H12941

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

DESCRIPTIVE REPORT

Type of Survey:	Basic Hydrographic Survey
Registry Number:	H12941

LOCALITY

State(s):	Louisiana
General Locality:	Gulf of Mexico
Sub-locality:	28 NM West of SW Pass

2016

CHIEF OF PARTY
David Neff, ACSM C.H.

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Date:

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET	**H12941**

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

State(s):	**Louisiana**
General Locality:	**Gulf of Mexico**
Sub-Locality:	**28 NM West of SW Pass**
Scale:	**20000**
Dates of Survey:	**08/03/2016 to 10/02/2016**
Instructions Dated:	**06/29/2016**
Project Number:	**OPR-K339-KR-16**
Field Unit:	**eTrac Inc.**
Chief of Party:	**David Neff, ACSM C.H.**
Soundings by:	**Multibeam Echo Sounder**
Imagery by:	**Multibeam Echo Sounder Backscatter**
Verification by:	**Atlantic Hydrographic Branch**
Soundings Acquired in:	**meters at Mean Lower Low Water**

Remarks:

All times are UTC. The purpose of this survey is to update existing NOS nautical charts. H12941 will cover approximately 41 square nautical miles of survey area 28 NM West of SW Pass as designated in NOAA Hydrographic Survey Priorities, 2012 edition. SUBCONSULTANT: Geodynamics LLC, 310A Greenfield Dr., Newport, NC 98570 SUBCONSULTANT: Theory Marine, 777 Viewcrest DR., Ventura, CA 93003 Projections: UTM 16N, WGS 84

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

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Descriptive Report to Accompany Survey H12941

Project: OPR-K339-KR-16

Locality: Gulf of Mexico

Sublocality: 28 NM West of SW Pass

Scale: 1:20000

August 2016 - October 2016

eTrac Inc.

Chief of Party: David Neff, ACSM C.H.

A. Area Surveyed

eTrac Inc. conducted hydrographic survey operations in the vicinity of SW Pass, LA. H12941 covers approximately 41 square nautical miles of survey area. 899 lineal nautical miles were aquired during the survey. H12941 is irregular in geometry, and is approximately 13 nautical miles wide (E-W) by 6 nautical miles long (N-S) at its widest and longest lengths respectively.

Survey was conducted within these limits between August 03, 2016 (DN216) and October 02, 2016 (DN276).

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
28° 56' 22.78" N 90° 4' 52.68" W	28° 49' 24.6" N 89° 49' 32.23" W

Table 1: Survey Limits

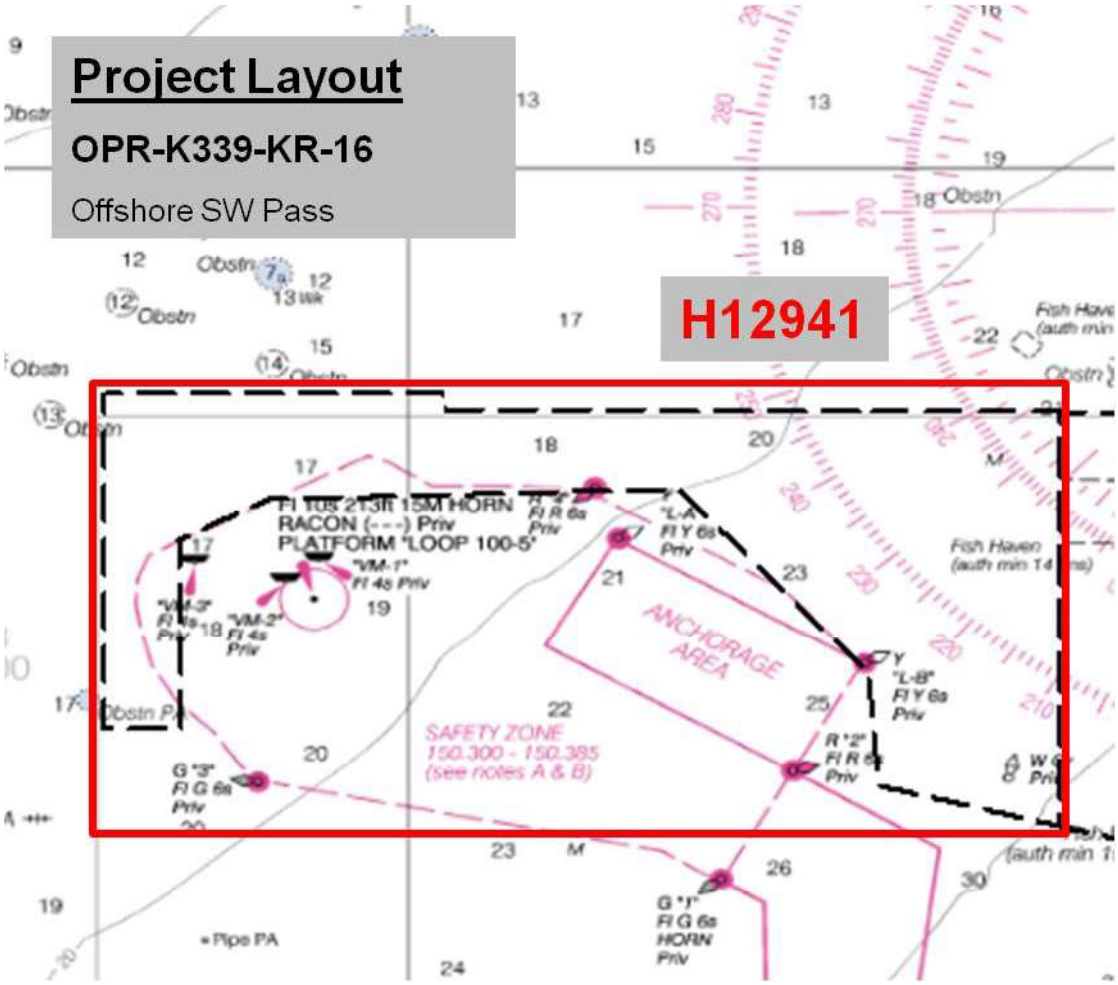


Figure 1: Survey Limits (black line)

All data were acquired in accordance with the requirements in the Project Instructions and specifications set forth in the Hydrographic Survey Specifications and Deliverables 2016 Edition (HSSD 2016).

A.2 Survey Purpose

The purpose of this survey is to update existing NOS nautical charts. H12941 covers approximately 41 square nautical miles of survey area, 28 NM West of SW Pass as designated in NOAA Hydrographic Survey Priorities, 2012 edition.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Survey H12941 is accurate to IHO Order 1a as required per the HSSD 2016.

A.4 Survey Coverage

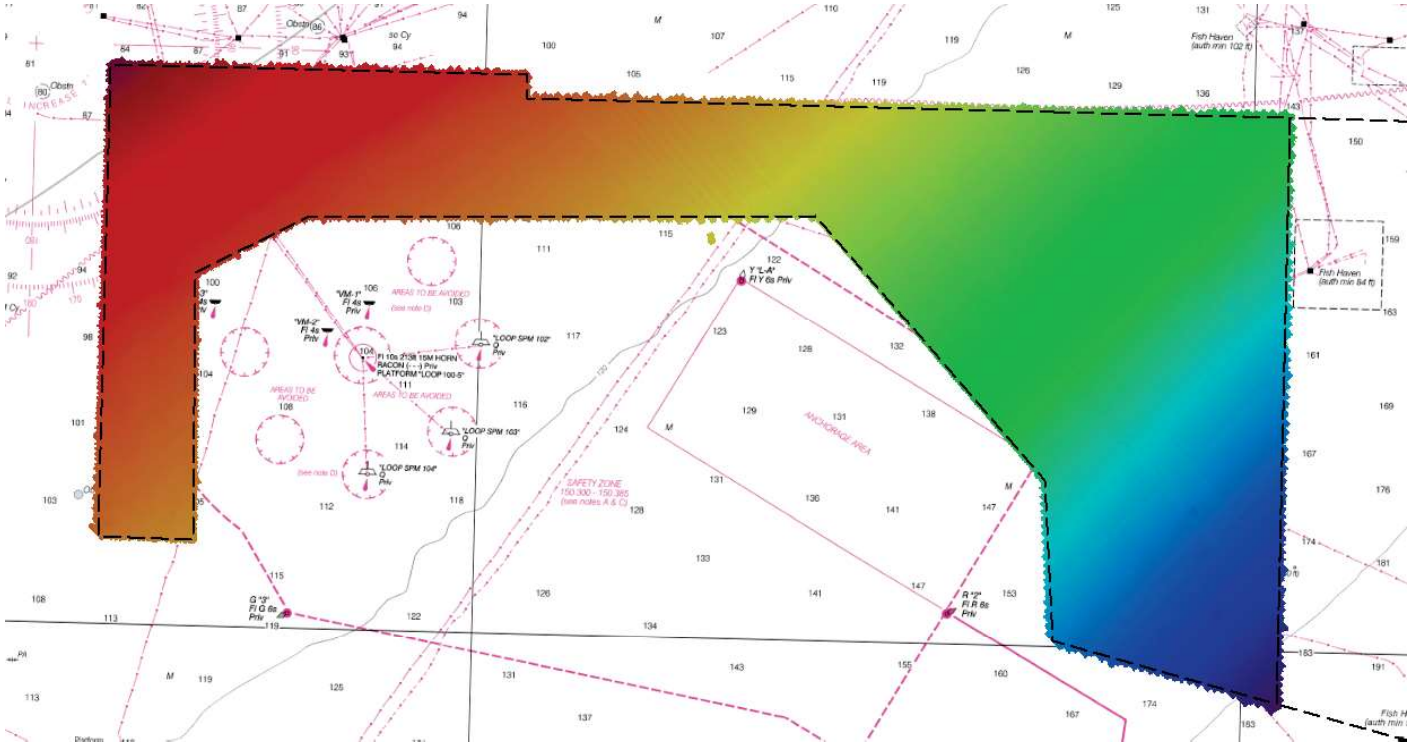


Figure 2: Survey Coverage

Survey Coverage was in accordance with the requirements in the Project Instructions and HSSD 2016. Depths in H12941 range from 25 to 58 meters. H12941 was surveyed to Complete Coverage MBES with backscatter standards set forth in the HSSD 2016.

A.5 Survey Statistics

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

	HULL ID	*Theory*	*Benthos*	*Taku*	*Total*
LNM	SBES Mainscheme	0	0	0	0
	MBES Mainscheme	68	702	116	886
	Lidar Mainscheme	0	0	0	0
	SSS Mainscheme	0	0	0	0
	SBES/SSS Mainscheme	0	0	0	0
	MBES/SSS Mainscheme	0	0	0	0
	SBES/MBES Crosslines	0	38	0	38
	Lidar Crosslines	0	0	0	0
Number of Bottom Samples					9
Number of AWOIS Items Investigated					0
Number Maritime Boundary Points Investigated					0
Number of DPs					0
Number of Items Investigated by Dive Ops					0
Total SNM					41

Table 2: Hydrographic Survey Statistics

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

Survey Dates	Day of the Year
08/03/2016	216
08/04/2016	217
08/25/2016	238
08/26/2016	239
08/27/2016	240
09/02/2016	246
09/03/2016	247
09/04/2016	248
09/05/2016	249
09/06/2016	250
09/07/2016	251
09/08/2016	252
09/09/2016	253
09/10/2016	254
09/11/2016	255
09/12/2016	256
09/17/2016	261
09/18/2016	262
09/19/2016	263
09/20/2016	264
09/21/2016	265
09/22/2016	266
09/23/2016	267
09/24/2016	268
09/25/2016	269
10/02/2016	276

Table 3: Dates of Hydrography

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Refer to the Data Acquisition and Processing Report (DAPR) for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data are discussed in the following sections.

B.1.1 Vessels

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

Hull ID	*M/V Theory*	*R/V Benthos*	*R/V Taku*
LOA	11 meters	10 meters	10 meters
Draft	0.75 meters	0.6 meters	0.6 meters

Table 4: Vessels Used

The R/V Benthos is a 10 meter aluminum catamaran equipped with a custom over-the-side (port) multibeam hydraulic pole mount, as well as a downrigger for SVP deployment.

The R/V Taku is a 10 meter aluminum catamaran equipped with two Universal Sonar Mount (USM) over-the-side (port or port and starboard) multibeam mount(s), as well as an electric pot puller for SVP deployment.

The M/V Theory is a 11 meter aluminum catamaran equipped with an Universal Sonar Mount (USM) over-the-stern multibean mount, as well as an A-frame for SVP deployment.

B.1.2 Equipment

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

Manufacturer	Model	Type
R2Sonic	2024	MBES
Applanix	POSMV 320 V5	Positioning and Attitude System
AML	Base.X	Sound Speed System
AML	Base.X2	Sound Speed System
Trimble	SPS461	Positioning System
Trimble	DSM232	Positioning System

Table 5: Major Systems Used

Note: The major systems listed above were used on each vessel. R/V Benthos utilized an AML Base.X for the sound speed system and a Trimble SPS461 for the positioning system. R/V Taku utilized an AML Base.X2 for the sound speed system and a Trimble DSM232 for the positioning system. M/V Theory utilized an AML Base.X2 for the sound speed system and a Trimble DSM232 for the positioning system.

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 4% of mainscheme acquisition.

A comparison of crossline mileage to mainscheme mileage yields a crossline percentage of 4.24%, and is noted to be above the required 4%.

A beam-by-beam statistical analysis was performed using the Line QC reporting tool in Caris HIPS and SIPS 9.1. A 4 meter CUBE weighted BASE surface was created incorporating only the mainscheme lines and excluded crosslines. The Line QC reporting tool was used to perform the beam-by-beam comparison of the crossline data to the mainscheme surface. Comparisons showed excellent agreement, well above 95% of the allowable TVU.

Note: This surface was created for QC only and is not submitted as a surface deliverable.

The beam-to-beam crossline comparison report generated through the Caris QC Reporting tool is included in Separate II.

Below is a graph of crossline comparison statistics showing IHO Order 1a compliance per beam.

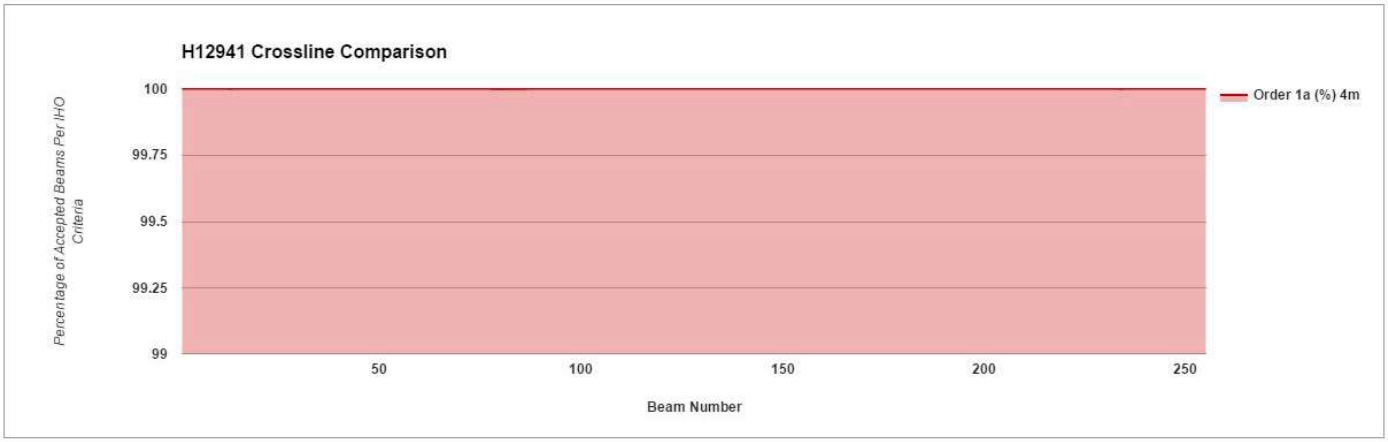


Figure 3: H12941 Crossline Comparison

B.2.2 Uncertainty

Hull ID	Measured - CTD	Measured - MVP	Surface
M/V Theory	4 meters/second	0 meters/second	2 meters/second
R/V Benthos	4 meters/second	0 meters/second	2 meters/second
R/V Taku	4 meters/second	0 meters/second	2 meters/second

Table 6: Survey Specific Sound Speed TPU Values

Note: The survey specific tide TPU values for measured and zoning tides are computed internally within TCARI.

Standard deviation and uncertainty child layers of BASE surfaces were utilized during data processing to search for features, water column noise, and systematic errors.

A custom child layer was created within the BASE surface utilizing the Deep and Shoal layers in the following configuration:

Custom Layer = (Deep - Shoal)^2

By viewing this custom layer, seafloor features, water column noise, and systematic errors are graphically exaggerated and can easily be identified for further examination.

A TVU QC layer was created within the BASE surface utilizing the Uncertainty and Depth child layers in the following configuration:

-Uncertainty/((0.5^2 +((Depth*0.013)^2))^0.5)

By viewing the TVU QC layer, nodes that exceed the IHO Order 1a uncertainty standards can be identified and further analyzed.

Standard deviation and uncertainty were quantified using the QC Reporting tool within Caris HIPS and SIPS 9.1. The option "Greater of the two" was selected in the reporting tool in order to generate statistics quantifying the maximum error occurring within the data. IHO Order 1a uncertainty specification was met by 100% of the nodes. Each BASE surface's uncertainty QC report generated through the Caris QC Reporting tool is included in Separate II.

The Total Propogated Uncertainty (TPU) was evaluated using the TPUTrac program in the AmiTrac program, developed in-house by eTrac Inc. Each finalized BASE surface's nodes were exported to an ASCII CSV file where the fields were (Easting, Northing, Depth, Uncertainty, Density) for each node. The CSV file was then loaded into the TPUTrac program and the TPU statistics were computed. A file was also created in this process to locate any points that exceed the allowable TPU, which was imported into Caris HIPS and SIPS 9.1 and any identified points from TPUTrac were analyzed and evaluated.

For H12941 the following percentages represent the results of the TPU testing:

Complete Coverage MBES (Finalized 2m CUBE weighted BASE Surface) = 99.9999% of nodes are within allowable TPU.
Complete Coverage MBES (Finalized 4m CUBE weighted BASE Surface) = 100% of nodes are within allowable TPU.

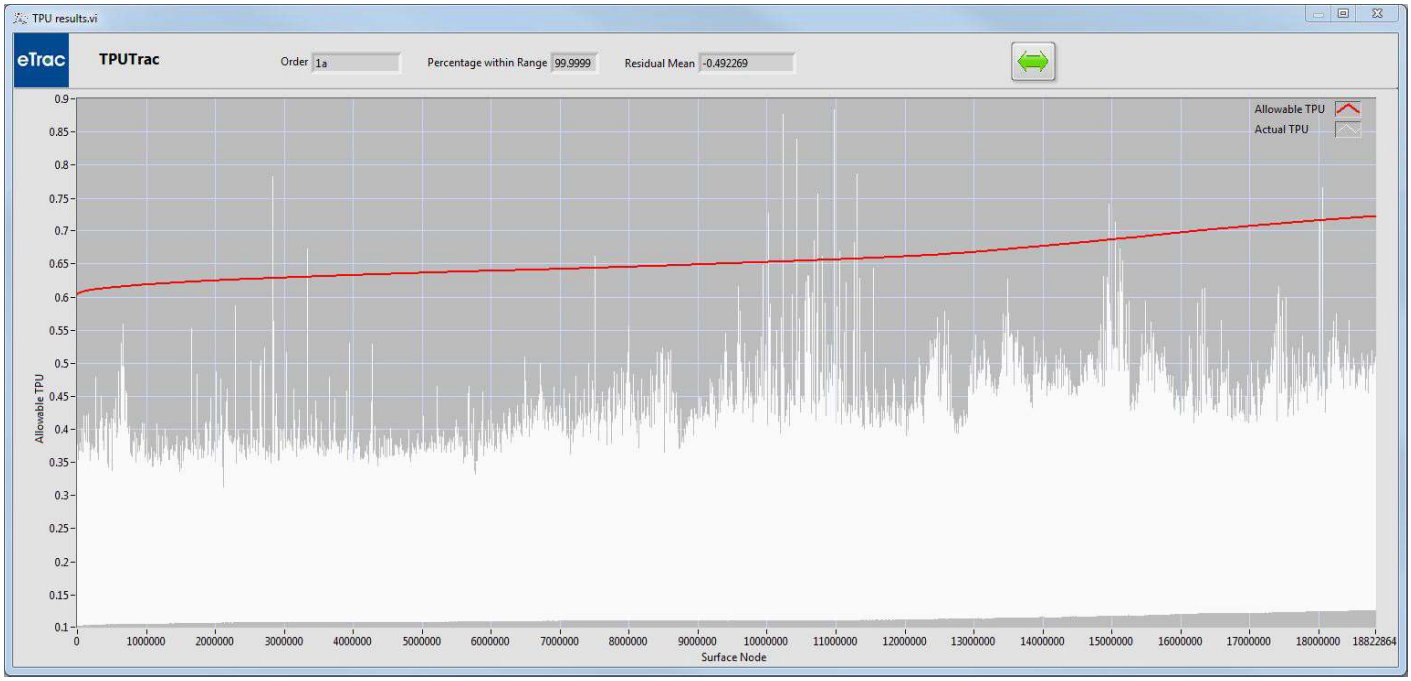


Figure 4: H12941 Finalized 2m Complete Coverage MBES TPU Statistics

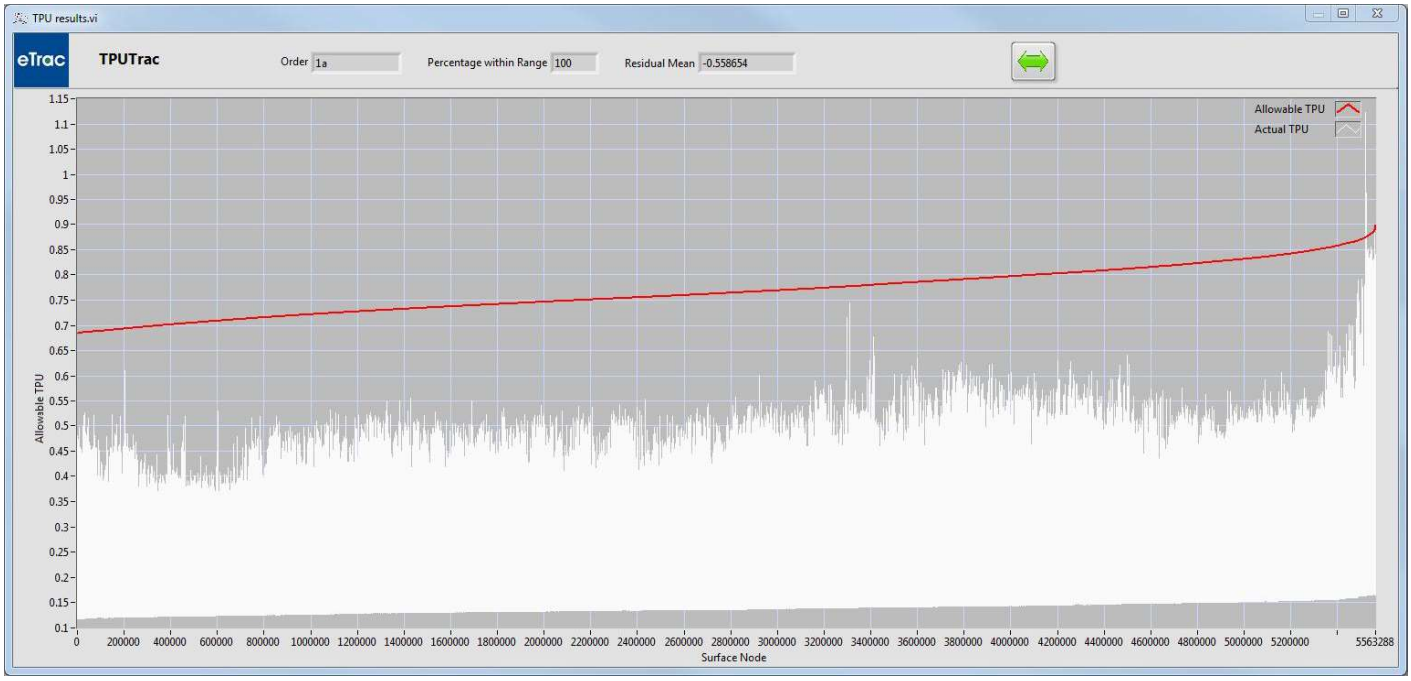


Figure 5: H12941 Finalized 4m Complete Coverage MBES TPU Statistics

B.2.3 Junctions

Depth differences between junctioning surveys were evaluated using the JunctionTrac program, developed in-house by eTrac Inc. For each junction, each BASE surface's nodes were exported to an ASCII CSV file where the fields were (Easting, Northing, Depth) for each node. A 4m difference surface between the junctioning datasets was also created and exported to an ASCII CSV file where the fields were (Easting, Northing, Diff) for each node. The three ASCII CSV files were then loaded into the JunctionTrac program and junction statistics were computed. A file was also created in this process to locate any nodes from the difference surface that exceed the allowable TVU, which was imported into Caris HIPS and SIPS 9.1 and any identified points from JunctionTrac were analyzed. Note: the difference surfaces were created for comparison efforts only and are not submitted as surface deliverables.

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12942	1:40000	2016	eTrac Inc.	E
H11537	1:20000	2006	C & C Technologies, Inc.	NW
H11179	1:20000	2002	NOAA Ship Whiting	S
H12550	1:40000	2013	Oceans Surveys, Inc.	N
H12553	1:40000	2013	Oceans Surveys, Inc.	NE

Table 7: Junctioning Surveys

H12942

H12941 junctions with H12942 to the East. The junction comparison was performed using approximately 260m of overlapping data between H12941 and H12942. Depth differences were evaluated using the JunctionTrac program, developed in-house by eTrac Inc.

Below is a histogram of junction comparison statistics showing the depth differences between the junctioning datasets and allowable TVU. 99.9613% of nodes were within allowable TVU. Junction comparison statistics are also included in Separate II.

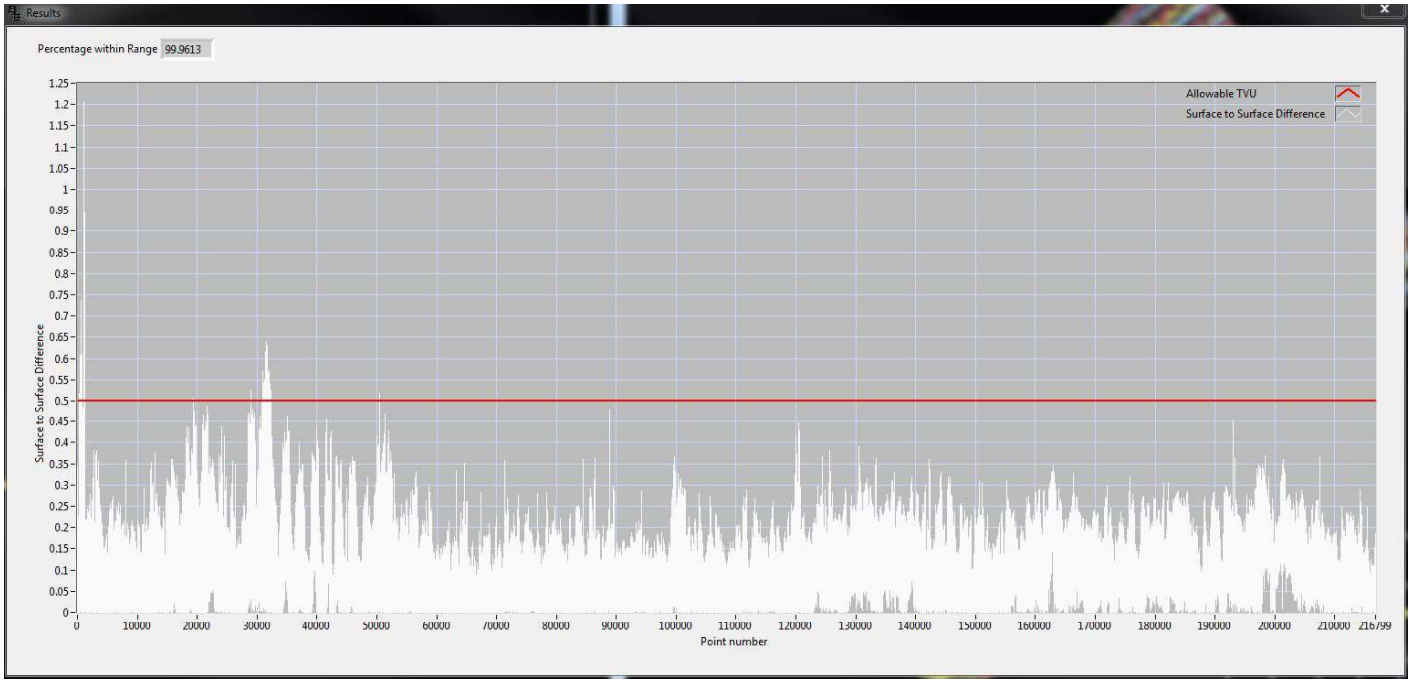


Figure 6: H12941 - H12942 Junction Comparison

H11537

H12941 junctions with H11537 to the Northwest. The junction comparison was performed using approximately 230m of overlapping data between H12941 and H11537. Depth differences were evaluated using the JunctionTrac program, developed in-house by eTrac Inc.

Below is a histogram of junction comparison statistics showing the depth differences between the junctioning datasets and allowable TVU. 99.9754% of nodes were within allowable TVU. Junction comparison statistics are also included in Separate II.

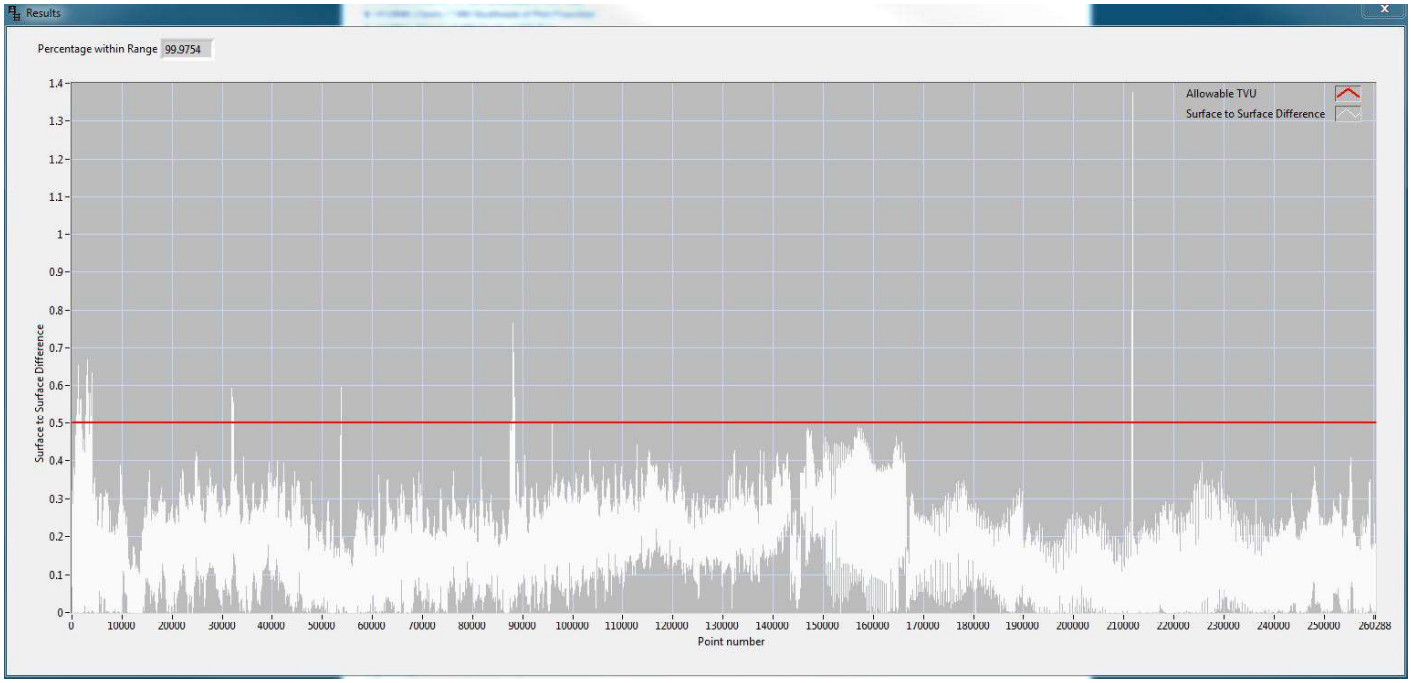


Figure 7: H12941 - H11537 Junction Comparison

H11179

H12941 junctions with H11179 to the South. The junction comparison was performed using approximately 215m of overlapping data between H12941 and H11179. Depth differences were evaluated using the JunctionTrac program, developed in-house by eTrac Inc. In order to use the JunctionTrac program, the provided .xyz file for H11179 was computed into a surface in Caris HIPS and SIPS 9.1 using the Generic Data Parser. Note: This surface was created for comparison efforts only and is not submitted as a surface deliverable.

Below is a histogram of junction comparison statistics showing the depth differences between the junctioning datasets and allowable TVU. 97.9958% of nodes were within allowable TVU. Junction comparison statistics are also included in Separate II.

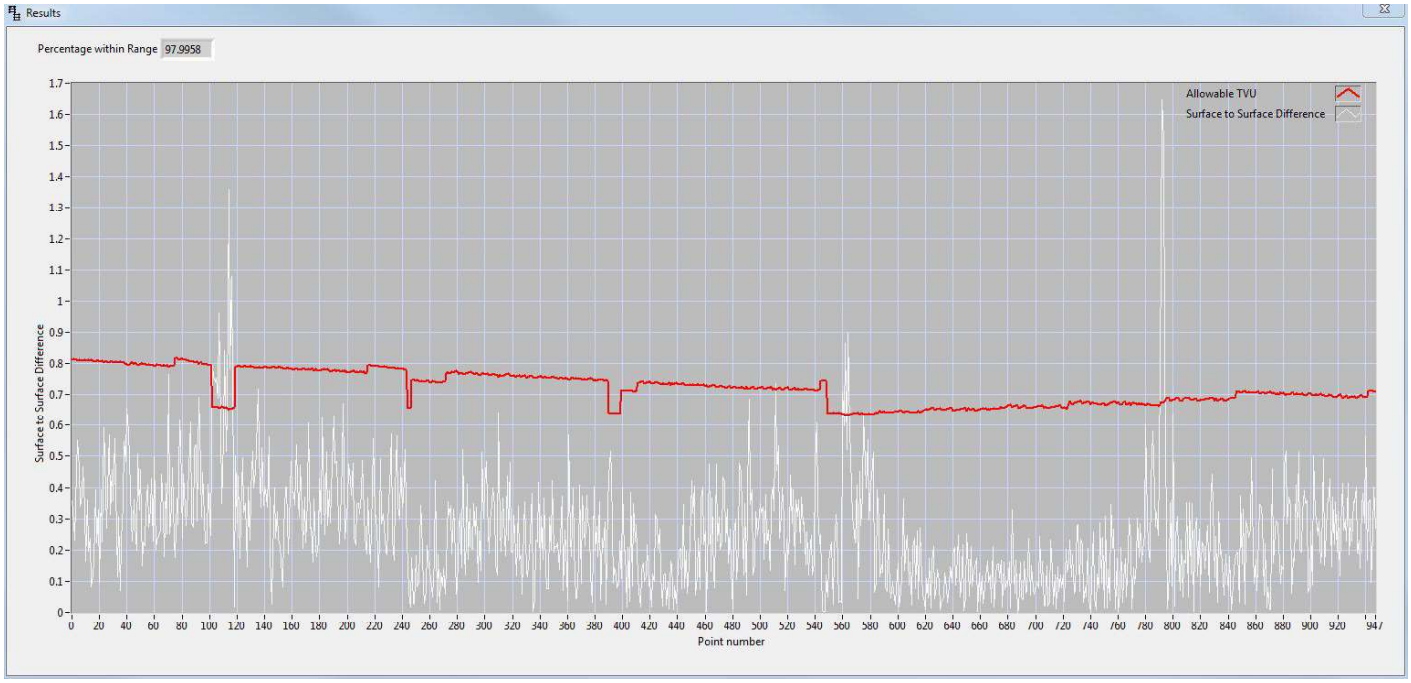


Figure 8: H12941 - H11179 Junction Comparison

H12550

H12941 junctions with H12550 to the North. The junction comparison of H12941 and H12550 has been waived by the Hydrographic Survey Division. Reference Email Correspondence in Appendix II of this report.

H12553

H12941 junctions with H12553 to the Northeast. The junction comparison was performed using approximately 275m of overlapping data between H12941 and H12553. Depth differences were evaluated using the JunctionTrac program, developed in-house by eTrac Inc.

Below is a histogram of junction comparison statistics showing the depth differences between the junctioning datasets and allowable TVU. 100% of nodes were within allowable TVU. Junction comparison statistics are also included in Separate II.

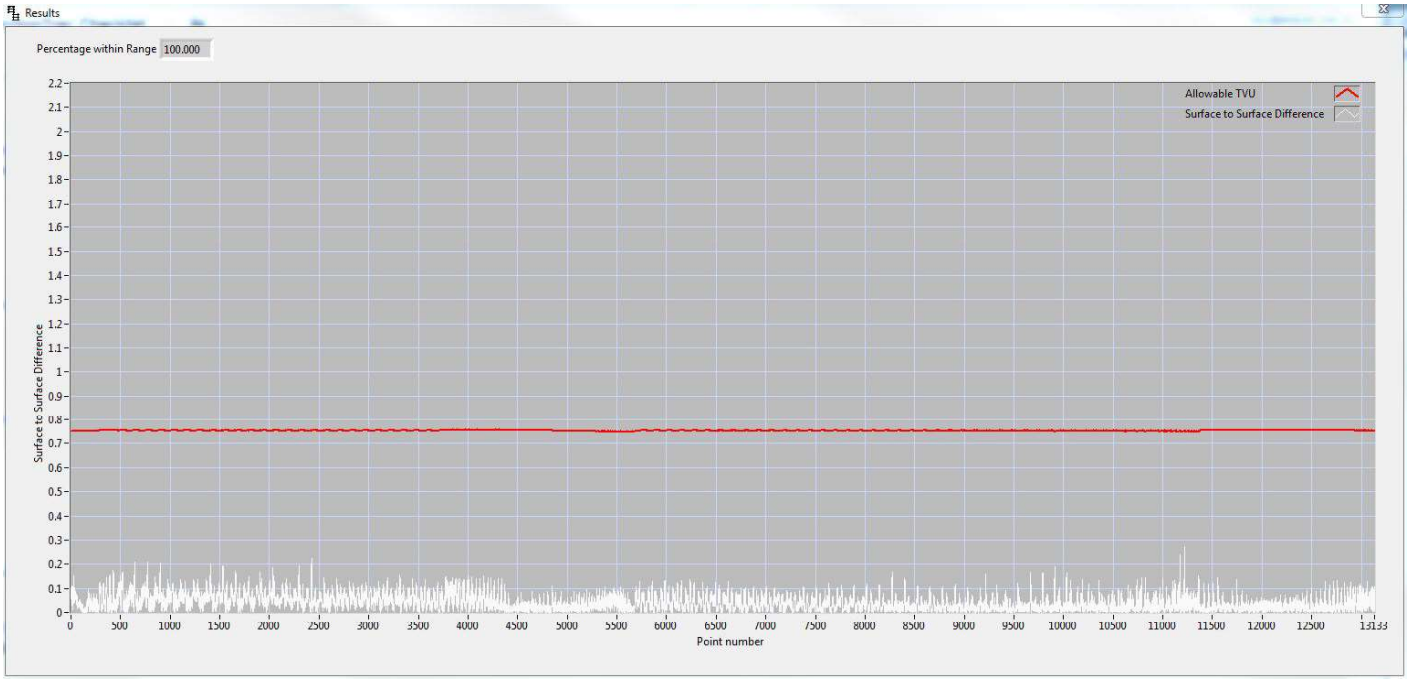


Figure 9: H12941 - H12553 Junction Comparison

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed in the quality control section of the DAPR.

B.2.5 Equipment Effectiveness

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

B.2.6 Factors Affecting Soundings

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: SVP casts were generally taken every 2 hours. Ocassionally casts would exceed a 2 hour frequency, however would never exceed a 4 hour frequency. Casts were applied in QPS QINSy acquisition software at the time of the cast. Surface SVP measured at 1Hz was compared to surface speed from the current profile in realtime. If the surface velocity comparison was in excess of 2m/s at any time during survey operations, a new cast was taken.

SVP surface velocities were compared in realtime and profile to profile for each cast on the vessel. Additionally, profiles were compared day-to-day in the field office using the SVPTrac program, developed in-house by eTrac Inc., to better understand trends for efficient acquisition planning.

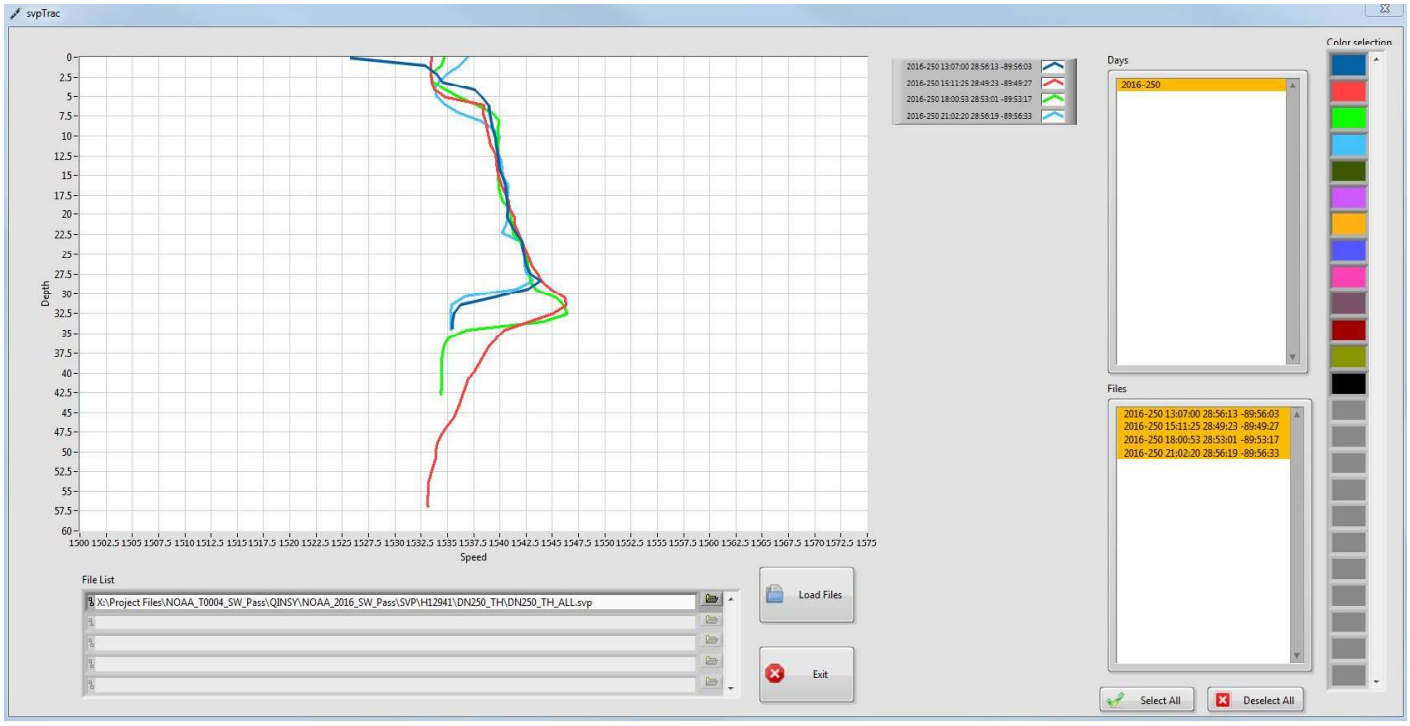


Figure 10: Example of Daily SVP Data Plot (DN2250)

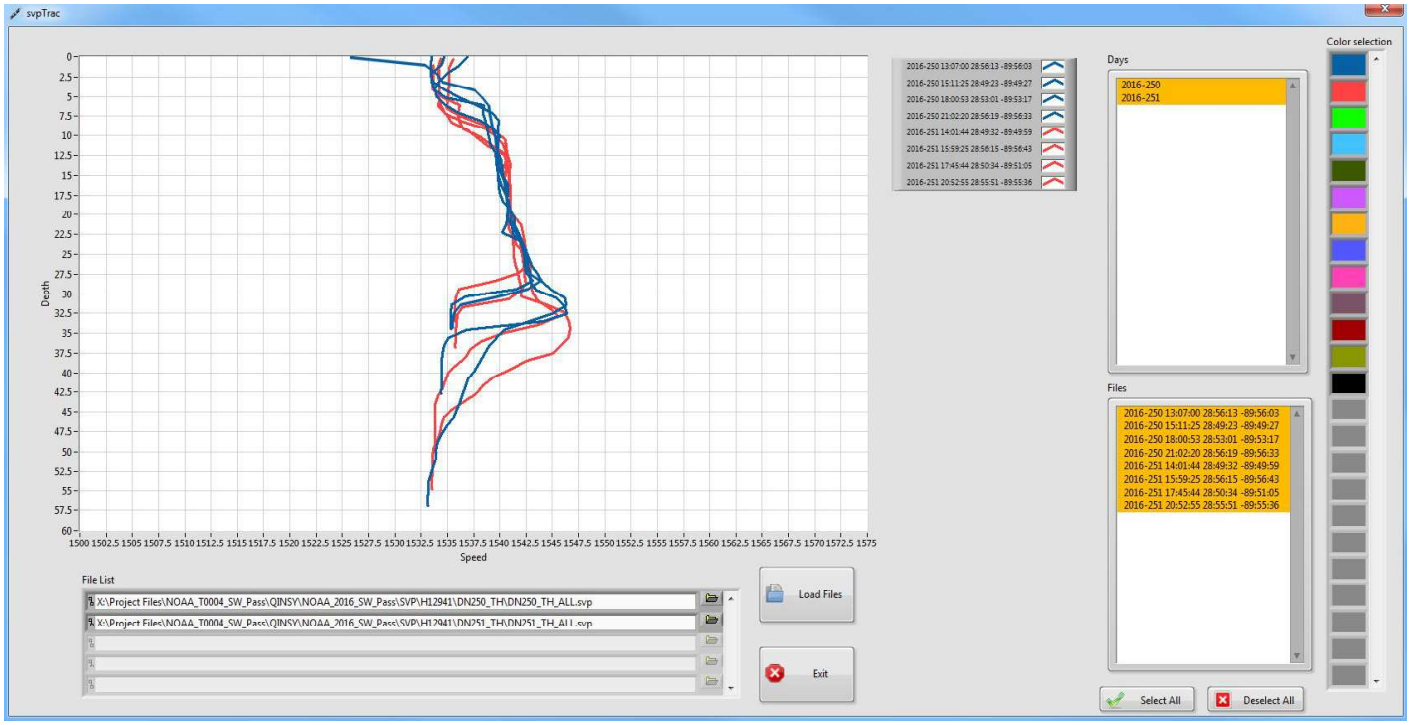


Figure 11: Example of Daily SVP Data Plot (DN250 & DN251)

B.2.8 Coverage Equipment and Methods

All equipment and survey methods were used as detailed in the DAPR.

B.2.9 Data Density Evaluation

In order to determine if the density of the data met the specified 5 soundings per node, data density was evaluated using DensityTrac in the AmiTrac program, developed in-house by eTrac Inc. Each finalized BASE surface's nodes were exported to an ASCII CSV file where the fields were (Easting, Northing, Depth, Uncertainty, Density) for each node. The CSV file was then loaded into the DensityTrac program and density statistics were computed.

For H12941 the following percentages represent the results of the density testing:

Complete Coverage MBES (Finalized 2m CUBE weighted BASE Surface) = 99.7774% of nodes are composed from at least 5 soundings.

Complete Coverage MBES (Finalized 4m CUBE weighted BASE Surface) = 99.9197% of nodes are composed from at least 5 soundings.

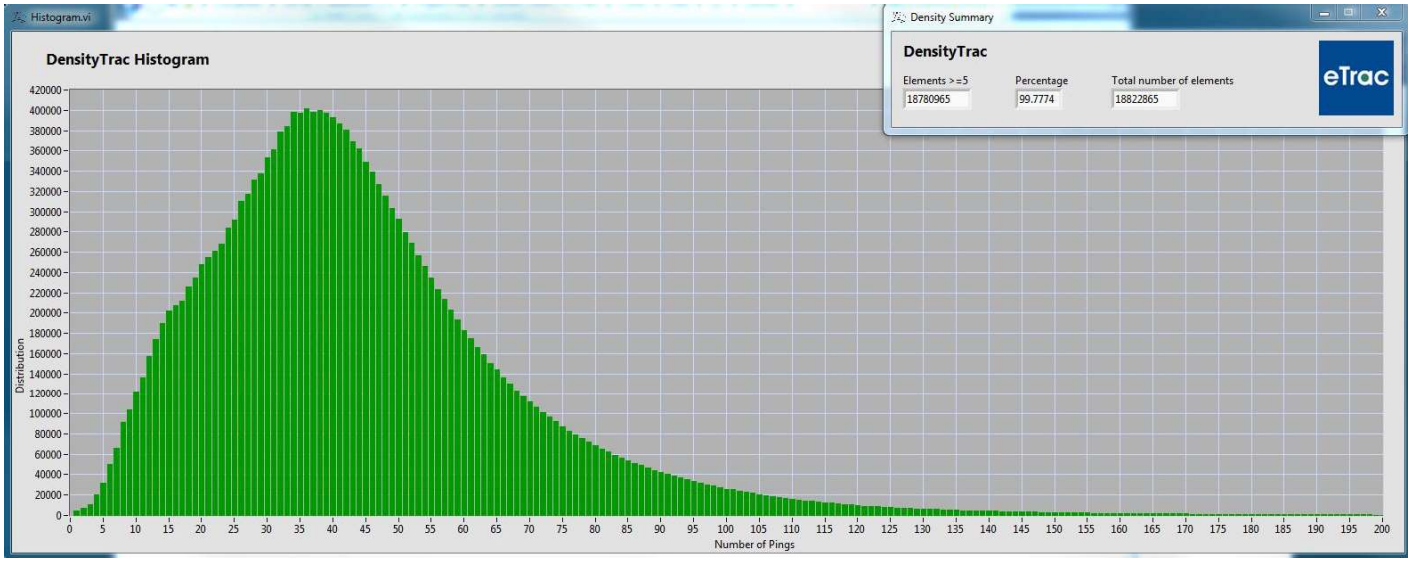


Figure 12: H12941 Finalized 2m Complete Coverage MBES Density Distribution

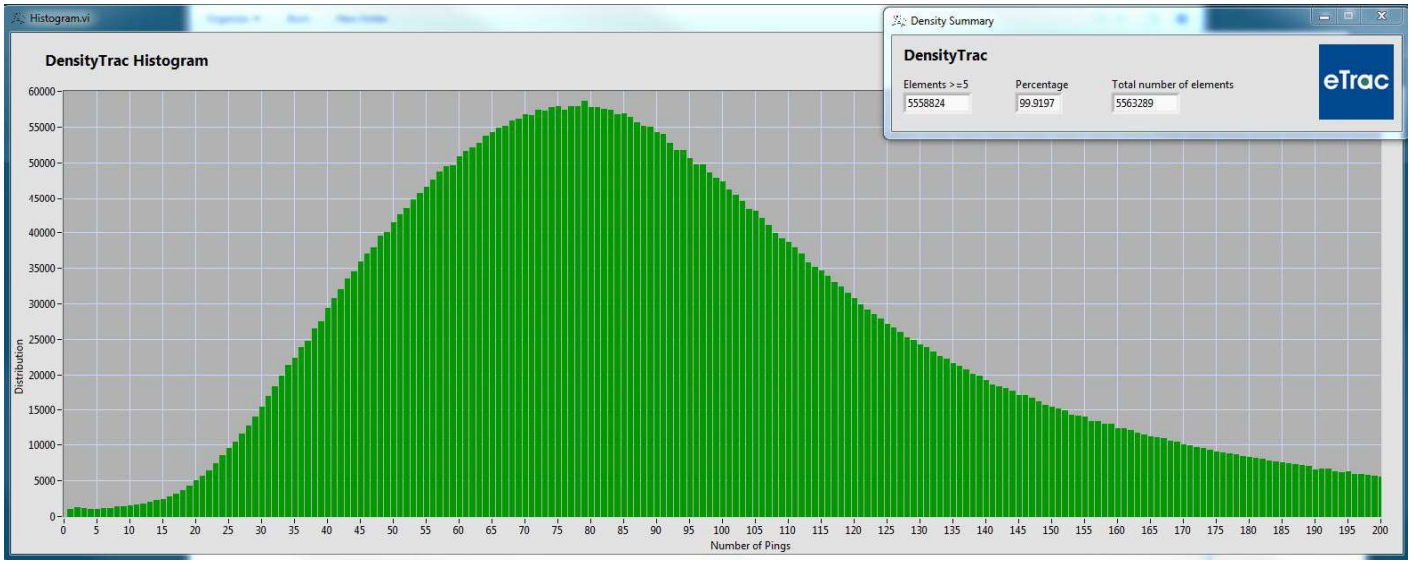


Figure 13: H12941 Finalized 4m Complete Coverage MBES Density Distribution

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

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

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Backscatter data were collected throughout the survey and are retained in the raw XTF files. Every effort was made in the field to collect quality backscatter data while maintaining the primary mandate of high quality bathymetric data. While no processing or analysis of backscatter was required, eTrac Inc. engaged in a minimal effort to verify coverage and general quality of the backscatter data collected. Raw backscatter data were viewed in Caris HIPS and SIPS 9.1 to ensure collection criteria had been met. Shown below is an example of the unprocessed backscatter mosaic from H12941 DN263.

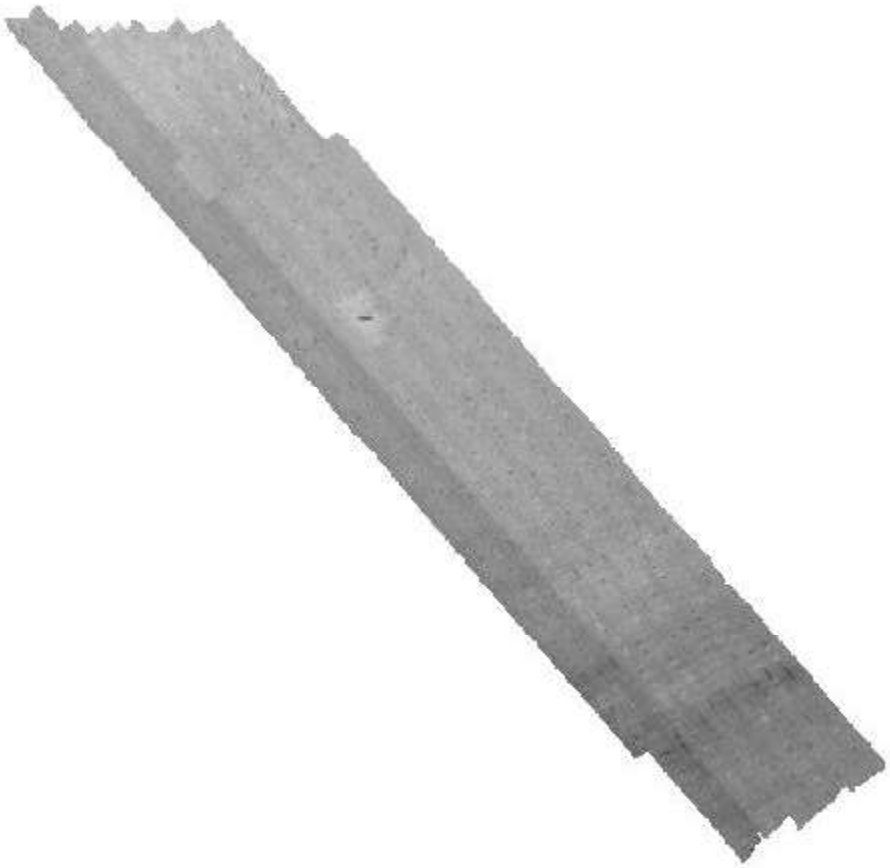


Figure 14: Raw backscatter from R/V Benthos (DN263)

B.5 Data Processing

B.5.1 Software Updates

There were no software configuration changes after the DAPR was submitted.

The following Feature Object Catalog was used: NOAA Profile V_5_4

B.5.2 Surfaces

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

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12941_MB_2m_MLLW	CUBE	2 meters	25.99 meters - 57.46 meters	NOAA_2m	Complete MBES
H12941_MB_4m_MLLW	CUBE	4 meters	26.01 meters - 57.39 meters	NOAA_4m	Complete MBES
H12941_MB_2m_MLLW_Final	CUBE	2 meters	25.99 meters - 40 meters	NOAA_2m	Complete MBES
H12941_MB_4m_MLLW_Final	CUBE	4 meters	36 meters - 57.39 meters	NOAA_4m	Complete MBES

Table 8: Submitted Surfaces

In areas shoaler than 40 meters, a 2m surface is provided meeting complete coverage MBES with backscatter specifications.

In areas deeper than 36 meters, a 4m surface is provided meeting complete coverage MBES with backscatter specifications.

Parent surfaces of the 2m and 4m surfaces are provided, both covering the entire survey area of H12941.

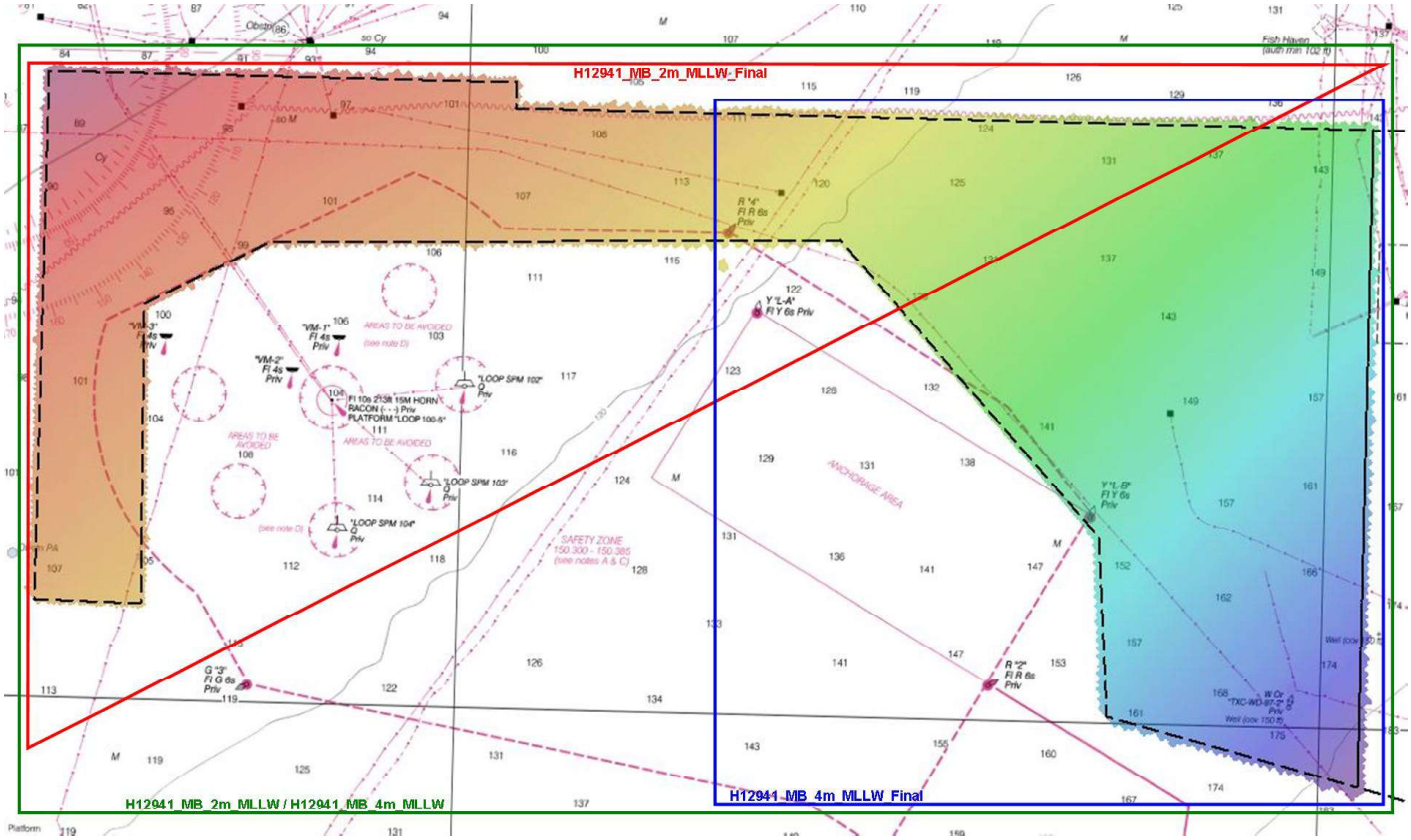


Figure 15: H12941 Delivered BASE Surface Coverage Graphic

C. Vertical and Horizontal Control

C.1 Vertical Control

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

Standard Vertical Control Methods Used:

TCARI

File Name	Status
8760922.tid	Final Approved
8761724.tid	Final Approved
8762075.tid	Final Approved

Table 9: Water Level Files (.tid)

File Name	Status
K339KR2016Final.tc	Final

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

In order to reference soundings to MLLW, the Tidal Constituent And Residual Interpolator (TCARI) method was applied to the HDCS data via the TCARI program. TCARI compiled information from SW Pass, LA (8760922), Grand Isle, LA (8761724), and Port Fourchon, LA (8762075).

Note: Any vertical control method deviations from the Project Instructions are addressed in the DAPR.

C.2 Horizontal Control

The horizontal datum for this project is World Geodetic System of 1984 (WGS84).

The projection used for this project is UTM Zone 16N.

During main acquisition R/V Benthos, R/V Taku, and M/V Theory received GNSS satellite corrections over the POS MV G2 carrier signal from the Marinestar Global Correction System maintained by Fugro. The Marinestar system is a global realtime GNSS broadcast system that delivers corrections from an array of base stations around the world via geo-stationary satellites. Corrections were monitored realtime during data acquisition to ensure no dropouts occurred and the POSMV maintained differential accuracies throughout the survey. No dropouts were witnessed during data collection. Position data were analyzed in the office during post-processing. The attitude editor within Caris HIPS and SIPS 9.1 was utilized to identify any position data that may be insufficient for final delivery.

DGPS stations were only to be used as a backup horizontal correction source. G2 Marinestar correctors were used as the primary correction source. DGPS was never utilized, as G2 corrections were available throughout all survey operations.

The following DGPS Stations were used for horizontal control:

DGPS Stations
English Turn, 293kHz, ID: 814

Table 11: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

A chart comparison was conducted for H12941 using Caris HIPS and SIPS 9.1. Contours, as well as soundings, were compared against the largest scale RNC 11346_2 and ENC US5LA26M to accomplish the chart comparison. RNC 11346_2 and ENC US5LA26M do not cover the eastern region of H12941 and therefore RNC 11358 and ENC US4LA32M were included to complete the chart comparison. The methods and results of the comparison are detailed below.

Contour Comparison Method:
Using the 4 meter CUBE weighted BASE surface, the 120 foot and 180 foot contours were generated and displayed against the charted contours. Additionally, the 4 meter CUBE weighted BASE surface was viewed by a custom color band range based on the contour intervals (60ft, 120ft, 180ft, 240ft, 300ft). The results of the comparison are described below.

Sounding Comparison Method:
Using the same 4 meter CUBE weighted BASE surface used for the contour comparison, spot soundings were generated in Caris HIPS and SIPS 9.1 for H12941. Soundings were displayed against the charted soundings and a visual comparison was made. The results are described below.

D.1.1 Raster Charts

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

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
11346	1:40000	5	03/2016	05/18/2016	05/22/2016
11358	1:80000	58	06/2014	05/18/2016	05/22/2016

Table 12: Largest Scale Raster Charts

11346

Contour Comparison Results:
No contours of RNC 11364 are located in H12941.

Sounding Comparison Results:
In general, the soundings are in excellent agreement, with no major discrepancies. Soundings are generally within 1 foot of each other. Occasionally soundings differ by 2 to 3 feet, however depth differences generally appear to be minimal. Depth difference are not biased in any particular direction to support a systematic error.

11358

Contour Comparison Results:
The 120ft contour has receeded shoreward, on average, approximately 755 feet from the charted contour.
The 180ft contour has receeded shoreward, approximately 800 feet from the southwestern end of the charted contour.
The 180ft contour has progressed seaward, approximately 165 feet from the northeastern end of the charted contour.

Sounding Comparison Results:
With the exception to the differences identified through the contour comparison, In general, the soundings are in excellent agreement, with no major discrepancies. Soundings are generally within 1 foot of each other. Occasionally soundings differ by 2 to 3 feet, however depth differences generally appear to be minimal. Depth difference are not biased in any particular direction to support a systematic error.

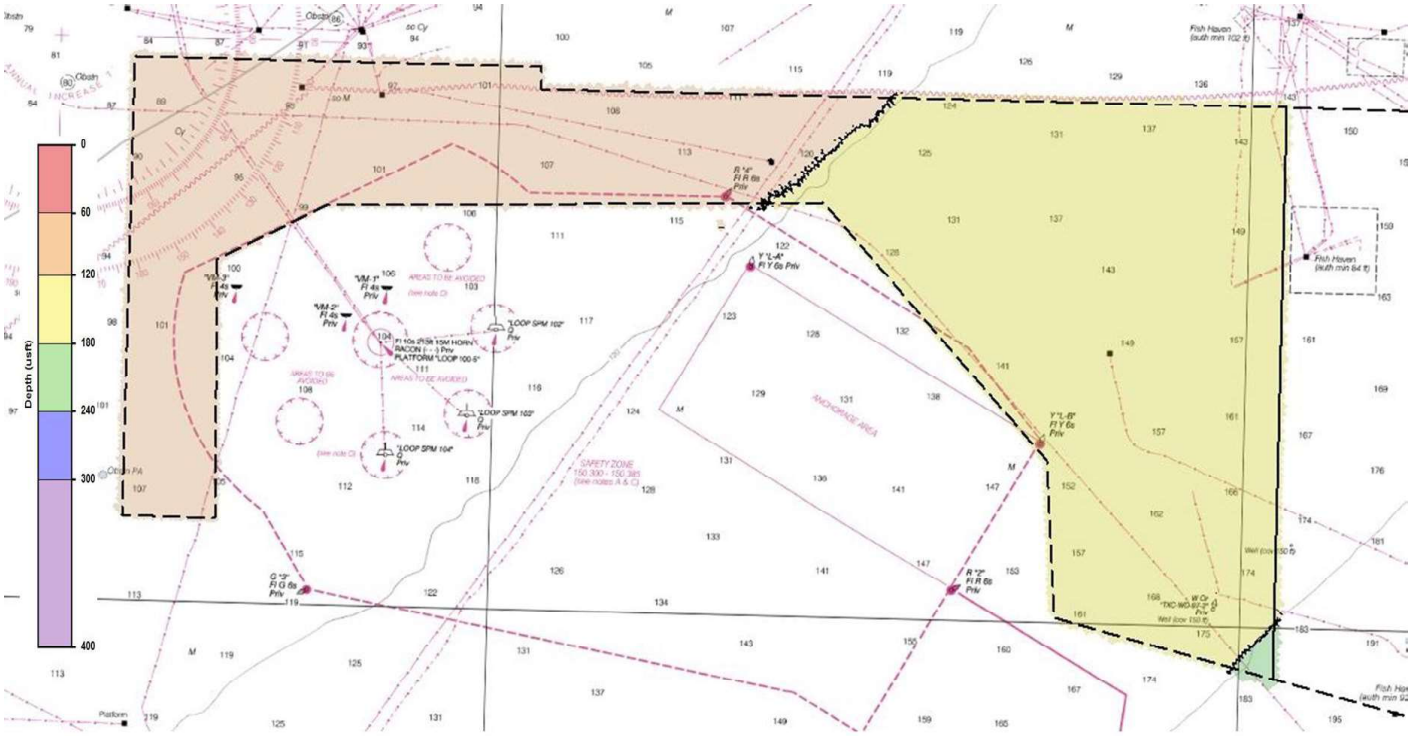


Figure 16: H12941 Contour Comparison (Overview)

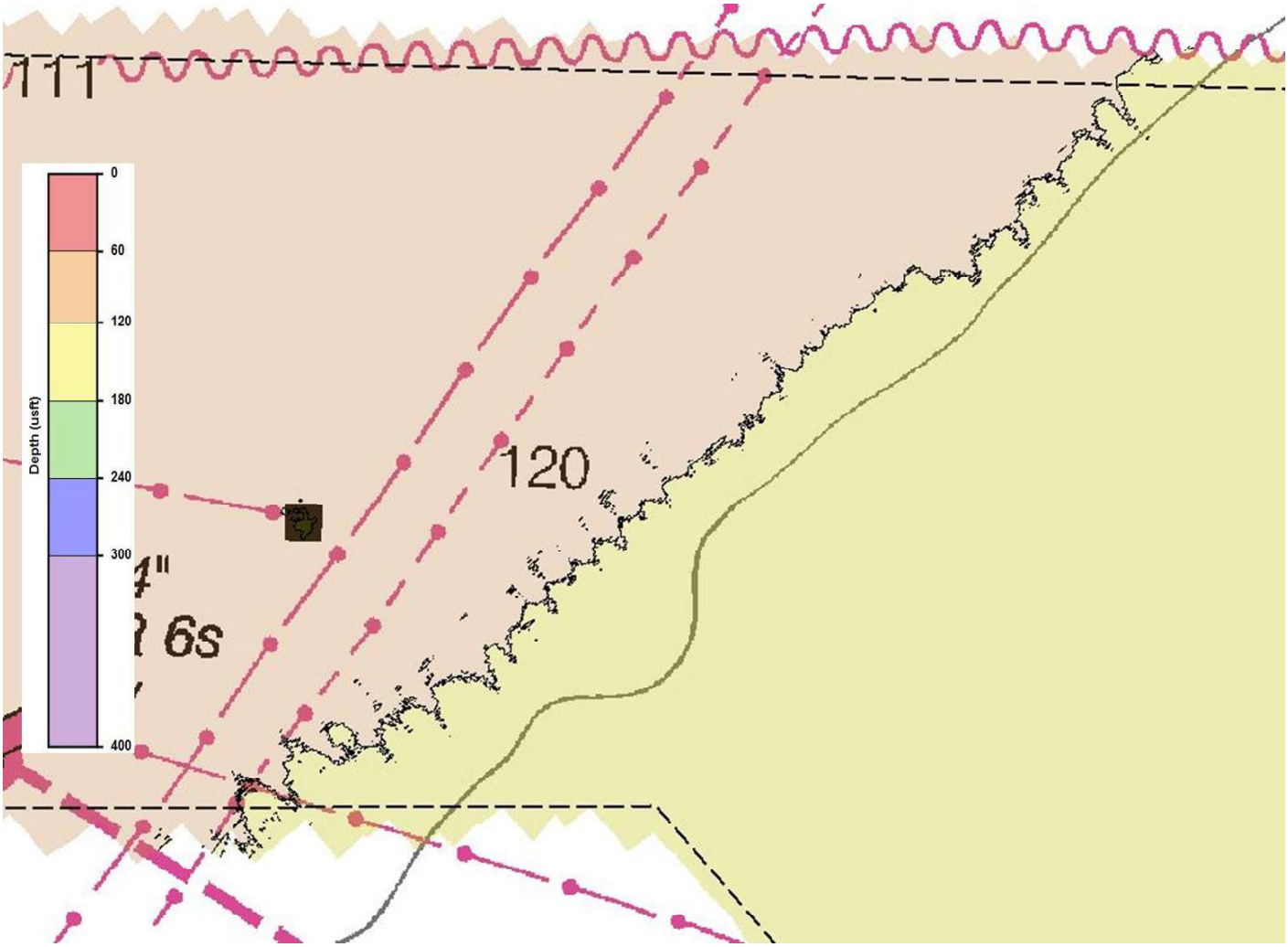


Figure 17: H12941 Contour Comparison (120ft Contour)

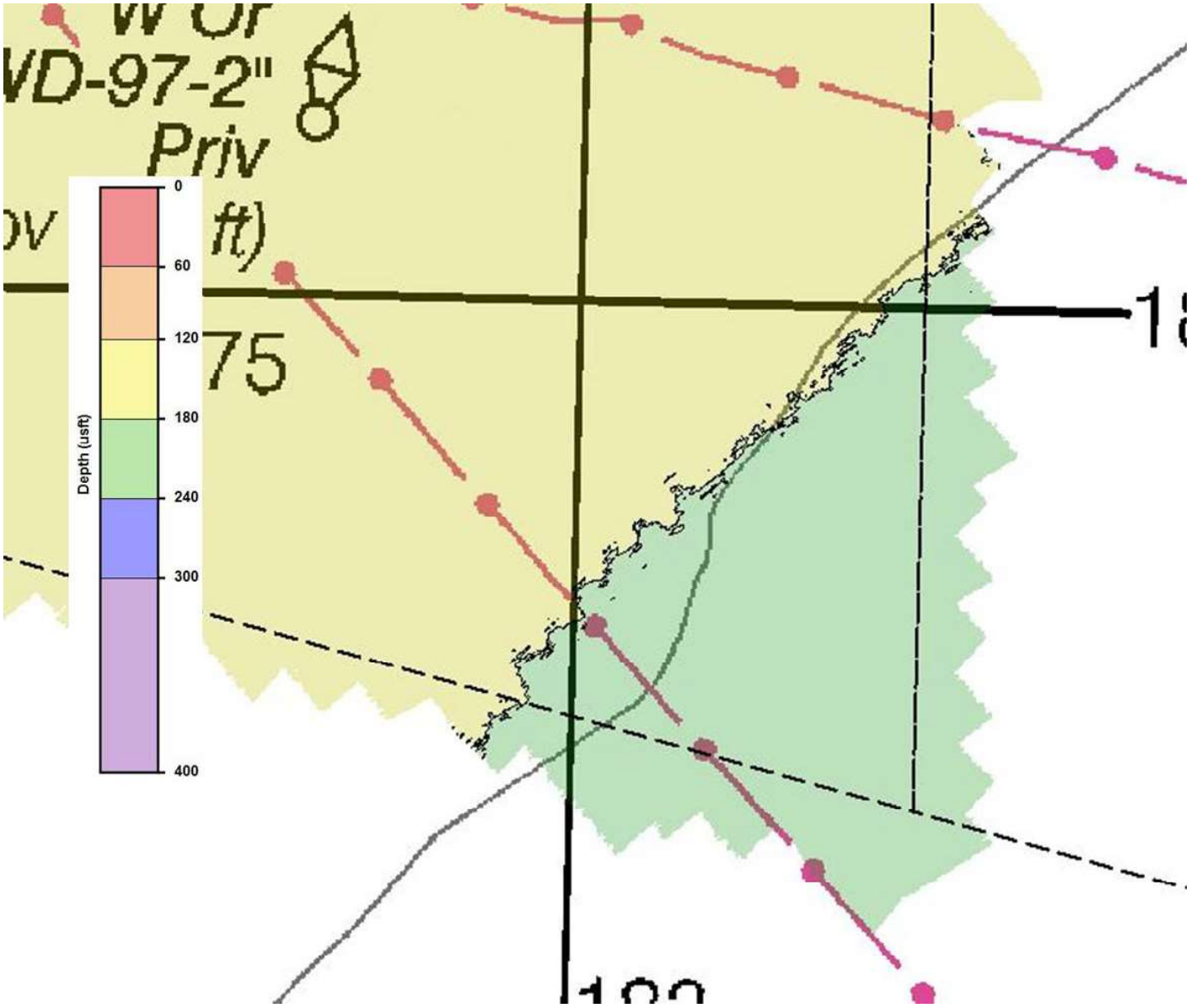


Figure 18: H12941 Contour Comparison (180ft Contour)

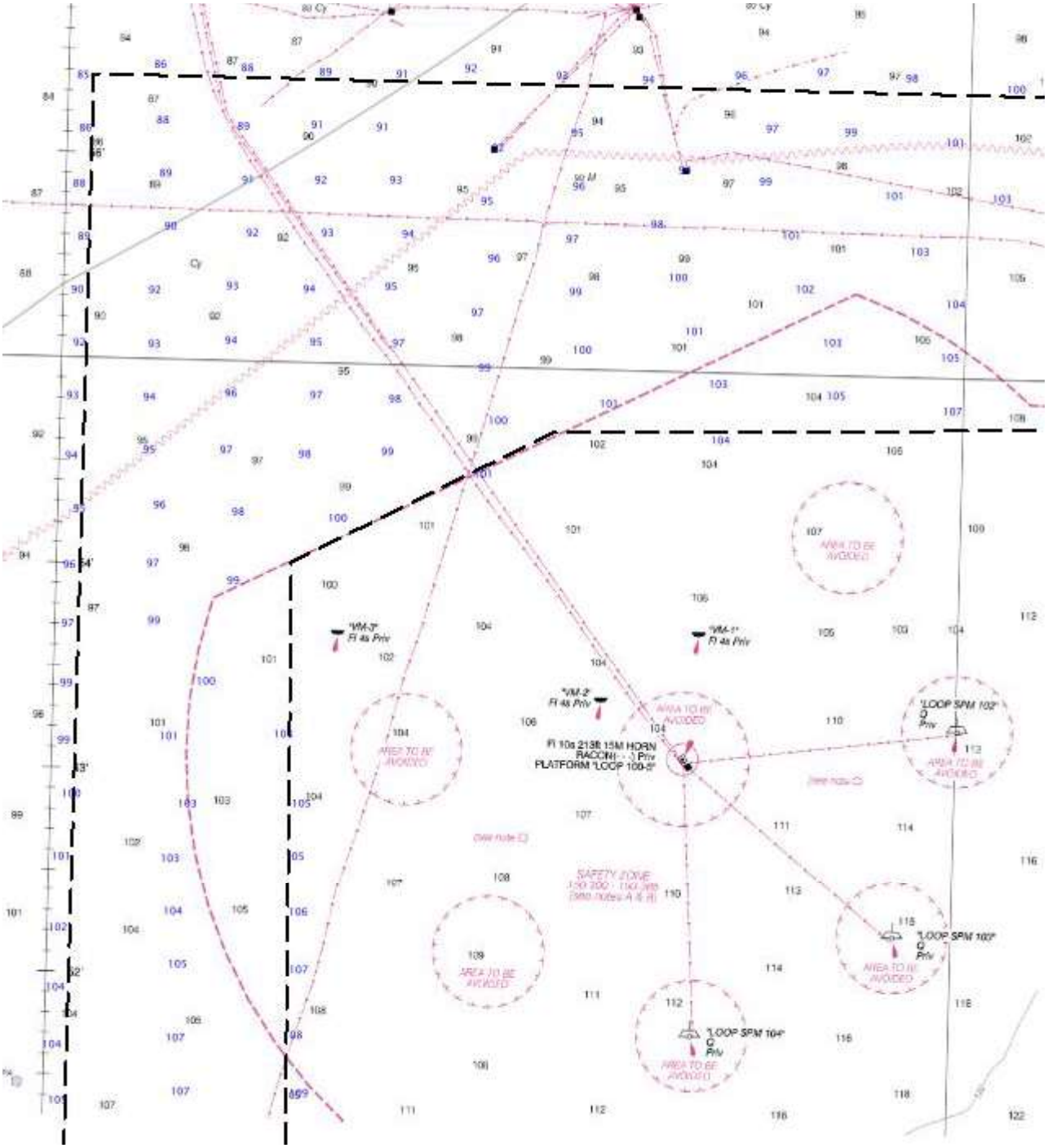


Figure 19: Sounding Comparion (RNC 11346_2)

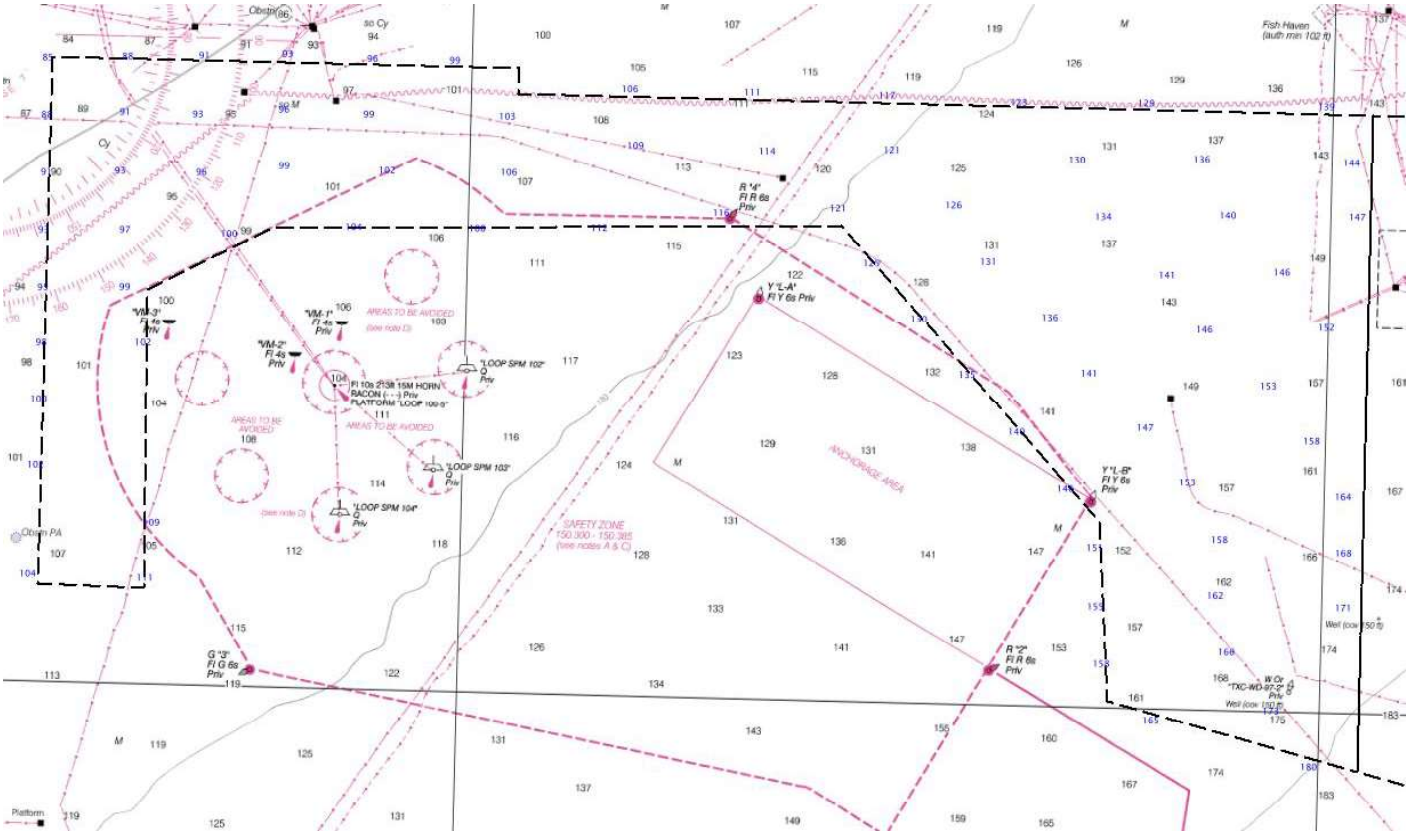


Figure 20: Sounding Comparison (RNC 11538)

D.1.2 Electronic Navigational Charts

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5LA26M	1:40000	24	07/15/2014	04/26/2016	NO
US4LA32M	1:80000	32	10/01/2014	04/26/2016	NO

Table 13: Largest Scale ENCs

US5LA26M

The results of the chart comparison with ENC US5LA26M match those of the chart comparison with RNC 11346.

US4LA32M

The results of the chart comparison with ENC US4LA32M match those of the chart comparison with RNC 11358.

D.1.3 AWOIS Items

No AWOIS Items were assigned for this survey.

D.1.4 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.5 Charted Features

There was 1 charted feature assigned to H12941. The assigned feature is retained in the Final Feature File (FFF). Each feature in the FFF has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_XXX). Refer to the FFF for determinations and recommendations of each feature.

There were 4 unassigned, charted features in H12942 that were added to the FFF. Each feature in the FFF has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_XXX). Refer to the FFF for determinations and recommedations of each feature.

D.1.6 Uncharted Features

There were 4 new features found in H12941 and were added to the Final Feature File (FFF). Each feature was given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_XXX). Refer to the FFF for determinations and recommendations of each feature.

There were 23 uncharted features assigned to H12941. Each assigned feature is retained in the FFF. Each feature in the FFF has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_XXX). Refer to the FFF for determination and recommendations of each feature.
Note: All 23 assigned, uncharted features are listed as BSEE Wellheads.

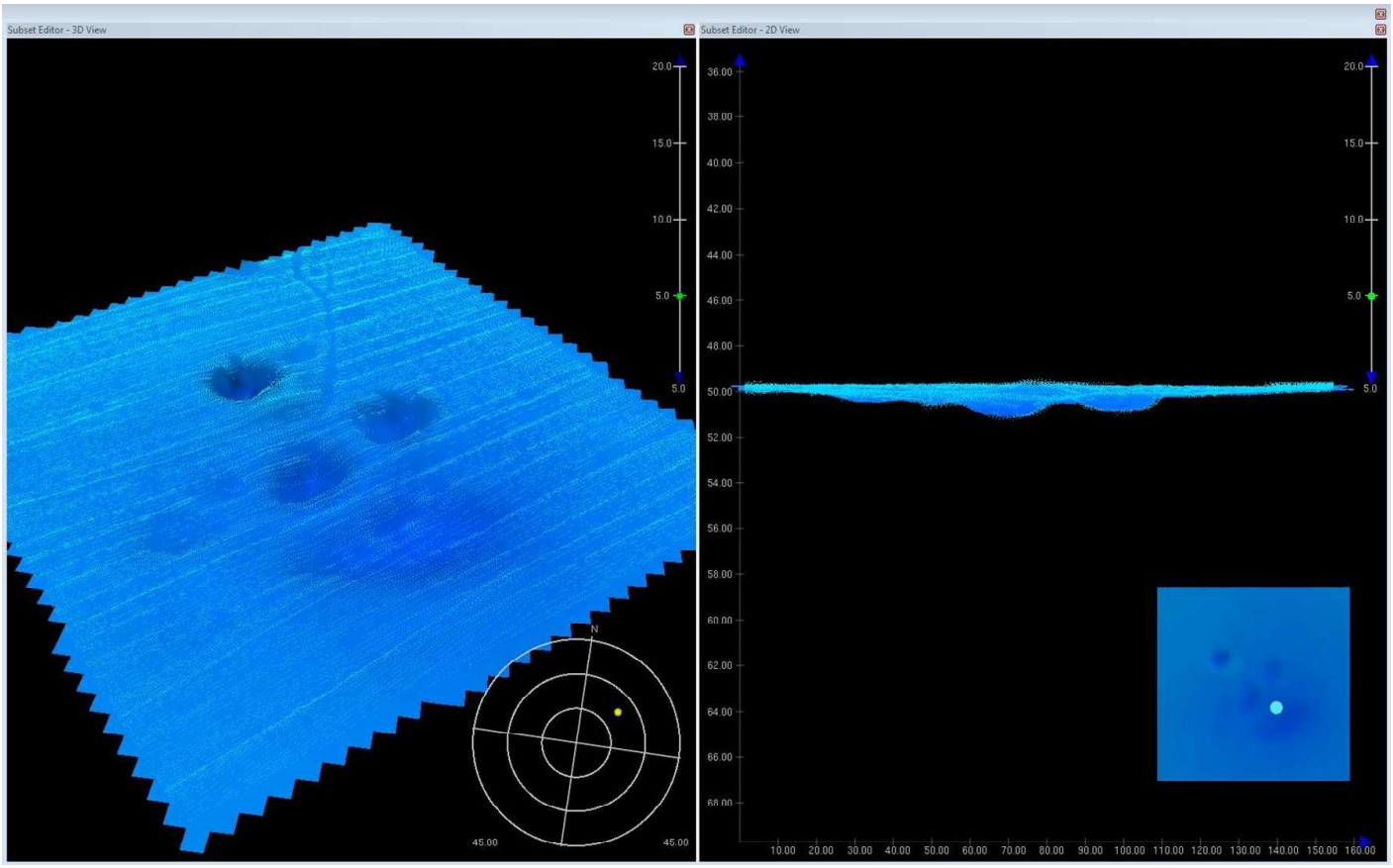


Figure 21: BSEE Wellhead Example (represented in the surface)

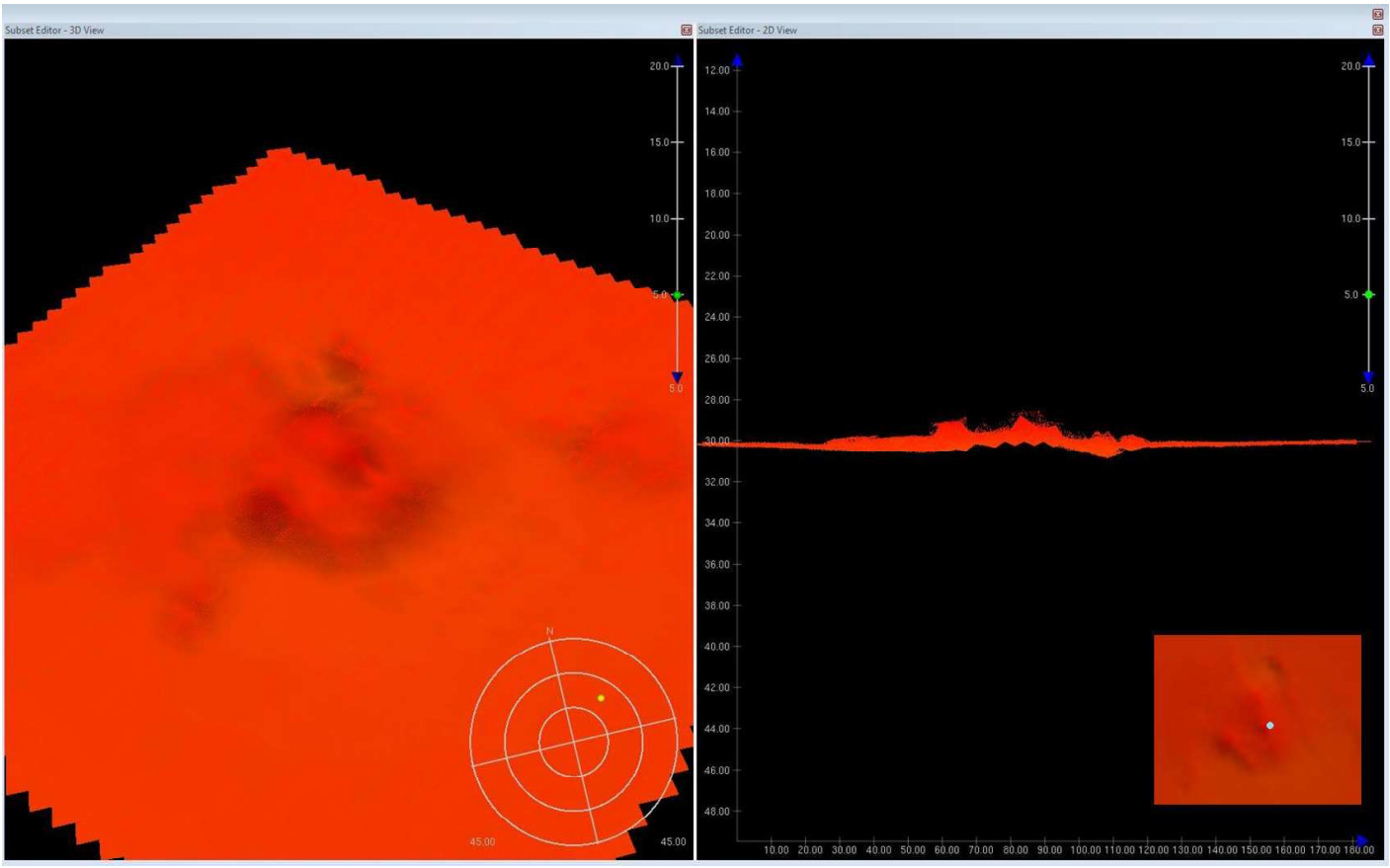


Figure 22: BSEE Wellhead Example (loaction of unassigned charted platform)

D.1.7 Dangers to Navigation

The following DTON reports were submitted to the processing branch:

DTON Report Name	Date Submitted
H12941_DtoN_01	2016-09-29

Table 14: DTON Reports

2 DTONs were found in H12941, and were added to the Final Feature File (FFF). Each feature in the FFF has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_XXX). Refer to the FFF for determinations and recomendations of each feature. Note: These DTONs were included in the number of new, uncharted features within section D.1.6. Note: The 2 DtoNs are in submitted DTON Report (H12941_DtoN_01).

D.1.8 Shoal and Hazardous Features

No shoals or potentially hazardous features exist for this survey.

D.1.9 Channels

No channels exist for this survey. There are no designated anchorages, precautionary areas, safety fairways, traffic separation schemes, pilot boarding areas, or channels and range lines within the survey limits.

D.1.10 Bottom Samples

9 bottom samples were obtained in accordance with sections 7.2 and 7.2.2 of the HSSD 2016 in areas designated by the feature object class springs (SPRING) in the Project Reference File (PRF).
A brief description of the results is listed below.

H12941_A001: sticky, grey, mud
H12941_A002: sticky, grey, mud
H12941_A003: sticky, grey, mud
H12941_A004: sticky, grey, mud
H12941_A005: fine, grey, mud with sticky, black, clay
H12941_A006: soft, grey, mud
H12941_A007: soft, grey, mud with sticky, black, clay
H12941_A008: soft, grey, mud
H12941_A009: sticky, grey, mud

Detailed information and images of the bottom samples listed above are located in the Final Feature File (FFF). Each bottom sample has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_AXXX).

D.2 Additional Results

D.2.1 Shoreline

No shoreline exists for this survey.

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

There are 5 charted ATONs within the survey limits of H12941.

2 ATONs were verified that they serve their intended purpose.
3 ATONs did not have matching characteristics with the chart and were added to the Final Feature File (FFF). Each feature in the FFF has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_XXX). Refer to the FFF for determination and recommendations of each feature. Note: The 3 ATONs that were added to the FFF are included in the number of charted, unassigned features within section D.1.5.

D.2.4 Overhead Features

No overhead features exist for this survey.

D.2.5 Submarine Features

No submarine features were specifically assigned for this survey.

Portions of charted pipelines were found to be uncovered. Correspondence was opened to notify concerned branches.
Reference Email Correspondence in Appendix II of this report.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

There were no platforms specifically assigned for this survey.
1 charted, unassigned platform was not observed, and was added to the Final Feature File (FFF). Each feature in the FFF has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12941_XXX). Refer to the FFF for determination and recommendations of each feature.
Note: This feature was included in the number of charted, unassigned features within section D.1.5.

D.2.8 Significant Features

A significant feature was found in H12941. The feature has the form and morphology typical of ascending gas or bubble plumes. A structure was detected at the base of the feature. The significant feature was found while investigating assigned BSEE wellhead with unique ID H12941_121 at LAT:28-56.09N LON:090-01.41W. This feature is approximately 10 meters away from the provided location of the BSEE wellhead. The soundings of this feature, excluding the structure were disabled in Caris HIPS and SIPS 9.1 so they are not represented in the delivered grids.
Reference Email Correspondence in Appendix II of this report.

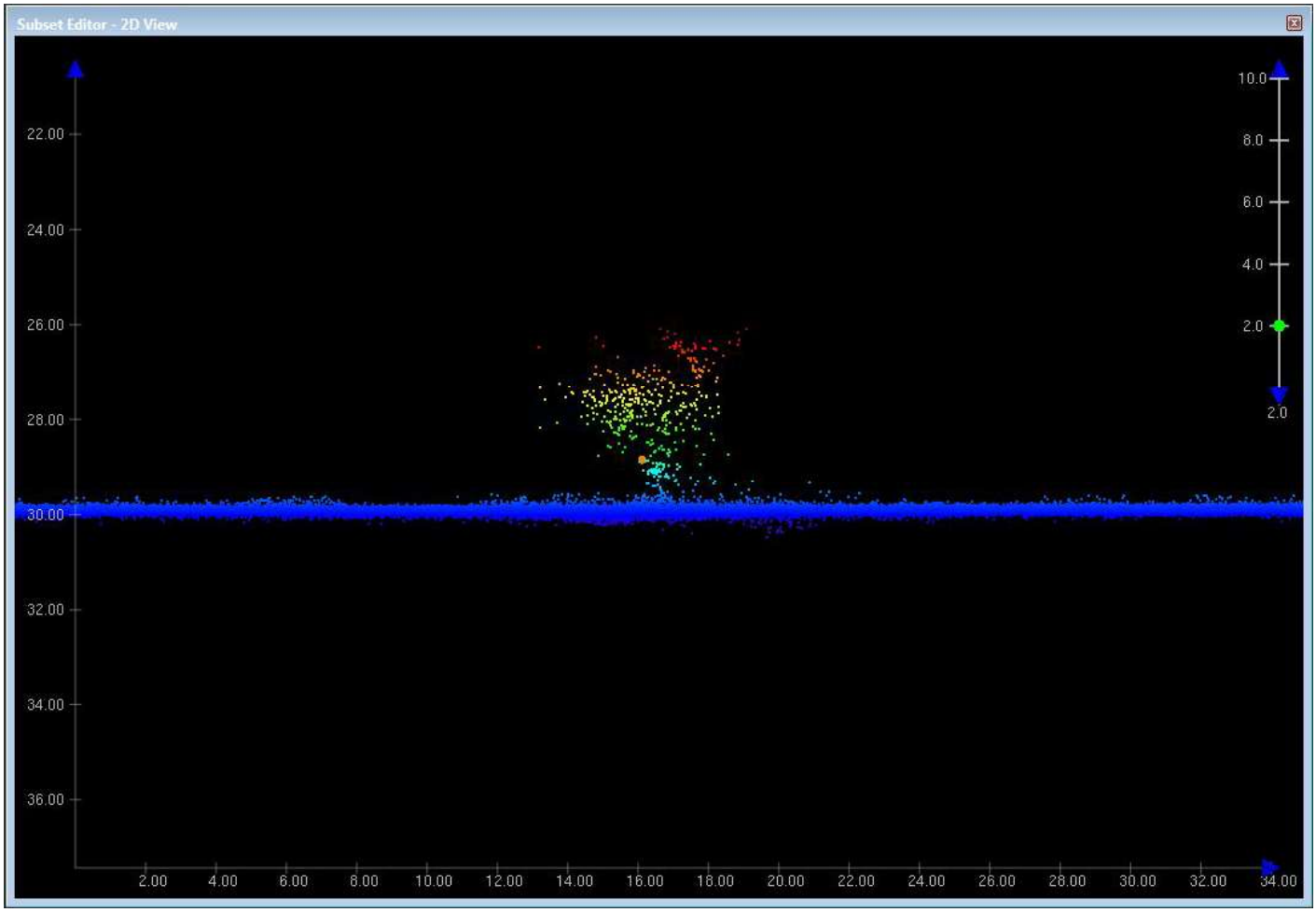


Figure 23: Significant Feature

D.2.9 Construction and Dredging

No present or planned construction or dredging exist within the survey limits.

D.2.10 New Survey Recommendation

No new surveys or further investigations are recommended for this area.

D.2.11 Inset Recommendation

No new insets are recommended for this area.

E. Approval Sheet

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

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

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual, Field Procedures Manual, Letter Instructions, and all HSD Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Descriptive Report.

Approver Name	Approver Title	Approval Date	Signature
David R. Neff, C.H.	VP of Survey, eTrac Inc.	12/05/2016	Digitally signed by David R. Neff DN: C=US, E=dave@etracinc.com, O=eTrac Inc., CN=David R. Neff Reason: I attest to the accuracy and integrity of this document Date: 2016.12.05 14:18:37-08'00'

APPENDIX I

TIDES AND WATER LEVELS

David Neff
637 Lindaro St. #100
San Rafael, CA 94901

October 03, 2016

MEMORANDUM FOR:	Gerald Hovis, Chief, Products and Services Branch, N/OPS3
FROM:	David Neff, eTrac Inc.
SUBJECT:	Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final TCARI grid
3. Six Minute Water Level data (Co-ops web site)

Transmit data to the following:

David Neff
637 Lindaro St. #100
San Rafael, CA 94901

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

Project No.:	OPR-K339-KR-16
Registry No.:	H12941
State:	LA
Locality:	Gulf of Mexico
Sublocality:	28 NM West of SW Pass

Attachments containing:

1) an Abstract of Times of Hydrography,
2) digital MID & MIF files of the track lines from Pydro

cc: charting@etracinc.com

Year_DOY	Min Time	Max Time
2016_216	13:19:15	21:05:09
2016_217	12:35:59	15:10:47
2016_238	12:29:02	16:28:15
2016_239	12:55:32	15:07:27
2016_240	14:38:24	21:34:29
2016_246	13:00:57	21:25:17
2016_247	12:58:14	20:30:58
2016_248	13:39:57	21:02:04
2016_249	13:10:46	20:33:17
2016_250	13:10:55	20:55:37
2016_251	13:15:12	20:54:25
2016_252	13:14:11	20:22:55
2016_253	13:01:58	20:42:04
2016_254	13:04:06	20:44:02
2016_255	13:12:50	17:03:38
2016_256	12:54:08	18:39:14
2016_261	14:06:48	14:57:03
2016_262	13:11:59	19:48:24
2016_263	13:16:12	18:13:22
2016_264	13:09:48	20:24:15
2016_265	13:14:01	20:33:49
2016_266	13:03:14	20:50:49
2016_267	15:04:22	21:03:49
2016_268	13:01:56	20:32:26
2016_269	13:29:32	15:01:11
2016_276	13:08:45	14:00:13

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

PROVISIONAL TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : October 25, 2016

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-K339-KR-2016
HYDROGRAPHIC SHEET: H12941

LOCALITY: 28 NM West of SW Pass, Gulf of Mexico
TIME PERIOD: August 3 to October 2, 2016

TIDE STATION USED: Pilots Station East, SW Pass, LA 8760922
Lat. 28° 55.9′ N Long. 89° 24.4' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.353 meters

TIDE STATION USED: Grand Isle, LA 8761724
Lat. 29° 15.8' N Long. 89° 57.4' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.321 meters

TIDE STATION USED: Port Fourchon, Belle Pass, LA 8762075
Lat. 29° 06.8′ Long. 90° 11.9' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.374 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "K339KR2016Final.nc" as the final grid for project OPR-K339-KR-2016, during the time period between
August 3 to October 2, 2016.
The provided grid contains all required water level data; as such, water level data should not be redownloaded for project OPR-K339-KR-2016.

Refer to attachments for grid information.

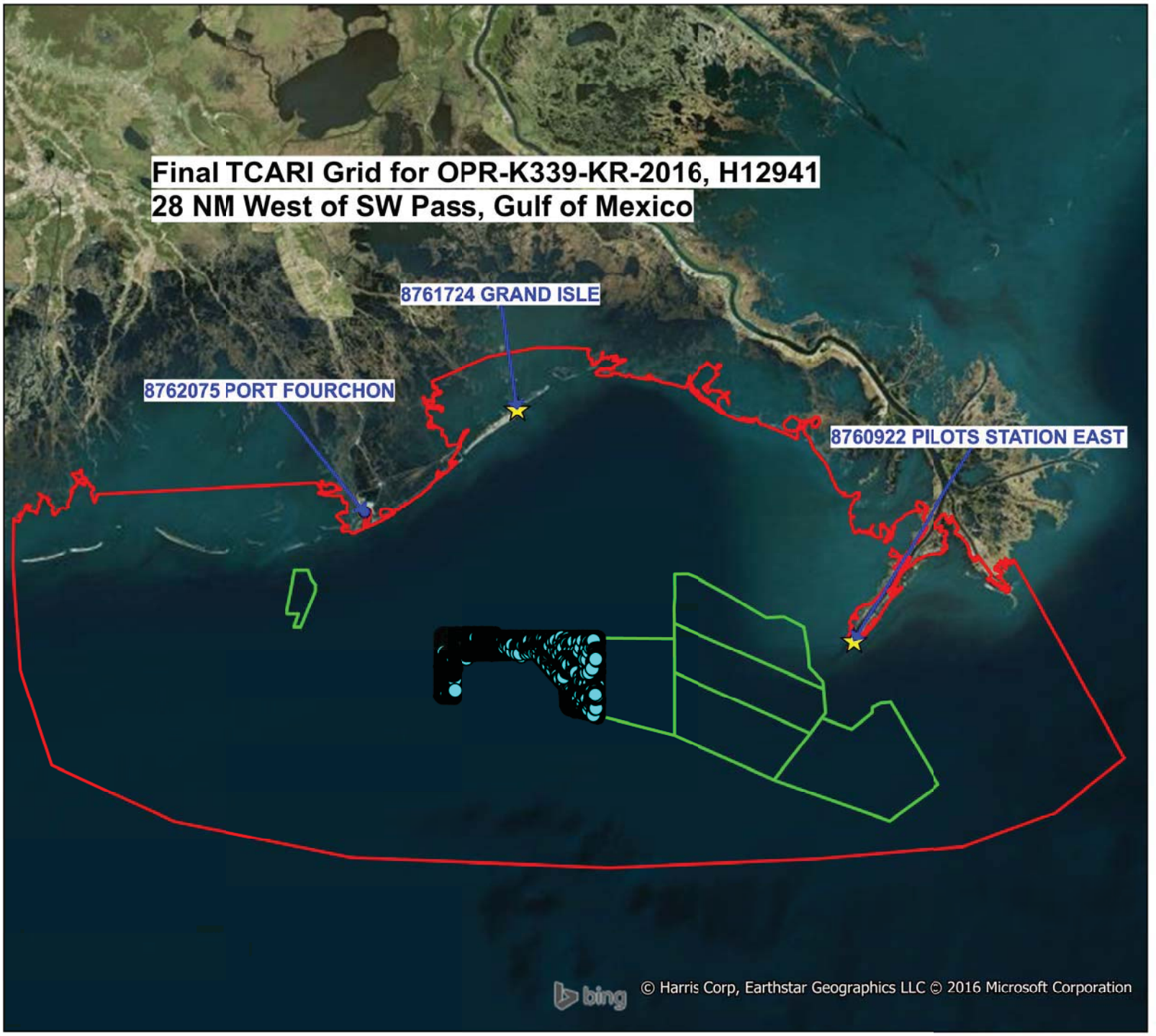
Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 2007-2011 Modified Five-Year Epoch.

Note 2: Annual leveling for Pilots Station East, SW Pass, LA (8760922) was not completed in FY16. A review of the yearly, verified leveling records from 2007-2015 shows the tide station benchmark network to be stable within an allowable 0.009 m tolerance over a 3-6 month timeframe. This Tide Note may be used as final stability verification for survey OPR-K339-KR-2016, H12941. CO-OPS will immediately provide a revised Tide Note should subsequent leveling records indicate any benchmark network stability movement beyond the allowable 0.009 m tolerance.

Note 3: Due to anomalous sea level trends in the vicinity of SW Pass, datums provided for Pilots Station East, SW Pass,LA (8760922) are preliminary and computed from July to September, 2016. The adoption of this procedure was necessary to ensure that these tidal datums accurately represent the existing state of sea level for this area.

HOVIS.GERALD.THOMAS.JR.1365860250
Digitally signed by HOVIS.GERALD.THOMAS.JR.1365860250
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=HOVIS.GERALD.THOMAS.JR.1365860250
Date: 2016.10.25 15:06:55 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH


Final TCARI Grid for OPR-K339-KR-2016, H12941
28 NM West of SW Pass, Gulf of Mexico
8761724 GRAND ISLE
8762075 PORT FOURCHON
8760922 PILOTS STATION EAST
bing
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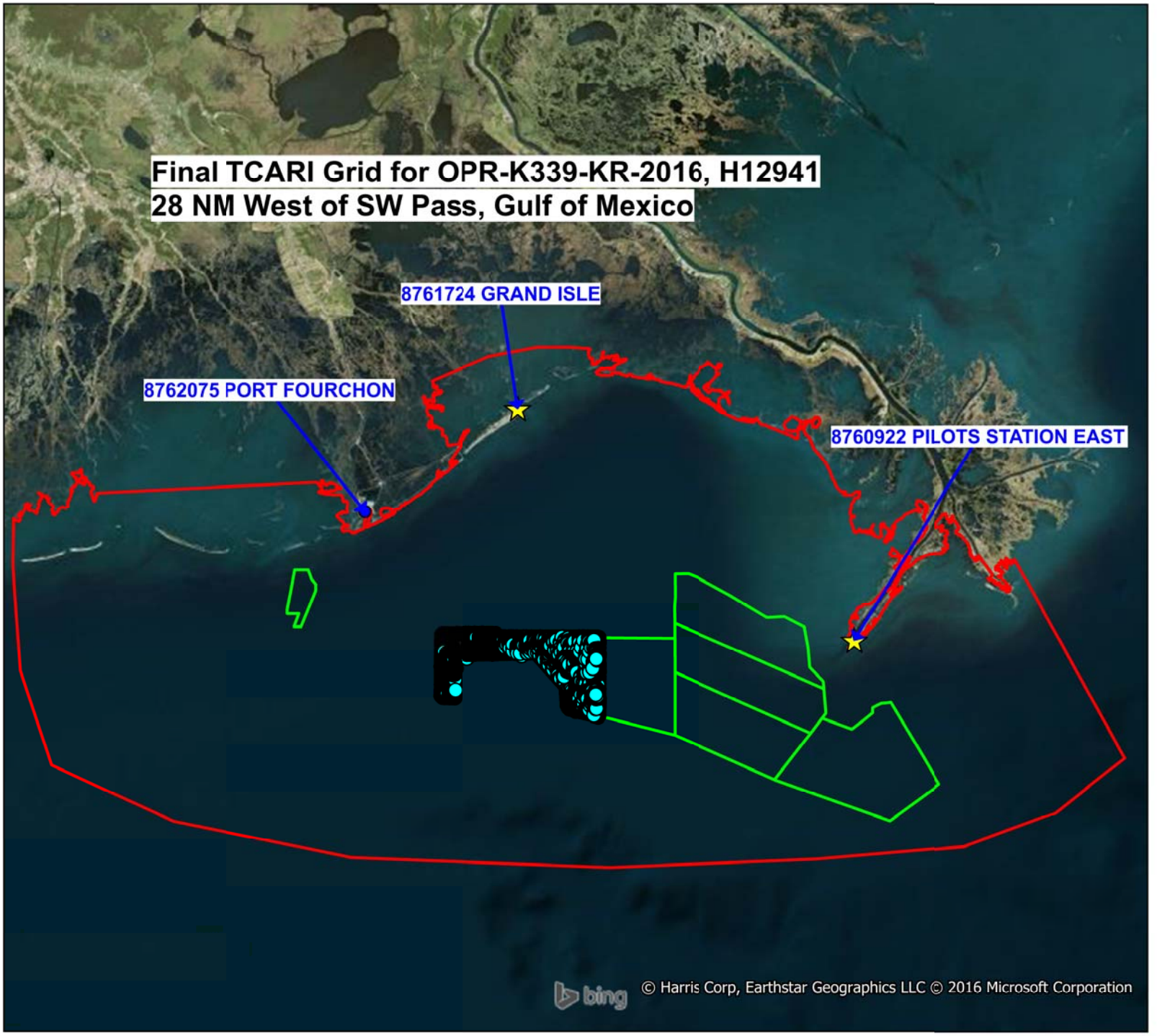
Final TCARI Grid for OPR-K339-KR-2016, H12941
28 NM West of SW Pass, Gulf of Mexico
8761724 GRAND ISLE
8762075 PORT FOURCHON
8760922 PILOTS STATION EAST
bing
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eTrac Inc.
637 Lindaro St., Suite 100
San Rafael, CA 94901
888-410-3890

OPR-K339-KR-16 Offshore SW Pass

Abstract: Times of Hydrography

H12941

Survey Date	Day of Year	Start Time	End Time
8/3/2016	216	13:19	21:07
8/4/2016	217	12:36	15:11
8/25/2016	238	12:29	16:29
8/26/2016	239	12:55	15:07
8/27/2016	240	14:40	21:35
9/2/2016	246	13:01	21:25
9/3/2016	247	12:58	20:31
9/4/2016	248	13:40	21:03
9/5/2016	249	13:10	20:33
9/6/2016	250	13:10	20:56
9/7/2016	251	13:15	20:54
9/8/2016	252	13:14	20:23
9/9/2016	253	13:02	20:42
9/10/2016	254	13:06	20:42
9/11/2016	255	13:12	17:04
9/12/2016	256	12:27	18:40
9/17/2016	261	14:08	14:59
9/18/2016	262	13:12	19:50
9/19/2016	263	13:12	18:53
9/20/2016	264	13:09	20:24
9/21/2016	265	13:14	20:34
9/22/2016	266	13:03	20:51
9/23/2016	267	15:04	21:04
9/24/2016	268	13:12	20:32
9/25/2016	269	13:29	15:01
10/2/2016	276	13:08	14:00

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

Fwd: Marinestar Correction Service Issues

1 message

David Neff <david@etracinc.com> Wed, Nov 23, 2016 at 12:40 AM
To: Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **David Neff** <david@etracinc.com>
Date: Fri, Aug 26, 2016 at 2:00 PM
Subject: Re: Marinestar Correction Service Issues
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>, Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>, Emily Clark - NOAA Federal <emily.clark@noaa.gov>, Tiffany Squyres - NOAA Federal <tiffany.squyres@noaa.gov>

Katrina,

The plan is agreeable and we maintain our recommendation to deliver data vertically referenced to MLLW via TCARI, however let me make sure we are clear on the following item before we shake on it:

With the quality of the deliverable in mind, we will still be using Marinestar for horizontal positioning. We have paid for the service upfront for the project (our decision) so we would like to take advantage of its increased horizontal accuracy compared to USCG DGPS.

With that understood, the Project Instructions can be revised in the task order documentation.

Will you be assigning the exact additional lines as you have with the other lines in Port Fourchon (H12946), or we should we define the splits ourselves? Just let me know

Dave

On Fri, Aug 26, 2016 at 12:07 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:

> Dave,
>
> Thank you for the detailed report on the issues you are encountering with vertical control. From what I understand, you would prefer to submit the data referenced to chart datum via TCARI water levels.
>
> The cost of the ERS section of this project was estimated to be $16,875 with the goal of submitting data vertically and horizontally referenced to the ellipse. Because of the errors you are encountering and your recommendation to not submit data via the ellipse, we have the following proposal for you to consider. If this plan is acceptable, we can update the Project Instructions so the change is finalized in the task order documentation.
>
> The proposed plan:
> Stop all efforts towards solving the Marinestar issues and submit data vertically referenced via TCARI water levels. Instead of asking for an estimated cost rebate for not submitting data vertically referenced via the ellipse, we propose some of the funding from that effort be instead used for additional LNM in the survey area. Based on the project's cost per linear mile, we estimate this to be approximately 20 LNM. We propose those linears be acquired in the Port Fourchon sheet (H12947), essentially running splits between the planned lines.
>
> What do you think? Is this plan agreeable? Or have there been updates to your recommendation of ERS vs TCARI?
>
> Thank you,
> Katrina
>
> On Thu, Aug 18, 2016 at 8:32 PM, David Neff <david@etracinc.com> wrote:

Hi Katrina,

I hope your sail is going well. I have copied Corey and Jacklyn on here as well for input.

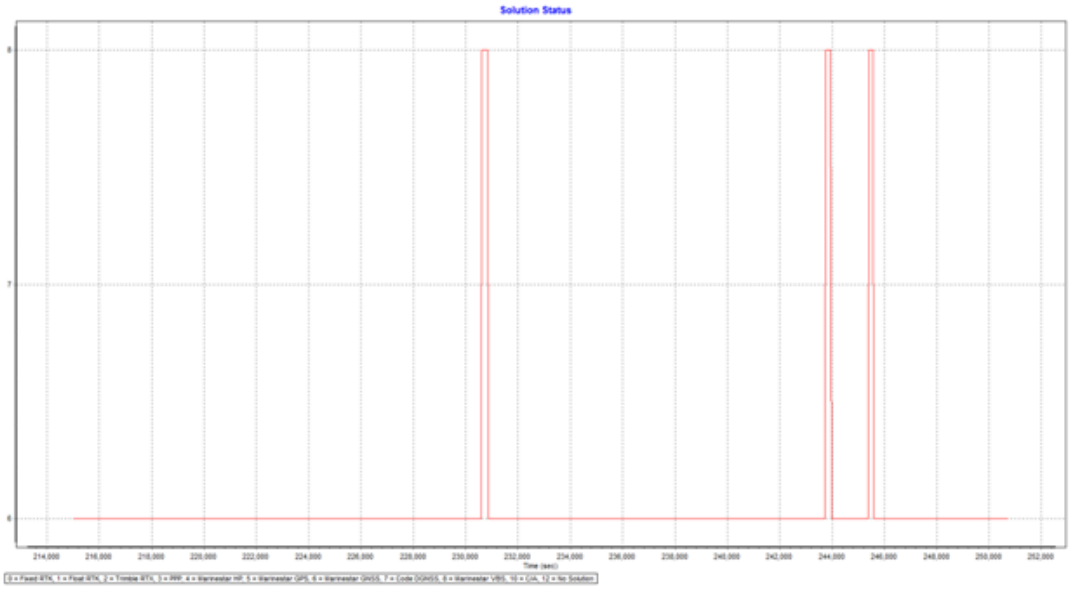
We were held up by the tropical storm coming through the area, which I am sure you heard about. We have had about 5 straight days of data collection since the storm and the completed project mileage as of today sits at about %22. This has given us the amount of data we need to start to make some decisions about our data pipeline moving forward, specifically the ERS solution model we originally proposed.

We have experienced a variety of Marinestar issues which I will describe below. The first 2 of these issues have occurred on all 3 vessels, so hardware malfunction seems unlikely. Issue 3 is isolate to 1 boat and 1 instance at this point. It is also unlikely that these issues are something that are new to you (NOAA/OCS). I don't believe they are particularly unique, especially the first. I also want to be clear that I am not asking for direction or advice on these specific items. These are meant to be examples to detail the variety of issues we are seeing through use of the Marinestar corrections system. I apologize in advance if this is overkill or long winded, but I want to be thorough in my description of our issues.

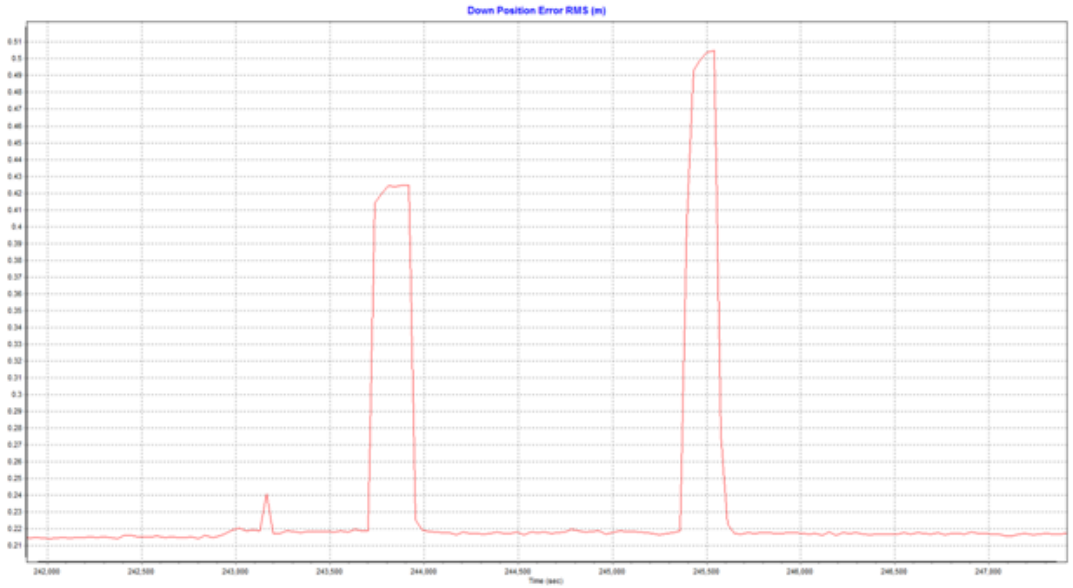
Issue 1: Temporary Loss of G2 Solution Status

This issue occurs when the MarineStar corrections drop out of G2 mode into VBS mode. Typically, this is not associated with jumps in DOP, losses of SV's, or cycle slips. The likely cause is loss of the correction signal reception due to local interference (atmospheric or otherwise).

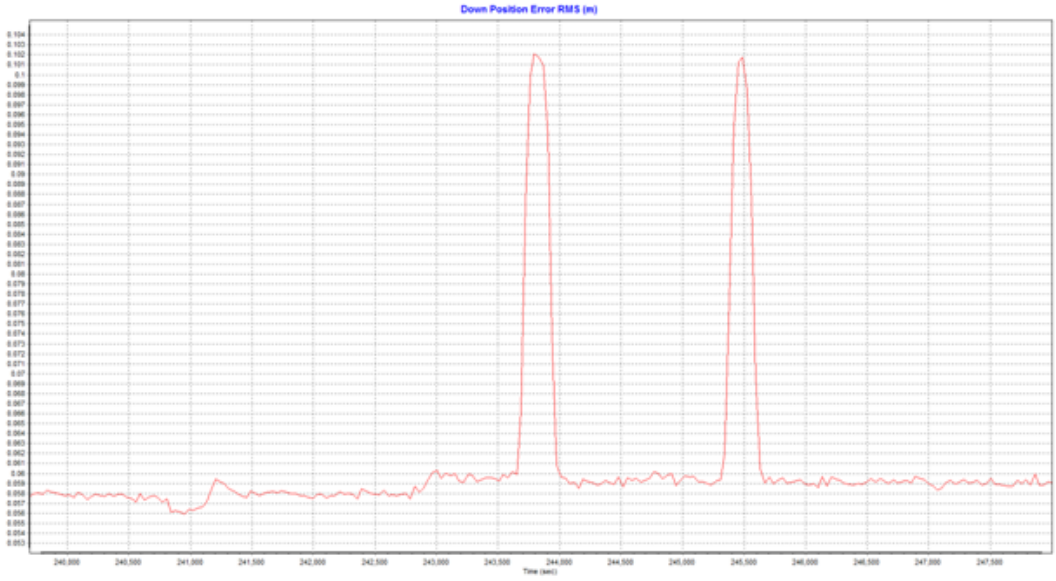
This manifests in the recorded Solution Status viewed in pospac as the solution status changes from 6 to 8:



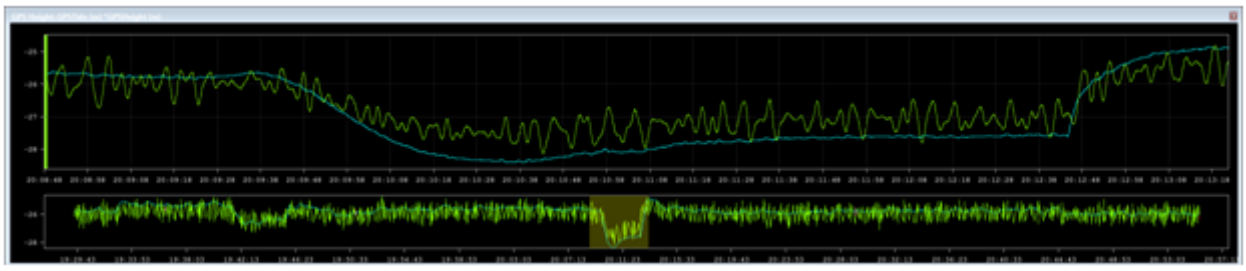
There is an associated spike in uncertainty:



Note that above is the real-time uncertainty which is known to be incorrectly reported high by Applanix (0.5m in this case). The post processed uncertainty is 0.1m for the same spike:



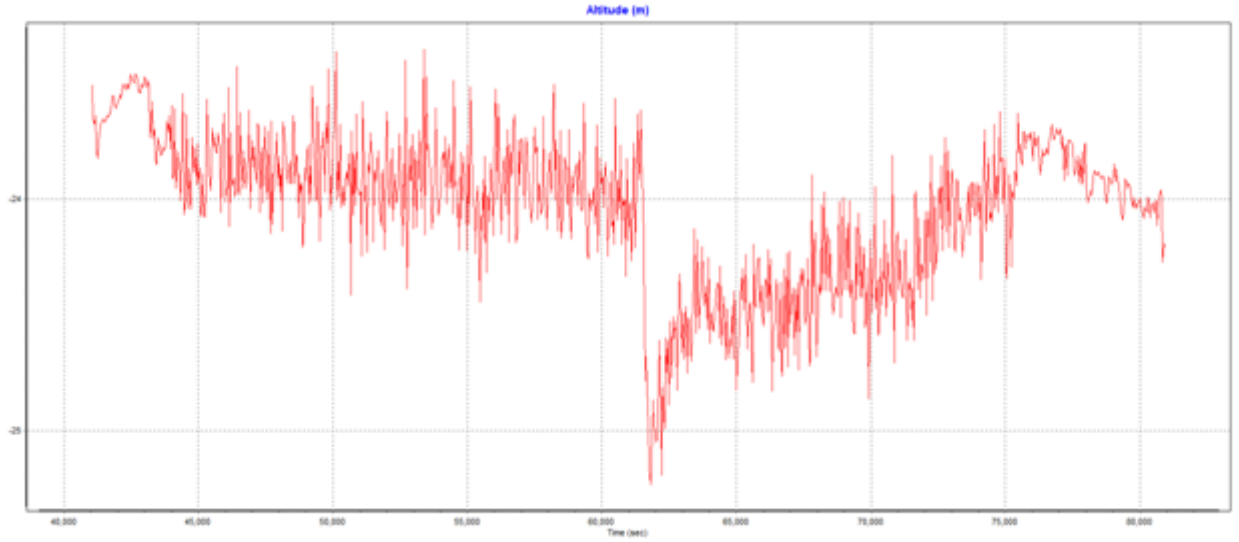
Getting to the HIPS data, both realtime and post processed uncertainty values seem optimistic given the following graph of GPS Height computed in Caris:

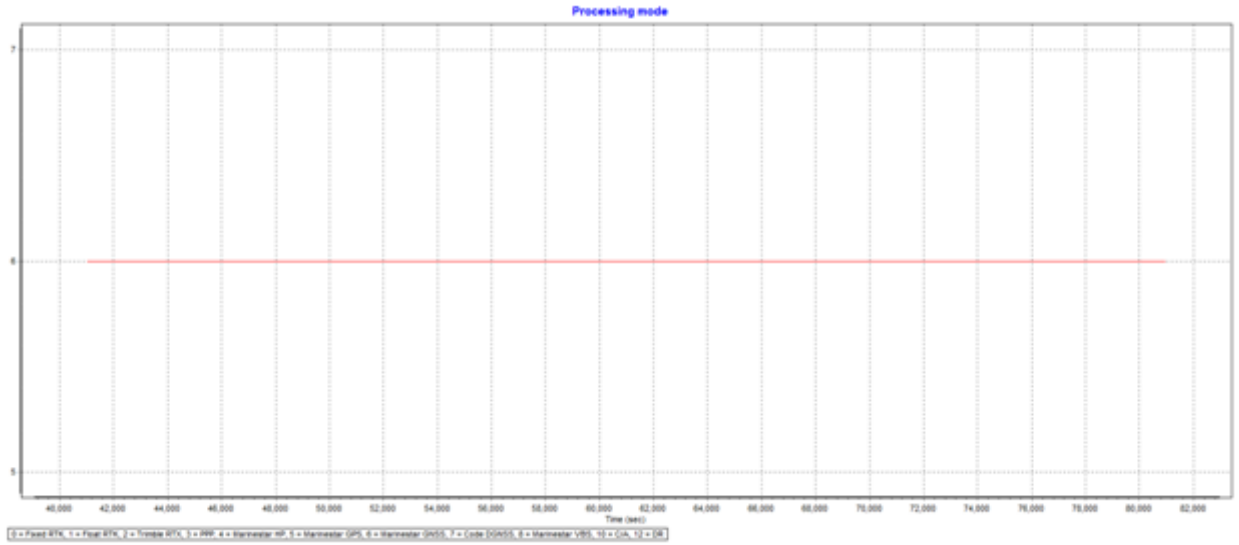


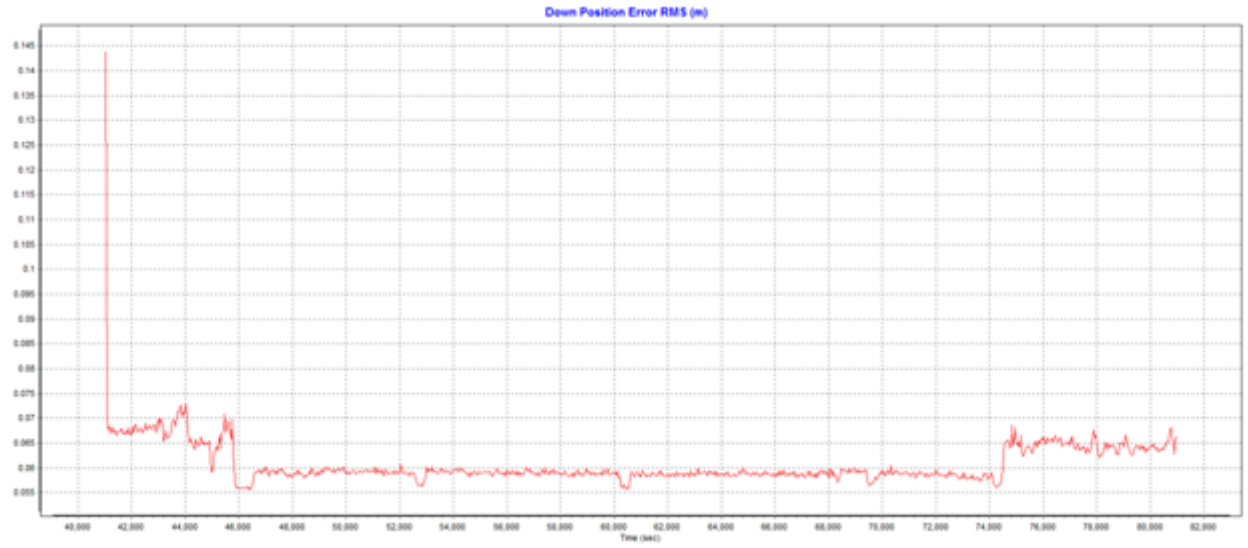
The GPS Height spikes over 1 meter when computed using an ERS solution claiming 0.5m uncertainty at most for the same spike. This, of course translates to a GPS water level issue and manifests in the HIPS depth surface. Depending on when this happens, interpolation may be possible. If it happens through the start/end of a line there is no way to interpolate in HIPS. An alternate solution would be necessary, most likely add to the fill plan and recover.

Issue 2: Altitude Spike with no Change in Solution Status

This one has both Applanix and Marinestar (Fugro) fairly stumped. We are seeing cases where the altitude significantly jumps, but no corresponding change in solution status or increase in RMS was reported. Additionally, there are no indications of degradation in the constellation (DOP, #SVs, cycle slips, etc.). It manifests as you would expect a regular corrections drop with a sudden change and a slow return back to normal, however the corrections are locked throughout.





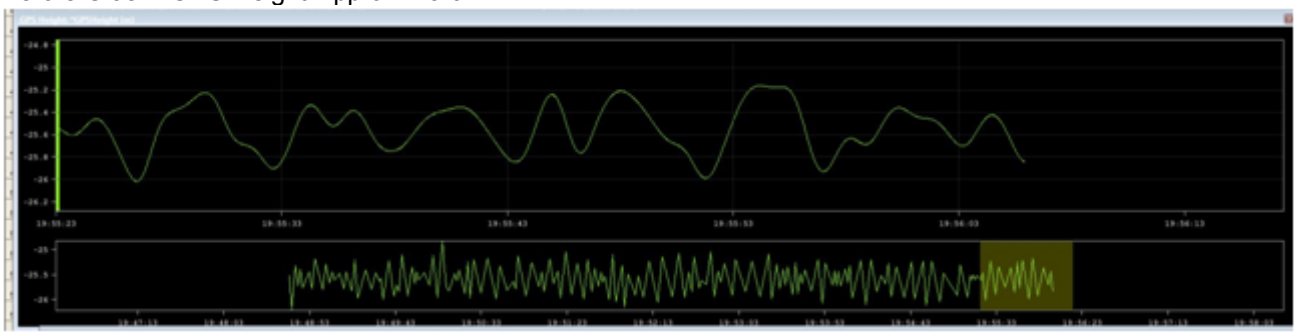


Since this takes such a long time to recover, interpolation is likely not an option. Again a recover is our most likely avenue.

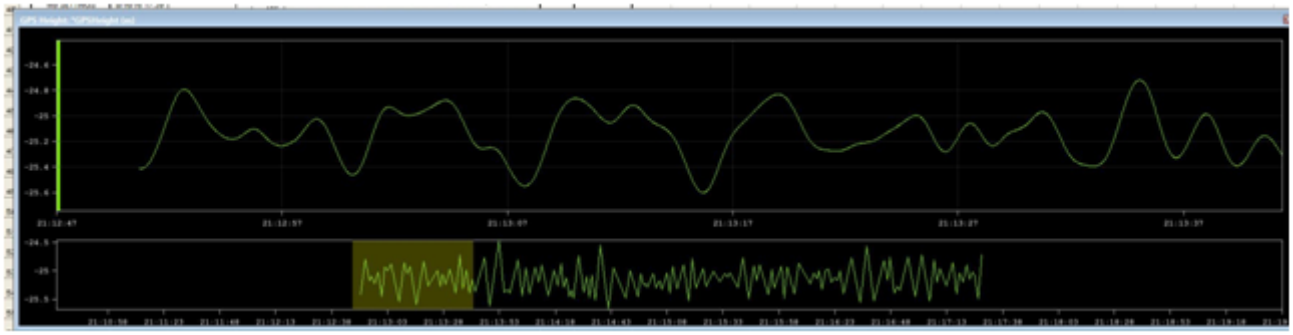
Issue 3: Shift in GPS height tied to Initialization

Again, this has only happened once, but it happened, so I want to detail it. On DN228 on one of the vessels, there was a computer crash and all systems were rebooted. The G2 waterlevel in the line after the restart was offset from the G2 waterlevel before the restart by approximately 40cm. There was no indication of performance degradation in the RMS or solution status, etc. It appears to be a bad initialization. The corresponding tidal change between the crash and restart according to the surrounding gauges is approximately 2cm.

Before Crash: GPS Height Approx -25.6



After Crash: GPS Height Approx -25.2



Marinestar to ERS/Vdatum Comparison

Above I have detailed some "operational" inconsistencies with the system. We have also done a number of comparisons of GPS Tide vs. TCARI processed data and are consistently finding that GPS tides produces a deeper surface by approximately 40cm. Notably one of the areas we have performed this examination on is our performance test location. Each vessel ran the same set of crosshatched lines over a fish haven (a bunch of retired oil rigs scattered on the seafloor, pretty cool looking). Using TCARI each the 3 independent surfaces from each vessel have excellent agreement. Using GPS tides the 3 independent surfaces show agreement within 20cm as

expected with the Marinestar accuracy. However, as stated before the set of surfaces produced using GPS tides is statically deeper than the set of surfaces produced using TCARI by approximately 40cm.

Moving Forward

Our understanding is that the OCS would prefer that our team move forward in a manner that will produce the most accurate and chart worthy data as possible with the technology we have proposed to use on the project. We believe that moving forward, our best option for vertically controlling these data is to adopt the TCARI method project wide. Below are a few reasons we believe this to be the best route forward at this point.

1. Startup has well passed and we are getting into the real "guts" of our project for a lack of better words. With these Marinestar operational details looming over our data our focus is distracted towards correcting and solving them, focus that could be directed towards other things (quality of MBES data, features, water-column feature development, etc.)

2. From the data that we have thus far, TCARI is proving to create a much smoother surface to work with. This makes MBES processing and feature detection easier for obvious reasons.

3. TCARI is producing an overall shoaler solution which is more attractive from a navigational liability standpoint. Note: We have arrived at this surface difference empirically, we would like to perform a couple hour float test next to the Pilot Station East gauge to confirm our findings of the 40cm separation between TCARI and ERS/V-Datum.

4. Marinestar would still bring value to the project by increasing horizontal accuracy. I also want to be clear that we are not "giving up" on Marinestar, we still very much want to understand the advantages and limitations. We will continue to use the Marinestar corrections throughout the project, check the altitude data in Pospac, and maintain a log of outages and issues. The information gained from collecting Marinestar data throughout the project will be beneficial in understanding the systems capabilities for future charting work.

That's all I have for now, I just wanted to let you know our intentions and be transparent about the issues that are unfolding onsite.

Have a nice weekend and happy sailing.

Dave

--
David Neff, C.H.
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www.etracinc.com

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Isadora Kratchman <izzy@etracinc.com>

Fwd: Grand Isle Gauge 8761724

David Neff <david@etracinc.com> Fri, Aug 26, 2016 at 7:41 PM
To: Verena Kellner <verena@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>, Dave Bernstein <dave@geodynamicsgroup.com>

Just got this

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Friday, August 26, 2016
Subject: Grand Isle Gauge 8761724
To: David Neff <david@etracinc.com>

FYI

---------- Forwarded message ----------
From: **Louis Licate - NOAA Federal** <louis.licate@noaa.gov>
Date: Fri, Aug 26, 2016 at 11:36 AM
Subject: Re: Grand Isle Gauge 8761724
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>, Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>, Patrick Keown - NOAA Federal <patrick.keown@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Katrina-
This event was recorded by both the primary (acoustic) and backup (pressure) sensors at Grand Isle. So for now it appears to be a real event.

Other gauges in the area also show drops in water level at the same time, though not nearly as dramatic.

We will continue to investigate and let you know what we find.

Thanks!
-Lou

--
Louis Licate

Oceanographic Division
Center for Operational Oceanographic Products and Services
National Ocean Service
National Oceanic and Atmospheric Administration

1305 East-West Highway, 7144
Silver Spring, MD 20910
Office: 240-533-0616

--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

GrandIsle.JPG
54K

Isadora Kratchman <izzy@etracinc.com>

Fwd: TCARI Uncertainty Values

2 messages

David Neff <david@etracinc.com> Mon, Aug 29, 2016 at 7:49 PM
To: NOAA <noaa@etracinc.com>

The response from NOAA regarding our TCARI uncertainty issues.

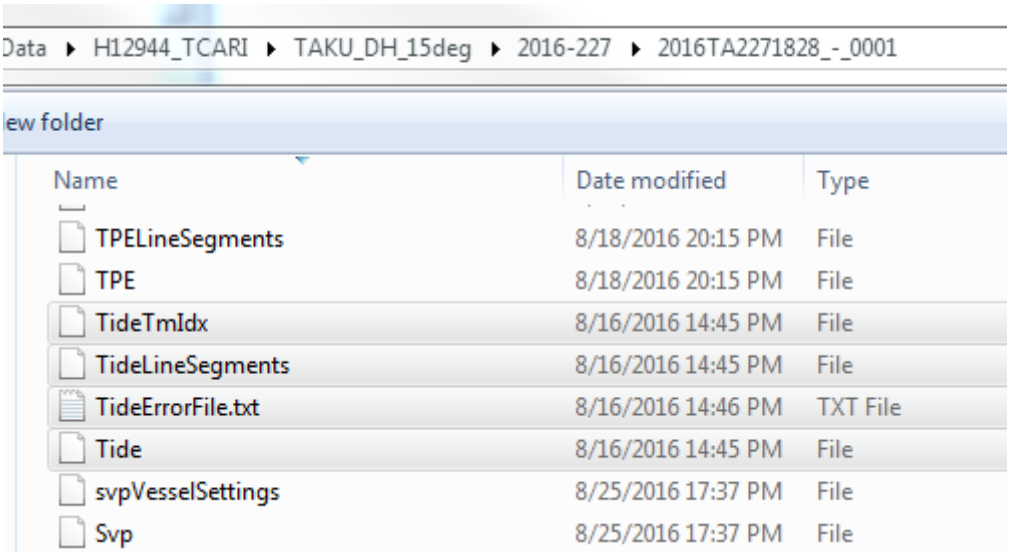
---------- Forwarded message ----------
From: **Corey Allen - NOAA Federal** <corey.allen@noaa.gov>
Date: Mon, Aug 29, 2016 at 12:35 PM
Subject: Re: TCARI Uncertainty Values
To: David Neff <david@etracinc.com>
Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Neff,
Fugro brought this to our attention just this morning.....We are working on a fix but don't yet have an estimate on completion (either it will be easy and done tomorrow or it'll take longer at which point I'll fire off a more formal email). Thanks for the heads up, and sorry for the issues you are seeing.

Stay tuned,
Corey

On Mon, Aug 29, 2016 at 3:28 PM, David Neff <david@etracinc.com> wrote:

> Hi Katrina,
>
> We are having some trouble incorporating tidal uncertainty through TCARI and are looking for some guidance.
>
> Description of issue
> TCARI does not seem to be writing the required tide uncertainty files to the HDCS line directories. The tide value is being written correctly, however the HIPS required uncertainty files (TideError and TideErrorTmIdx) are not being created. TCARI is creating a TideErrorFile.txt but that is not a format that the current version of HIPS (9.1.6) uses. As a result, when computing TPU, HIPS gives the warning that static values are being used as opposed to realtime as requested. We have reviewed the documentation included with the TCARI as well as the documentation found at http://trac.pydro.noaa.gov/wiki/TCARIFieldApp but have not found any detailed description of how it should be working, only that TCARI will apply the tidal uncertainty automatically.
>
> The documentation online states:
>
> TCARI will create new “Tide”, "TideError", "TideErrorTmIdx", “TideLineSegments”, and “TideTmIDX” files for each line of bathymetry.
>
> However, when we run the program TCARI is only creating the following highlighted files:



I have included the TideErrorFile.txt as an attachment to this email. Judging by its name, I would expect this to include the tidal uncertainty value. If that is correct it is producing uncertainty values in the 0.01 to 0.02 meter range, which seem much too low to be offshore uncertainty values.

Questions
1. Is there more documentation on TCARI operation (specifically how it handles uncertainty) that we can be directed towards?

2. Is there a TCARI Guru, for a lack of better words, at OCS, CO-OPS, Caris, etc. that you could point us towards?

Thanks!
Dave

--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

--
J. Corey Allen
Team Lead, Operations Branch
Hydrographic Surveys Division
Office of Coast Survey, NOAA
Corey.Allen@noaa.gov
301.713.2777 x119 (Office)
301.717.7271 (Cell)

--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

David Neff <david@etracinc.com> Wed, Aug 31, 2016 at 9:08 PM
To: Verena Kellner <verena@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>, Dave Bernstein <dave@geodynamicsgroup.com>, Ben Hocker <Ben@geomaticsds.com>

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Wednesday, August 31, 2016
Subject: TCARI Uncertainty Values
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Dave,

The fix for this TCARI tide uncertainty issue was sent out via auto-update today. Please let us know if you're still having problems applying tidal uncertainty through TCARI.

Katrina
[Quoted text hidden]

Fwd: TCARI vs. ERS Tide Solution

1 message

David Neff <david@etracinc.com> Tue, Sep 6, 2016 at 8:12 PM
To: Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **David Neff** <david@etracinc.com>
Date: Tuesday, August 30, 2016
Subject: TCARI vs. ERS Tide Solution
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Hi Katrina,

Over the past few weeks we have been gathering information on a shift we are seeing between TCARI derived waterlevels and ERS derived water levels. With the analysis we have done it is seemingly pointing to an issue with the Pilot Station East Gauge. I will provide the information we have and you can forward as you see necessary to appropriate parties.

I have attached the following to this email:

1. PDF document detailing the issue
2. The separation model we are using that we have created on our own using the current version of V-Datum.

We are asking for guidance on how to move forward. i.e. whether to submit data referenced to TCARI as is or to hold off until there is resolution to this. We are nearing the completion of processing and reporting on Sheet 2 and would like to take advantage of the RSA feedback vehicle while still the field, if possible.

Dave

--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

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David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

2 attachments

VDATUM_xyWGS84-MLLW_geoid12a.zip
2638K

TCARI_vs._ERS-V-Datum.pdf
2098K

Fwd: TCARI

1 message

David Neff <david@etracinc.com> Wed, Nov 23, 2016 at 12:25 AM
To: Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Thu, Sep 8, 2016 at 11:35 AM
Subject: Re: TCARI
To: David Neff <david@etracinc.com>

So this is what COOPS will be adding to the new SOW they're working on:

Upon completion of project, submit a Pydro generated request for smooth tides, with times of hydrography abstract and mid/mif tracklines attached. Forward this request to final.tides@noaa.gov. Provide the project number, as well as sheet number, in the subject line of the email.
CO-OPS will review the times of hydrography, final tracklines, and six-minute water level data from all applicable water level gauges. If there are any discrepancies, CO-OPS will make the
appropriate adjustments and forward a revised TCARI grid and solutions to the field group and processing branch for final processing.

On Thu, Sep 8, 2016 at 2:34 PM, David Neff <david@etracinc.com> wrote:
> Ok, I've generated the request files for Sheet 2 and attached it here. Who specifically shall I send this to at CO-OPS for the official request?
>
> I know I'm not supposed to just send it to you.
>
> Dave
>
> On Thu, Sep 8, 2016 at 1:09 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
> > Great!
> >
> > On Thu, Sep 8, 2016 at 2:09 PM, David Neff <david@etracinc.com> wrote:
> > > Autoupdates were turned on, yes.
> > >
> > > Deleted entire TCARI folder.
> > >
> > > Downloaded and installed new version 16.8.
> > >
> > > I now have the TideRequest application.
> > >
> > > Thanks!
> > >
> > > On Thu, Sep 8, 2016 at 12:34 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
> > > > Dave,
> > > >
> > > > Corey asked if you have auto updates turned on? (start--> toggleautoupdates)
> > > >
> > > > If not, he suggested trying uninstall/reinstall http://svn.pydro.noaa.gov/
> > > >
> > > > If it still doesn't work, let me know!
> > > >
> > > > Katrina

Isadora Kratchman <izzy@etracinc.com>

OPR-K339-KR-16 - H12941 - eTrac Inc. - Final Tides Request

1 message

David Neff <david@etracinc.com> Mon, Oct 3, 2016 at 6:55 PM
To: Final Tides - NOAA Service Account <final.tides@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, charting@etracinc.com, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Please find attached the Final Tides Request for:

OPR-K339-KR-16 / H12941

OPR-K339-KR-16 / H12943

OPR-K339-KR-16 / H12944

OPR-K339-KR-16 / H12945

OPR-K339-KR-16 / H12947

I have also, for convenience re-attached the Final Tides Requests for the following surveys so they are all in one thread:

OPR-K339-KR-16 / H12942

OPR-K339-KR-16 / H12946

This completes the final tides requests for OPR-K339-KR-16.

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

7 attachments

- **H12941_Final_Tide_Request.zip** 273K
- **H12942_Final_Tide_Request.zip** 228K
- **H12943_Final_Tide_Request.zip** 321K
- **H12944_Final_Tide_Request.zip** 300K
- **H12945_Final_Tide_Request.zip** 220K
- **H12946_Final_Tide_Request.zip** 21K
- **H12947_Final_Tide_Request.zip** 131K

Isadora Kratchman <izzy@etracinc.com>

Fwd: Final Tide Notes for K339-KR-2016 (H12941, H12942, H12943, H12944, H12945, H12946, & H12947)

2 messages

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Tue, Oct 25, 2016 at 7:48 PM
To: David Neff <david@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>
Cc: Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>

Dave,

Final tides are now available for OPR-K339-KR-16. The files and new TCARI model are attached to this email.

Katrina

---------- Forwarded message ----------
From: **Colleen Fanelli - NOAA Federal** <colleen.fanelli@noaa.gov>
Date: Tue, Oct 25, 2016 at 3:21 PM
Subject: Final Tide Notes for K339-KR-2016 (H12941, H12942, H12943, H12944, H12945, H12946, & H12947)
To: Katrina Wyllie - NOAA Federal <Katrina.Wyllie@noaa.gov>
Cc: Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>, Richard Brennan - NOAA Federal <richard.t.brennan@noaa.gov>, AHB Chief - NOAA Service Account <ahb.chief@noaa.gov>, Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, Patrick Burke <pat.burke@noaa.gov>, Jerry Hovis <gerald.hovis@noaa.gov>, "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>, Laura Rear McLaughlin - NOAA Federal <laura.rear.mclaughlin@noaa.gov>, Lorraine Robidoux - NOAA Federal <lorraine.robidoux@noaa.gov>

Dear Katrina Wyllie,

A zipped file, named K339KR2016_FinalTides, containing the final tide notes for OPR-K339-KR-2016, Registry Nos. H12941, H12942, H12943, H12944, H12945, H12946, and H12947 is being provided at ftp://tidepool.nos.noaa.gov/pub/outgoing/HPT/Smooth_Tides_TCARI/K339KR2016/. The following files are included in the zipped file:

H12941.pdf
H12942.pdf
H12943.pdf
H12944.pdf
H12945.pdf
H12946.pdf
H12947.pdf

Tide station data for Pilots Station East, SW Pass, LA (8760922), Grand Isle, LA (8761724), and Port Fourchon, Belle Pass, LA (8762075) are provided within the final TCARI grid. Water level data should not be downloaded for project OPR-K339-KR-2016. The *.pdf files are the tide notes in Adobe Acrobat format.

The following is the final TCARI file:

K339KR2016Final.tc

Please use the TCARI grid file "K339KR2016Final.tc" as the final grid for project OPR-K339-KR-2016, Registry Nos. H12941, H12942, H12943, H12944, H12945, H12946, and H12947 during the time period between August 3rd and October 2nd, 2016.

Please let me know when you have captured all files successfully. Feel free to give me a call at (240)533-0615 if there are any problems.

~Colleen

--
Colleen Fanelli
Oceanographer, Hydrographic Planning Team Lead
NOAA/National Ocean Service
Center for Operational Oceanographic Products and Services
Station 7127
1305 East-West Highway N/OPS3
Silver Spring, MD 20910
Colleen.Fanelli@noaa.gov
Phone (NEW): (240) 533 - 0615

Compare the meteorologist with his or her oceanographer colleague: the oceanographer may spend many years planning a campaign of observations of currents, temperature and salinity in a tiny area of the ocean, many weeks of discomfort on a ship taking the observations and several years analysing them back at the laboratory. All of this work is done for the research meteorologist, several times a day on a global basis, who merely has to read the numbers from an archive and construct whatever diagnostic quantity is required.
--Ian N. James, Introduction to Circulating Atmospheres

8 attachments

H12942.pdf
301K

H12943.pdf
301K

H12944.pdf
301K

H12945.pdf
302K

H12946.pdf
299K

H12947.pdf
302K

K339KR2016Final.tc
17060K

H12941.pdf
300K

David Neff <david@etracinc.com> Tue, Oct 25, 2016 at 7:50 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: Isadora Kratchman <izzy@etracinc.com>, Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>

Great, thanks Katrina!
[Quoted text hidden]
--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

Isadora Kratchman <izzy@etracinc.com>

final.tc file question

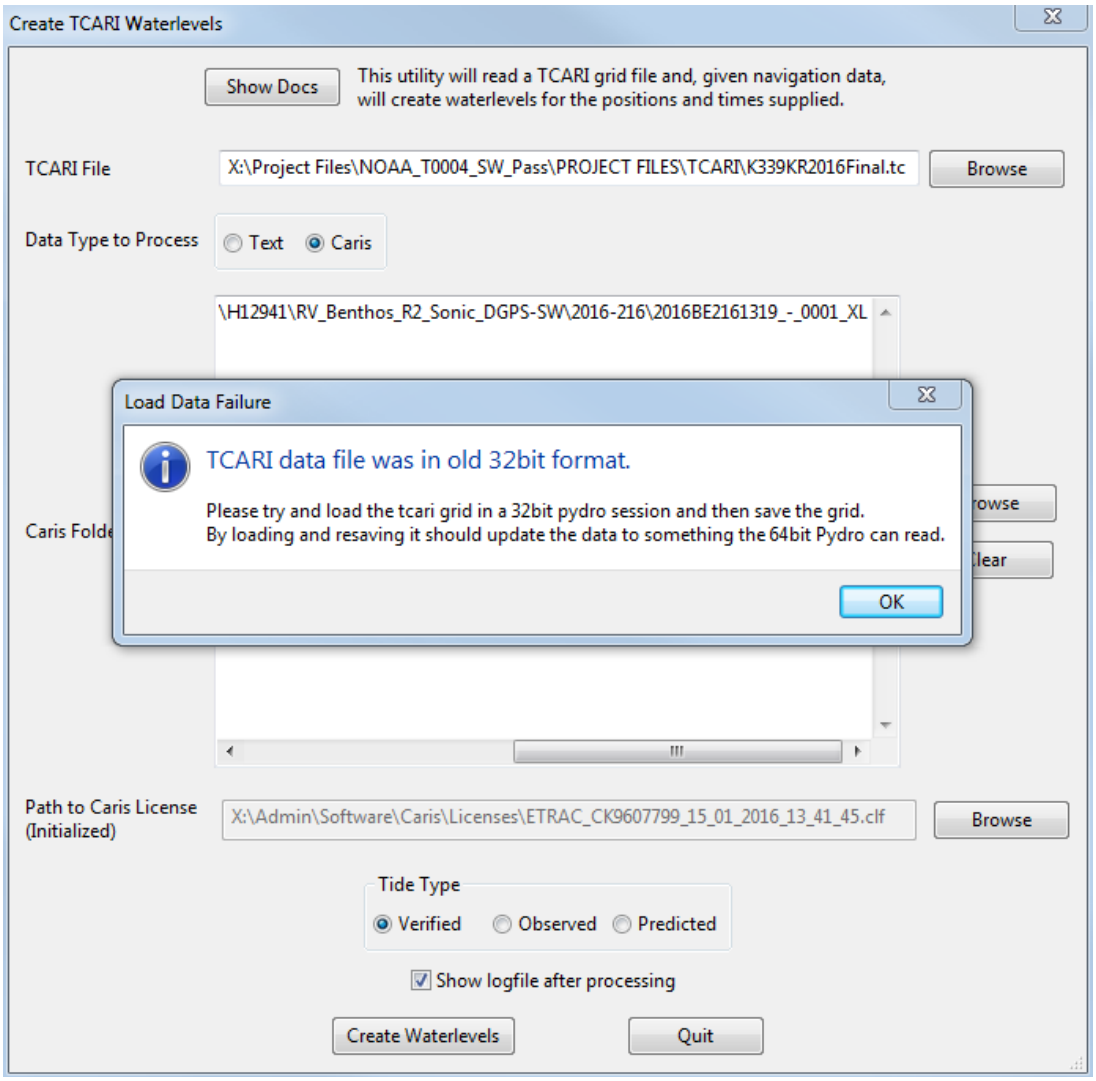
5 messages

Isadora Kratchman <izzy@etracinc.com> Thu, Oct 27, 2016 at 4:23 PM
To: katrina.wyllie@noaa.gov
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Katrina,

We are unable to use the final.tc file in the TCARI program. A "Load Data Failure" error comes up when the "create waterlevels" button is pressed. Looks like it is a 32bit vs 64bit issue. We have the toggle check for updates on so when the TCARI program is launched it goes through its updates. The TCARI program version we have is 16.8.

Below is a screen capture of the error.



Best,
Izzy

--
Isadora Kratchman
eTrac Inc.
izzy@etracinc.com

Mobile: (301)-706-9246
www.etracinc.com

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Oct 27, 2016 at 4:50 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Hi Izzy,

Barry and Corey are looking into this right now. I should have something back to you very soon.

Katrina
[Quoted text hidden]

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Oct 27, 2016 at 4:57 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Izzy,

Barry wasn't expecting a 32 bit format from COOPS. He is updating the Pydro module today and will have the auto-update out tomorrow. I'll let you know as soon as I hear from him that it's been pushed out.

I apologize for the inconvenience.

Katrina
[Quoted text hidden]

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Oct 27, 2016 at 7:00 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Izzy,

Can you shut down TCARI, relaunch and try again?
Should be working now.

Katrina
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com> Thu, Oct 27, 2016 at 7:22 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Katrina,

It is running now. Thanks!

Best,
Izzy
[Quoted text hidden]

Fwd: Survey outlines

David Neff <david@etracinc.com> Fri, Oct 28, 2016 at 4:06 PM
To: Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Fri, Oct 28, 2016 at 8:20 AM
Subject: Re: Survey outlines
To: David Neff <david@etracinc.com>

Dave,

There was no problem with the tide gauge data; the fix was with the datum calculation. I asked COOPS about what they did exactly and got this:

We treated Pilots Station as a 3-month Hydro Installation and computed a 3-month preliminary datum from data collected between July and September, 2016. This shorter datum is more accurate or closer to the actual sea level state in the vicinity of Pilots Station. As this datum is preliminary, it cannot be retrieved through Opendap or other web services, thus any data that would be downloaded from within PydroGIS (TCARI) would be on the currently accepted (and outdated) datum. We loaded the data referenced to the preliminary datum into the TCARI Grid due to this (as well as the data from Grand Isle and Port Fourchon). For reference and future knowledge, Pilots Station will be switching to an accelerated datum update schedule. The datum will be updated on an annual basis, instead of on a 5-year cycle to account for the known subsidence of the Bird Foot region.

Does this help?

Katrina

On Thu, Oct 27, 2016 at 5:02 PM, David Neff <david@etracinc.com> wrote:
> Yeah no worries, we can talk tomorrow.
>
> Based on our meeting with CO-OPS we were expecting some adjustments to be made to the Pilot Station East gauge as CO-OPS informed us there were issues with the gauge data. If we're reading the tide notes correctly, they are saying the gauge data is operating within the tolerances, so we're more just curious what, if anything, was done. Maybe we are misunderstanding the tide note. Or maybe there is not a need to adjust the gauge data any longer?
>
> Dave
>
> On Thu, Oct 27, 2016 at 1:56 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
> > No worries, thanks for submitting. I'm out of the office, okay if we talk tide logs tomorrow?
> > I have a season debrief basically all day but would be available on the phone at 1730 EST. If it's easier to email, I can probably answer while I'm in the debrief.
> >
> > Katrina
> >
> > On Thu, Oct 27, 2016 at 3:54 PM, David Neff <david@etracinc.com> wrote:
> > > Just sent them, sorry about that. We are checking off the remaining additional deliverables marine mammal logs, etc.
> > >
> > > Also, we had some questions about the tide logs we received. It might be good to have a quick phone conversation or if you're on G-chat to decide if you want to loop in CO-OPS off the bat. Are you around today?
> > >
> > > Dave

> > On Thu, Oct 27, 2016 at 5:52 AM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
> > > Morning Dave,
> > >
> > > Just checking, have you had a chance to submit survey outlines?
> > >
> > > Thank you,
> > > Katrina
> > >
> > >
> > > --
> > > Dave Neff, C.H.
> > > Mobile: (415)-517-0020
> > > www.etracinc.com
> >
> >
> > --
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eTrac

Isadora Kratchman <izzy@etracinc.com>

Fwd: Restricted Zone (NOAA surveying through the Gulf and Nearshore Louisiana)- LOOP area

2 messages

David Neff <david@etracinc.com> Fri, Aug 5, 2016 at 7:14 PM
To: NOAA <noaa@etracinc.com>

Hi Everyone,

I am forwarding the protocol for entering the Loop Safety Zone that overlaps our sheet boundaries. We will need to plan which days we will head to that area 24 hours in advance. We will ideally complete sheet 2 before we attempt Sheet 1 so this will likely not be an issue for about another week.

Dave

---------- Forwarded message ----------
From: **Simoneaux, Jeremy P.** <jpsimoneaux@loopllc.com>
Date: Fri, Aug 5, 2016 at 9:34 AM
Subject: RE: Restricted Zone (NOAA surveying through the Gulf and Nearshore Louisiana)- LOOP area
To: David Neff <david@etracinc.com>, "Wolfe, Morgan B." <mbwolfe@loopllc.com>
Cc: Tim Osborn <tim.osborn@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Chett Chiasson <chettc@portfourchon.com>, "jonc@portfourchon.com" <jonc@portfourchon.com>, "aprild@portfourchon.com" <aprild@portfourchon.com>, "Blair, Clifford W. (Cliff)" <cwblair@loopllc.com>, "Kelly, Gary R." <grkelly@loopllc.com>, "Taylor, Vanessa R LTJG" <Vanessa.R.Taylor@uscg.mil>, "Welborn, Blake CDR" <Blake.E.Welborn@uscg.mil>, "Burns, Curt P." <cpburns@loopllc.com>, "Gardner-Leblanc, Cynthia" <cgleblanc@loopllc.com>

David,

I am pleased to outline a process that will allow you to safely continue your survey operation in the areas noted below that overlap the LOOP Safety Zone.

1. Contact VTC (LOOP RADAR) via phone 24 hours prior to starting survey operations inside the Safety Zone. VTC ph.# 985-632-1423 or 985-632-6980.

2. Thirty (30) minutes prior to entering the Loop safety zone, vessel Captain will contact Marine Terminal VTC (LOOP RADAR) on VHF channel 74 requesting permission to enter the safety zone and maintain communications with LOOP RADAR on VHF channel 74 at all times when inside the safety zone.

3. At any time if the survey operations inside the safety zone has the potential to disrupt LOOP vessel mooring operations the VTC will contact the survey vessel on VHF channel 74 and suspend all survey operations inside the safety zone.

See the attached buoy location chart under “Service Vessel Moorings” and “Approach Section Marker Buoys” for buoy locations that are near your proposed survey area. All buoys in “Service Vessel Moorings” section have 300’ mooring lines attached.

Thanks,

Jeremy

From: David Neff [mailto:david@etracinc.com]
Sent: Thursday, August 04, 2016 4:53 PM
To: Wolfe, Morgan B.
Cc: Tim Osborn; Katrina Wyllie - NOAA Federal; Chett Chiasson; jonc@portfourchon.com; aprild@portfourchon.com; Blair, Clifford W. (Cliff); Kelly, Gary R.; Taylor, Vanessa R LTJG; Welborn, Blake CDR; Simoneaux, Jeremy P.; Burns, Curt P.

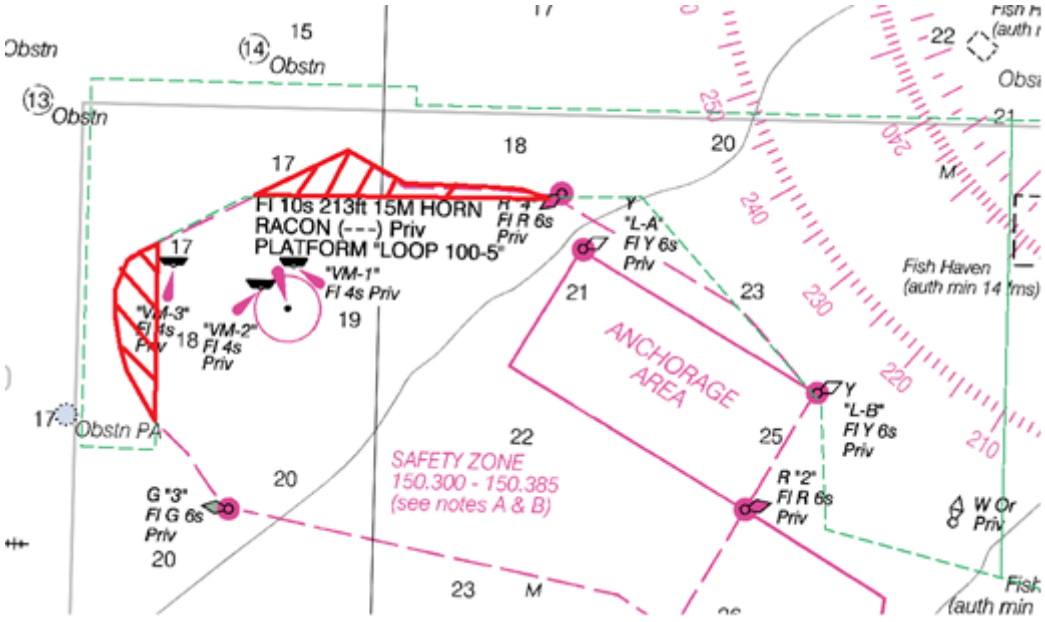
Subject: Re: Restricted Zone (NOAA surveying through the Gulf and Nearshore Louisiana)- LOOP area

Morgan,

Thank you for the introduction.

Jeremy,

I represent eTrac Inc. a hydrographic survey firm performing charting work in the Gulf of Mexico. I have attached our Local Notice to Mariners for more information on the vessels, project duration, and survey bounds. We have been contracted by NOAA to perform multibeam survey work within a specific boundary. We learned yesterday that a portion of that boundary overlaps the LOOP bounds. See below hatched in RED the areas of overlap.



We have exited this area and are working in other areas of the project. I understand there is a process to be able to obtain access to this area to perform our survey operations and would like to learn what that process is and begin to provide you with any information you may need. Please let me know how you would like us to proceed.

Best Regards,

Dave Neff

On Thu, Aug 4, 2016 at 4:30 PM, Wolfe, Morgan B. <mbwolfe@loopllc.com> wrote:

Dave, LOOP would be pleased to coordinate arrangements with NOAA, USCG and yourself to meet the needs.

Please direct your questions and correspondence to Jeremy Simoneaux and Curt Burns, LOOP's Port Superintendent. They are copied here for your convenience and can be reached at 985-632-1400. They can assist in discussing the operational details and approvals.

Morgan Wolfe

Vice President Operations

LOOP LLC

From: Tim Osborn [mailto:tim.osborn@noaa.gov]
Sent: Thursday, August 04, 2016 11:03 AM
To: David Neff; Katrina Wyllie - NOAA Federal
Cc: Chett Chiasson; jonc@portfourchon.com; aprild@portfourchon.com; Wolfe, Morgan B.; Gros, Danny T.; Blair, Clifford W. (Cliff); Beauregard, Robert L.; Taylor, Vanessa R LTJG; Welborn, Blake CDR
Subject: Re: Restricted Zone (NOAA surveying through the Gulf and Nearshore Louisiana)- LOOP area

Dave, Katrina

Thanks for the notice on this.

This is a small are of the exclusion zone of the Louisiana Offshore Oil Port (LOOP). Working through this area triggered the issue of needing contact and permission (if given) to survey through this area. A survey of LOOP by NOAA OCS (Whiting) was done

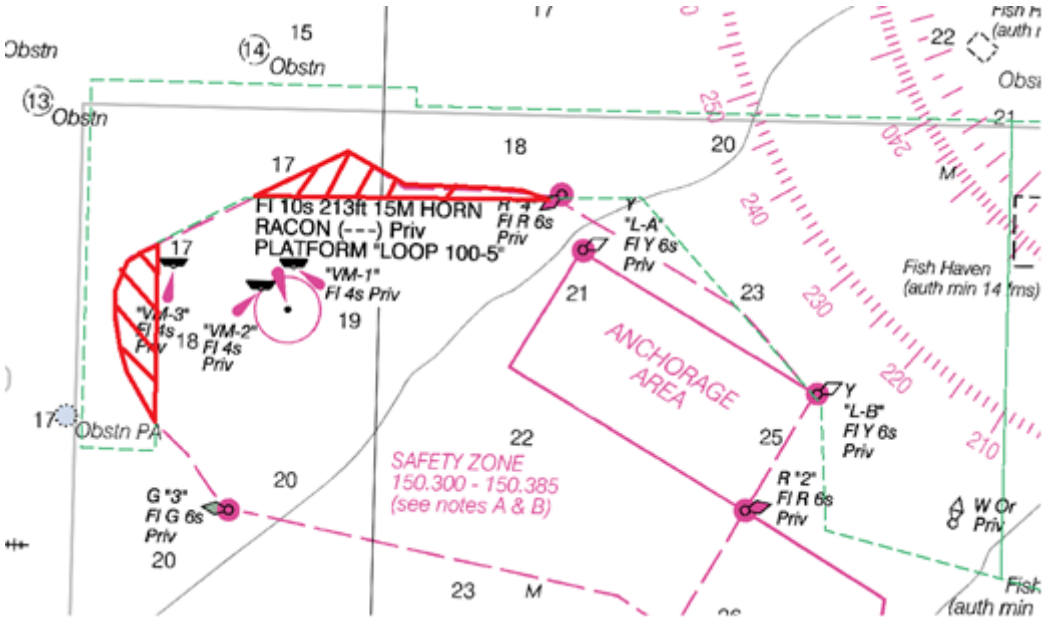
many years ago in coordination and approval by LOOP.

Contacts with USCG Houma, Port Fourchon (a working partner with LOOP) and LOOP are copied. I can make some calls shortly as well.

Our work and coordination with LOOP in hurricane response, emergency surveying and recovery of operations for LOOP has been very good over the years in working closely with them.

On 8/4/2016 10:49 AM, David Neff wrote:

> Katrina,
>
> We have finished mobilization and we began with crossline data collection yesterday.
>
> On H12941 we got ran off the sheet by Homeland Security. It appears our sheet boundaries are encroaching on a restricted zone that is charted as a "safety zone". I have made some screen captures below. The areas we have overlap with the zone are hatched in **RED.**



We have exited this area and plan to stay away until we have sorted this out and are cleared. Is this something that we should research and handle on our own, or can you help guide us through the proper channels to be able to access these areas?

I've copied Tim on here as well.

Dave

--

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--

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--
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LOOP BUOY LOCATION CHART.pdf
220K

Verena Kellner <verena@etracinc.com> Fri, Aug 5, 2016 at 7:23 PM
To: NOAA <noaa@etracinc.com>

Here is a little more information on the LOOP:

"The **Louisiana Offshore Oil Port (LOOP)** is a deepwater marine terminal in the Gulf of Mexico about 19 miles S of Caminada Pass. The terminal comprises an offshore pumping platform complex (PPC) and three single-point moorings (SPMs) about 1.3 miles E, SE, and S of the pumping platform complex. The pumping platform complex, marked by private lights and equipped with two sound signals, consists of a control platform connected by a walkway bridge to a pumping platform. A racon is at the pumping platform.

The LOOP site is within a **deepwater port safety zone** approached through a 78-mile-long **safety fairway**. The entrance to the safety zone from the safety fairway is marked by private lighted buoys. The PPC and each SPM is within an **area to be avoided**. An anchorage area, marked by private lighted buoys, is in the NE part of the safety zone E of the PPC and SPMs. (See **150.301 through 150.345** and **150.900 through 150.940** chapter 2, for limits and regulations.) The LOOP Vessel Traffic Supervisor, in addition to VHF-FM channels 10 and 74, monitors channel 16; voice call LOOP RADAR."

Hi Katrina,

I hope your sail is going well. I have copied Corey and Jacklyn on here as well for input.

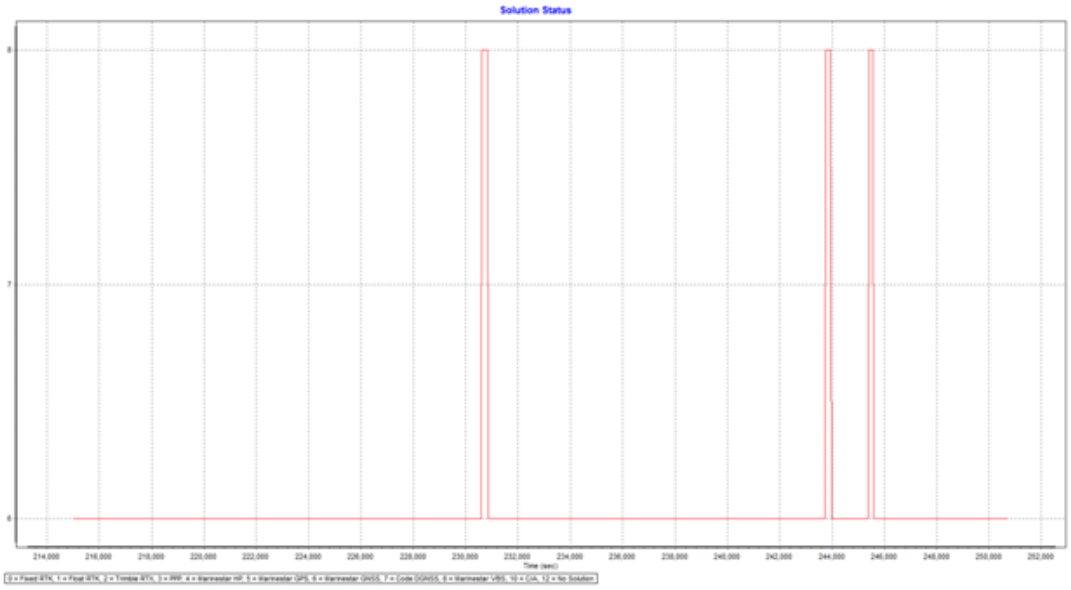
We were held up by the tropical storm coming through the area, which I am sure you heard about. We have had about 5 straight days of data collection since the storm and the completed project mileage as of today sits at about %22. This has given us the amount of data we need to start to make some decisions about our data pipeline moving forward, specifically the ERS solution model we originally proposed.

We have experienced a variety of Marinestar issues which I will describe below. The first 2 of these issues have occurred on all 3 vessels, so hardware malfunction seems unlikely. Issue 3 is isolate to 1 boat and 1 instance at this point. It is also unlikely that these issues are something that are new to you (NOAA/OCS). I don't believe they are particularly unique, especially the first. I also want to be clear that I am not asking for direction or advice on these specific items. These are meant to be examples to detail the variety of issues we are seeing through use of the Marinestar corrections system. I apologize in advance if this is overkill or long winded, but I want to be thorough in my description of our issues.

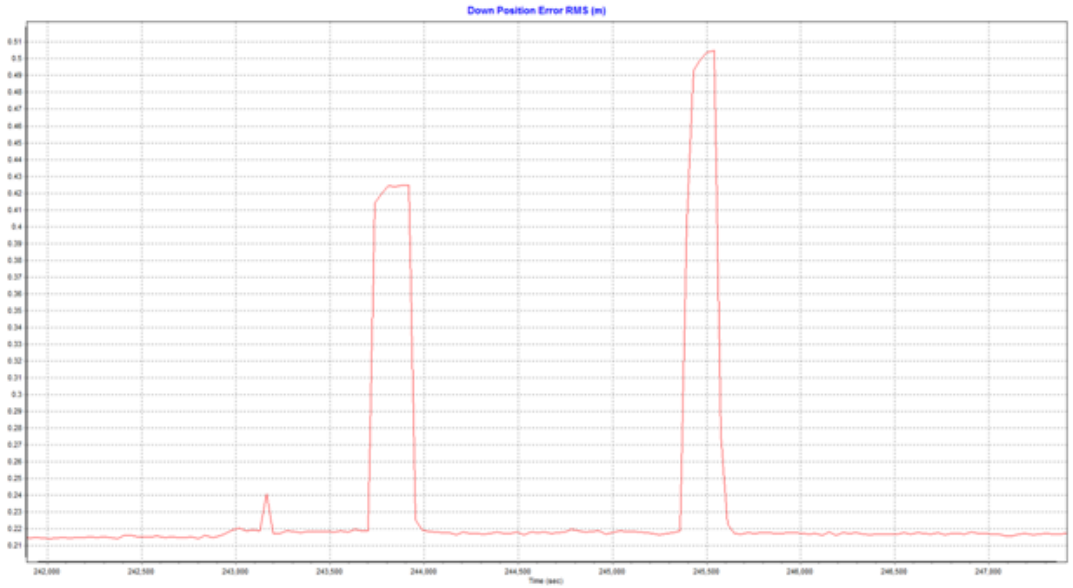
Issue 1: Temporary Loss of G2 Solution Status

This issue occurs when the MarineStar corrections drop out of G2 mode into VBS mode. Typically, this is not associated with jumps in DOP, losses of SV's, or cycle slips. The likely cause is loss of the correction signal reception due to local interference (atmospheric or otherwise).

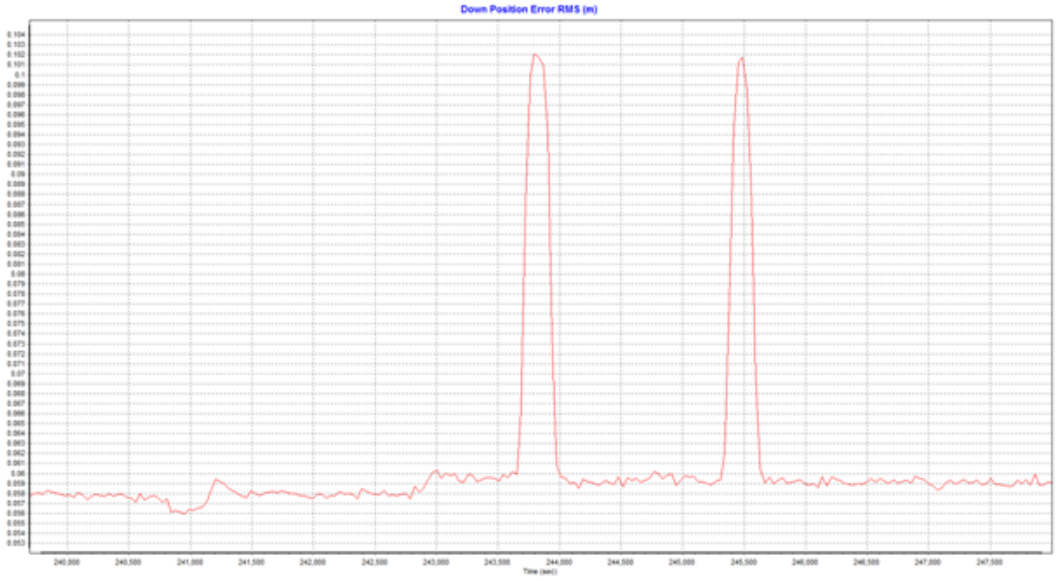
This manifests in the recorded Solution Status viewed in pospac as the solution status changes from 6 to 8:



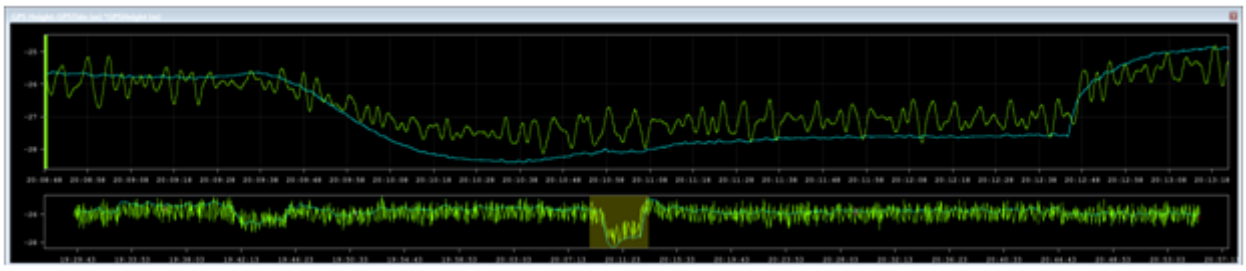
There is an associated spike in uncertainty:



Note that above is the real-time uncertainty which is known to be incorrectly reported high by Applanix (0.5m in this case). The post processed uncertainty is 0.1m for the same spike:



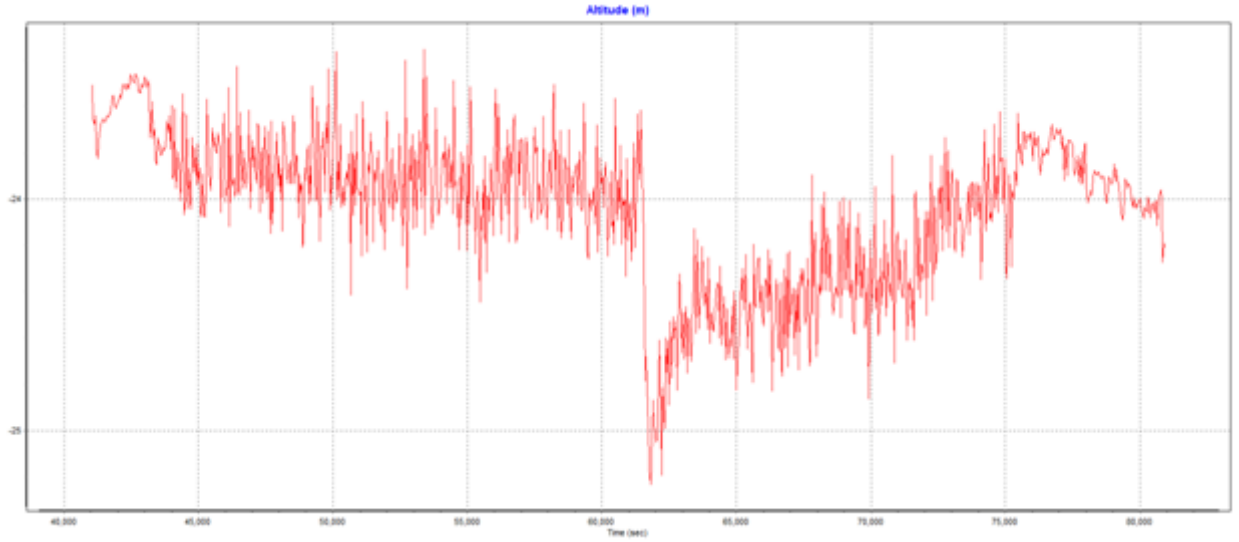
Getting to the HIPS data, both realtime and post processed uncertainty values seem optimistic given the following graph of GPS Height computed in Caris:

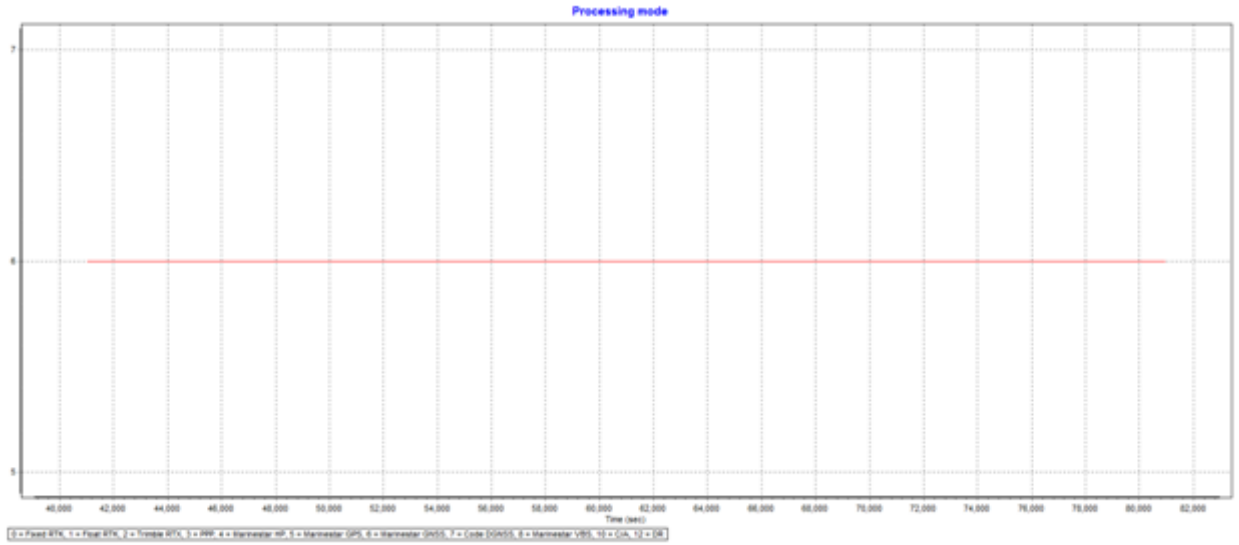


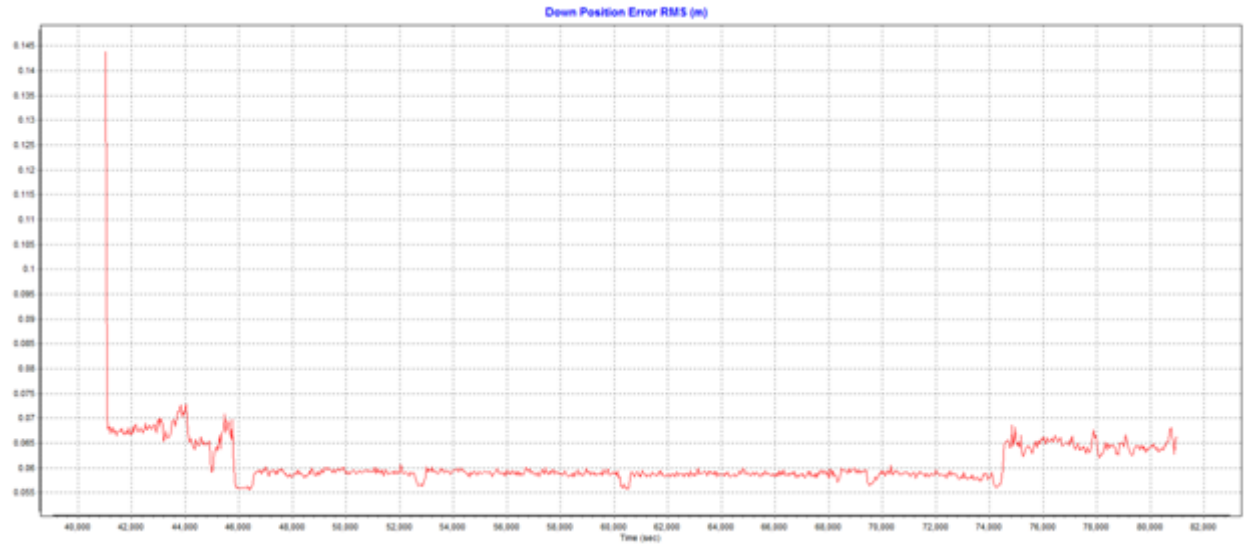
The GPS Height spikes over 1 meter when computed using an ERS solution claiming 0.5m uncertainty at most for the same spike. This, of course translates to a GPS water level issue and manifests in the HIPS depth surface. Depending on when this happens, interpolation may be possible. If it happens through the start/end of a line there is no way to interpolate in HIPS. An alternate solution would be necessary, most likely add to the fill plan and recover.

Issue 2: Altitude Spike with no Change in Solution Status

This one has both Applanix and Marinestar (Fugro) fairly stumped. We are seeing cases where the altitude significantly jumps, but no corresponding change in solution status or increase in RMS was reported. Additionally, there are no indications of degradation in the constellation (DOP, #SVs, cycle slips, etc.). It manifests as you would expect a regular corrections drop with a sudden change and a slow return back to normal, however the corrections are locked throughout.





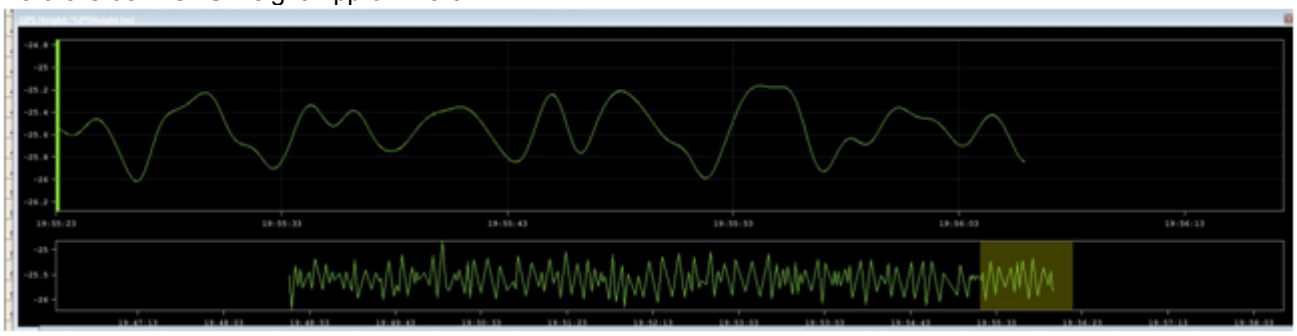


Since this takes such a long time to recover, interpolation is likely not an option. Again a recover is our most likely avenue.

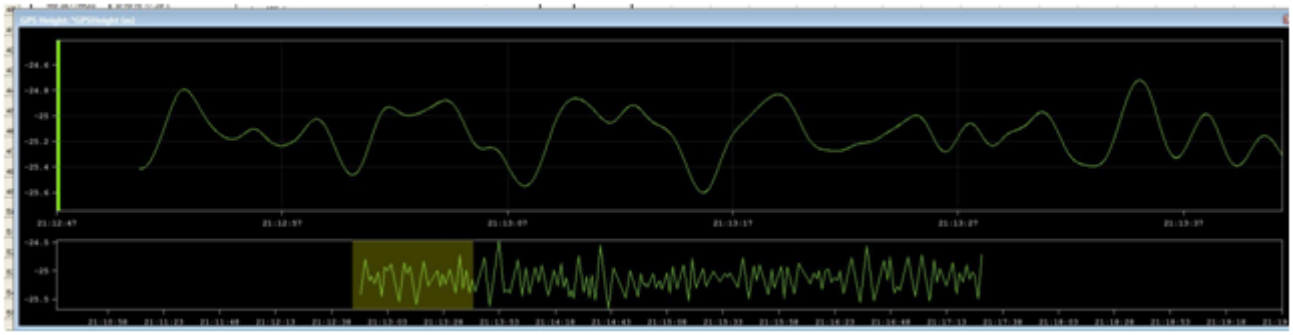
Issue 3: Shift in GPS height tied to Initialization

Again, this has only happened once, but it happened, so I want to detail it. On DN228 on one of the vessels, there was a computer crash and all systems were rebooted. The G2 waterlevel in the line after the restart was offset from the G2 waterlevel before the restart by approximately 40cm. There was no indication of performance degradation in the RMS or solution status, etc. It appears to be a bad initialization. The corresponding tidal change between the crash and restart according to the surrounding gauges is approximately 2cm.

Before Crash: GPS Height Approx -25.6



After Crash: GPS Height Approx -25.2



Marinestar to ERS/Vdatum Comparison

Above I have detailed some "operational" inconsistencies with the system. We have also done a number of comparisons of GPS Tide vs. TCARI processed data and are consistently finding that GPS tides produces a deeper surface by approximately 40cm. Notably one of the areas we have performed this examination on is our performance test location. Each vessel ran the same set of crosshatched lines over a fish haven (a bunch of retired oil rigs scattered on the seafloor, pretty cool looking). Using TCARI each the 3 independent surfaces from each vessel have excellent agreement. Using GPS tides the 3 independent surfaces show agreement within 20cm as

expected with the Marinestar accuracy. However, as stated before the set of surfaces produced using GPS tides is statically deeper than the set of surfaces produced using TCARI by approximately 40cm.

Moving Forward

Our understanding is that the OCS would prefer that our team move forward in a manner that will produce the most accurate and chart worthy data as possible with the technology we have proposed to use on the project. We believe that moving forward, our best option for vertically controlling these data is to adopt the TCARI method project wide. Below are a few reasons we believe this to be the best route forward at this point.

1. Startup has well passed and we are getting into the real "guts" of our project for a lack of better words. With these Marinestar operational details looming over our data our focus is distracted towards correcting and solving them, focus that could be directed towards other things (quality of MBES data, features, water-column feature development, etc.)

2. From the data that we have thus far, TCARI is proving to create a much smoother surface to work with. This makes MBES processing and feature detection easier for obvious reasons.

3. TCARI is producing an overall shoaler solution which is more attractive from a navigational liability standpoint. Note: We have arrived at this surface difference empirically, we would like to perform a couple hour float test next to the Pilot Station East gauge to confirm our findings of the 40cm separation between TCARI and ERS/V-Datum.

4. Marinestar would still bring value to the project by increasing horizontal accuracy. I also want to be clear that we are not "giving up" on Marinestar, we still very much want to understand the advantages and limitations. We will continue to use the Marinestar corrections throughout the project, check the altitude data in Pospac, and maintain a log of outages and issues. The information gained from collecting Marinestar data throughout the project will be beneficial in understanding the systems capabilities for future charting work.

That's all I have for now, I just wanted to let you know our intentions and be transparent about the issues that are unfolding onsite.

Have a nice weekend and happy sailing.

Dave

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Isadora Kratchman <izzy@etracinc.com>

Fwd: TCARI Uncertainty Values

2 messages

David Neff <david@etracinc.com> Mon, Aug 29, 2016 at 7:49 PM
To: NOAA <noaa@etracinc.com>

The response from NOAA regarding our TCARI uncertainty issues.

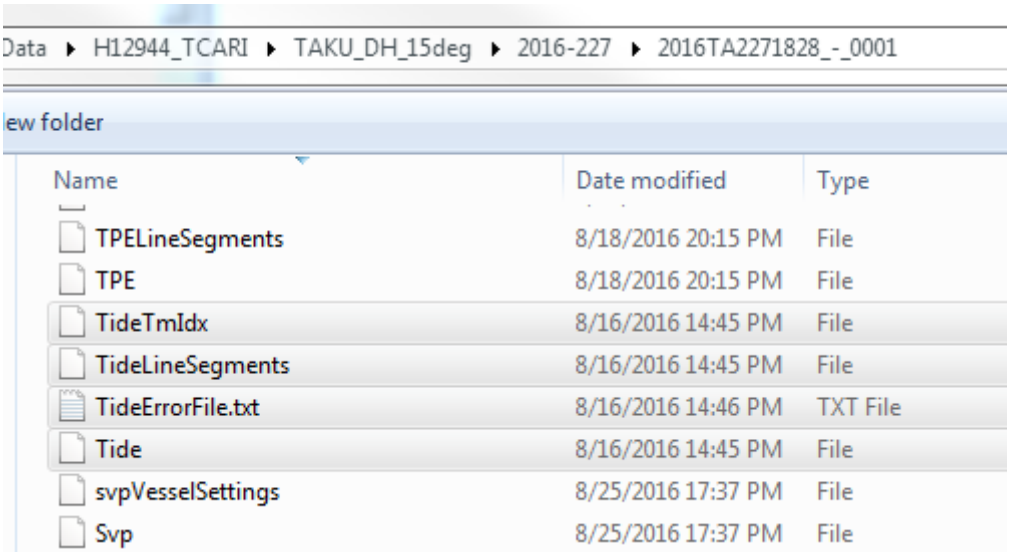
---------- Forwarded message ----------
From: **Corey Allen - NOAA Federal** <corey.allen@noaa.gov>
Date: Mon, Aug 29, 2016 at 12:35 PM
Subject: Re: TCARI Uncertainty Values
To: David Neff <david@etracinc.com>
Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Neff,
Fugro brought this to our attention just this morning.....We are working on a fix but don't yet have an estimate on completion (either it will be easy and done tomorrow or it'll take longer at which point I'll fire off a more formal email). Thanks for the heads up, and sorry for the issues you are seeing.

Stay tuned,
Corey

On Mon, Aug 29, 2016 at 3:28 PM, David Neff <david@etracinc.com> wrote:

> Hi Katrina,
>
> We are having some trouble incorporating tidal uncertainty through TCARI and are looking for some guidance.
>
> Description of issue
> TCARI does not seem to be writing the required tide uncertainty files to the HDCS line directories. The tide value is being written correctly, however the HIPS required uncertainty files (TideError and TideErrorTmIdx) are not being created. TCARI is creating a TideErrorFile.txt but that is not a format that the current version of HIPS (9.1.6) uses. As a result, when computing TPU, HIPS gives the warning that static values are being used as opposed to realtime as requested. We have reviewed the documentation included with the TCARI as well as the documentation found at http://trac.pydro.noaa.gov/wiki/TCARIFieldApp but have not found any detailed description of how it should be working, only that TCARI will apply the tidal uncertainty automatically.
>
> The documentation online states:
>
> TCARI will create new “Tide”, "TideError", "TideErrorTmIdx", “TideLineSegments”, and “TideTmIDX” files for each line of bathymetry.
>
> However, when we run the program TCARI is only creating the following highlighted files:



I have included the TideErrorFile.txt as an attachment to this email. Judging by its name, I would expect this to include the tidal uncertainty value. If that is correct it is producing uncertainty values in the 0.01 to 0.02 meter range, which seem much too low to be offshore uncertainty values.

Questions
1. Is there more documentation on TCARI operation (specifically how it handles uncertainty) that we can be directed towards?

2. Is there a TCARI Guru, for a lack of better words, at OCS, CO-OPS, Caris, etc. that you could point us towards?

Thanks!
Dave

--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

--
J. Corey Allen
Team Lead, Operations Branch
Hydrographic Surveys Division
Office of Coast Survey, NOAA
Corey.Allen@noaa.gov
301.713.2777 x119 (Office)
301.717.7271 (Cell)

--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

David Neff <david@etracinc.com> Wed, Aug 31, 2016 at 9:08 PM
To: Verena Kellner <verena@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>, Dave Bernstein <dave@geodynamicsgroup.com>, Ben Hocker <Ben@geomaticsds.com>

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Wednesday, August 31, 2016
Subject: TCARI Uncertainty Values
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Dave,

The fix for this TCARI tide uncertainty issue was sent out via auto-update today. Please let us know if you're still having problems applying tidal uncertainty through TCARI.

Katrina
[Quoted text hidden]

Fwd: TCARI vs. ERS Tide Solution

1 message

David Neff <david@etracinc.com> Tue, Sep 6, 2016 at 8:12 PM
To: Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **David Neff** <david@etracinc.com>
Date: Tuesday, August 30, 2016
Subject: TCARI vs. ERS Tide Solution
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Hi Katrina,

Over the past few weeks we have been gathering information on a shift we are seeing between TCARI derived waterlevels and ERS derived water levels. With the analysis we have done it is seemingly pointing to an issue with the Pilot Station East Gauge. I will provide the information we have and you can forward as you see necessary to appropriate parties.

I have attached the following to this email:

1. PDF document detailing the issue
2. The separation model we are using that we have created on our own using the current version of V-Datum.

We are asking for guidance on how to move forward. i.e. whether to submit data referenced to TCARI as is or to hold off until there is resolution to this. We are nearing the completion of processing and reporting on Sheet 2 and would like to take advantage of the RSA feedback vehicle while still the field, if possible.

Dave

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David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

--
David Neff, C.H.
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2 attachments

VDATUM_xyWGS84-MLLW_geoid12a.zip
2638K

TCARI_vs._ERS-V-Datum.pdf
2098K

Fwd: TCARI

1 message

David Neff <david@etracinc.com> Wed, Nov 23, 2016 at 12:25 AM
To: Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Thu, Sep 8, 2016 at 11:35 AM
Subject: Re: TCARI
To: David Neff <david@etracinc.com>

So this is what COOPS will be adding to the new SOW they're working on:

Upon completion of project, submit a Pydro generated request for smooth tides, with times of hydrography abstract and mid/mif tracklines attached. Forward this request to final.tides@noaa.gov. Provide the project number, as well as sheet number, in the subject line of the email.
CO-OPS will review the times of hydrography, final tracklines, and six-minute water level data from all applicable water level gauges. If there are any discrepancies, CO-OPS will make the
appropriate adjustments and forward a revised TCARI grid and solutions to the field group and processing branch for final processing.

On Thu, Sep 8, 2016 at 2:34 PM, David Neff <david@etracinc.com> wrote:
> Ok, I've generated the request files for Sheet 2 and attached it here. Who specifically shall I send this to at CO-OPS for the official request?
>
> I know I'm not supposed to just send it to you.
>
> Dave
>
> On Thu, Sep 8, 2016 at 1:09 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
> > Great!
> >
> > On Thu, Sep 8, 2016 at 2:09 PM, David Neff <david@etracinc.com> wrote:
> > > Autoupdates were turned on, yes.
> > >
> > > Deleted entire TCARI folder.
> > >
> > > Downloaded and installed new version 16.8.
> > >
> > > I now have the TideRequest application.
> > >
> > > Thanks!
> > >
> > > On Thu, Sep 8, 2016 at 12:34 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
> > > > Dave,
> > > >
> > > > Corey asked if you have auto updates turned on? (start--> toggleautoupdates)
> > > >
> > > > If not, he suggested trying uninstall/reinstall http://svn.pydro.noaa.gov/
> > > >
> > > > If it still doesn't work, let me know!
> > > >
> > > > Katrina

Fwd: Unassigned platforms that were not found

1 message

David Neff <david@etracinc.com> Wed, Sep 21, 2016 at 4:08 PM
To: Verena Kellner <verena@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Fri, Sep 16, 2016 at 2:01 PM
Subject: Re: Unassigned platforms that were not found
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Great, thank you.

On Fri, Sep 16, 2016 at 4:57 PM, David Neff <david@etracinc.com> wrote:
> Yes correct. We are disproving 6 platforms so far, all within the limits of our coverage.
>
> On Friday, September 16, 2016, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
> > Dave,
> >
> > Thank you for the heads up. So am I understanding correctly that all of the platforms that were disproved so far were within existing complete coverage? There was no need to extend the sheet limits for any of these?
> >
> > Katrina
> >
> > On Fri, Sep 16, 2016 at 4:46 PM, David Neff <david@etracinc.com> wrote:
> > > Hi Katrina,
> > >
> > > Just going through our notes from your visit and checking stuff off the list. I may be bombarding your inbox over the weekend so you will have lots of fun questions on Monday morning. I know you enjoy questions.
> > >
> > > For the unassigned platforms that will require a full disproval (i.e. complete coverage MBES, unless that radius extends past sheet boundaries, then we will extend coverage to disprove). It states in the HSSD that should we encounter this situation and undergo a formal disproval we should contact you.
> > >
> > > Thus Far our stats for platforms that we have not found are:
> > >
> > > H12941 - 1 of 6 not found
> > > H12942 - 2 of 6 not found
> > > H12943 - 1 of 14 not found
> > > H12944 - 2 of 10 not found
> > > H12945 - 0 of 1 not found
> > > H12946 - 0 of 0 not found
> > > H12947 - 0 of 4 not found
> > >
> > > We will be pulling these from the CSF and adding them to their respective FFF with the recommendation delete.
> > >
> > > I will update you as we wrap up the field effort with any updated platform disprovals.
> > >
> > > Should you require specific details on the platforms we plan on formally disproving at this time, just let me know.
> > >
> > > --
> > > David Neff, C.H.
> > > Mobile: (415)-517-0020

Isadora Kratchman <izzy@etracinc.com>

Fwd: Guidance Checklist

1 message

David Neff <david@etracinc.com> Sat, Sep 17, 2016 at 8:46 PM
To: Verena Kellner <verena@etracinc.com>, Lisa Diamond <lisa@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>, Kori Ktona <Kori@etracinc.com>

This is everything I have sent Katrina after her visit. Let me know if I'm missing anything.
---------- Forwarded message ----------
From: **David Neff** <david@etracinc.com>
Date: Sat, Sep 17, 2016 at 7:55 PM
Subject: Guidance Checklist
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Katrina,
Thank you again for the field visit. I think it was very worth while and we enjoyed visiting with you as a group and talking through our approach on some of data we are seeing here. I know I have bombarded your inbox with my follow up list from your visit, and I don't expect answers immediately on everything but I thought it would be helpful to compile a list here. I am a list guy, so this helps me.

ATON (unassigned, private, lighted buoy, in CSF) - is it a DTON?
(Dave sent email to Katrina on 09/16/16) **Open**

Exposed pipeline (Sheet 2)
(Dave sent email to Katrina on 09/17/16) **Open**

Examples of wellhead imagery
(Dave sent email to Katrina on 09/17/16) **Open**

A few features are throwing our data into a range where a 2m surface will technically need to be delivered along with the 4m surface for Sheet 2.
(Dave sent email to Katrina on 09/17/16) **Open**

SOP about junction analysis difference
(Dave sent email to Katrina on 09/17/16) **Open**

NCEI Submission of SV data. Downloaded Velocipy and have been working out how to use the software.
(Dave sent email to Katrina on 09/16/16 regarding some specific questions about Velocipy. Katrina has relayed to Barry and the questions are in progress.) **Open**

2009 Junction/Sheet 6; Sounding comparison from chart to our data
(Dave sent email to Katrina on 09/17/16) **Courtesy email, no guidance needed**

If there is a feature outside our sheet boundaries, email Katrina if more coverage is needed around the radius of the feature **(Does not need to happen until situation arises)** **(Dave sent email to Katrina on 09/16/16 detailing the number of platforms we will be adding to the FFF with recommendation delete. They are all within our survey coverage and do not require additional coverage. In retrospect, this email was unnecessary.)** **Closed**

Fwd: Charted ATONS that do not exist

2 messages

David Neff <david@etracinc.com> Tue, Sep 20, 2016 at 3:02 PM
To: Verena Kellner <verena@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>

Light list?

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Tuesday, September 20, 2016
Subject: Charted ATONS that do not exist
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Dave,

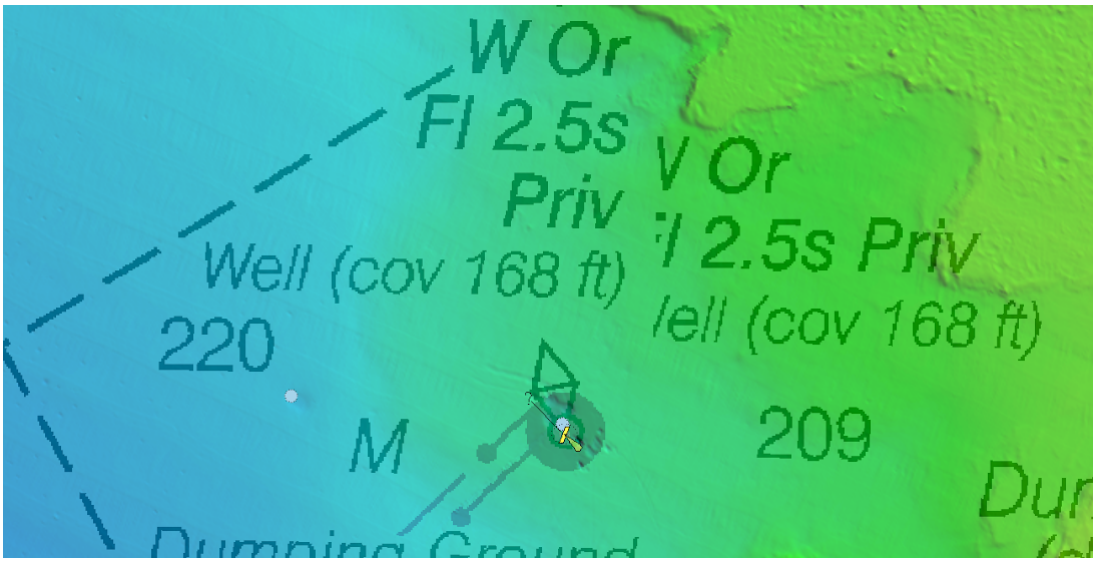
We do not believe these missing AtoNs should be submitted as DtoNs. We are fine with you including them as 'delete' in the FFF and talking about that in the DR.

Did you see anything in the light list about their status? Is it listed as temporary by chance?

Katrina

On Fri, Sep 16, 2016 at 1:16 PM, David Neff <david@etracinc.com> wrote:

> Katrina,
>
> In H12944, 2 private buoys and lights that are charted, were not visually observed. These ATONs were charted and unassigned. During mainscheme survey operations the ATONS were not observed. Additional investigation was performed to confirm their non-existence.
>
> In section 7.3.5 Aids to Navigation within the 2016 Specs, it says if an ATON is "damaged to the extent that it does not serve its intended purpose or its characteristics are incorrectly charted, the facts should be reported immediately in the form of a Danger to Navigation... and also included in the FFF." We have included these within our FFF as DELETEs, but should we submit a DTON for the missing ATONs as well?
>
> Below are images of the ATONs that do not exist. The first image has RNC 11361_1 and the second image has RNC 11358_1 as the loaded chart for reference.
>
> Additional information that may weigh in, both the buoys are at the location of BSEE wellheads. One location a wellhead was observed, and the other contains scouring evidence that a wellhead existed at one time, but was not detected during survey.



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David Neff, C.H.
Mobile: (415)-517-0020
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David Neff, C.H.
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David Neff <david@etracinc.com> Wed, Sep 21, 2016 at 6:32 PM
To: Isadora Kratchman <izzy@etracinc.com>, Verena Kellner <verena@etracinc.com>

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Tue, Sep 20, 2016 at 7:59 AM
Subject: Re: Charted ATONS that do not exist
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Fwd: Mischarted ATON in Sheet 1

4 messages

David Neff <david@etracinc.com> Tue, Sep 20, 2016 at 3:53 PM
To: Verena Kellner <verena@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>

Again with the light list. Where is this list?

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Tue, Sep 20, 2016 at 8:34 AM
Subject: Re: Mischarted ATON in Sheet 1
To: David Neff <david@etracinc.com>

Dave,

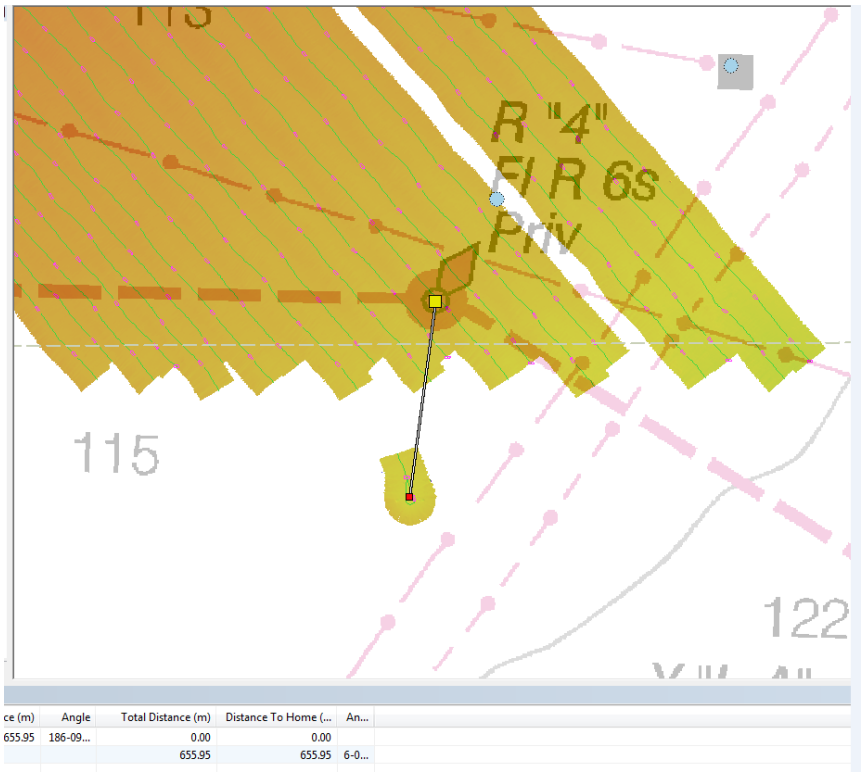
Before you send this in as a DtoN, please forward to Tim Osborn with your intention of submitting it as a DtoN. It is charted as a buoy but looks like some kind of tower? Are the marking descriptions correct in the light list?

Katrina

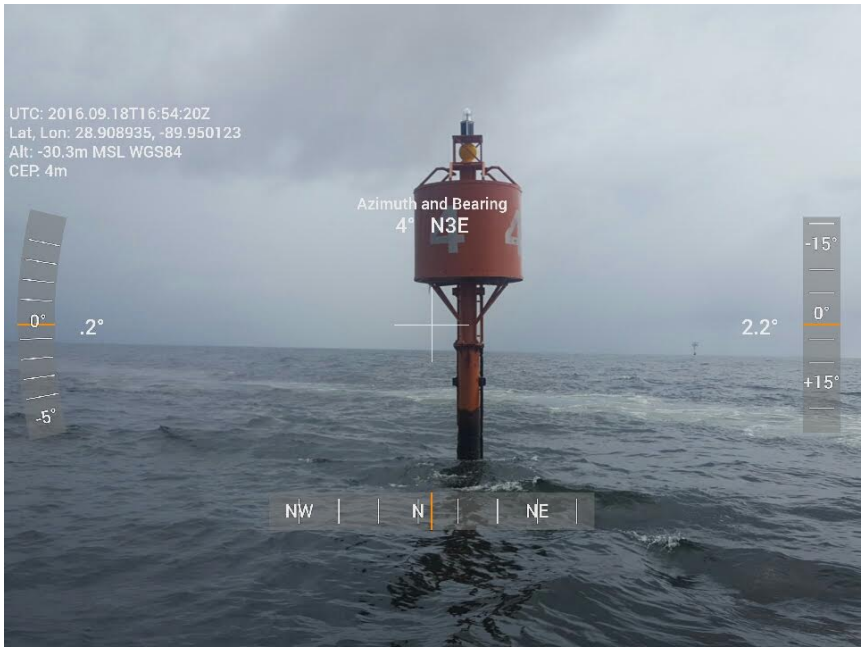
On Mon, Sep 19, 2016 at 7:36 PM, David Neff <david@etracinc.com> wrote:

Hi Katrina,

We have a mischarted ATON in Sheet 1. This is one of the markers for the LOOP area and is mischarted by nearly 650 meters. They noticed it wasn't there during acquisition, but saw it outside the sheet and ran out to grab an investigation line on it as well as the picture shown below. My instinct is to report this as a DTON. Concur?



ce (m)	Angle	Total Distance (m)	Distance To Home (...	An...
655.95	186-09...	0.00	0.00	
		655.95	655.95	6-0...



--
David Neff, C.H.
Mobile: (415)-517-0020
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--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

David Neff <david@etracinc.com> Wed, Sep 21, 2016 at 6:38 PM
To: Isadora Kratchman <izzy@etracinc.com>, Verena Kellner <verena@etracinc.com>

---------- Forwarded message ----------
From: **Tim Osborn - NOAA Federal** <tim.osborn@noaa.gov>
Date: Tue, Sep 20, 2016 at 10:33 AM
Subject: Fwd: Mischarted ATON in Sheet 1
To: David Neff <david@etracinc.com>
Cc: "Morgan Wolfe LOOP Inc." <mwolfe@loopllc.com>, Robert Beauregard LOOP <rlbeauregard@loopllc.com>, Dave Ledet USCG D8 Waterways <David.P.Ledet@uscg.mil>, "Vacco, Howard K LCDR" <Howard.K.Vacco@uscg.mil>, "Taylor, Vanessa R LTJG" <Vanessa.R.Taylor@uscg.mil>

Dave

Thank you for this report and documentation. LOOP and USCG are copied on this. I am hopeful we will get feedback and action on this near term.

Thank you for your work and efforts.

Tim

---------- Forwarded message ----------
From: **David Neff** <david@etracinc.com>
Date: Tue, Sep 20, 2016 at 11:57 AM
Subject: Fwd: Mischarted ATON in Sheet 1
To: Tim Osborn <tim.osborn@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Tim,

I sent this to Katrina yesterday and she suggested I get in touch with you before submitting as a DTON. We have found this charted marker (LOOP boundary marker) to be out of place (see below). Our instinct is to submit this as a DTON. The light list details it as:

530	*Loop Fairway Lighted Buoy 4*	28-54-52.000N 089-57-00.000W	Fl R 6s	Red.	Private aid.

The light list matches our source data from OCS, so NOAA and USCG are agreeing on the position, but it seems to be incorrect.

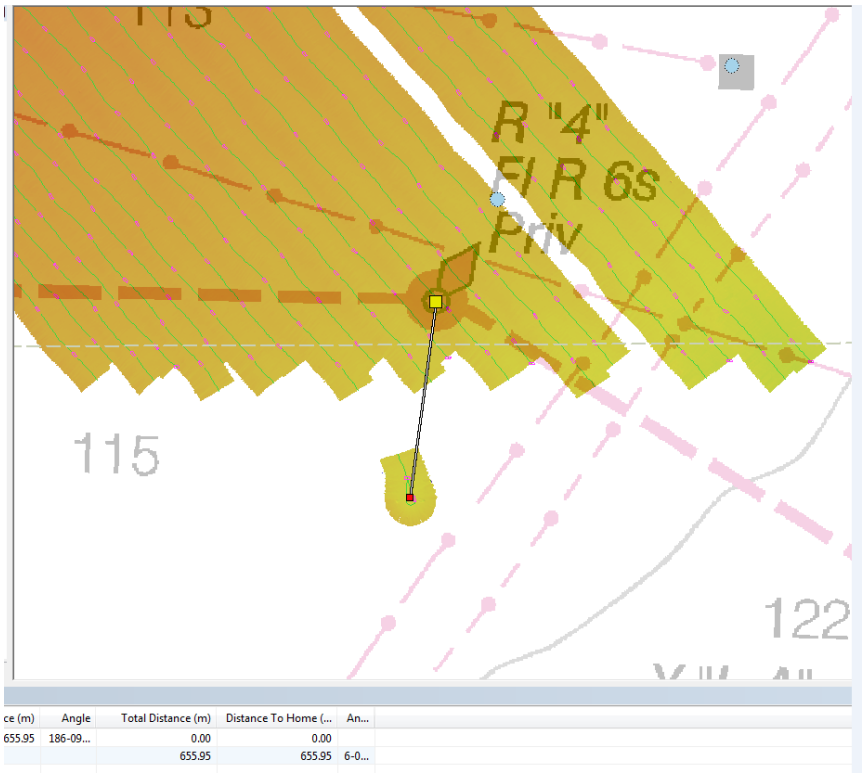
See below for our findings.

Dave

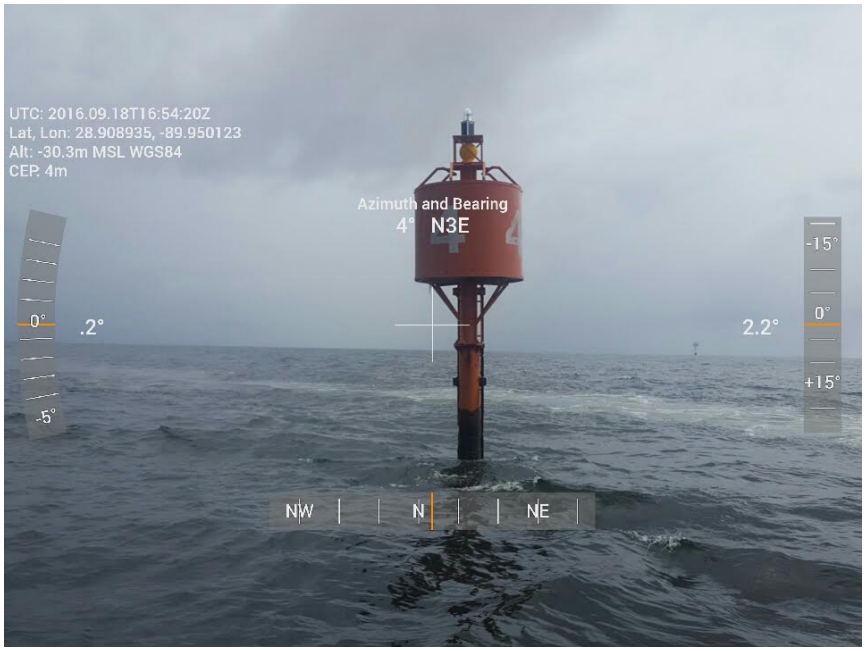
---------- Forwarded message ----------
From: **David Neff** <david@etracinc.com>
Date: Mon, Sep 19, 2016 at 4:36 PM
Subject: Mischarted ATON in Sheet 1
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Katrina,

We have a mischarted ATON in Sheet 1. This is one of the markers for the LOOP area and is mischarted by nearly 650 meters. They noticed it wasn't there during acquisition, but saw it outside the sheet and ran out to grab an investigation line on it as well as the picture shown below. My instinct is to report this as a DTON. Concur?



ce (m)	Angle	Total Distance (m)	Distance To Home (...	An...
655.95	186-09...	0.00	0.00	
		655.95	655.95	6-0...



--
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--
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--
Tim Osborn, NOAA
337-254-5933
tim.osborn@noaa.gov

--
Dave Neff, C.H.
Mobile: (415)-517-0020
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David Neff <david@etracinc.com> Thu, Sep 29, 2016 at 5:11 PM
To: charting@etracinc.com

Need to make a DTON out of the mischarted LOOP marker.
---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Thu, Sep 29, 2016 at 9:50 AM
Subject: Re: Mischarted ATON in Sheet 1
To: David Neff <david@etracinc.com>
Cc: Tim Osborn <tim.osborn@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Dave,

Please move forward with this DtoN submission.

Katrina
[Quoted text hidden]

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

Isadora Kratchman <izzy@etracinc.com> Thu, Sep 29, 2016 at 7:12 PM
To: David Neff <david@etracinc.com>

Dave,

Attached is H12941_DtoN_01.

-Izzy
[Quoted text hidden]
--
Isadora Kratchman
eTrac Inc.
izzy@etracinc.com
Mobile: (301)-706-9246
www.etracinc.com

H12941_DtoN_01.zip
591K

Isadora Kratchman <izzy@etracinc.com>

Fwd: Junction Analysis

1 message

---------- Forwarded message ----------
From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>
Date: Tue, Sep 20, 2016 at 9:03 AM
Subject: Re: Junction Analysis
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Dave,

1. Yes, this is great! Please make sure you describe the method in the DR or DAPR.
2. I attached the process Fairweather is using for xline and junction analysis. It ends up with plots like the one below (example is xline but same process for junctions). This is a Fairweather SOP so I'm not sure if AHB is familiar with this method yet.

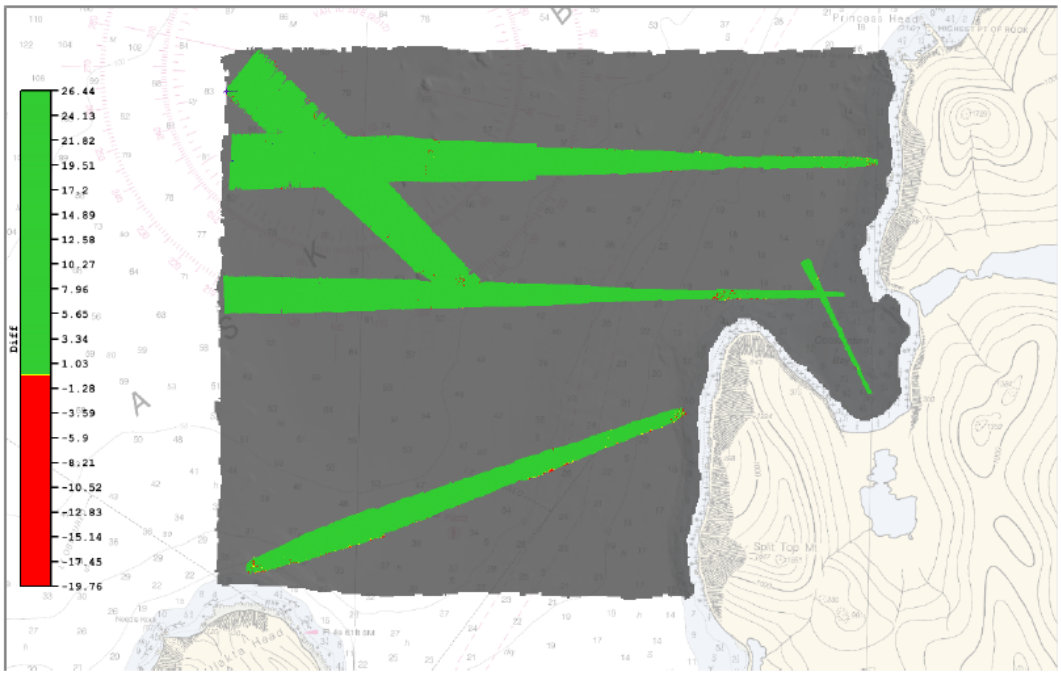


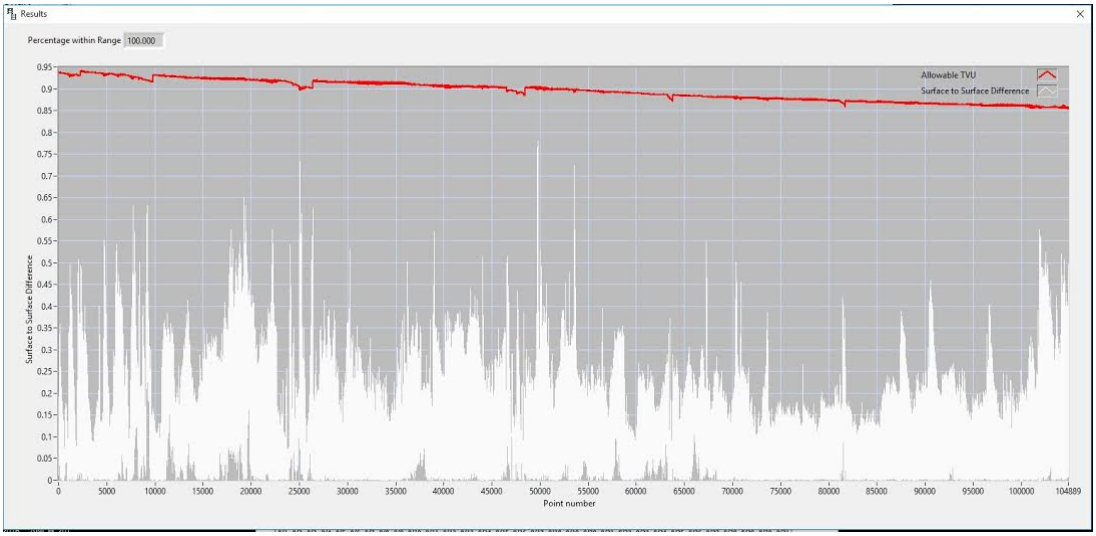
Figure 6: H12940 Crossline Difference vs. Allowable NOAA Uncertainty

Crossline NOAA Allowable Uncertainty		
Total Nodes	Passed Nodes	Failed Nodes
98138	539	97599
	Percentage Failed	**0.50%**
	Percentage Passed	99.50%

Figure 7: H12940 Crossline Difference vs. Allowable NOAA Uncertainty Statistics

On Sat, Sep 17, 2016 at 12:20 PM, David Neff <david@etracinc.com> wrote:

> Hi Katrina,
>
> With the number of junctions we have this year, we have come up with what we think is a more efficient way to analyze these junctions.
>
> Our method is this:
> 1. Surface 1: Export Surface to ASCII (X,Y,Z)
> 2. Surface 2: Export Surface to ASCII (X,Y,Z)
> 3. Create Surface to Surface difference in Caris, Export Surface to ASCII (X,Y,DIFF)
>
> JunctionTrac takes in all 3 ASCII files, uses the shoalest of the 2 depth values for an overlapping XY location to calculate the allowable TVU at that depth, and then compares it to the difference between the 2 surfaces at the same location. The results are as shown below with a graph of the comparison and the statistic in the upper left.



1. Is this an acceptable way to perform junction analysis?

2. We had talked about this when you were here and you mentioned there may be a way to get depth and difference information out of Caris and that you may have an SOP on how they are reviewing junctions at AHB?

Dave

--
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Mobile: (415)-517-0020
www.etracinc.com

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04a_NOAAness_XLdiff.doc
170K

Isadora Kratchman <izzy@etracinc.com>

Fwd: Uncovered Pipelines in GOM

2 messages

David Neff <david@etracinc.com> Tue, Sep 20, 2016 at 8:20 PM
To: Isadora Kratchman <izzy@etracinc.com>, Verena Kellner <verena@etracinc.com>

Don't do anything on the pipeline stuff until I hear back from Tim. See below for what I wrote to him.

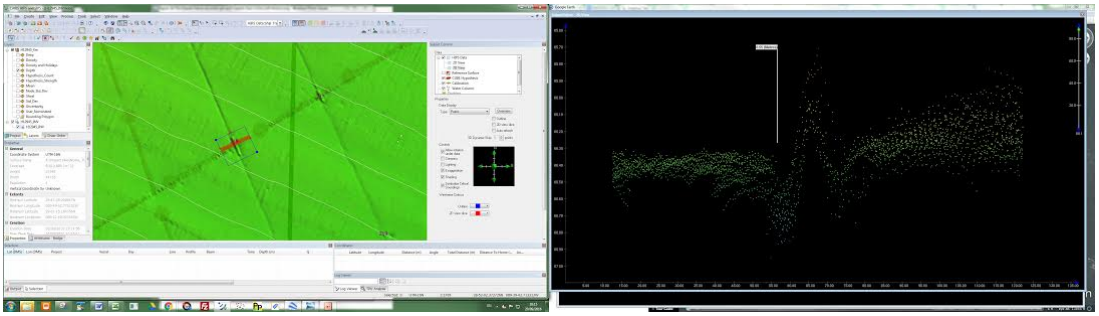
---------- Forwarded message ----------
From: **David Neff** <david@etracinc.com>
Date: Tue, Sep 20, 2016 at 12:04 PM
Subject: Uncovered Pipelines in GOM
To: Tim Osborn <tim.osborn@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Tim,

We are seeing a fair amount of pipelines that are uncovered on our charting project. I wanted to get an idea of the level of concern we should have when encountering them. We perform a lot of maintenance mapping of O&G pipelines around the country and it is not uncommon for pipelines to be exposed and in many cases laying them directly on the seafloor without burying them is intentional.

Katrina mentioned that pipelines that are uncovered may be of concern, but asked that I check in with you. Are all the pipelines in GOM supposed to be buried? If so, how should we report those cases?

Thanks,
Dave



--
David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

David Neff <david@etracinc.com> Tue, Sep 20, 2016 at 9:05 PM
To: Lisa Diamond <lisa@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>, Verena Kellner <verena@etracinc.com>, Kori Ktona <Kori@etracinc.com>

Tims response to the covered/uncovered pipeline question. We will see what these folks come back with.

---------- Forwarded message ----------
From: **Tim Osborn - NOAA Federal** <tim.osborn@noaa.gov>
Date: Tuesday, September 20, 2016
Subject: Uncovered Pipelines in GOM
To: David Neff <david@etracinc.com>
Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, christina.fandel@noaa.gov, Michael D Miner <Michael.Miner@boem.gov>, Shane Stradley <shane.stradley@boem.gov>, angie.gobert@bsee.gov, Dave Ledet USCG D8 Waterways <david.p.ledet@uscg.mil>, rachel.medley@noaa.gov

Dave

Thanks for the inquiry. Mike Miner and Shane Stradley and Angie Gobert BOEM and BSEE as is Dave Ledet of USCG are copied. The issue of exposed pipelines is something that is an issue for certain environments. I believe they can help on this.

Tim

> On Sep 20, 2016, at 2:04 PM, David Neff <david@etracinc.com> wrote:
>
> Hi Tim,
>
> We are seeing a fair amount of pipelines that are uncovered on our charting
> project. I wanted to get an idea of the level of concern we should have
> when encountering them. We perform a lot of maintenance mapping of O&G
> pipelines around the country and it is not uncommon for pipelines to be
> exposed and in many cases laying them directly on the seafloor without
> burying them is intentional.
>
> Katrina mentioned that pipelines that are uncovered may be of concern, but
> asked that I check in with you. Are all the pipelines in GOM supposed to be
> buried? If so, how should we report those cases?
>
> Thanks,
> Dave
>
>
>
>
>
> --
> David Neff, C.H.
> Mobile: (415)-517-0020
> www.etracinc.com
> <Pipeline.jpg>

[Quoted text hidden]

Fwd: Re: Fwd: Velocipy

5 messages

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Wed, Sep 28, 2016 at 1:44 PM
To: David Neff <david@etracinc.com>, charting@etracinc.com
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Dave,

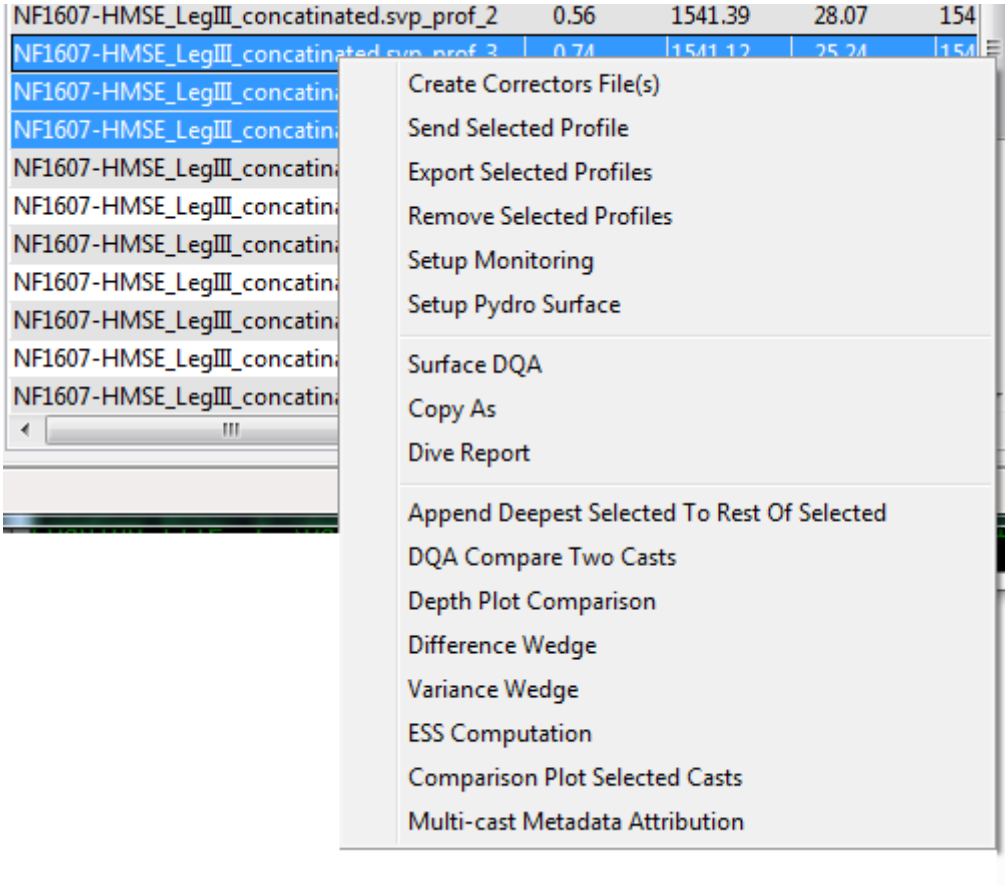
See below from Barry regarding his Velocipy update. Please let us know if this works.

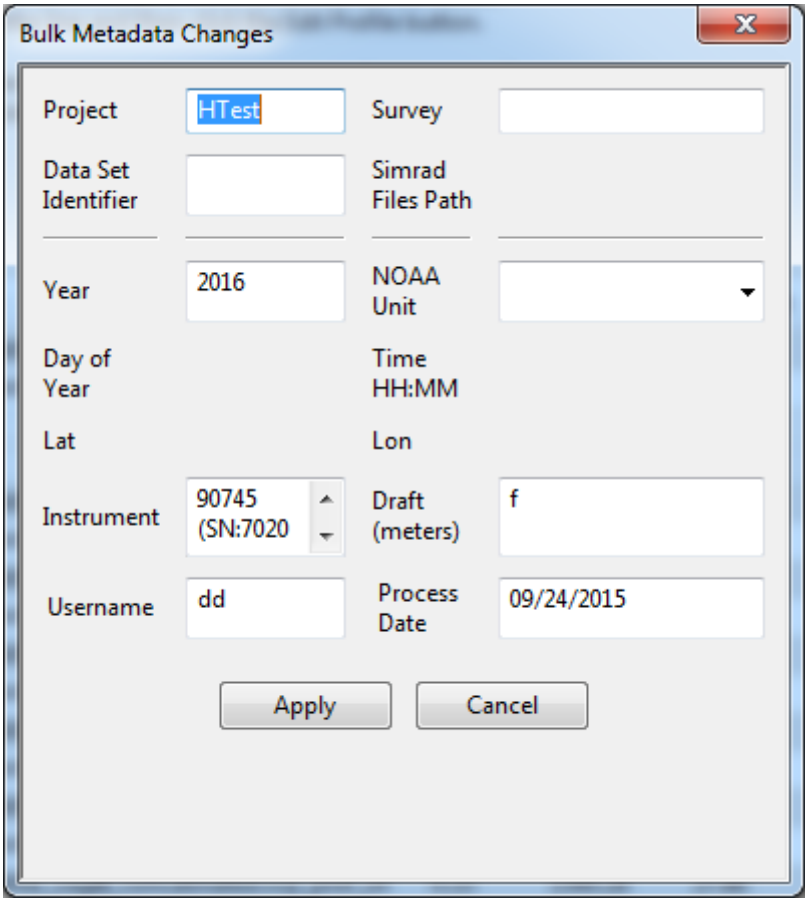
Thank you,
Katrina

---------- Forwarded message ----------
From: **Barry Gallagher** <barry.gallagher@noaa.gov>
Date: Wed, Sep 28, 2016 at 9:40 AM
Subject: Fwd: Re: Fwd: Velocipy
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: Corey Allen - NOAA Federal <corey.allen@noaa.gov>

I've added a "Multi-Cast metadata editor". The change should auto-update next time they run Velocipy. It will let them highlight casts in the list within Velocipy and then change the fields shown below. Hidden fields must be edited for one cast at a time (meaning Day, Time, Lat, Lon). Let me know if this works as desired. Images and notes below.

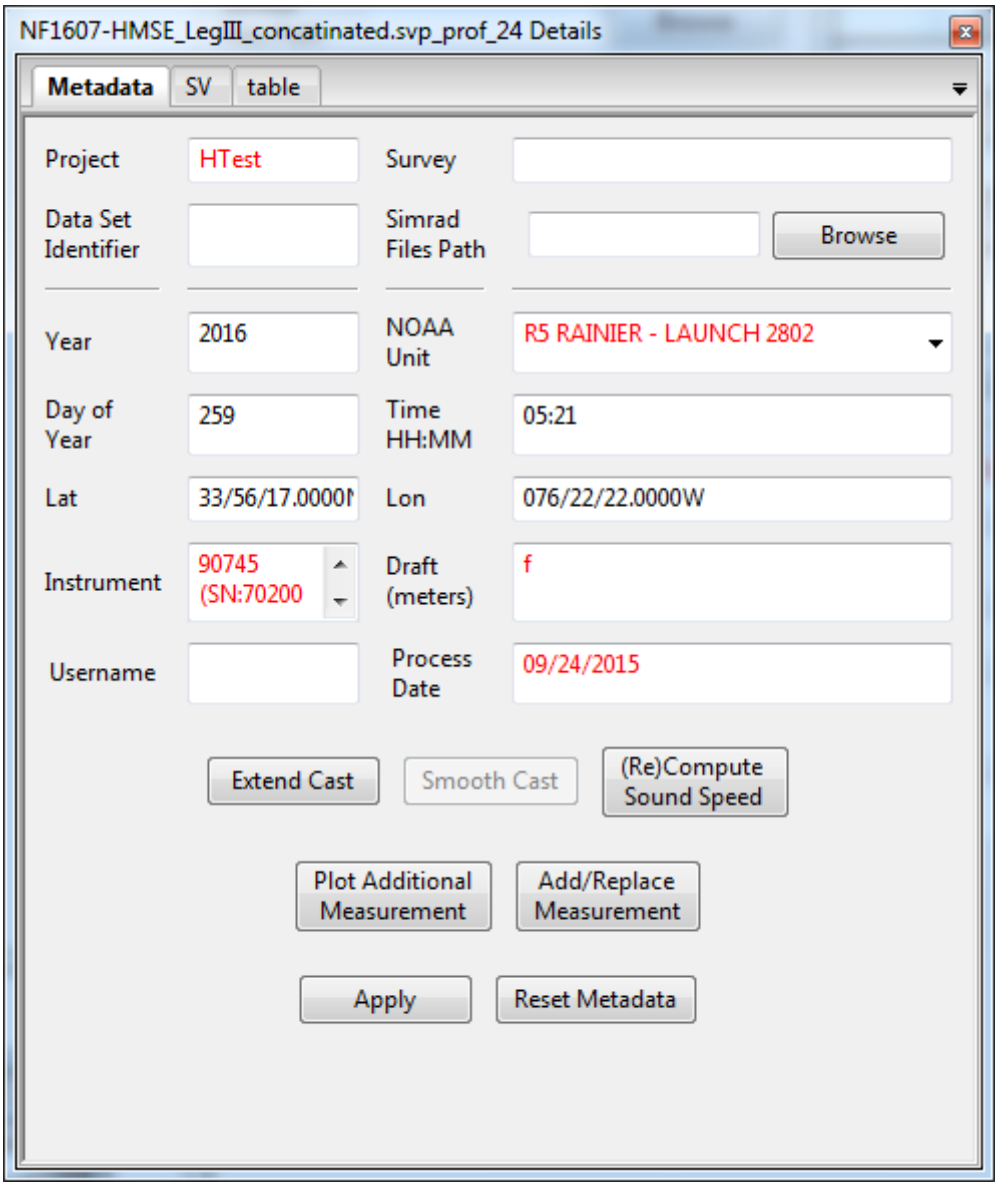
Regards,
Barry

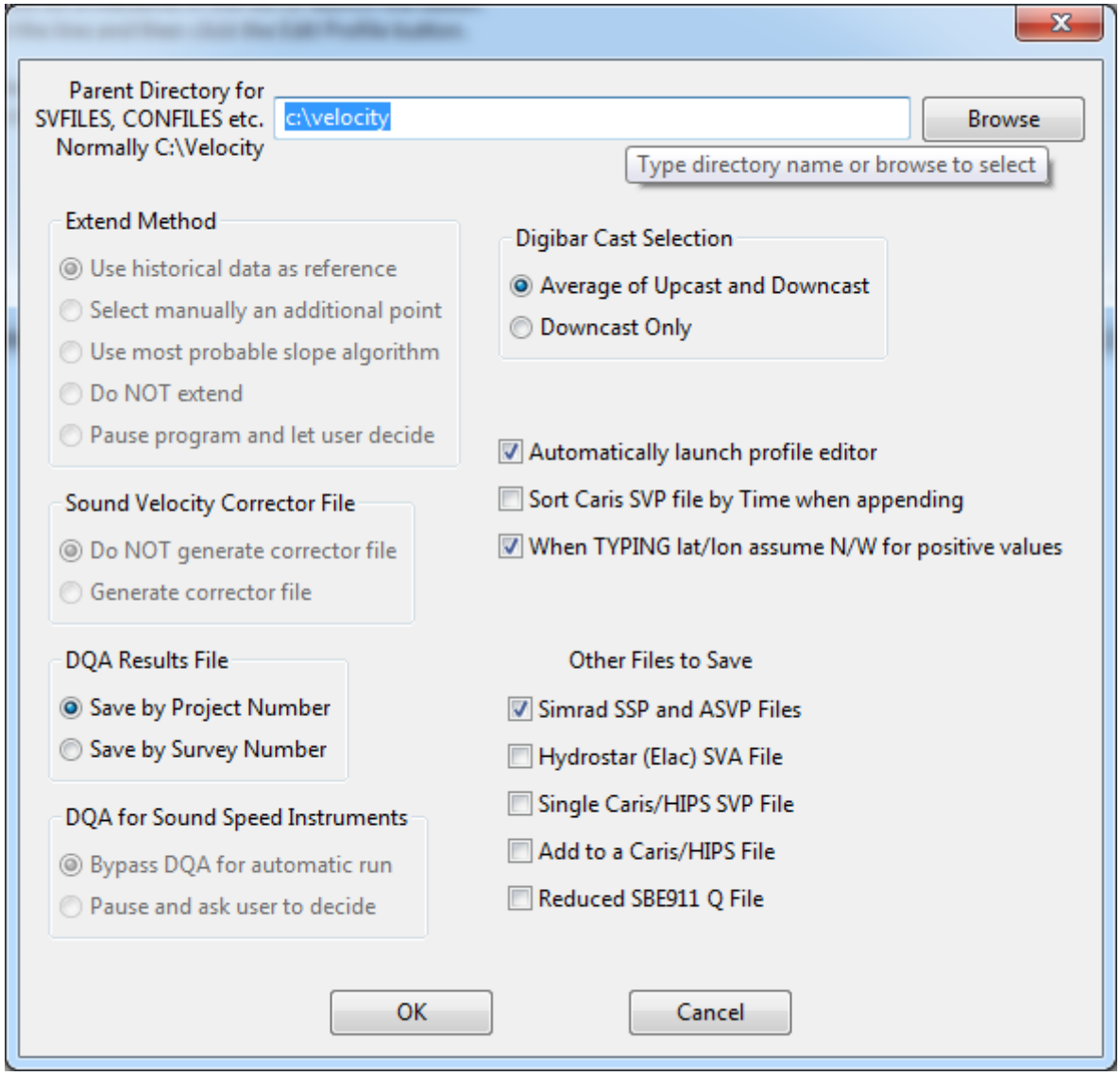




A general note. When you enter metadata for one cast it remembers for the future and for casts that do not contain that metadata it will auto-fill the fields in red. This is most useful for a single vessel processing casts frequently so that he instrument and project and vessel are constant. That is also why the windows pop up by default. You can turn off the

auto-popup behaviour in the menu under File-Preferences and then unchecking the option in the resulting dialog.





---------- Forwarded message ----------

From: **David Neff** <david@etracinc.com>
Date: Fri, Sep 16, 2016 at 12:46 PM
Subject: Velocipy
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Hi Katrina,

I've downloaded the Velocipy software from the link you provided last week. I believe it's working properly. We load our sheetwide Caris SV file which in this case contains about 60 casts for 1 vessel. All the profile windows open and stack on eachother, which is cool because it makes me feel like I just won windows solitaire.

We've figured out how export the format that NCEI needs, but each cast needs a number of metadata fields (project number, survey, etc.) filled out that I can seemingly only do manually for each cast. Do you or someone at HSTP know of a way to apply metadata settings to a group of casts? I've read through what documentation I could find with no luck.

Thanks,
Dave

--

David Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

David Neff <david@etracinc.com> Fri, Oct 7, 2016 at 10:30 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: charting@etracinc.com, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Katrina,

I've made it back to the bay and have tested this feature. It works! so problem solved. Thanks

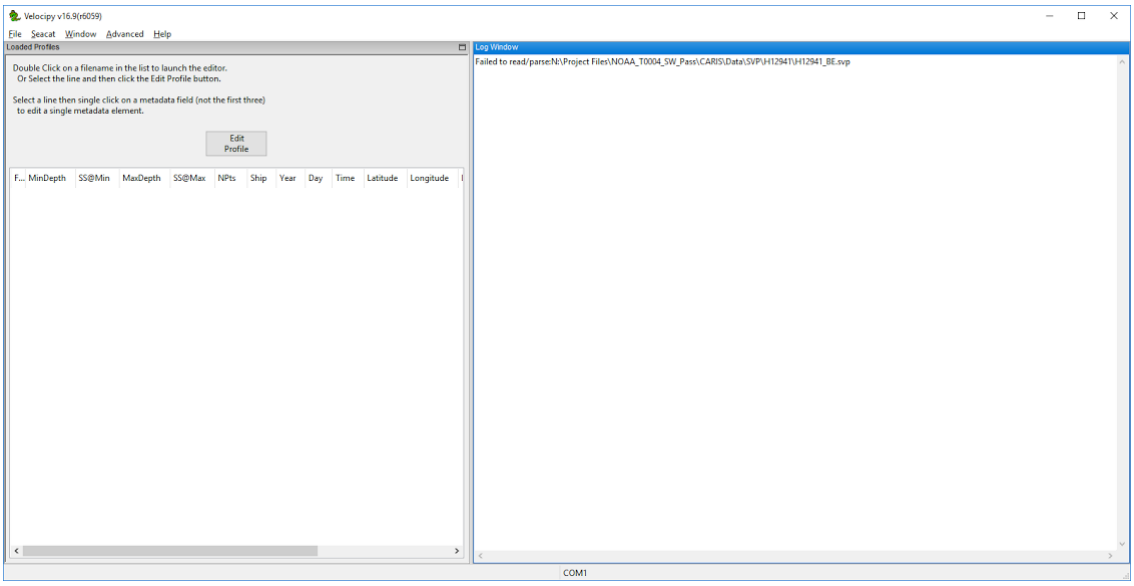
Dave
[Quoted text hidden]
--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

David Neff <david@etracinc.com> Thu, Oct 27, 2016 at 5:44 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: charting@etracinc.com, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Katrina,

Has there been an update to Velocipy? I can no longer seem to load the Caris SVP files:

We are using Velocipy 16.9 and I have auto updates enabled.



I've attached one of our SVP files for testing if necessary.

Dave

[Quoted text hidden]

H12941_TA.svp
13K

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Oct 27, 2016 at 8:54 PM
To: David Neff <david@etracinc.com>
Cc: Charting <charting@etracinc.com>

Dave,

Please see below from Barry regarding Velocipy. Was your .svp file made by Caris?

Thank you,
Katrina

---------- Forwarded message ----------
From: **Barry Gallagher** <barry.gallagher@noaa.gov>
Date: Thu, Oct 27, 2016 at 3:36 PM
Subject: Re: Fwd: Re: Fwd: Velocipy
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Corey Allen <corey.allen@noaa.gov>

There is supposed to be a line with a "filename" that is missing. I added a line in the file you attached (example below too) and it then reads correctly. Was the file they supplied made by Caris or Velocipy? I can change velocipy but am wondering who made the file. When I loaded the data and exported the casts the file from Velocipy contained the filename as expected.

[SVP_VERSION_2]
02260215.svp **<THIS LINE WAS MISSING>**
Section 2016-254 13:29:28 28:56:10 -89:55:32
0.02 1529.05
1.01 1535.93

H12941_TA.svp
13K

David Neff <david@etracinc.com> Thu, Oct 27, 2016 at 9:03 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: Charting <charting@etracinc.com>

Got it Katrina,

We can add that line. The strange thing is that these files haven't changed and they worked in Velocipy before, which made me think there was an update to the software. We can work around it and put that line in the files from now on. Thanks

Dave

[Quoted text hidden]
--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

Isadora Kratchman <izzy@etracinc.com>

H12941_DtoN_01

1 message

David Neff <david@etracinc.com> Thu, Sep 29, 2016 at 7:54 PM
To: ahb.dton@noaa.gov, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, charting@etracinc.com

Please find attached H12941_DtoN_01 for your review. H12941_DtoN_01 is a mischarted marker intended to mark the LOOP facility security boundary. Please let me know if you have any questions.

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

H12941_DtoN_01.zip
591K

Isadora Kratchman <izzy@etracinc.com>

Possible Seep

2 messages

David Neff <david@etracinc.com> Sat, Oct 1, 2016 at 9:14 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, charting@etracinc.com

Hi Katrina,

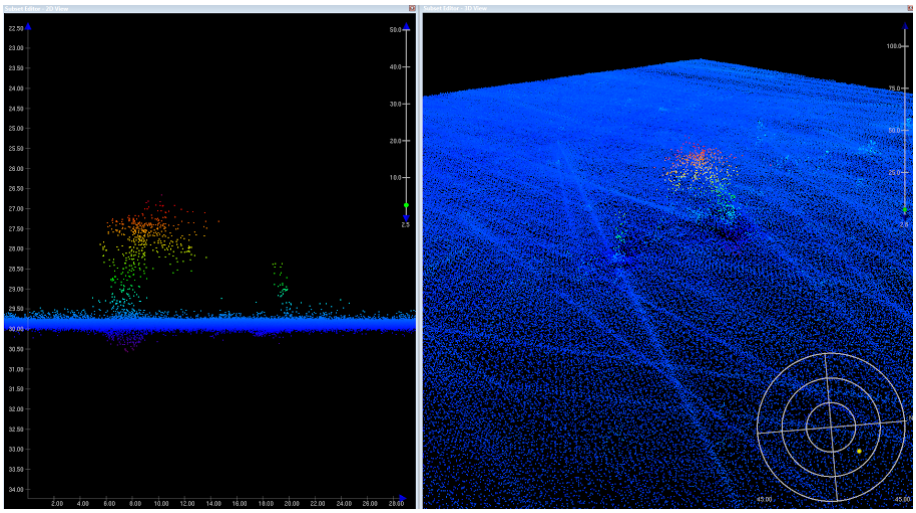
We have another possible seep. The feature has the form and morphology typical of ascending gas or bubble plumes and was found while investigating an assigned BSEE wellhead.

Lat - 28-56.09N
Lon - 90-01.41W
20m from BSEE wellhead

I have added an image below. I assume we will follow previous protocol and you will send this info to Tim with me blind copied?

We will be wrapping up MS collection today and will have 1-2 days of fill / inv left.

Dave



--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Sat, Oct 1, 2016 at 9:42 PM
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, "charting@etracinc.com" <charting@etracinc.com>

Hi Dave,

Thank you. Yes, I will forward to Tim and bcc you.

Almost done!

Katrina

Isadora Kratchman <izzy@etracinc.com>

OPR-K339-KR-16 - H12941 - eTrac Inc. - Final Tides Request

1 message

David Neff <david@etracinc.com> Mon, Oct 3, 2016 at 6:55 PM
To: Final Tides - NOAA Service Account <final.tides@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, charting@etracinc.com, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Please find attached the Final Tides Request for:

OPR-K339-KR-16 / H12941

OPR-K339-KR-16 / H12943

OPR-K339-KR-16 / H12944

OPR-K339-KR-16 / H12945

OPR-K339-KR-16 / H12947

I have also, for convenience re-attached the Final Tides Requests for the following surveys so they are all in one thread:

OPR-K339-KR-16 / H12942

OPR-K339-KR-16 / H12946

This completes the final tides requests for OPR-K339-KR-16.

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

7 attachments

- **H12941_Final_Tide_Request.zip** 273K
- **H12942_Final_Tide_Request.zip** 228K
- **H12943_Final_Tide_Request.zip** 321K
- **H12944_Final_Tide_Request.zip** 300K
- **H12945_Final_Tide_Request.zip** 220K
- **H12946_Final_Tide_Request.zip** 21K
- **H12947_Final_Tide_Request.zip** 131K

Isadora Kratchman <izzy@etracinc.com>

Fwd: Final Tide Notes for K339-KR-2016 (H12941, H12942, H12943, H12944, H12945, H12946, & H12947)

2 messages

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Tue, Oct 25, 2016 at 7:48 PM
To: David Neff <david@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>
Cc: Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>

Dave,

Final tides are now available for OPR-K339-KR-16. The files and new TCARI model are attached to this email.

Katrina

---------- Forwarded message ----------
From: **Colleen Fanelli - NOAA Federal** <colleen.fanelli@noaa.gov>
Date: Tue, Oct 25, 2016 at 3:21 PM
Subject: Final Tide Notes for K339-KR-2016 (H12941, H12942, H12943, H12944, H12945, H12946, & H12947)
To: Katrina Wyllie - NOAA Federal <Katrina.Wyllie@noaa.gov>
Cc: Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>, Richard Brennan - NOAA Federal <richard.t.brennan@noaa.gov>, AHB Chief - NOAA Service Account <ahb.chief@noaa.gov>, Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, Patrick Burke <pat.burke@noaa.gov>, Jerry Hovis <gerald.hovis@noaa.gov>, "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>, Laura Rear McLaughlin - NOAA Federal <laura.rear.mclaughlin@noaa.gov>, Lorraine Robidoux - NOAA Federal <lorraine.robidoux@noaa.gov>

Dear Katrina Wyllie,

A zipped file, named K339KR2016_FinalTides, containing the final tide notes for OPR-K339-KR-2016, Registry Nos. H12941, H12942, H12943, H12944, H12945, H12946, and H12947 is being provided at ftp://tidepool.nos.noaa.gov/pub/outgoing/HPT/Smooth_Tides_TCARI/K339KR2016/. The following files are included in the zipped file:

H12941.pdf
H12942.pdf
H12943.pdf
H12944.pdf
H12945.pdf
H12946.pdf
H12947.pdf

Tide station data for Pilots Station East, SW Pass, LA (8760922), Grand Isle, LA (8761724), and Port Fourchon, Belle Pass, LA (8762075) are provided within the final TCARI grid. Water level data should not be downloaded for project OPR-K339-KR-2016. The *.pdf files are the tide notes in Adobe Acrobat format.

The following is the final TCARI file:

K339KR2016Final.tc

Please use the TCARI grid file "K339KR2016Final.tc" as the final grid for project OPR-K339-KR-2016, Registry Nos. H12941, H12942, H12943, H12944, H12945, H12946, and H12947 during the time period between August 3rd and October 2nd, 2016.

Please let me know when you have captured all files successfully. Feel free to give me a call at (240)533-0615 if there are any problems.

~Colleen

--
Colleen Fanelli
Oceanographer, Hydrographic Planning Team Lead
NOAA/National Ocean Service
Center for Operational Oceanographic Products and Services
Station 7127
1305 East-West Highway N/OPS3
Silver Spring, MD 20910
Colleen.Fanelli@noaa.gov
Phone (NEW): (240) 533 - 0615

Compare the meteorologist with his or her oceanographer colleague: the oceanographer may spend many years planning a campaign of observations of currents, temperature and salinity in a tiny area of the ocean, many weeks of discomfort on a ship taking the observations and several years analysing them back at the laboratory. All of this work is done for the research meteorologist, several times a day on a global basis, who merely has to read the numbers from an archive and construct whatever diagnostic quantity is required.
--Ian N. James, Introduction to Circulating Atmospheres

8 attachments

H12942.pdf
301K

H12943.pdf
301K

H12944.pdf
301K

H12945.pdf
302K

H12946.pdf
299K

H12947.pdf
302K

K339KR2016Final.tc
17060K

H12941.pdf
300K

David Neff <david@etracinc.com> Tue, Oct 25, 2016 at 7:50 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: Isadora Kratchman <izzy@etracinc.com>, Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>

Great, thanks Katrina!
[Quoted text hidden]
--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

Isadora Kratchman <izzy@etracinc.com>

final.tc file question

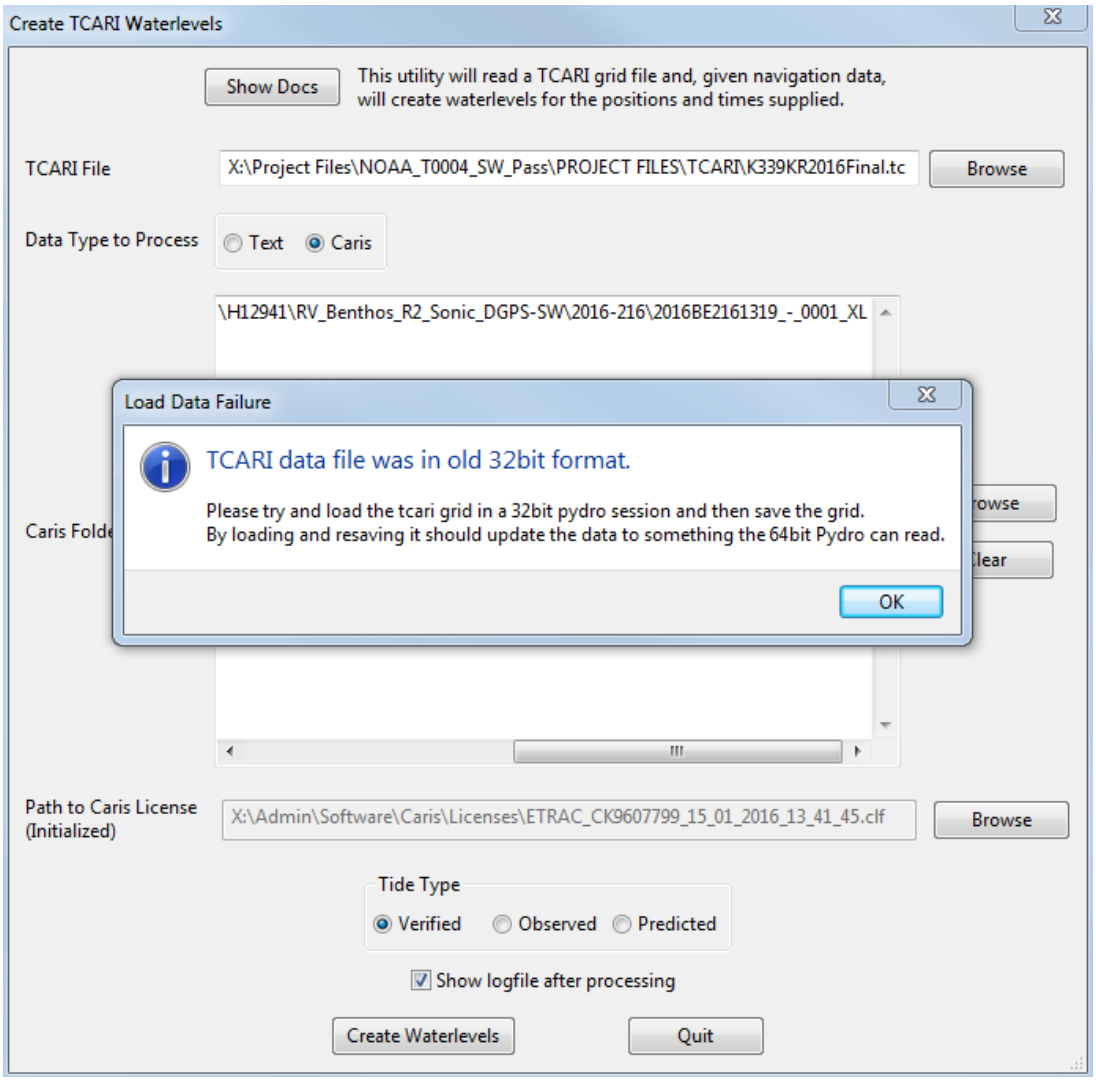
5 messages

Isadora Kratchman <izzy@etracinc.com> Thu, Oct 27, 2016 at 4:23 PM
To: katrina.wyllie@noaa.gov
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Katrina,

We are unable to use the final.tc file in the TCARI program. A "Load Data Failure" error comes up when the "create waterlevels" button is pressed. Looks like it is a 32bit vs 64bit issue. We have the toggle check for updates on so when the TCARI program is launched it goes through its updates. The TCARI program version we have is 16.8.

Below is a screen capture of the error.



Best,
Izzy

--
Isadora Kratchman
eTrac Inc.
izzy@etracinc.com

Mobile: (301)-706-9246
www.etracinc.com

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Oct 27, 2016 at 4:50 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Hi Izzy,

Barry and Corey are looking into this right now. I should have something back to you very soon.

Katrina
[Quoted text hidden]

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Oct 27, 2016 at 4:57 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Izzy,

Barry wasn't expecting a 32 bit format from COOPS. He is updating the Pydro module today and will have the auto-update out tomorrow. I'll let you know as soon as I hear from him that it's been pushed out.

I apologize for the inconvenience.

Katrina
[Quoted text hidden]

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Oct 27, 2016 at 7:00 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Izzy,

Can you shut down TCARI, relaunch and try again?
Should be working now.

Katrina
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com> Thu, Oct 27, 2016 at 7:22 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: David Neff <david@etracinc.com>, Charting <charting@etracinc.com>

Katrina,

It is running now. Thanks!

Best,
Izzy
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com>

OPR-K339-KR-16 Survey Outlines

1 message

David Neff <david@etracinc.com> Thu, Oct 27, 2016 at 7:51 PM
To: survey.outlines@noaa.gov, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Isadora Kratchman <izzy@etracinc.com>

Attached find the survey outlines for OPR-K339-KR-16:

H12941
H12942
H12943
H12944
H12945
H12946
H12947

Please let me know if you have any questions. We have included both .hob and .000 files.

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

OPR-K339-KR-16_Survey_Outline.zip
106K

Isadora Kratchman <izzy@etracinc.com>

OPR-K339-KR-16 Marine Mammal Logs

2 messages

David Neff <david@etracinc.com> Thu, Oct 27, 2016 at 8:01 PM
To: pop.information@noaa.gov, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Isadora Kratchman <izzy@etracinc.com>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Attached are the marine mammal logs from the vessels on our recent NOAA charting contract. Not as many sightings as the Texas job. No turtles were observed.

Dave

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

OPR-K339-KR-16_Marine_Mammal_Observation_Logs.pdf
3378K

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Fri, Nov 18, 2016 at 2:46 PM
To: David Neff <david@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>

These drawings are just the best. Totally just made my Friday looking through them again. Thank you.
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com>

OPR-K339-KR-16 Marine Mammal Observer List

2 messages

David Neff <david@etracinc.com> Thu, Oct 27, 2016 at 8:03 PM
To: jay.nunenkamp@noaa.gov, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Isadora Kratchman <izzy@etracinc.com>

Jay,

Attached is the list of field operatives on eTrac Inc. recent charting job in the Gulf of Mexico complete with date and time the video was viewed by each person. Let me know if you need anything else.

--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

OPR-K339-KR-16_Marine_Mammal_Observers.pdf
90K

Jay Nunenkamp - NOAA Federal <jay.nunenkamp@noaa.gov> Fri, Oct 28, 2016 at 11:54 AM
To: David Neff <david@etracinc.com>
Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Isadora Kratchman <izzy@etracinc.com>

David:

received, thank you.

Sincerely,

Jay Nunenkamp
Environmental Compliance Coordinator
Office of Coast Survey, National Ocean Service
301-713-2770 x158
SSMC3 Room 6215
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com>

H12941: Junction H11179 bag file and Junction H12550

4 messages

Isadora Kratchman <izzy@etracinc.com> Mon, Nov 7, 2016 at 11:36 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: David Neff <david@etracinc.com>

Katrina,

I have a couple of questions in regards to two junctions for H12941.

In our final project instructions package, Junction Survey H11179 does not contain any bag files. Are they available?

Also, in our final project instructions package, we received Survey H12250 instead of Survey H12550. I checked on the NCEI maps site and Survey H12550 is still not listed. Are you able to provide it for us?

Best,
Izzy

--
Isadora Kratchman
eTrac Inc.
izzy@etracinc.com
Mobile: (301)-706-9246
www.etracinc.com

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Tue, Nov 8, 2016 at 2:18 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>

Izzy,

Great questions. H11179 was surveyed before we created BAGs so no BAG exists for this survey. I believe there is a shape file of soundings in the junction folder. It's up to you how you'd like to perform that junction analysis. If you manually review soundings and state their agreement, that's completely adequate. If you'd like to TIN the soundings and make a surface for your typical difference surface approach, that is also completely adequate. Please just make sure you describe in the DR any procedures that may differ from what you have documented in the DAPR.

I am so sorry about the number slip for H12250/H12550. Turns out H12550 is sensitive so it will never show up on NCEI. I have the BAG but I need to request permission to release it or at least a part of it to you for this junction. So stand by, I should have an answer on this request today.

Katrina
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com> Tue, Nov 8, 2016 at 4:26 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: David Neff <david@etracinc.com>

Thanks Katrina.
[Quoted text hidden]

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Wed, Nov 9, 2016 at 8:06 PM
To: Isadora Kratchman <izzy@etracinc.com>

Cc: David Neff <david@etracinc.com>

Sorry for the delay on delivering this junction. I have a meeting with Rick tomorrow morning so I should have something for you tomorrow.

Thanks,
Katrina
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com>

H12550 Junction Waiver

2 messages

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Nov 10, 2016 at 4:36 PM
To: David Neff <david@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Castle Parker <castle.e.parker@noaa.gov>, Briana Welton - NOAA Federal <briana.welton@noaa.gov>, Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>

Dave,

The junction analysis between your current survey and H12550 has been waived by Chief of Hydrographic Surveys Division, CAPT Brennan. Please include this email in DR Appendix II and reference it in the DR junction section.

Thank you,
Katrina

David Neff <david@etracinc.com> Thu, Nov 10, 2016 at 4:39 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: Isadora Kratchman <izzy@etracinc.com>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Castle Parker <castle.e.parker@noaa.gov>, Briana Welton - NOAA Federal <briana.welton@noaa.gov>, Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>, Corey Allen <corey.allen@noaa.gov>

Roger that. Thanks Katrina.
[Quoted text hidden]
--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

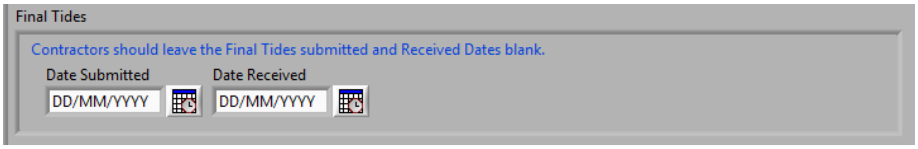
final tides submit and received dates in DR

2 messages

Isadora Kratchman <izzy@etracinc.com> Thu, Nov 17, 2016 at 10:21 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: David Neff <david@etracinc.com>

Katrina,

Another quick question for you. Should we do as the instructions say and not fill this out. Or would you like us to enter our submit and receive date for the final tides request?



Thanks,
Izzy

--
Isadora Kratchman
eTrac Inc.
izzy@etracinc.com
Mobile: (301)-706-9246
www.etracinc.com

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Thu, Nov 17, 2016 at 10:26 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>

Hi Izzy,

Good catch! We usually don't have KR doing final tides request but since we have a few KRs using TCARI this year, we need to update that box. Please do enter your submit and received date. I'll put a ticket in to update the xml.

Thank you,
Katrina
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com>

water column data deliverable

3 messages

Isadora Kratchman <izzy@etracinc.com> Mon, Dec 5, 2016 at 11:49 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: David Neff <david@etracinc.com>

Katrina,

I am organizing our deliverable folder structure and have questions about water column data.

Water column data was collected throughout the project over features and during investigations. Although all of water column data was looked at, it was only found useful in 3 sheets (section for water column was added in the DAPR and in the DR for H12942, H12943 and H12944).

To process and view water column data separate Caris projects were made with naming convention (HXXXXX_WC)

Question 1:
Would you like us to deliver all of the water column data (pre-processed and processed) or just files of water column data that were used during analysis.

Question 2:
For the deliverable structure can we keep the water column data separated and make them each their own project instead of including them within the sheet-wide project?

Best,
Izzy

--
Isadora Kratchman
eTrac Inc.
izzy@etracinc.com
Mobile: (301)-706-9246
www.etracinc.com

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Tue, Dec 6, 2016 at 8:36 PM
To: Isadora Kratchman <izzy@etracinc.com>
Cc: David Neff <david@etracinc.com>

Hi Izzy,

1: Yes, please deliver all of the water column data
2: Would it be possible to just add the water column HXXXXX_WC project to the existing HXXXXX project (i.e. copy project, past project)? Do you have any issues with keeping the two linked in this way?

In the end, the final deliverable is the FFF.000 and the grids. We simply need to make sure that anything sourced from water column is represented in the grid and the feature VALSOU.

Katrina
[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com> Tue, Dec 6, 2016 at 10:44 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: David Neff <david@etracinc.com>

Katrina,

Happy to deliver all of the water column data.

To avoid the risk of corrupting our Caris projects, I am not going to combined the water column projects into the existing HXXXXX projects.We will deliver the water column pre-processed and processed data within the existing HXXXXX project deliverable folders.

Water column data were only used to confirm features and were not used as least depth or added to the surfaces. Least depth and feature VALSOU were only determined/sourced from MBES data.

Best,
Izzy

[Quoted text hidden]

Isadora Kratchman <izzy@etracinc.com>

OPR-K339-KR-16 NCEI Sound Speed Data

1 message

Isadora Kratchman <izzy@etracinc.com> Wed, Dec 7, 2016 at 12:00 AM
To: NODC.submissions@noaa.gov
Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, David Neff <david@etracinc.com>

Attached are the sound speed data for OPR-K339-KR-16 exported through Velocipy to NetCDF files.

Please let me know if you have any questions.

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Isadora Kratchman
eTrac Inc.
izzy@etracinc.com
Mobile: (301)-706-9246
www.etracinc.com

OPR-K339-KR-16_20161206.zip
2943K

Note: 1 DTON was submitted by eTrac, Inc. for H12941. H12941_DtoN_01 has not been registered by NDB. See email correspondence below.

Isadora Kratchman <izzy@etracinc.com>

Re: Mischarted Buoy and Light

David Neff <david@etracinc.com> Wed, Nov 23, 2016 at 5:29 PM
To: Isadora Kratchman <izzy@etracinc.com>

---------- Forwarded message ----------
From: **Castle Parker - NOAA Federal** <castle.e.parker@noaa.gov>
Date: Wed, Nov 23, 2016 at 9:27 AM
Subject: RE: Mischarted Buoy and Light
To: David Neff <david@etracinc.com>
Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Dave,

I did not find any reference to H12941 in MCD's DREG system. I did find entries for H12942 with registration/application to ENC US5LA41M; entry found for H12942 and H12943 for chart 11358, and H12942 for chart 11359.

Suggest to include the email that I sent you between Tim Osborn and USCG in H12941 DR appendix 2.

gp

Castle Eugene Parker

NOAA Office of Coast Survey

Atlantic Hydrographic Branch

Hydrographic Team Lead / Physical Scientist

castle.e.parker@noaa.gov

office (757) 441-6746 x115

From: Castle Parker - NOAA Federal [mailto:castle.e.parker@noaa.gov]
Sent: Wednesday, November 23, 2016 12:12 PM
To: 'David Neff' <david@etracinc.com>; Matthew Wilson - NOAA Federal <matthew.wilson@noaa.gov>
Cc: Briana Welton - NOAA Federal <briana.welton@noaa.gov>; 'Isadora Kratchman' <izzy@etracinc.com>; Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Subject: RE: Mischarted Buoy and Light

Dave,

Matt is out of the office today.

Bearing in mind the DtoN submission was a private nav aid, the information was submitted to Tim Osborn the GOM Navigation Manager. He forwarded the information to the USCG; I will forward the email after sending this response.

The update application to the chart goes through USCG source authority; I can only assume that information has not been registered at NDB. I will check MCD's registry and see if any information was submitted. If I do not respond, it's because there is nothing to report. You will hear from me if I find something.

Have a great Thanksgiving!

Gene

Castle Eugene Parker

NOAA Office of Coast Survey

Atlantic Hydrographic Branch

Hydrographic Team Lead / Physical Scientist

castle.e.parker@noaa.gov

office (757) 441-6746 x115

From: David Neff [mailto:david@etracinc.com]
Sent: Wednesday, November 23, 2016 11:59 AM
To: Matthew Wilson - NOAA Federal <matthew.wilson@noaa.gov>; Isadora Kratchman <izzy@etracinc.com>; Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: Tim Osborn - NOAA Federal <tim.osborn@noaa.gov>; Briana Welton - NOAA Federal <briana.welton@noaa.gov>; Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>; Vanessa Miller - NOAA Federal <Vanessa.Miller@noaa.gov>
Subject: Re: Mischarted Buoy and Light

Hi Matt,

Hope all is well. We are putting together the final deliverables for H12941 and I am noticing that this perhaps never made it through the entire pipe to NDB for chart registration? If it did, I have no record of it. Can you let me know the status of this DTON? Thanks

Happy Thanksgiving

Dave

On Fri, Sep 30, 2016 at 8:13 AM, Matthew Wilson - NOAA Federal <matthew.wilson@noaa.gov> wrote:

> Tim,

> Please see the attached report. This is a mischarted private aid (buoy and associated light), and it marks the bounds of a "precautionary area / loop safety zone" to the west of SW Pass. It was found by eTrac during the course of survey H12941 and submitted to us as a Danger to Navigation.
>
> The USCG LL reference is #530, "Loop Fairway Lighted Buoy 4", and the USCG position is the same as currently charted, however, it was found nearly 600 meters south of this position.
>
> What might you recommend as a follow-on course of action? Thanks for your guidance.
>
> Matt Wilson
> --
>
> Respectfully,
>
> Matthew J. Wilson
>
> Physical Scientist, NOAA Office of Coast Survey
>
> Atlantic Hydrographic Branch
>
> matthew.wilson@noaa.gov
>
> office (757) 441-6746 x205
>
> cell (703) 638-3608

--

Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

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Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

From:	Matthew Wilson - NOAA Federal
To:	Briana Welton - NOAA Federal; Castle Parker - NOAA Federal
Subject:	Fwd: [Non-DoD Source] Fwd: Mischarted Buoy and Light
Date:	Friday, September 30, 2016 12:37:12 PM

I printed this email for our records.

---------- Forwarded message ----------
From: **Tim Osborn - NOAA Federal** <tim.osborn@noaa.gov>
Date: Fri, Sep 30, 2016 at 12:35 PM
Subject: Fwd: [Non-DoD Source] Fwd: Mischarted Buoy and Light
To: matthew.wilson@noaa.gov

Matt

FYI.

Begin forwarded message:

> **From:** "Boriskie, Timothy B CIV" <Timothy.B.Boriskie@uscg.mil>
> **Date:** September 30, 2016 at 11:28:32 AM CDT
> **To:** Tim Osborn - NOAA Federal <tim.osborn@noaa.gov>
> **Cc:** Captain Mike Miller SW Pass Bar Pilots <michael.miller@barpilot.com>, "John Pennison 1" <jlpennison@pphtd.com>, "Vacco, Howard K LCDR" <Howard.K.Vacco@uscg.mil>, "Authement, Adam F BOSN2" <Adam.F.Authement@uscg.mil>, "Esquivel, Michael E MST1" <Michael.E.Esquivel@uscg.mil>, D08-DG-District-DPWPaton <D08-DG-District-DPWPaton@uscg.mil>, D08-DG-District-MarineInfo <D08-DG-District-MarineInfo@uscg.mil>
> **Subject: RE: [Non-DoD Source] Fwd: Mischarted Buoy and Light**
>
> Tim,
>
> Thanks for the marine information related to the Loop Fairway Lighted Buoy 4. This is a Private Aids to Navigation, maintained by the Loop LLC.
>
> The charted position is the CG approved position and shall remain as such. Based upon your information it appears that the Loop Fairway Lighted Buoy 4 is off station.
>
> The current location of Loop Fairway Lighted Buoy 4 is approximately .331 NM south of the required location and shall be repositioned by the owner.
>
> This location is within the Loop Safety Zone and as long as the buoy is lighted it should not pose an immediate navigation hazard.
>
> However, we will immediately notify the owners, Loop LLC, to expeditiously

relocate the buoy to the required location of 28-54-52N, 089-57-00W.

Thanks again for the information.

- Tim

v/r
Tim Boriskie
Assistant Program Manager
for Private Aids to Navigation
==========
Mailing address:
Eighth Coast Guard District (dpw)
Private Aids to Navigation Section
500 Poydras St., Suite 1230
New Orleans, LA 70130
==========
Direct: (504) 671-2124
Office: (504) 671-2328 or 2330
Fax: (504) 671-2137

Private Aids Inquiries Email to: d8OANpaton@uscg.mil

Eighth CG District Website: http://www.uscg.mil/d8/Waterways/PATON_Main.asp

"Good judgment comes from experience, and a lot of that comes from bad judgment. " - Will Rogers

-----Original Message-----
From: Tim Osborn - NOAA Federal [mailto:tim.osborn@noaa.gov]
Sent: Friday, September 30, 2016 10:34 AM
To: Ledet, David P CIV; Vacco, Howard K LCDR; Boriskie, Timothy B CIV; Authement, Adam F BOSN2; Esquivel, Michael E MST1
Cc: Captain Mike Miller SW Pass Bar Pilots; John Pennison 1
Subject: [Non-DoD Source] Fwd: Mischarted Buoy and Light

For your information and action.

\r

Tim

From: Matthew Wilson - NOAA Federal <matthew.wilson@noaa.gov>
To: Tim Osborn - NOAA Federal <tim.osborn@noaa.gov>

Cc: Briana Welton - NOAA Federal <briana.welton@noaa.gov>, Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, Vanessa Miller - NOAA Federal <Vanessa.Miller@noaa.gov>, David Neff <david@etracinc.com>
Subject: Mischarted Buoy and Light

Tim,

Please see the attached report. This is a mischarted private aid (buoy and associated light), and it marks the bounds of a "precautionary area / loop safety zone" to the west of SW Pass. It was found by eTrac during the course of survey H12941 and submitted to us as a Danger to Navigation.

The USCG LL reference is #530, "Loop Fairway Lighted Buoy 4", and the USCG position is the same as currently charted, however, it was found nearly 600 meters south of this position.

What might you recommend as a follow-on course of action? Thanks for your guidance.

Matt Wilson
--

Respectfully,

Matthew J. Wilson
Physical Scientist, NOAA Office of Coast Survey
Atlantic Hydrographic Branch
matthew.wilson@noaa.gov <mailto:matthew.wilson@noaa.gov>
office (757) 441-6746 x205
cell (703) 638-3608

--
Respectfully,

Matthew J. Wilson
Physical Scientist, NOAA Office of Coast Survey
Atlantic Hydrographic Branch
matthew.wilson@noaa.gov
office (757) 441-6746 x205
cell (703) 638-3608

From:	Tim Osborn - NOAA Federal
To:	McMichael, Jason L.
Cc:	Boriskie, Timothy B CIV; Captain Mike Miller SW Pass Bar Pilots; John Pennison 1; Vacco, Howard K LCDR; Authement, Adam F BOSN2; Esquivel, Michael E MST1; D08-DG-District-DPWPaton; D08-DG-District-MarineInfo; Simoneaux, Jeremy P.; Matthew Wilson - NOAA Federal; Castle Parker
Subject:	Re: USCG Light List #530 - Loop Fairway Lighted Buoy 4 - Off Station
Date:	Sunday, October 02, 2016 9:32:29 PM

Jason

Thank you for this report.

Tim

> On Oct 2, 2016, at 10:03 AM, McMichael, Jason L. <jlmcmichael@loopllc.com> wrote:
>
> Tim,
>
> The LOOP Fairway Lighted Buoy 4 was check and confirmed to be in position 28-54-42N, 089-57-00W
>
> Thanks,
>
> Jason McMichael
> Loop LLC Marine Terminal
> Vessel Traffic Controller
> jlmcmichael@loopllc.com
> Ph: 985-632-1425
> Fax: 985-632-1380
>
> -----Original Message-----
> From: Boriskie, Timothy B CIV [mailto:Timothy.B.Boriskie@uscg.mil]
> Sent: Friday, September 30, 2016 11:41 AM
> To: McMichael, Jason L.
> Cc: Captain Mike Miller SW Pass Bar Pilots; John Pennison 1; Vacco, Howard K LCDR; Authement, Adam F BOSN2; Esquivel, Michael E MST1; D08-DG-District-DPWPaton; D08-DG-District-MarineInfo; Tim Osborn - NOAA Federal
> Subject: USCG Light List #530 - Loop Fairway Lighted Buoy 4 - Off Station
>
> Jason,
>
> As discussed on the telephone this morning, the Loop Fairway Lighted Buoy 4 is approximately .331 NM south of the required location and is required to be repositioned at : 28-54-52N, 089-57-00W by the owner, Loop LLC.
>
> Please notify Loop LLC to take expeditious actions to immediately reposition the Loop Fairway Lighted Buoy 4 to the required location.
>
> Once the Loop LLC has corrected the discrepancy to Loop Fairway Lighted Buoy 4, please notify this office via email so that we may in turn notify the mariner.
>
> Any questions please contact our office. Thank you.
>
> v/r
> Tim Boriskie
> Assistant Program Manager
> for Private Aids to Navigation
> ==========

> Mailing address:
> Eighth Coast Guard District (dpw)
> Private Aids to Navigation Section
> 500 Poydras St., Suite 1230
> New Orleans, LA 70130
> ==========
> Direct: (504) 671-2124
> Office: (504) 671-2328 or 2330
> Fax: (504) 671-2137
>
> Private Aids Inquiries Email to: d8OANpaton@uscg.mil
>
> Eighth CG District Website: http://www.uscg.mil/d8/Waterways/PATON_Main.asp
>
> "Good judgment comes from experience, and a lot of that comes from bad judgment. " - Will Rogers
>
>
>

APPROVAL PAGE

H12941

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

The following products will be sent to NCEI for archive

- H12941_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12941_GeoImage.pdf

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

Approved: Briana Welton Hillstrom Digitally signed by HILLSTROM.BRIANA.WELTON.1267667531 Date: 2018.07.12 11:16:15 -04'00'

Commander Briana W. Hillstrom, NOAA
Chief, Atlantic Hydrographic Branch