighted	[None]	29° 22' 40.1" N	094° 48' 04.2" W	---
1.4	Sounding	[None]	29° 21' 23.2" N	094° 46' 34.4" W	---

1.5	Obstruction	[None]	29° 21' 00.0" N	094° 46' 53.3" W	---
1.6	Obstruction	10.65 m	29° 20' 47.0" N	094° 44' 45.3" W	---
1.7	Obstruction	8.70 m	29° 21' 07.5" N	094° 45' 21.7" W	---
1.8	Sounding	7.23 m	29° 22' 08.5" N	094° 48' 15.8" W	---

1 - DR_Charted

1.1) Profile/Beam - 4/1 from h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Survey Summary

Survey Position: 29° 21' 10.9" N, 094° 42' 44.5" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-090.19:32:28.000 (03/31/2006)

DP Dataset: h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Profile/Beam: 4/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

As per LNM dated 5/17/2005, the GALVESTON BAY ENTRANCE CHANNEL A RANGE FRONT LIGHT has moved from the position of GP2 to the position of DP3168.

A DP was taken on the range tower from the vessel. The tower was not climbed and an accurate DP using the Trimble backpack unit was not obtained. This DP was for comparison only.

Field Note: Orange and Gray w/ white light, Estimated Height: 10m

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001dp_non_echosounder/2006-090/03312006	4/1	0.00	000.0	Primary
ChartGPs - Digitized	2	403.26	121.6	Secondary (grouped)

Hydrographer Recommendations

Hydrograper recommends updating the chart to reflect the modifications in LNM 5/17/2005.

S-57 Data

Geo object 1: Beacon, special purpose/general (BCNSPP)

Attributes: BCNSHP - 3:beacon tower

CATSPM - 16:leading mark

COLOUR - 11:orange

INFORM - Steel Platform with white light

Geo object 2:	Light (LIGHTS)
Attributes:	CATLIT - 4,12:leading light,front
	COLOUR - 1:white

Office Notes

Concur.

Feature Images

Figure 1.1.1

1.2) Profile/Beam - 9/1 from h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Survey Summary

Survey Position: 29° 21' 13.4" N, 094° 45' 51.9" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-090.19:58:36.000 (03/31/2006)

DP Dataset: h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Profile/Beam: 9/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

According to the LNM dated 12/27/2005, "Galveston Outer Bar South Side Dredging Range Front Daybeacon (LLNR-22755) was previously reported destroyed with wreckage on scene in approximate position 29-21-12.0N 094-45-48.0W. The wreckage is reportedly marked with Bolivar Roads Anchorage Obstruction Lighted Buoy -WR14A-, a red buoy with a quick flashing red light. Mariners are urged to use extreme caution in this area."

An Subm Obstn PA was added at the position of GP4. However, the TOWER (DRDG RGE) symbol, located at GP1, was not deleted and the buoy, marking the wreckage of the TOWER, was not added. Additionally, the Subm Obstn symbol is approximately 110m SE of the location of the buoy and the wreckage.

This area was covered with 200% SSS. No contacts were found in the vicinity of the Subm Obstn PA symbol. However, wreckage was seen in very close proximity of the buoy and the charted position of the TOWER. These contacts were no delevoped with SBES d/t the presence of the buoy, so no least depth was obtained. A DP was taken on the buoy.

Field Note: R "WR14A" w/ light, Estimated Height=1m

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001dp_non_echosounder/2006-090/03312006	9/1	0.00	000.0	Primary
h11528/3001sss500k/2006-075/br060316194900	0001	33.97	201.8	Secondary
h11528/3001sss500k/2006-089/br060330165100	0001	40.20	173.9	Secondary
h11528/3001sss500k/2006-096/br060406180400	0001	42.12	229.2	Secondary
ChartGPs - Digitized	1	50.02	226.1	Secondary (grouped)
ChartGPs - Digitized	4	117.76	291.0	Secondary (grouped)

Hydrographer Recommendations

Hydrographer recommends updating chart as per present survey findings. Hydrographer recommends removing charted TOWER (DRDG RGE) - in the location of GP1. Hydrographer also recommends moving Subm Obstn PA from the location of GP4 to the position of DP3174. Finally, Hydrographer recommends removing the PA from this charted Subm Obstn.

S-57 Data

Geo object 1:	Buoy, special purpose/general (BOYSPP)
Attributes:	BOYSHP - 1:conical (nun, ogival)
	CATSPM - 27:general warning mark
	COLOUR - 3:red
	INFORM - Buoy is marking the charted tower that is now wrecked.
	OBJNAM - WR 14A
	STATUS - 7:temporary
Geo object 2:	Light (LIGHTS)
Attributes:	COLOUR - 1:white

Office Notes

QUA: GPSmode=2, SVs=9, HDOP=1.00

Feature Images

Figure 1.2.1

1.3) Profile/Beam - 19/1 from h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Survey Summary

Survey Position: 29° 22' 40.1" N, 094° 48' 04.2" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-090.20:35:43.000 (03/31/2006)

DP Dataset: h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Profile/Beam: 19/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

USCG LL # 22858.07 Buoy appears to have been dragged 192m WNW from charted location. Old buoy block location observed in SSS. Buoy continues to serve intended purpose.

Field Notes: R "4" w/ light, Estimated Height:2m

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001dp_non_echosounder/2006-090/03312006	19/1	0.00	000.0	Primary
ChartGPs - Digitized	5	192.92	303.2	Secondary (grouped)
h11528/3001sss500k/2006-090/br060331155800	0001	196.42	295.1	Secondary (grouped)

Hydrographer Recommendations

Hydrographer recommends charting as per current survey findings and moving buoy symbol for R"4" from currently charted location (see GP5) to location provided by DP3185.

S-57 Data

Geo object 1: Buoy, lateral (BOYLAT)

Attributes: BOYSHP - 1:conical (nun, ogival)

CATLAM - 2:starboard-hand lateral mark

COLOUR - 3:red

CONRAD - 1:radar conspicuous

	STATUS - 1:permanent
Geo object 2:	Light (LIGHTS)
Attributes:	CATLIT - 1:directional function
	COLOUR - 3:red

Office Notes

Current chart does not show the buoy in its new location.

Feature Images

Figure 1.3.1

1.4) Profile/Beam - 11/1 from h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Survey Summary

Survey Position: 29° 21' 23.2" N, 094° 46' 34.4" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-090.20:09:48.000 (03/31/2006)

DP Dataset: h11528 / 3001dp_non_echosounder / 2006-090 / 03312006

Profile/Beam: 11/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Tower (Drdg Rge) was observed by field party to actually be in ruins. It is currently charted as "TOWER (DRDG RGE) (rep in ruins)" on Chart 11324.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001dp_non_echosounder/2006-090/03312006	11/1	0.00	000.0	Primary
h11528/3001sss500k/2006-075/br060316192200	0001	26.33	003.9	Secondary

Hydrographer Recommendations

Hydrographer recommends updating chart as per present survey findings and changing "(rep in ruins)" to "(in ruins)".

S-57 Data

[None]

Office Notes

Defer to MCD.

1.5) Contact/Point - 0002/1 from h11528 / 3001sss500k / 2006-075 / br060316171400

Survey Summary

Survey Position: 29° 21' 00.0" N, 094° 46' 53.3" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2008-262.02:22:45 (09/18/2008)

Survey Line: h11528 / 3001sss500k / 2006-075 / br060316171400

Contact/Point: 0002/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

charted obstruction

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sss500k/2006-075/br060316171400	0002	0.00	000.0	Primary

Hydrographer Recommendations

[None]

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 2:depth unknown

TECSOU - 2:found by side scan sonar

WATLEV - 3:always under water/submerged

Office Notes

Found during office processing. Item was not developed fully with Echosounder. Retain as charted.

1.6) Profile/Beam - 36/1 from h11528 / 3001sb / 2006-120 / 000_1632

Survey Summary

Survey Position: 29° 20' 47.0" N, 094° 44' 45.3" W

Least Depth: 10.65 m (= 34.95 ft = 5.825 fm = 5 fm 4.95 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.16:32:25.812 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1632

Profile/Beam: 36/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. Contact was found to be shoaler than surrounding depth.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1632	36/1	0.00	000.0	Primary
h11528/3001sss500k/2005-270/r050927165000	0002	1.51	130.9	Secondary
h11528/3001sss500k/2006-076/br060317172000	0001	4.76	216.6	Secondary
h11528/3001sss500k/2006-086/br060327180400	0001	15.88	312.0	Secondary

Hydrographer Recommendations

Hydrographer charting contact as per current survey findings.

Cartographically-Rounded Depth (Affected Charts):

35ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

5 ¾fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 1,2:found by echo-sounder,found by side scan sonar

VALSOU - 10.653 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur.

1.7) Profile/Beam - 6465/1 from h11528 / 3001sb / 2006-120 / 000_1708

Survey Summary

Survey Position: 29° 21' 07.5" N, 094° 45' 21.7" W

Least Depth: 8.70 m (= 28.53 ft = 4.756 fm = 4 fm 4.53 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.17:15:09.265 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1708

Profile/Beam: 6465/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is shoaler than the surrounding depth.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1708	6465/1	0.00	000.0	Primary
h11528/3001sss500k/2006-086/br060327201800	0001	9.86	257.7	Secondary
h11528/3001sss500k/2006-075/br060316203600	0001	22.33	283.2	Secondary

Hydrographer Recommendations

Hydrographer recommends charting contact as per current survey findings.

Cartographically-Rounded Depth (Affected Charts):

28ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

4 ¾fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 1,2:found by echo-sounder,found by side scan sonar

VALSOU - 8.697 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Modify charted Obstn 26 ft to Obstn 28 ft.

1.8) Profile/Beam - 8796/1 from h11528 / 3001sb / 2006-120 / 000_2059

Survey Summary

Survey Position: 29° 22' 08.5" N, 094° 48' 15.8" W

Least Depth: 7.23 m (= 23.71 ft = 3.952 fm = 3 fm 5.71 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.21:08:20.709 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_2059

Profile/Beam: 8796/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

Shoalest depth in vicinity of charted shoal.

The entire search radius of AWOIS 9108 was surveyed using 200% SSS and SB echosounder. The area surrounding this charted obstruction is very rocky. Several contacts (believed to be rocks) were picked within the search radius. Several SBES lines were also run over the charted shoal. The shoalest depth found in the area is 24 ft.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sss500k/2006-102/br060412154700	0006	0.00	000.0	Primary
h11528/3001sss500k/2006-102/br060412154400	0002	8.98	223.5	Secondary
Awois items	AWOIS # 9108	33.04	333.7	Secondary
h11528/3001sss500k/2006-102/br060412160000	0004	35.94	088.8	Secondary
h11528/3001sss500k/2006-102/br060412154700	0004	46.28	117.6	Secondary (grouped)
ChartGPs - Digitized	3	66.06	350.8	Secondary (grouped)
h11528/3001sb/2006-120/000_2056	927/1	74.78	290.8	Secondary (grouped)
h11528/3001sb/2006-120/000_2059	8796/1	76.80	005.4	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412155400	0001	81.14	297.1	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154700	0002	81.99	322.1	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154400	0001	83.17	292.0	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412155400	0002	86.87	148.3	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154700	0005	90.98	115.6	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412154700	0003	95.06	146.2	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412160000	0001	98.88	049.5	Secondary (grouped)
h11528/3001sss500k/2006-102/br060412160500	0001	109.70	041.6	Secondary (grouped)

h11528/3001sb/2006-120/000_2042	577/1	115.79	038.4	Secondary (grouped)

Hydrographer Recommendations

Hydrographer recommends updating charted shoal to 24 ft.

S-57 Data

[None]

Office Notes

Do not concur. 24 ft is in line with the general slope of the area. There is a 13 ft sounding on one of the rocks described in the AWOIS report. A SBDARE was created in the H-Cell to delineate the cluster of rocks around Buoy G "25A" to be labeled "Rky".

H11528 Uncharted

Registry Number: H11528

State: Texas

Locality: Galveston Bay

Sub-locality: Bolivar Roads

Project Number: OPR-K414-NRT4-06

Survey Dates: 04/04/2006 - 04/30/2006

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11324	35th	08/01/2007	1:25,000 (11324_1)	USCG LNM: 05/27/2008 (05/27/2008) NGA NTM: 01/08/2000 (05/31/2008)
11324	34th	10/01/2004	1:25,000 (11324_2)	[L]NTM: ?
11322	30th	02/01/2006	1:40,000 (11322_1)	[L]NTM: ?
11331	19th	11/01/2003	1:40,000 (11331_4)	[L]NTM: ?
11323	62nd	12/01/2006	1:80,000 (11323_1)	USCG LNM: 03/25/2008 (05/27/2008) NGA NTM: 08/28/2004 (05/31/2008)
11326	33rd	03/01/2005	1:80,000 (11326_6)	[L]NTM: ?
11330	17th	02/01/2006	1:250,000 (11330_1)	[L]NTM: ?
11340	70th	08/01/2005	1:458,596 (11340_1)	[L]NTM: ?
1116A	70th	08/01/2005	1:458,596 (1116A_1)	[L]NTM: ?
1117A	40th	12/01/2004	1:460,732 (1117A_1)	[L]NTM: ?
11300	40th	12/01/2004	1:460,732 (11300_1)	[L]NTM: ?
411	50th	09/01/2005	1:2,160,000 (411_1)	[L]NTM: ?

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

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	SSS	[None]	29° 22' 41.8" N	094° 48' 17.3" W	---
1.2	Shoal	8.75 m	29° 20' 47.4" N	094° 45' 23.4" W	---
1.3	Shoal	11.15 m	29° 21' 13.5" N	094° 46' 52.2" W	---
1.4	Obstruction	4.01 m	29° 21' 14.7" N	094° 46' 02.1" W	---

Generated by Pydro v8.7 (r2468) on Thu Sep 25 13:34:13 2008 [UTC]

1.5	Obstruction	4.03 m	29° 22' 28.3" N	094° 47' 41.6" W	---
1.6	Obstruction	13.42 m	29° 20' 48.9" N	094° 42' 26.0" W	---

1 - DR_UnCharted

1.1) Contact/Point - 0001/1 from h11528 / 3001sss500k / 2006-089 / br060330192900

Survey Summary

Survey Position: 29° 22' 41.8" N, 094° 48' 17.3" W

Least Depth: [None]

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-094.08:32:51 (04/04/2006)

Survey Line: h11528 / 3001sss500k / 2006-089 / br060330192900

Contact/Point: 0001/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was located using 200% side scan sonar and was seen on two seperate passes. The field party investigated this region using a star-pattern search and was unable to locate the item using single beam echosounder. There is no least depth for this position. The contact seems like it could be a group of piles.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sss500k/2006-089/br060330192900	0001	0.00	000.0	Primary
h11528/3001sss500k/2006-089/br060330174100	0005	27.31	345.6	Secondary

Hydrographer Recommendations

Chart obstruction as per present survey findings. The hydrographer recommends further investigation of this item to determine if the least depth is shoaler than the surrounding depth.

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 1:depth known

TECSOU - 2:found by side scan sonar

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart Obstn PA, depth = 13 ft

Feature Images

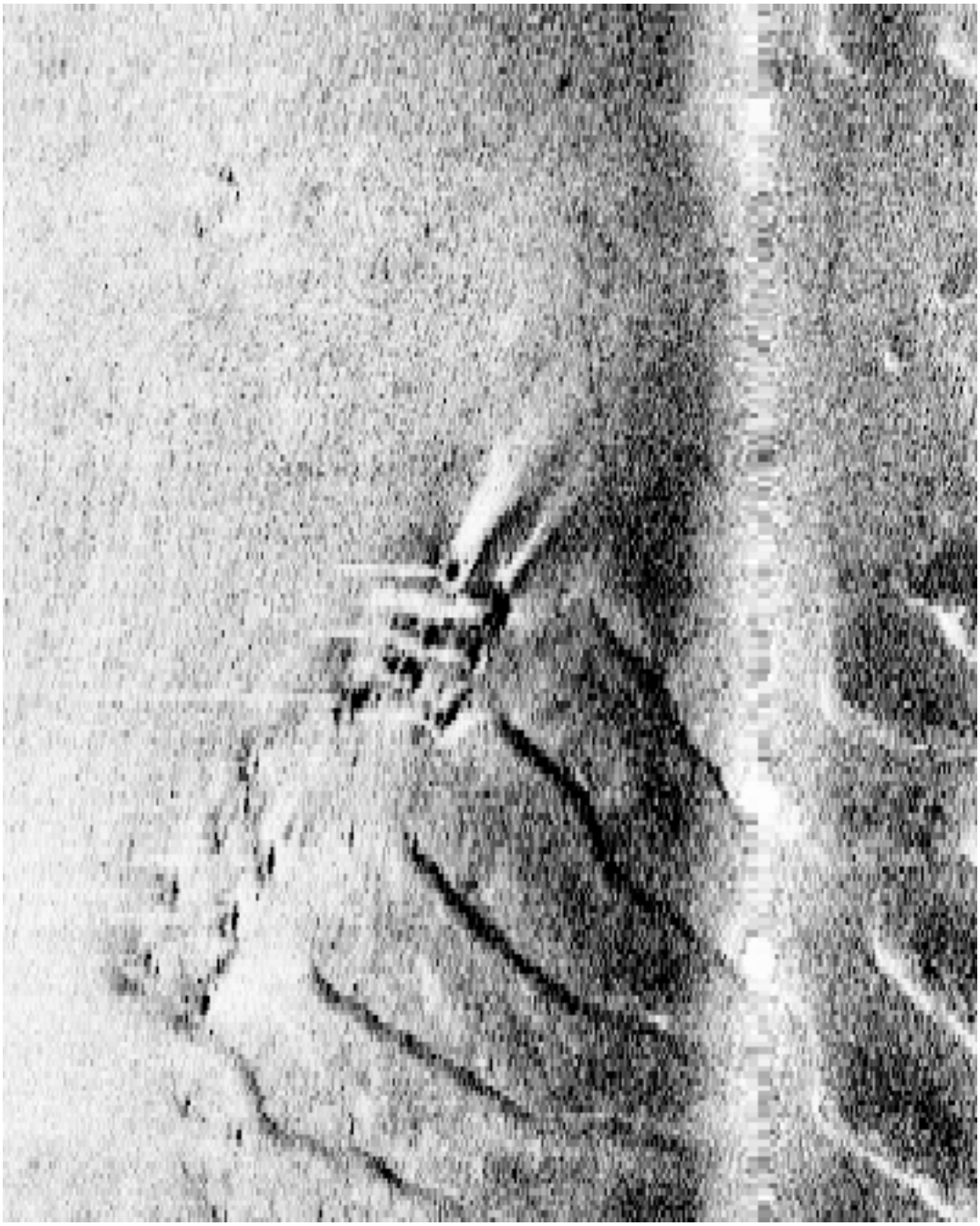


Figure 1.1.1

1.2) Profile/Beam - 7694/1 from h11528 / 3001sb / 2006-120 / 000_1728

Survey Summary

Survey Position: 29° 20' 47.4" N, 094° 45' 23.4" W

Least Depth: 8.75 m (= 28.71 ft = 4.785 fm = 4 fm 4.71 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.17:36:19.970 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1728

Profile/Beam: 7694/1

Charts Affected: 11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The contact appears to be a slope in the sea floor, as it lies immediately south of the charted 30 ft contour. The depth over this contact is shoaler than the surrounding depth area.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1728	7694/1	0.00	000.0	Primary
h11528/3001sss500k/2006-086/br060327181900	0003	2.64	315.4	Secondary
h11528/3001sss500k/2006-076/br060317173600	0001	19.67	117.5	Secondary

Hydrographer Recommendations

Chart as per present survey foundings.

Cartographically-Rounded Depth (Affected Charts):

28ft (11324_1, 11324_2, 11331_4, 11323_1, 11326_6, 11330_1)

4 ¾fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: EXPSOU - 2:shoaler than range of depth of the surrounding depth area

QUASOU - 6:least depth known

TECSOU - 1:found by echo-sounder

VERDAT - 12:Mean lower low water

Office Notes

Chart Obstn depth = 28ft

Feature Images

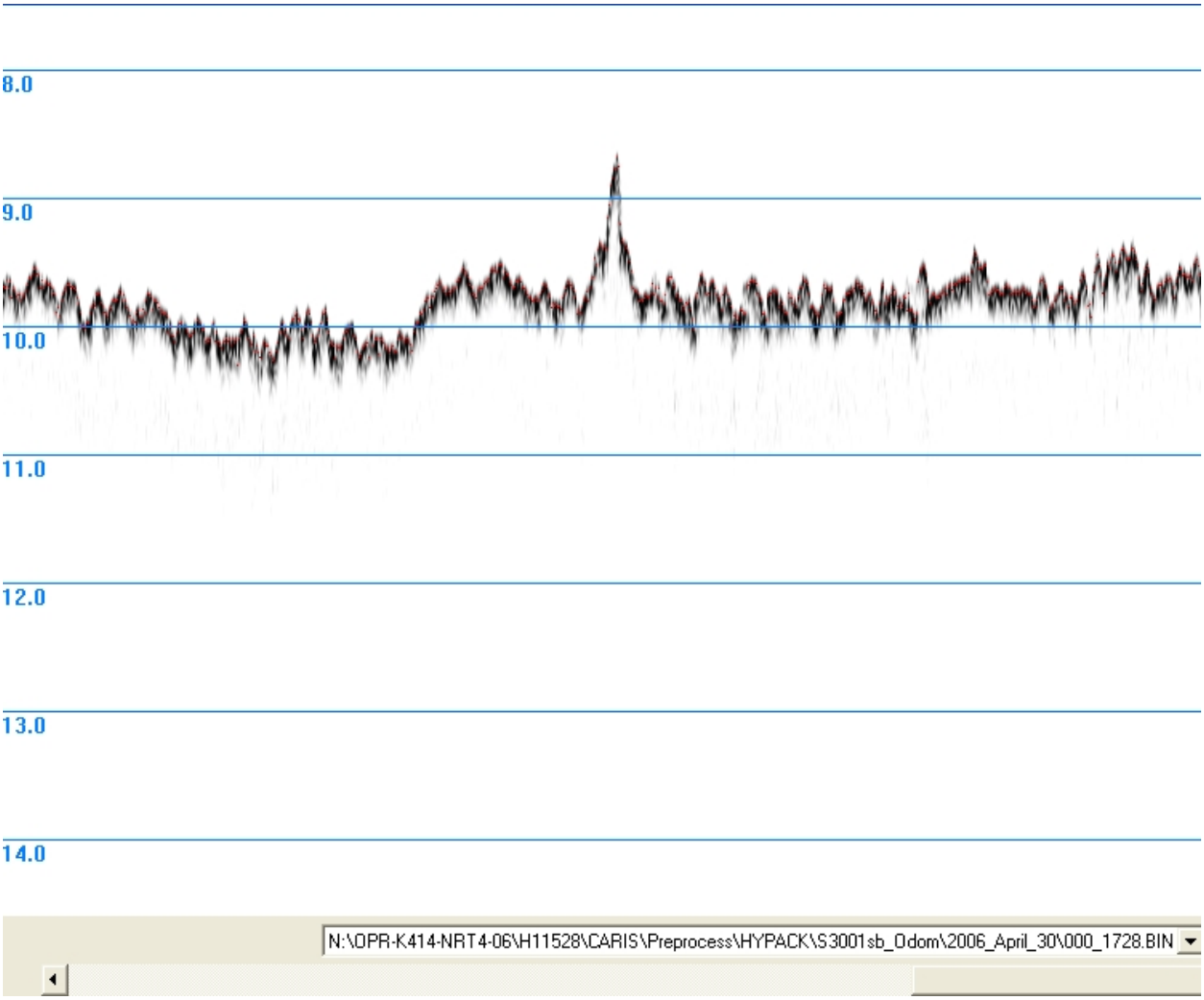


Figure 1.2.1

1.3) Profile/Beam - 2420/1 from h11528 / 3001sb / 2006-120 / 000_1852

Survey Summary

Survey Position: 29° 21' 13.5" N, 094° 46' 52.2" W

Least Depth: 11.15 m (= 36.60 ft = 6.100 fm = 6 fm 0.60 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.18:55:27.700 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1852

Profile/Beam: 2420/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was seen on both 100% and 200% SSS records within the search radius of AWOIS item 13424 and is located approximately 95m SE of the currently charted shoal. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is shoaler than the surrounding depth. It is not thought that this contact is the charted shoal.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1852	2420/1	0.00	000.0	Primary
h11528/3001sss500k/2006-087/br060328174100	0002	17.30	318.8	Secondary (grouped)
h11528/3001sss500k/2006-101/br060411174300	0001	20.70	142.7	Secondary (grouped)
h11528/3001sss500k/2006-087/br060328180500	0001	23.61	122.1	Secondary (grouped)

Hydrographer Recommendations

Hydrographer recommends charting sounding on contact as per current survey findings.

Cartographically-Rounded Depth (Affected Charts):

36ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

6fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Sounding (SOUNDG)

Attributes: EXPSOU - 1:within the range of depth of the surrounding depth area

QUASOU - 6:least depth known

TECSOU - 1:found by echo-sounder

VERDAT - 12:Mean lower low water

Office Notes

Chart obstn 36 ft.

Feature Images

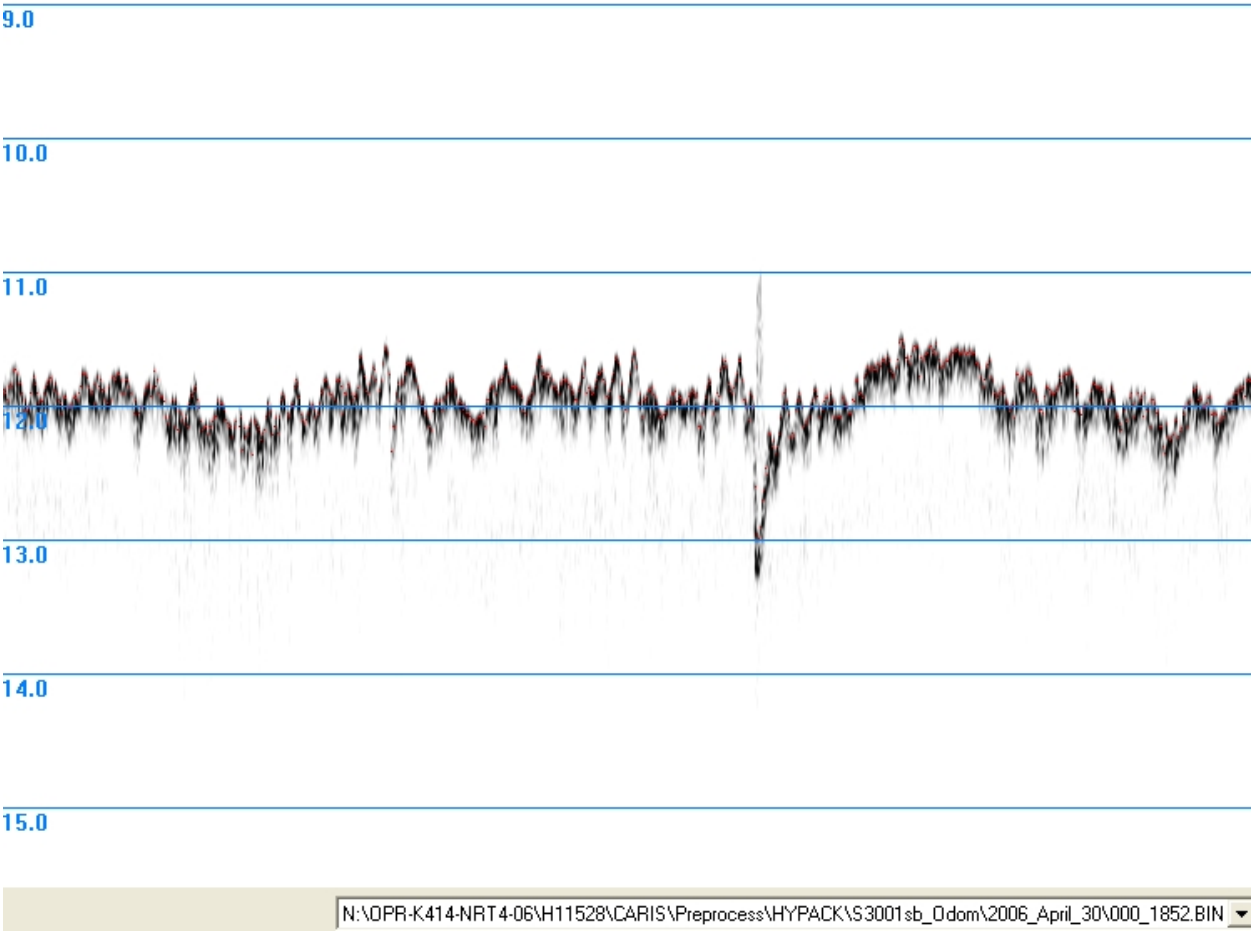


Figure 1.3.1

1.4) Profile/Beam - 3106/1 from h11528 / 3001sb / 2006-120 / 000_1815

Survey Summary

Survey Position: 29° 21' 14.7" N, 094° 46' 02.1" W

Least Depth: 4.01 m (= 13.16 ft = 2.193 fm = 2 fm 1.16 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.18:18:43.881 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1815

Profile/Beam: 3106/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is shoaler than the surrounding depth.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1815	3106/1	0.00	000.0	Primary
h11528/3001sss500k/2006-089/br060330164500	0001	8.87	168.8	Secondary

Hydrographer Recommendations

Hydrographer recommends charting contact as per current survey findings.

Cartographically-Rounded Depth (Affected Charts):

13ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

2 ¼fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 1,2:found by echo-sounder,found by side scan sonar

VALSOU - 4.011 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Concur. Chart obstn 13 ft.

Feature Images

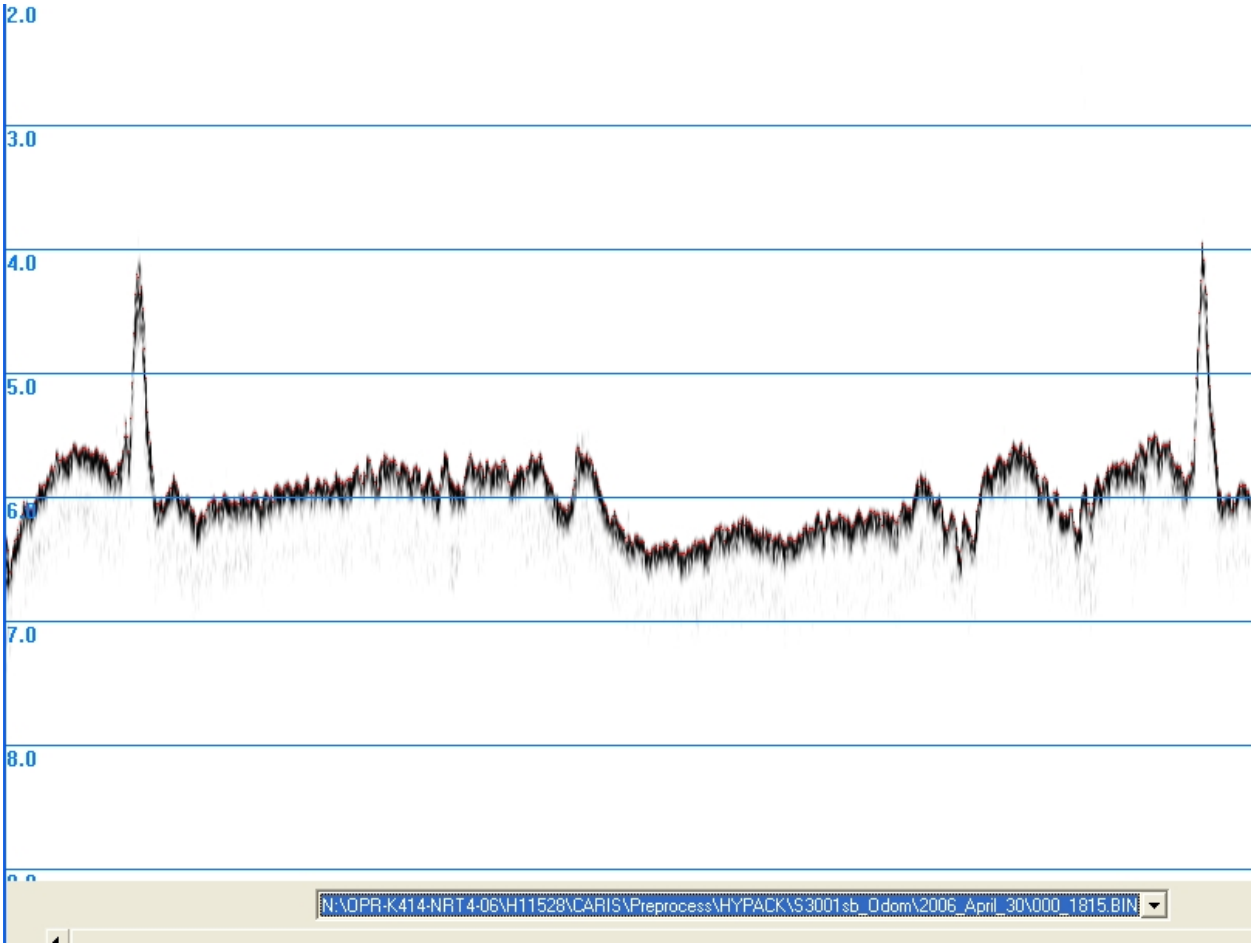


Figure 1.4.1

1.5) Profile/Beam - 272/1 from h11528 / 3001sb / 2006-120 / 000_1921

Survey Summary

Survey Position: 29° 22' 28.3" N, 094° 47' 41.6" W

Least Depth: 4.03 m (= 13.23 ft = 2.206 fm = 2 fm 1.23 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.19:21:48.209 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1921

Profile/Beam: 272/1

Charts Affected: 11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is shoaler than the surrounding depth.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1921	272/1	0.00	000.0	Primary
h11528/3001sss500k/2006-090/br060331160800	0001	9.16	144.7	Secondary

Hydrographer Recommendations

Hydrographer recommends charting sounding over contact as per current survey findings.

Cartographically-Rounded Depth (Affected Charts):

13ft (11324_1, 11324_2, 11322_1, 11331_4, 11323_1, 11326_6, 11330_1)

2 ¼fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 1,2:found by echo-sounder,found by side scan sonar

VALSOU - 4.034 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart 13 Obstn

Feature Images

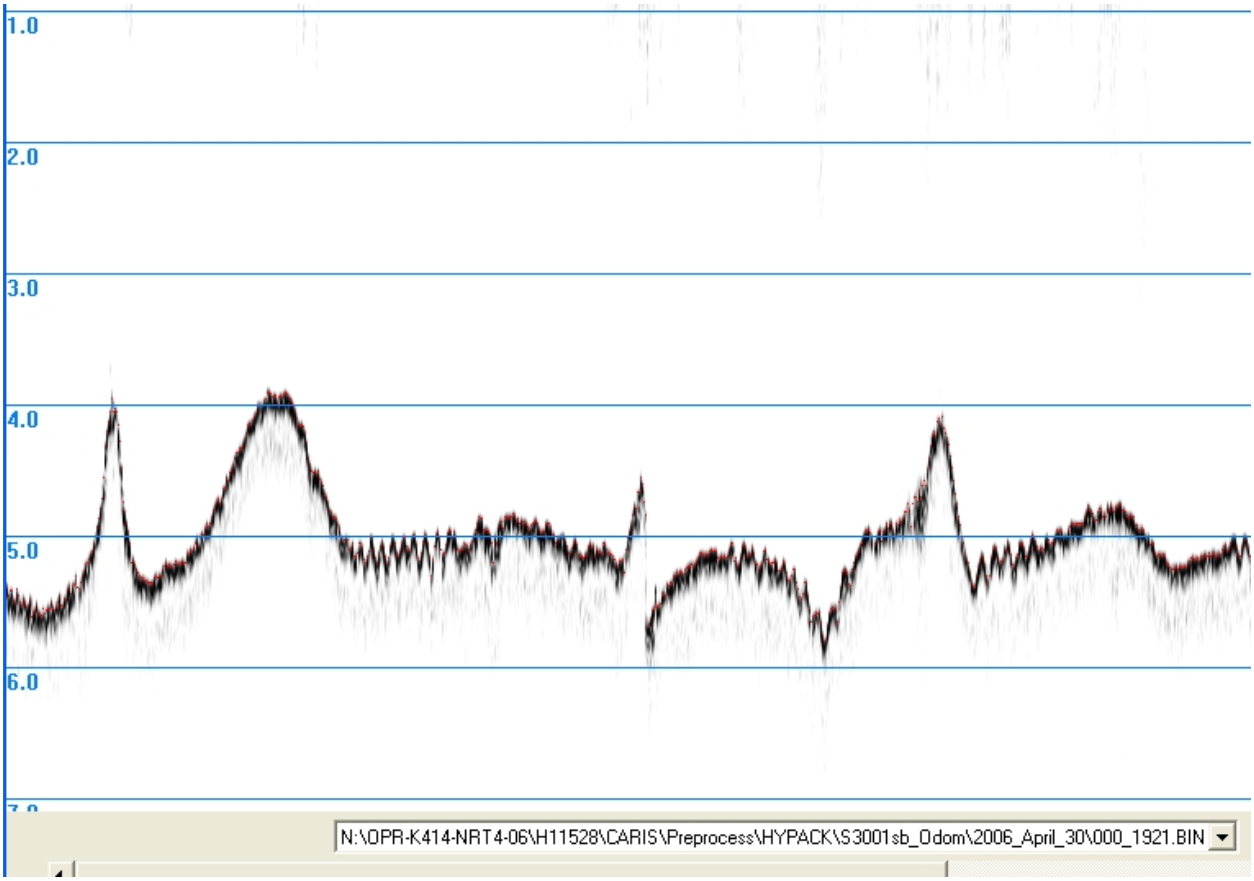


Figure 1.5.1

1.6) Profile/Beam - 545/1 from h11528 / 3001sb / 2006-120 / 000_1508

Survey Summary

Survey Position: 29° 20' 48.9" N, 094° 42' 26.0" W

Least Depth: 13.42 m (= 44.04 ft = 7.340 fm = 7 fm 2.04 ft)

TPU (±1.96σ): **THU (TPEh)** [None] ; **TVU (TPEv)** [None]

Timestamp: 2006-120.15:09:24.400 (04/30/2006)

Survey Line: h11528 / 3001sb / 2006-120 / 000_1508

Profile/Beam: 545/1

Charts Affected: 11324_1, 11324_2, 11323_1, 11326_6, 11330_1, 1116A_1, 11340_1, 1117A_1, 11300_1, 411_1

Remarks:

This unknown contact was seen on both 100% and 200% SSS records. SB investigation was conducted in a star pattern and the contact was seen on the echosounder trace. Echosounder data was corrected to MLLW using observed verified tides with preliminary zoning. The least depth obtained on the contact is shoaler than the surrounding depth.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11528/3001sb/2006-120/000_1508	545/1	0.00	000.0	Primary
h11528/3001sss500k/2006-090/br060331181800	0002	3.55	067.7	Secondary
h11528/3001sss500k/2006-090/br060331172500	0002	8.55	260.9	Secondary

Hydrographer Recommendations

Hydrographer recommends charting sounding over contact based on current survey findings.

Cartographically-Rounded Depth (Affected Charts):

44ft (11324_1, 11324_2, 11323_1, 11326_6, 11330_1)

7 ¼fm (1116A_1, 11340_1, 1117A_1, 11300_1, 411_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)

Attributes: QUASOU - 6:least depth known

TECSOU - 1,2:found by echo-sounder,found by side scan sonar

VALSOU - 13.423 m

VERDAT - 12:Mean lower low water

WATLEV - 3:always under water/submerged

Office Notes

Chart 44 Obstn

Feature Images

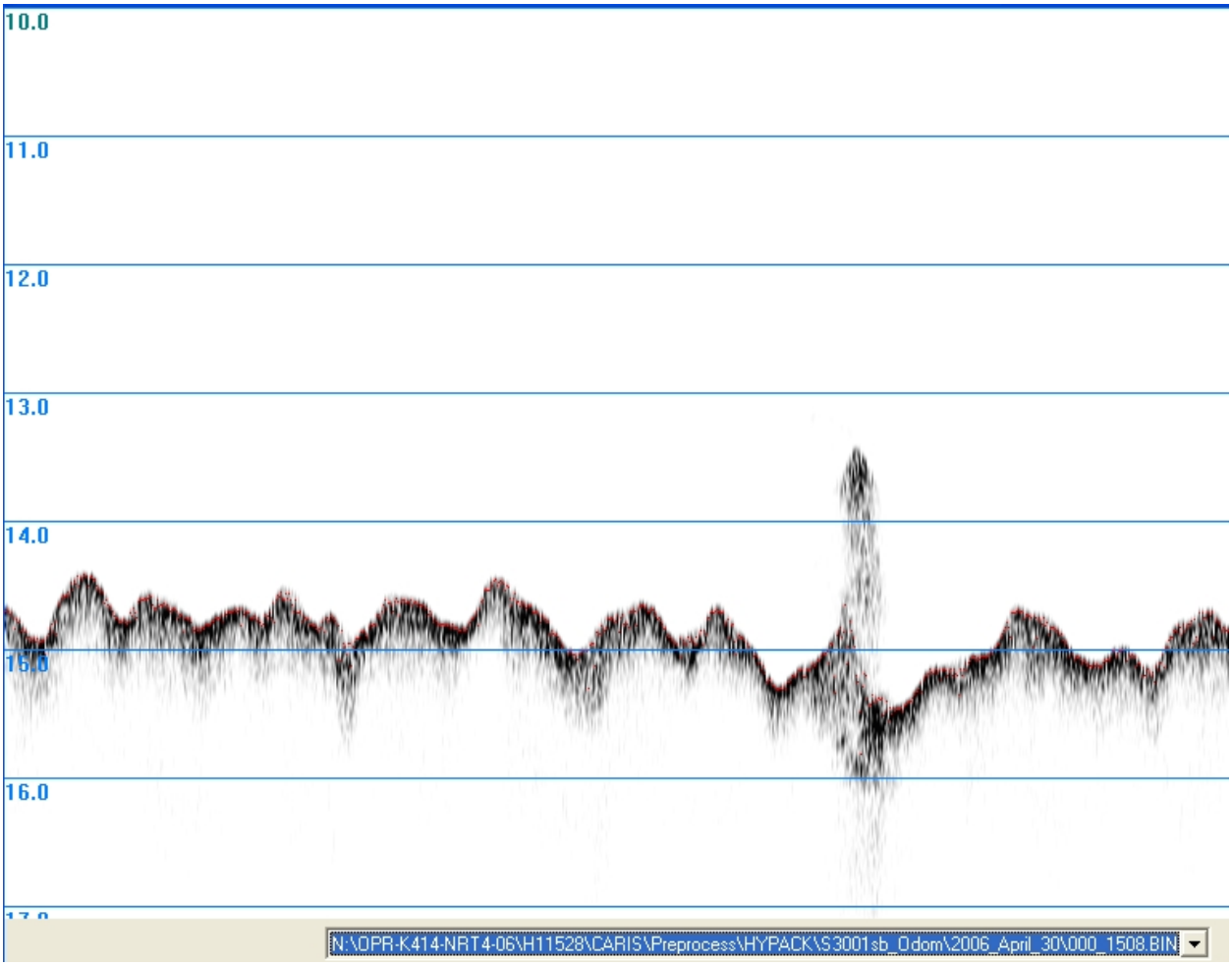
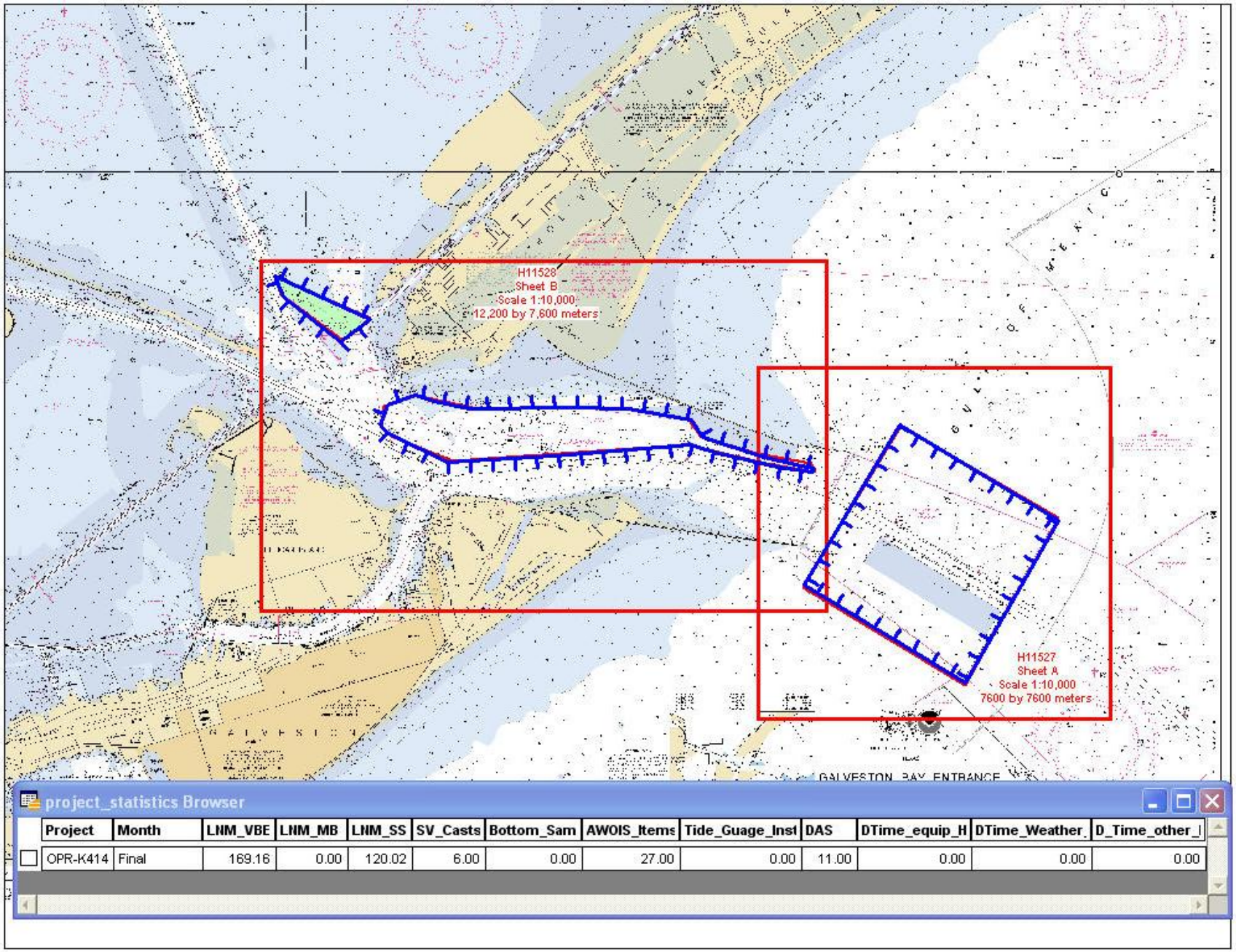


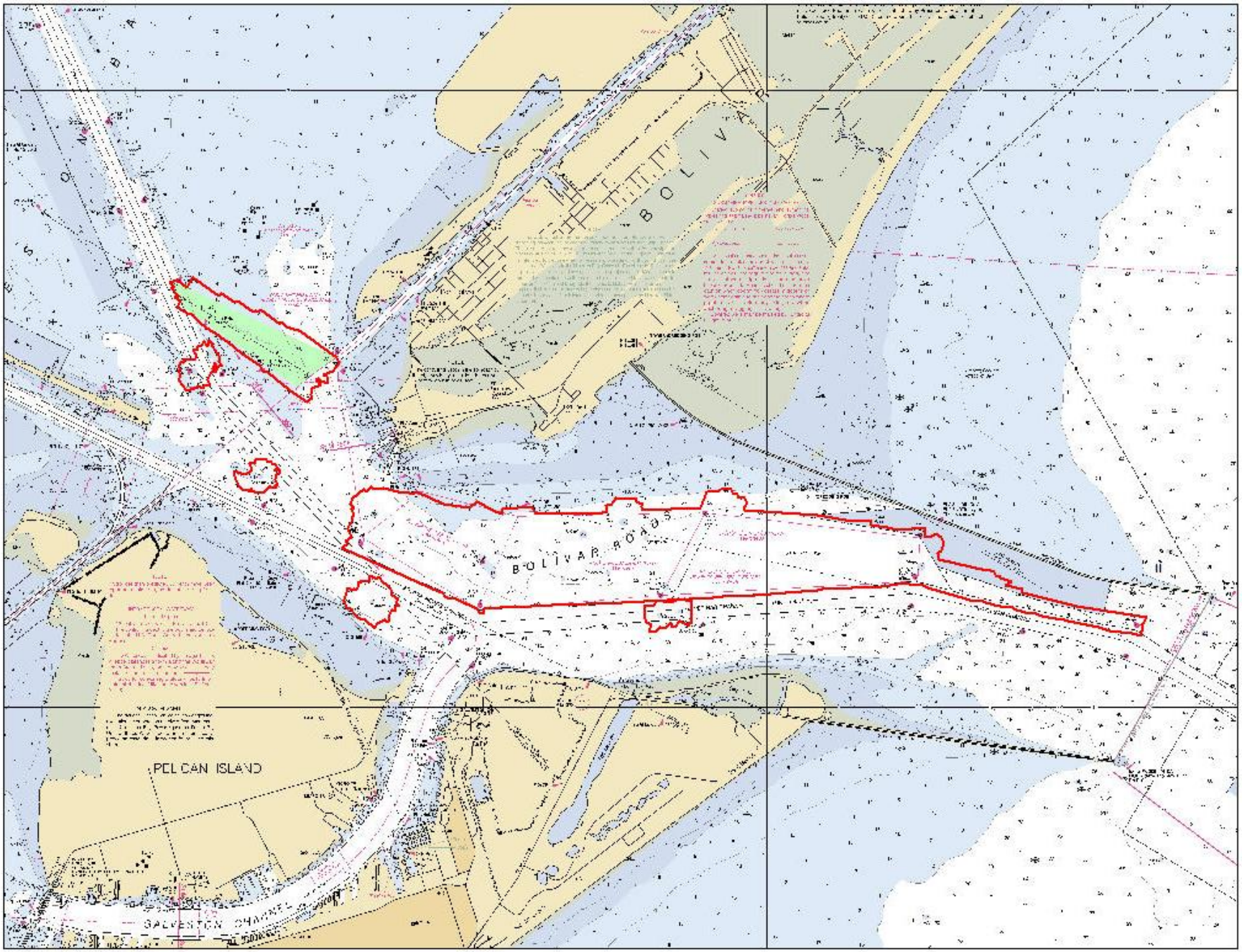
Figure 1.6.1

H11528 Appendix III



project_statistics Browser

Project	Month	LNM_VBE	LNM_MB	LNM_SS	SV_Casts	Bottom_Sam	AWOIS_Items	Tide_Guage_Inst	DAS	DTime_equip_H	DTime_Weather_	D_Time_other_I
OPR-K414	Final	169.16	0.00	120.02	6.00	0.00	27.00	0.00	11.00	0.00	0.00	0.00


BOLIVAR
BOLIVAR ROADS
PELICAN ISLAND
GALVESTON CHANNEL

H11528 Appendix IV

July 18, 2006

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

FROM: Lucy Massimillo, NRT-4

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

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

Transmit data to:

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

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

Project No.:	OPR-K414-NRT4-06
Registry No.:	H11528
State:	Texas
Locality:	Galveston Bay
Sublocality:	Bolivar Roads

Attachments containing:
1) an Abstract of Times of Hydrography,
2) digital MID MIF files of the track lines from pydro on CD/diskette

cc: N/CS33

Year_DOY	Min Time	Max Time
2005_270	16:55:54	20:45:29
2006_075	17:09:17	21:20:00
2006_076	16:57:35	19:50:00
2006_086	17:19:50	21:04:00
2006_087	16:15:20	18:16:31
2006_089	16:06:34	20:01:00
2006_090	15:51:59	20:40:46
2006_096	15:21:05	19:00:13
2006_101	14:48:44	19:37:00
2006_102	15:18:09	21:14:12
2006_120	15:08:50	21:10:09

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : September 18, 2006

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-K414-NRT4-2006
HYDROGRAPHIC SHEET: H11528

LOCALITY: Bolivar Roads, Galveston Bay, TX
TIME PERIOD: September 27, 2005
March 16 - April 30, 2006
TIDE STATION USED: 877-1450 Galveston Pier 21, TX
Lat.29° 18.6′ N Long. 94° 47.6′ N
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.403 meters

TIDE STATION USED: 877-1510 Galveston Pleasure Pier, TX
Lat. 29° 17.1′ N Long. 94° 47.3′ N
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.563 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: GB1, GB2, GB3, GB4, GB5, GB6, GB7, GB9, GB10, GB11, GB12, GB13, GB14 and GB15.

Refer to attachments for zoning information.

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

Note 2: Use tide data from the appropriate station with applicable zoning correctors for each zone according to the order in which they are listed in the Tidezone corrector file (*.ZDF). For example, tide station one (TS1) would be the first choice for an applicable zone followed by TS2, etc. when data are not available.

_____
CHIEF, PRODUCTS AND SERVICES DIVISION

Final tide zone node point locations for OPR-K414-NRT4-2006, H11528

Format: Tide Station (in recommended order of use)
Average Time Correction (in minutes)
Range Correction
Longitude in decimal degrees (negative value denotes Longitude West),
Latitude in decimal degrees

	Tide Station Order	AVG Time Correction	Range Correction
Zone GB1	877-1510	0	1.03
-94.699294 29.349277			
-94.694112 29.347568			
-94.679148 29.345725			
-94.690449 29.327534			
-94.706296 29.329579			
-94.699294 29.349277			
Zone GB2	877-1510	+12	0.96
-94.706296 29.329579			
-94.719384 29.330987			
-94.712245 29.353852			
-94.699294 29.349277			
-94.706296 29.329579			
Zone GB3	877-1510	+24	0.88
-94.712245 29.353852			
-94.725389 29.358088			
-94.732989 29.332653			
-94.73037 29.332344			
-94.719384 29.330987			
-94.712245 29.353852			
Zone GB4	877-1450	-42	1.21
-94.725389 29.358088			
-94.734056 29.361233			
-94.744942 29.334605			
-94.732989 29.332653			
-94.725389 29.358088			
Zone GB5	877-1450	-30	1.13
-94.744942 29.334605			
-94.754241 29.334604			
-94.742359 29.364764			
-94.734056 29.361233			
-94.744942 29.334605			
Zone GB6	877-1450	-18	1.10
-94.754241 29.334604			
-94.765128 29.336492			

-94.750159 29.370869
-94.74694 29.367965
-94.742359 29.364764
-94.754241 29.334604

Zone GB7	877-1450	-6	1.06

-94.750159 29.370869
-94.756031 29.369969
-94.762437 29.366205
-94.763087 29.364014
-94.782839 29.333173
-94.781713 29.330184
-94.77167 29.330295
-94.765128 29.336492
-94.750159 29.370869

Zone GB9	877-1450	+6	1.03

-94.762437 29.366205
-94.768608 29.366
-94.772594 29.363636
-94.783741 29.349761
-94.792798 29.33828
-94.782839 29.333173
-94.763087 29.364014
-94.762437 29.366205

Zone GB10	877-1450	+12	1.03

-94.772594 29.363636
-94.778278 29.36267
-94.784017 29.35856
-94.790363 29.352758
-94.799192 29.341879
-94.792798 29.33828
-94.783741 29.349761
-94.772594 29.363636

Zone GB11	877-1450	+24	0.99

-94.778278 29.36267
-94.779354 29.364197
-94.782547 29.363915
-94.789291 29.362343
-94.796358 29.359923
-94.802671 29.356057
-94.806043 29.351186
-94.799192 29.341879
-94.790363 29.352758
-94.784017 29.35856
-94.778278 29.36267

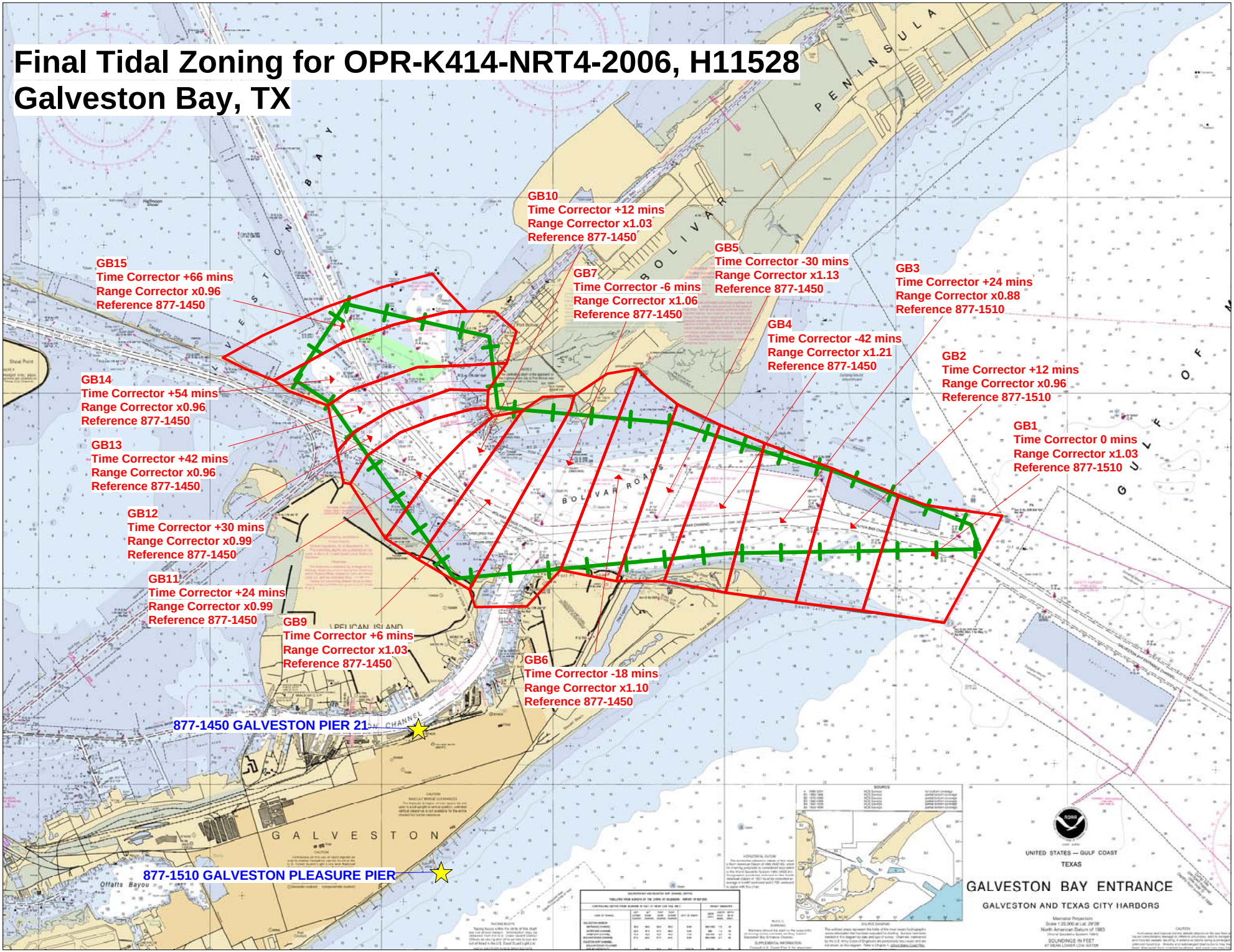
Zone GB12	877-1450	+30	0.99

-94.779354 29.364197

-94.779188 29.367133
-94.786671 29.367262
-94.798247 29.363657
-94.805233 29.360027
-94.808602 29.356694
-94.807378 29.351375
-94.806043 29.351186
-94.802671 29.356057
-94.796358 29.359923
-94.789291 29.362343
-94.782547 29.363915
-94.779354 29.364197
Zone GB13 877-1450 +42 0.96
-94.779188 29.367133
-94.77558 29.371773
-94.784734 29.371352
-94.793038 29.371069
-94.806282 29.367026
-94.81037 29.364551
-94.808602 29.356694
-94.805233 29.360027
-94.798247 29.363657
-94.786671 29.367262
-94.779188 29.367133
Zone GB14 877-1450 +54 0.96
-94.77558 29.371773
-94.773679 29.377177
-94.777945 29.380561
-94.780649 29.380624
-94.783361 29.38058
-94.786785 29.380561
-94.797456 29.378353
-94.807686 29.375164
-94.820863 29.368821
-94.818168 29.367082
-94.81037 29.364551
-94.806282 29.367026
-94.793038 29.371069
-94.784734 29.371352
-94.77558 29.371773
Zone GB15 877-1450 +66 0.96
-94.830843 29.372692
-94.823061 29.37648
-94.810669 29.38133
-94.800097 29.384648
-94.790053 29.386988

-94.78738 29.384269
-94.783361 29.38058
-94.786785 29.380561
-94.797456 29.378353
-94.807686 29.375164
-94.820863 29.368821
-94.826161 29.370672
-94.830843 29.372692

Final Tidal Zoning for OPR-K414-NRT4-2006, H11528
Galveston Bay, TX



H11528 Appendix V

Supplemental Correspondance

From "CDR. Alan R. Bunn" <Alan.Bunn@noaa.gov>
Sent Monday, July 24, 2006 4:41 pm
To Lucy.Massimillo@noaa.gov
Cc Steve Soherr <Steve.Soherr@noaa.gov>
Bcc
Subject Re: H11528 Shoaling
Attachments vCard(alan.bunn) 1K

Thanx Lucy - Just returned from a little R&R in Florida. I'll pass these along to our Fed Partners in the area and possibly the Houston Pilots as well as an FYI.

Thanx....ARB.

Lucy.Massimillo@noaa.gov wrote:

>Hi Alan,
>
>Well, when it rains, it pours. Here are some JPGS showing areas of
>mild shoaling in the Bolivar Roads survey area. Again, we did not
>consider these areas significant enough to warrant a DToN. This is
>for information only. These areas of shoaling will be mentioned in
>the Descriptive Report for this project and will be submitted to AMC.
>
>Give us a shout if you have any questions.
>
>Lucy
>
>Lucy Massimillo
>National Oceanic & Atmospheric Administration
>Team Leader, Navigation Response Team 4
>(312) 923-9006 office
>(312) 330-5074 cell
>Lucy.Massimillo@noaa.gov
>
>
>
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>

From "CDR. Alan R. Bunn" <Alan.Bunn@noaa.gov>
Sent Monday, July 24, 2006 4:49 pm
To "Torok, Jerry CDR" <JTorok@vtshouston.uscg.mil> , thomas.a.hunt@swg02.usace.army.mil , po <po@houston-pilots.com> , "Kaser, Richard Capt" <RKaser@msohouston.uscg.mil>
Cc Jake Yoos <Jake.Yoos@noaa.gov> , Lucy Massimillo <Lucy.Massimillo@noaa.gov> , Raymond Butler - GICA <rbutler@houston.rr.com> , Sherri Hickman <captainsheena@msn.com>
Bcc
Subject [Fwd: H11528 Shoaling]
Attachments vCard(alan.bunn) 1K

Gentlemen and Gentleladies - FYI : Please note the following preliminary survey review of the Bolivar Roads area indicating some increased shoaling found by our Navigation Response Team. I suspect the USACE may want to resurvey a couple of the "areas of concern" for verification purposes.

If you need further specifics on the surveys, please contact our Chief of NOAA's Navigation Response Branch, LCDR. Jake Yoos at 301-713-2729 or at Jake.Yoos@noaa.gov.

Thanx....ARB.

-------- Original Message -------- Subject: H11528 Shoaling
Date: Wed, 19 Jul 2006 12:46:55 -0500
From: Lucy.Massimillo@noaa.gov
To: Alan.Bunn@noaa.gov
CC: Jake.Yoos@noaa.gov

Hi Alan,

Well, when it rains, it pours. Here are some JPGS showing areas of mild shoaling in the Bolivar Roads survey area. Again, we did not consider these areas significant enough to warrant a DToN. This is for information only. These areas of shoaling will be mentioned in the Descriptive Report for this project and will be submitted to AMC.

Give us a shout if you have any questions.

Lucy

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

From "CDR. Alan R. Bunn" <Alan.Bunn@noaa.gov>
Sent Monday, July 24, 2006 4:53 pm
To Lucy.Massimillo@noaa.gov
Cc
Bcc
Subject Re: H11528 Chartlet
Attachments vCard(alan.bunn) 1K

Thanx so much Lucy! This will be a helpful slide for some of the presentations I do in the area.

Hope all goes well for you and your gang. Let me know when and where

you think you will be reporting down here once the ice begins forming, and I'll try and help logistically anyway I can!!!

ARB.

Lucy.Massimillo@noaa.gov wrote:

>Hi Alan,
>
>As promised, here is a chartlet showing our survey area and some stats
>for the Bolivar Roads project. Let us know if you would like anything
>changed.
>
>Lucy
>

From "CDR. Alan R. Bunn" <Alan.Bunn@noaa.gov>
Sent Tuesday, July 25, 2006 9:55 am
To Lucy.Massimillo@noaa.gov
Cc Steve Soherr <Steve.Soherr@noaa.gov> , Ed Martin <Ed.Martin@noaa.gov>
Bcc
Subject Re: H11528 R4 Discrepancy
Attachments image/pjpeg 508K vCard(alan.bunn) 1K

Done!

Lucy.Massimillo@noaa.gov wrote:

>Alan,
>
>I am sorry that this took so long, but we have been absolutely
>swamped. We were in the middle of processing 4 different surveys,
>including Lake Charles & Chicago.
>
>We are just about finished with the Galveston project and will be
>submitting the data and the Project report to AMC by the end of the
>month. We will get you a chartlet tomorrow that will show you the
>area surveyed, along with LNM, SNM, & # of AWOIS investigated. Take a
>look at it and if you want any changes made, let us know.
>
>We will also be letting you know about any significant chart
>discrepancies that we found, which do not necessarily fall into the
>DToN category. Here is the first:
>
>This discrepancy refers to Project# OPR-K414-NRT4-05, Registry#
>H11528, Sheet B, Galveston Harbor & Bolivar Roads, TX.
>
>Buoy R "4", USCG Light #22858.07, appears to be off its charted
>station. We took a DP on the buoy and found it to be approximately
>192m WNW of its charted location. The position collected in the field
>for this buoy is 29d22'40.08"N, 94d48'04.23"W. Thr buoy is marking
>the NE boundry of the one way alternate route between the Port Bolivar
>Assembling Basin and the Houston Ship Channel. The buoy still appears
>to be serving its intended purpose. Please see the accompanying JPG
>for an illustration of this.
>
>Is there someone at the Coast Guard that could be contacted about this

>buoy?
>
>Please call if you have any questions of comments.
>
>Thanks,
>Lucy
>
>Lucy Massimillo
>National Oceanic & Atmospheric Administration
>Team Leader, Navigation Response Team 4
>(312) 923-9006 office
>(312) 330-5074 cell
>Lucy.Massimillo@noaa.gov
>
>
>
>
> ---
>

Done!

Lucy.Massimillo@noaa.gov wrote:

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for an illustration of this.

Is there someone at the Coast Guard that could be contacted about this buoy?

Please call if you have any questions of comments.

Thanks,
Lucy

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(312) 923-9006 office
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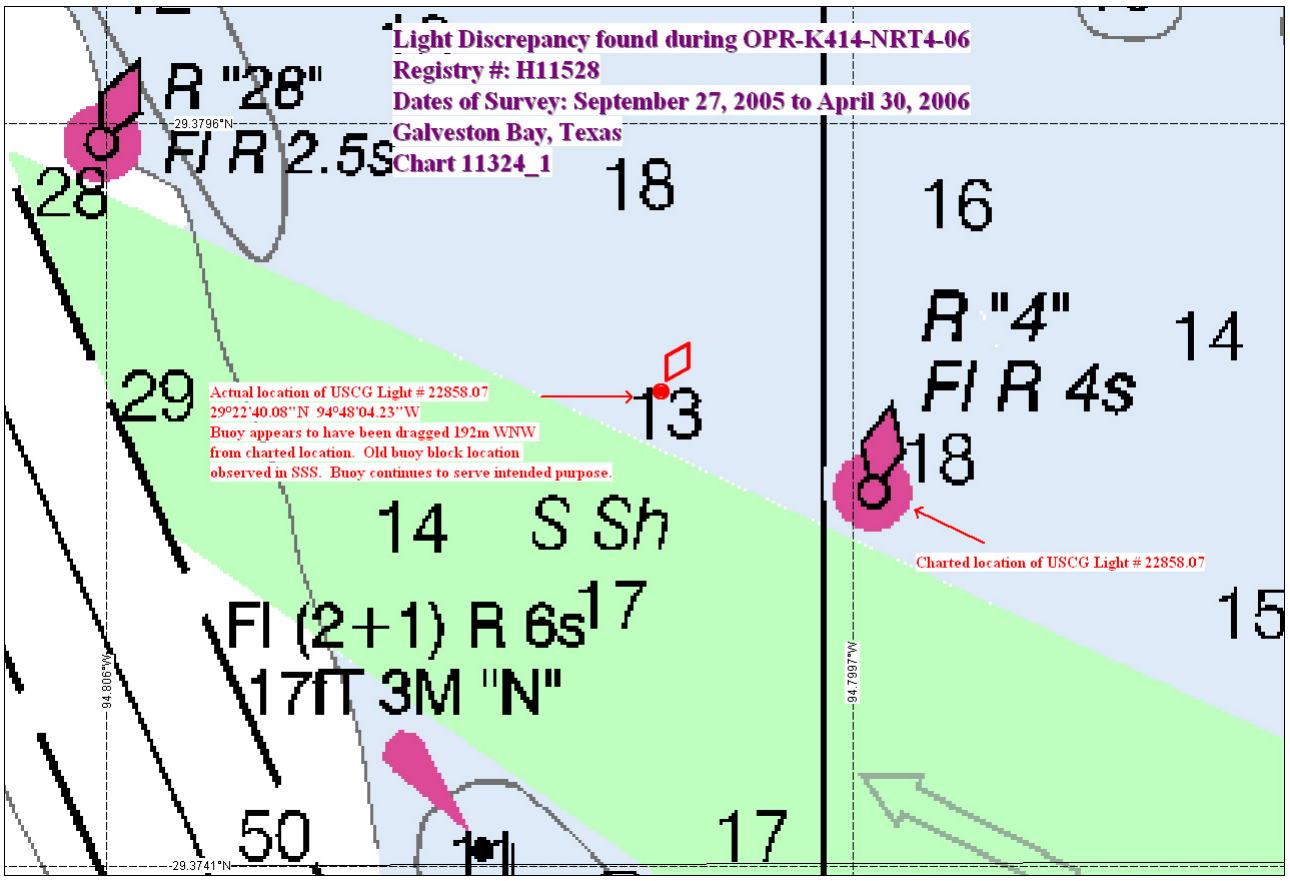
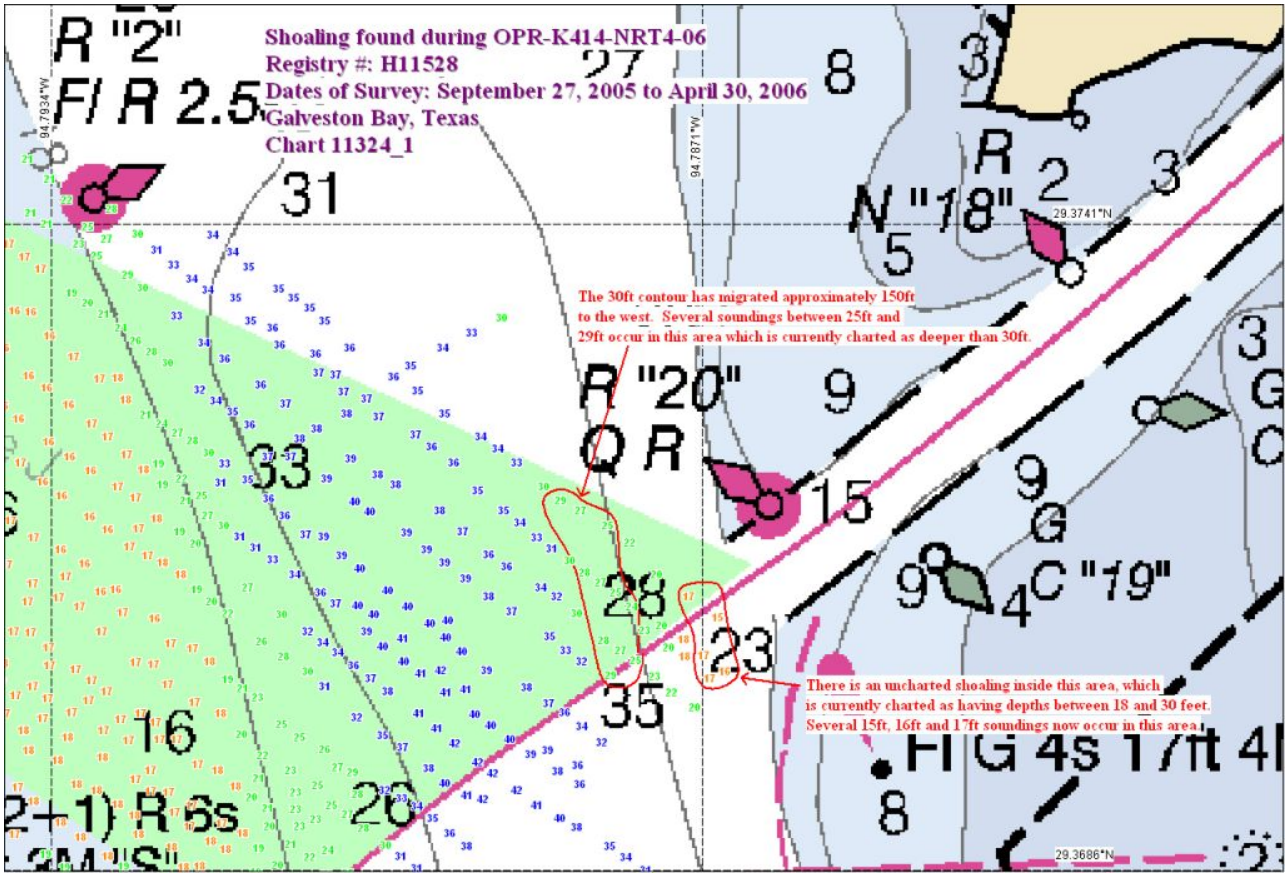
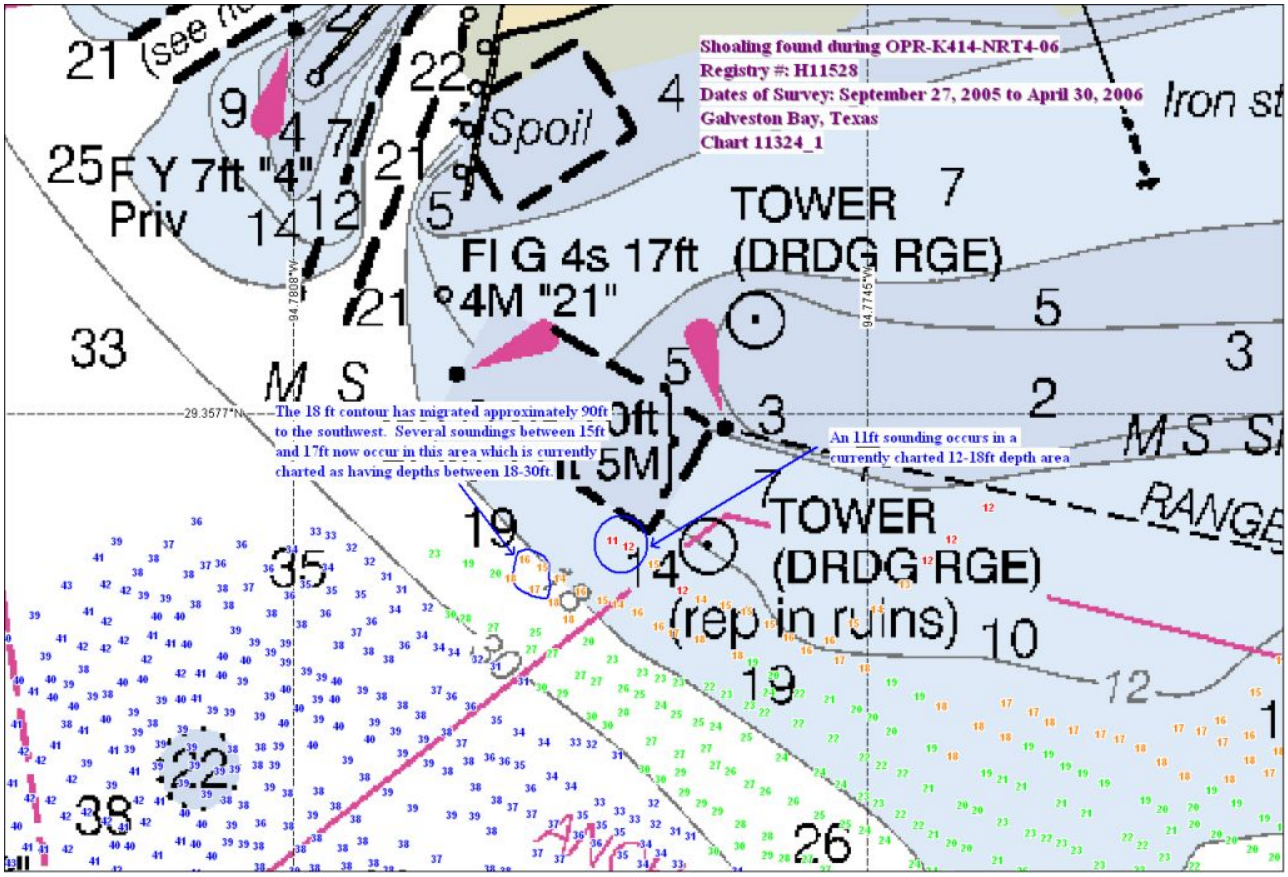
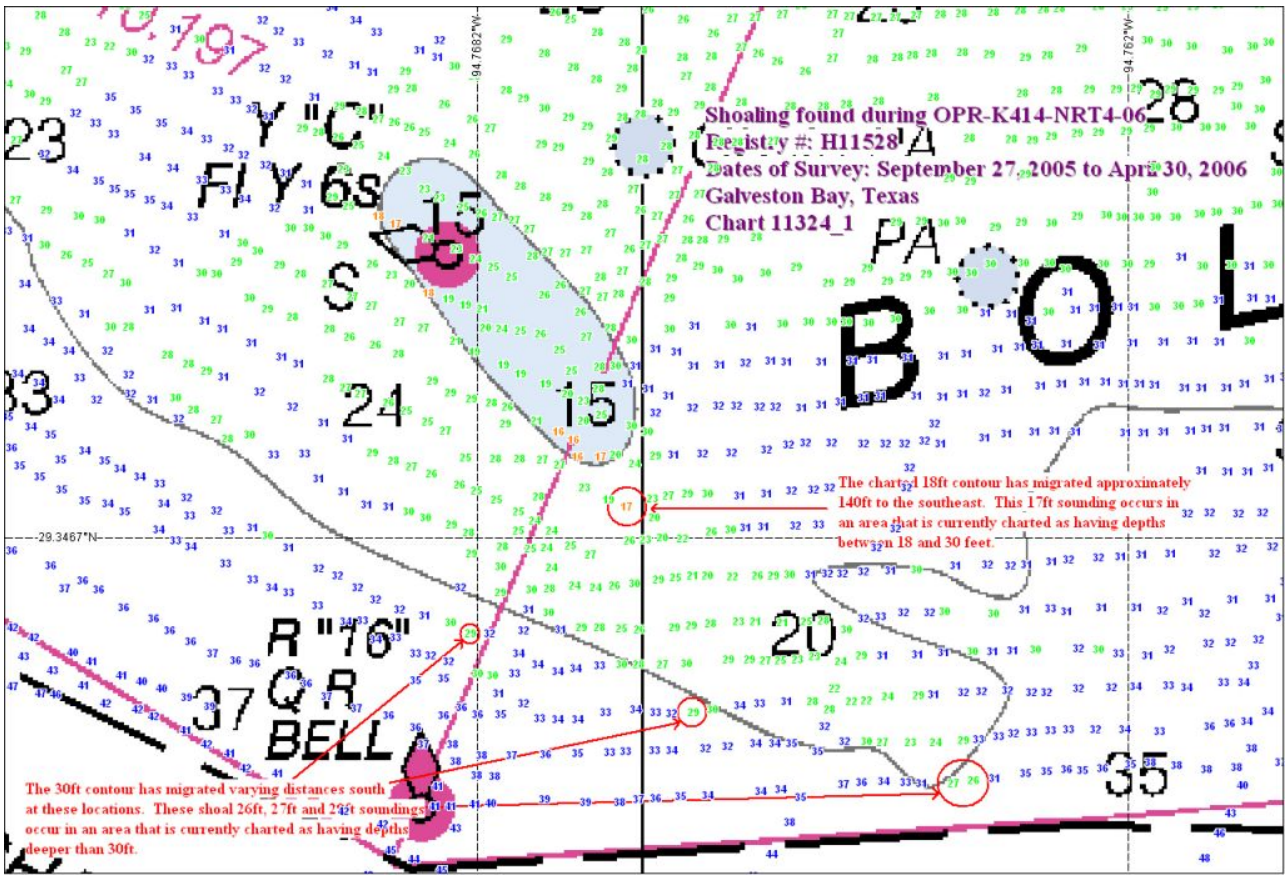



Shoaling found during OPR-K414-NRT4-06
Registry #: H11528
Dates of Survey: September 27, 2005 to April 30, 2006
Galveston Bay, Texas
Chart 11324_1
The 30ft contour has migrated approximately 150ft to the west. Several soundings between 25ft and 29ft occur in this area which is currently charted as deeper than 30ft.
There is an uncharted shoaling inside this area, which is currently charted as having depths between 18 and 30 feet. Several 15ft, 16ft and 17ft soundings now occur in this area.
R "2"
Fl R 2.5
R "20"
Q R
C "19"
94.7934°W
94.7871°W
29.3741°N
29.3686°N


Shoaling found during OPR-K414-NRT4-06
Registry #: H11528
Dates of Survey: September 27, 2005 to April 30, 2006
Galveston Bay, Texas
Chart 11324_1
The 18 ft contour has migrated approximately 90ft to the southwest. Several soundings between 15ft and 17ft now occur in this area which is currently charted as having depths between 18-30ft.
An 11ft sounding occurs in a currently charted 12-18ft depth area
TOWER (DRDG RGE)
TOWER (DRDG RGE) (rep in ruins)
Fl G 4s 17ft 4M "21"
F Y 7ft "4" Priv
Spoil
Iron st
RANGE
M S
94.7808°W
94.7745°W
29.3577°N



From <Lucy.Massimillo@noaa.gov>
Sent Tuesday, July 18, 2006 3:25 pm
To Alan.Bunn@noaa.gov
Cc Jake.Yoos@noaa.gov
Bcc
Subject H11528 R4 Discrepancy
Attachments H11528_R4_Discrepancy.JPG 508K

Alan,

I am sorry that this took so long, but we have been absolutely swamped. We were in the middle of processing 4 different surveys, including Lake Charles & Chicago.

We are just about finished with the Galveston project and will be submitting the data and the Project report to AMC by the end of the month. We will get you a chartlet tomorrow that will show you the area surveyed, along with LNM, SNM, & # of AWOIS investigated. Take a look at it and if you want any changes made, let us know.

We will also be letting you know about any significant chart discrepancies that we found, which do not necessarily fall into the DToN category. Here is the first:

This discrepancy refers to Project# OPR-K414-NRT4-05, Registry# H11528, Sheet B, Galveston Harbor & Bolivar Roads, TX.

Buoy R "4", USCG Light #22858.07, appears to be off its charted station. We took a DP on the buoy and found it to be approximately 192m WNW of its charted location. The position collected in the field for this buoy is 29d22'40.08"N, 94d48'04.23"W. Thr buoy is marking the NE boundry of the one way alternate route between the Port Bolivar Assembling Basin and the Houston Ship Channel. The buoy still appears to be serving its intended purpose. Please see the accompanying JPG for an illustration of this.

Is there someone at the Coast Guard that could be contacted about this buoy?

Please call if you have any questions of comments.

Thanks,
Lucy

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

From <Lucy.Massimillo@noaa.gov>
Sent Wednesday, July 19, 2006 9:46 am
To alan.bunn@noaa.gov
Cc jake.yoos@noaa.gov
Bcc
Subject H11528 Chartlet
Attachments H11528_Final_Plot.pdf 751K

Hi Alan,

As promised, here is a chartlet showing our survey area and some stats for the Bolivar Roads project. Let us know if you would like anything changed.

Lucy

From <Lucy.Massimillo@noaa.gov>
Sent Wednesday, July 19, 2006 12:46 pm
To Alan.Bunn@noaa.gov
Cc Jake.Yoos@noaa.gov
Bcc
Subject H11528 Shoaling
Attachments H11528_Shoalings_1_and_2.jpg 162K H11528_Shoalings_3_and_4.jpg 177K H11528_Shoalings_5_and_6.jpg 183K

Hi Alan,

Well, when it rains, it pours. Here are some JPGS showing areas of mild shoaling in the Bolivar Roads survey area. Again, we did not consider these areas significant enough to warrant a DToN. This is for information only. These areas of shoaling will be mentioned in

the Descriptive Report for this project and will be submitted to AMC.

Give us a shout if you have any questions.

Lucy

Lucy Massimillo
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Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

From <Lucy.Massimillo@noaa.gov>
Sent Tuesday, July 25, 2006 10:28 am
To Alan.Bunn@noaa.gov
Cc "Torok, Jerry CDR" <JTorok@vtshouston.uscg.mil> , thomas.a.hunt@swg02.usace.army.mil , po <po@houston-pilots.com> , "Kaser, Richard Capt" <RKaser@msohouston.uscg.mil> , Jake Yoos <Jake.Yoos@noaa.gov> , Raymond Butler - GICA <rbutler@houston.rr.com> , Sherri Hickman <captainsheena@msn.com>
Bcc
Subject Re: [Fwd: H11528 Shoaling]
Please note that the data included the graphics forwarded to you by Mr. Bunn are preliminary and are subject to office review. The soundingd were corrected to MLLW using verified observed tides with preliminary zoning. The data reflect the state of the seafloor in existence on the day and at the time the survey was conducted.

Thank You,

Lucy

Lucy Massimillo
National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

Gentlemen and Gentleladies - FYI : Please note the following preliminary survey review of the Bolivar Roads area indicating some increased shoaling found by our Navigation Response Team. I suspect the USACE may want to resurvey a couple of the "areas of concern" for verification purposes.

If you need further specifics on the surveys, please contact our Chief of NOAA's Navigation Response Branch, LCDR. Jake Yoos at 301-713-2729 or at Jake.Yoos@noaa.gov.

Thanx....ARB.

-------- Original Message -------- Subject: H11528 Shoaling
Date: Wed, 19 Jul 2006 12:46:55 -0500
From: Lucy.Massimillo@noaa.gov
To: Alan.Bunn@noaa.gov
CC: Jake.Yoos@noaa.gov

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(312) 923-9006 office
(312) 330-5074 cell
Lucy.Massimillo@noaa.gov

From Richard Sillcox <Richard.Sillcox@noaa.gov>
Sent Tuesday, July 25, 2006 11:16 am
To Steve Soherr <Steve.Soherr@noaa.gov>
Cc Alan Bunn <Alan.Bunn@noaa.gov> , Lucy Massimillo <Lucy.Massimillo@noaa.gov>
Bcc
Subject Re: [Fwd: Re: H11528 R4 Discrepancy]
Attachments C:DOCUME~1STEVE~1.SOHLOCALS~1Tempnsmail34.TMP 508K

Steve,
USB will contact USCG to make them aware of the findings of the NOAA field party.
Thanks,
Rich

Steve Soherr wrote:

> Rich,
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> FYI on buoy that was found to be significantly offstation by NRT 4.
> Can you guys contact the USCG about this one?
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> Tks,
>
> Steve
>
> -------- Original Message --------

> Subject: Re: H11528 R4 Discrepancy
> Date: Tue, 25 Jul 2006 09:55:26 -0500
> From: "CDR. Alan R. Bunn" <Alan.Bunn@noaa.gov>
> Reply-To: Alan.Bunn@noaa.gov
> Organization: NOAA/NOS
> To: Lucy.Massimillo@noaa.gov
> CC: Steve Soherr <Steve.Soherr@noaa.gov>, Ed Martin
> <Ed.Martin@noaa.gov>
> References: <41772641d9d5.41d9d5417726@noaa.gov>
>
> Done!
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> Lucy.Massimillo@noaa.gov wrote:
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>> swamped. We were in the middle of processing 4 different surveys,
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>> Lucy Massimillo

>> National Oceanic & Atmospheric Administration
>> Team Leader, Navigation Response Team 4
>> (312) 923-9006 office
>> (312) 330-5074 cell
>> Lucy.Massimillo@noaa.gov
>>
>>   --
>>   [Image]
>>
--
Richard L. Sillcox
Chief, NOAA Chart Update Service

1315 East West Hwy
SSMC3, Room 7458, N/CS29
Silver Spring, MD 20910

301-713-1973 x 105
Fax: 301-713-4516

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National Oceanic & Atmospheric Administration
Team Leader, Navigation Response Team 4
(312) 923-9006 office
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Silver Spring, MD 20910

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Fax: 301-713-4516

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Lucy.Massimillo@noaa.gov

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT to Accompany
Survey H11528 (2006)

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

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

CARIS HIPS/SIPS version 6.1 SP2 HF 1
CARIS Bathy Manager version 2.1 SP1 HF 1-8
CARIS HOM version 3.3 SP3 HF8
CARIS S57 Composer version 2.0

B.2. QUALITY CONTROL

B.2.1. H-Cell

The AHB source depth grid for the survey's nautical chart update product entailed the field's original VBES PVDL data, gridded by AHB at 2m resolution.. The survey scale selected soundings were extracted from this 2m surface. The selected sounding set is approximately 10 to 20 times the number of charted depths. Only one chart scale sounding was collected and is a subset of the survey scale selected soundings. The surface model was referenced when selecting the chart scale sounding, to ensure that the selected sounding portrayed the bathymetry within the common area.

The SAHOB files included sounding selections (SOUNDG), features (SBDARE), and cartographic Blue Notes. There sre 5 M_COVR, M_QUAL, and DEPARE META layers. The individual SAHOB files were inserted into one BASE Manager feature layer and exported to S57 format in order to create the H-Cell deliverable.

The completed H-Cell was exported as a Base Cell File (ENC.000) in S-57 format with all values in metric units. The metric equivalent ENC.000 file was then converted to NOAA chart units (ENC_CU.000) with all values measured in feet following NOAA sounding rounding rules.

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

The H11528 CARIS H-Cell final deliverables include the following products:

US511528_CS.000	1:25,000 Scale	H11528 H-Cell with Chart Scale Selected Soundings
US511528_SS.000	1:10,000 Scale	H11528 Selected Soundings
US511528_Bluenotes.000	1:25,000 Scale	H11528 Cartographic Notes

B.2.3. BASE Surfaces

The following surface were generated for this H-Cell:

Surface	Resolution	Grid
2m.hns	2m	Uncertainty

C. VERTICAL AND HORIZONTAL CONTROL

Sounding datum is Mean Lower Low Water (MLLW). Vertical datum is Mean High Water (MHW). See Descriptive Report C.1 for discussion of Tide Zoning.

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM projection zone 15 N.

D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON

11323 (62nd Edition, Dec./06)
Corrected through NM 12/30/06
Corrected through LNM 12/19/06
Scale 1:80,000

11324 (35th Edition, Aug./07
Corrected through NM 08/11/07
Corrected through LNM 08/07/07
Scale 1:25,000

ENC Comparison

US5TX53M
Galveston Bay Entrance
Galveston and Texas City Harbors
Edition 29
Update Application Date 2008-09-17
Issue Date 2008-09-17
References: Chart 11324

AWOIS Items

The Descriptive Report is in error as far as numbers of AWOIS items investigated. The following table lists 15 AWOIS items and their results/recommendations. These items are either present as features or bluenotes in the H-Cell.

AWOIS	Result
9052	Not investigated – Retain as charted.
9108	Found – "Rky" SBDARE feature
11501	Disproved
13343	Disproved
13344	Disproved
13345	Disproved
13350	Found
13422	Found
13423	Disproved
13424	Disproved
13430	Found – Modify Location
13431	Disproved
13432	Found – Modify Location
13433	Disproved
13434	Found – Modify Location – Originally sent as a DtoN

D.2. MISCELLANEOUS

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

D.3. ADEQUACY OF SURVEY

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

APPROVAL SHEET
H11528

Initial Approvals:

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

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

Wesley Kitt
I am the author of this document
2008.09.26 09:32:03 -04'00'

Wesley G Kitt
Physical Scientist
Atlantic Hydrographic Branch

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

Approved: Shepard Smith
I am approving this document
2008.09.29 10:58:25 -04'00'

Shepard Smith
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

Christopher Hare
2008.10.14 15:47:51 -04'00'