H12946

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

DESCRIPTIVE REPORT

Type of Survey:	Basic Hydrographic Survey
Registry Number:	H12946

LOCALITY

State(s):	Louisiana
General Locality:	Gulf of Mexico
Sub-locality:	7 NM Southwest of Port Fourchon

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

H12946

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:	**7 NM Southwest of Port Fourchon**
Scale:	**20000**
Dates of Survey:	**09/10/2016 to 09/11/2016**
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:

Registry Instructions: Acquire assigned crossline lines and investigate assigned features. All times are UTC. The extents of H12946 designate a newly proposed anchorage area about 7 nautical miles southwest of Port Fourchon. The purpose of this resurvey is to detect any bathymetric or feature changes that may need to be addresses before the proposed anchorage area is approved and charted. SUBCONSULTANT: Geodynamics LLC, 310A Greenfield Dr., Newport, NC 98570 SUBCONSULTANT: Theory Marine, 777 Viewcrest DR., Ventura, CA 93003 Projections: UTM 15N, 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/.

Table of Contents

List of Tables

List of Figures

Descriptive Report to Accompany Survey H12946

Project: OPR-K339-KR-16

Locality: Gulf of Mexico

Sublocality: 7 NM Southwest of Port Fourchon

Scale: 1:20000

September 2016 - September 2016

eTrac Inc.

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

A. Area Surveyed

eTrac Inc. conducted hydrographic survey operations in the Gulf of Mexico. H12946 covers approximately 7 square nautical miles of survey area. 43 lineal nautical miles were aquired during the survey. H12946 is irregular in geometry, and is approximately 2 nautical miles wide (E-W) by 5 nautical miles long (N-S) at its widest and longest lengths respectively.

Survey was conducted within these limits on the assigned lines between September 10, 2016 (DN254) and Spetember 11, 2016 (DN255).

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
29° 1' 55.98" N 90° 19' 15.31" W	28° 57' 2.89" N 90° 18' 38.69" W

Table 1: Survey Limits

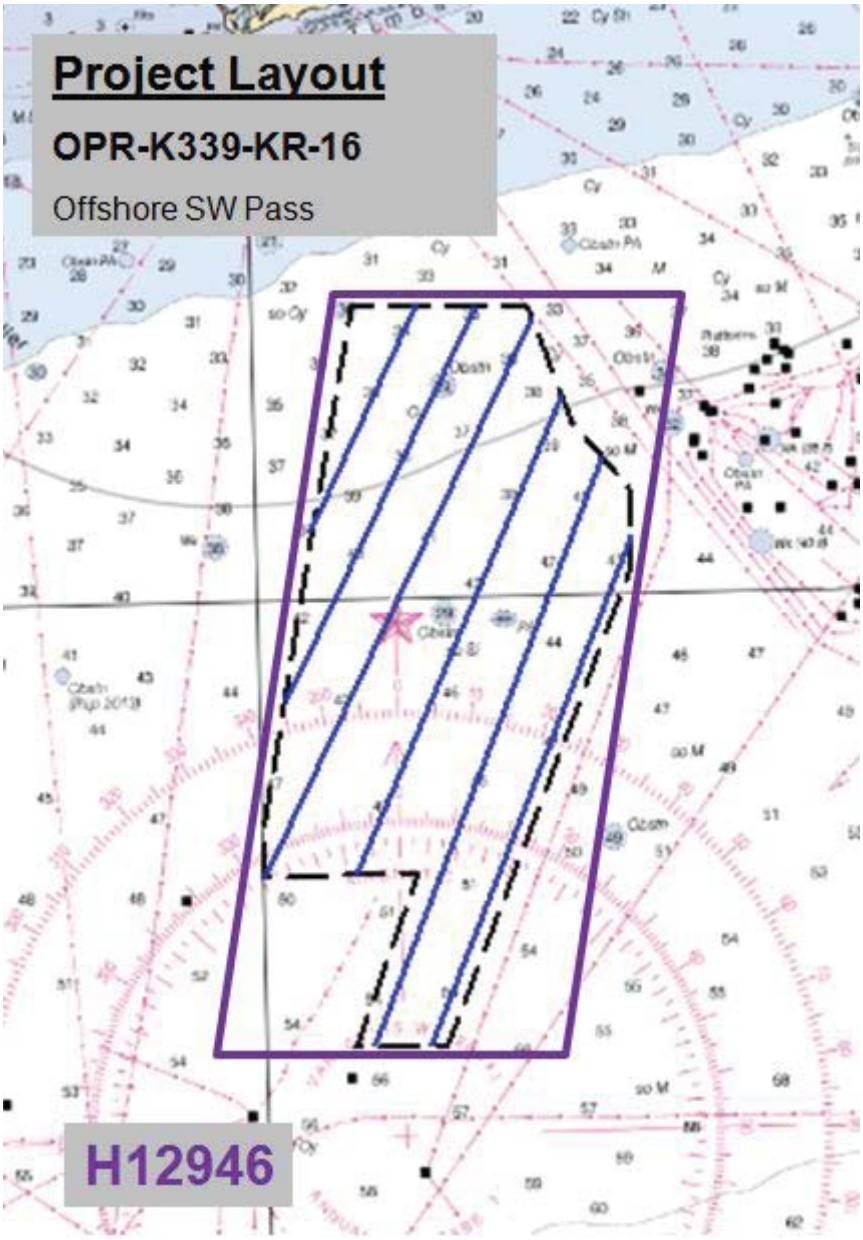


Figure 1: Survey Limits (Black line) Assigned Lines (Blue)

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). Survey was aquired along the assigned crossline and assigned features.

A.2 Survey Purpose

The extents of H12946 designate a newly proposed anchorage area, about 7 nautical miles southwest of Port Fourchon. This port services the majority of the Gulf of Mexico's deep water oil production and has a high concentration of vessel traffic. This area was last surved in 2006 and 2009 to object detection coverage

stantards. The purpose of this resurvey is to detect any bathymetric or feature changes that may need to be addressed before the proposed anchorage area is approved and charted. Survey was acquired along the assigned crossline lines and assigned features.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Survey H12946 is accurate to IHO Order 1a as required per the HSSD 2016.

A.4 Survey Coverage

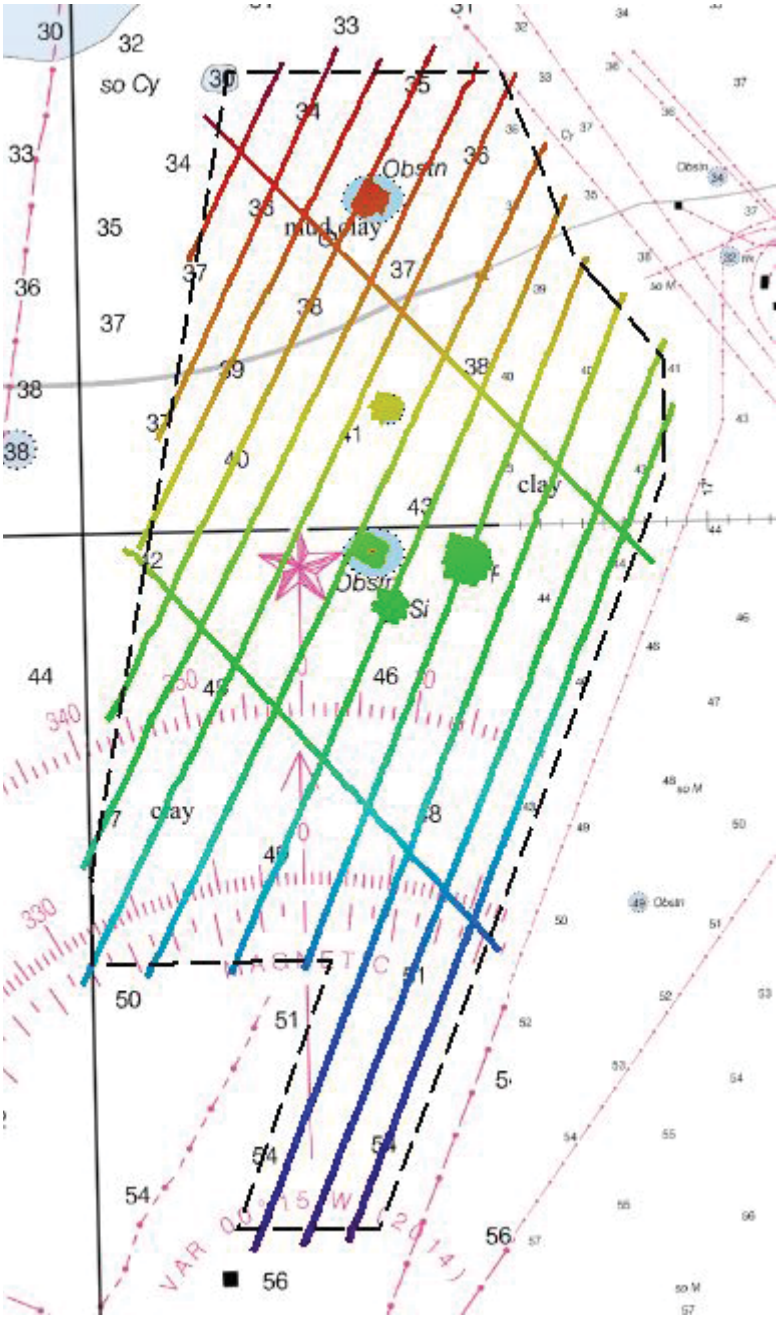


Figure 2: Survey Coverage

Survey Coverage was in accordance with the requirements in the Project Instructions and HSSD 2016. Depths in H12946 range from 9 to 18 meters. The assigned crosslines lines were acquired and the assigned features were investigated as stated in the Project Instructions.

A.5 Survey Statistics

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

	HULL ID	*Theory*	*Total*
LNM	**SBES Mainscheme**	0	0
	MBES Mainscheme	46	46
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	0	0
	SBES/MBES Crosslines	5	5
	Lidar Crosslines	0	0
Number of Bottom Samples			3
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			7

Table 2: Hydrographic Survey Statistics

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

Survey Dates	Day of the Year
09/10/2016	254
09/11/2016	255

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*
LOA	11 meters
Draft	0.75 meters

Table 4: Vessels Used

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.X2	Sound Speed System
Trimble	DSM232	Positioning System

Table 5: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 11% of mainscheme acquisition.

A comparison of crossline mileage to mainscheme mileage yields a crossline percentage of 10.86%, and is noted to be above the required 8%.

A beam-by-beam statistical analysis was performed using the Line QC reporting tool in Caris HIPS and SIPS 9.1. A 1 meter CUBE weighted BASE surface was created incorporating only the mainscheme and feature investigation 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: the statistical analysis excluded the outer 5 beams (beams 1-5 and beams 252-256), as these beams were excluded from both mainsheme and crossline data across the entire project.
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.

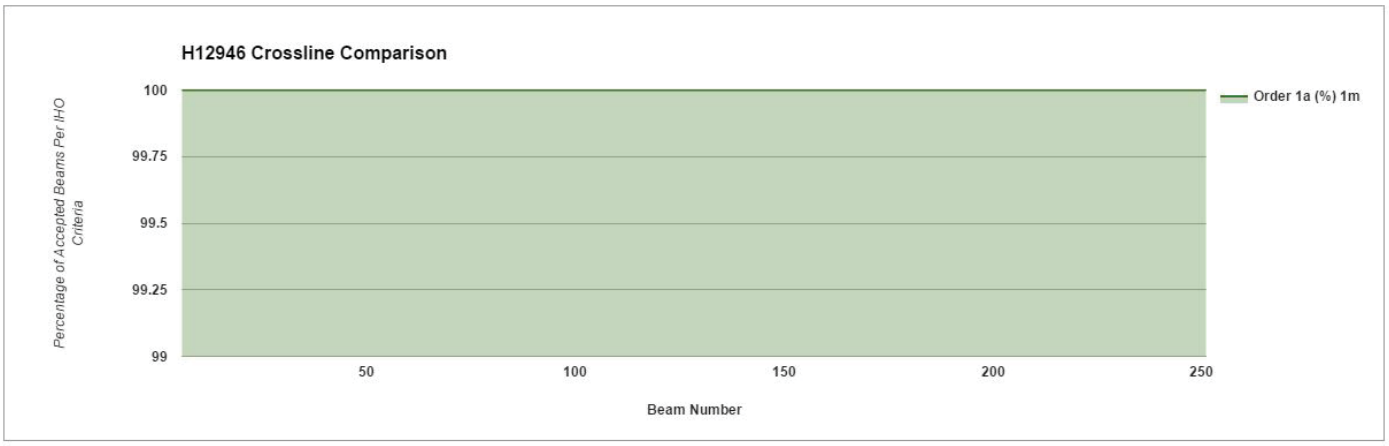


Figure 3: H12946 Crossline Comparison (1m)

B.2.2 Uncertainty

Hull ID	Measured - CTD	Measured - MVP	Surface
M/V Theory	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. The 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 H12946 the following percentages represent the results of the TPU Testing:

Assigned Crossline Lines and Features MBES (Finalized 1m CUBE weighted BASE Surface) = 100% of nodes are within allowable TPU.

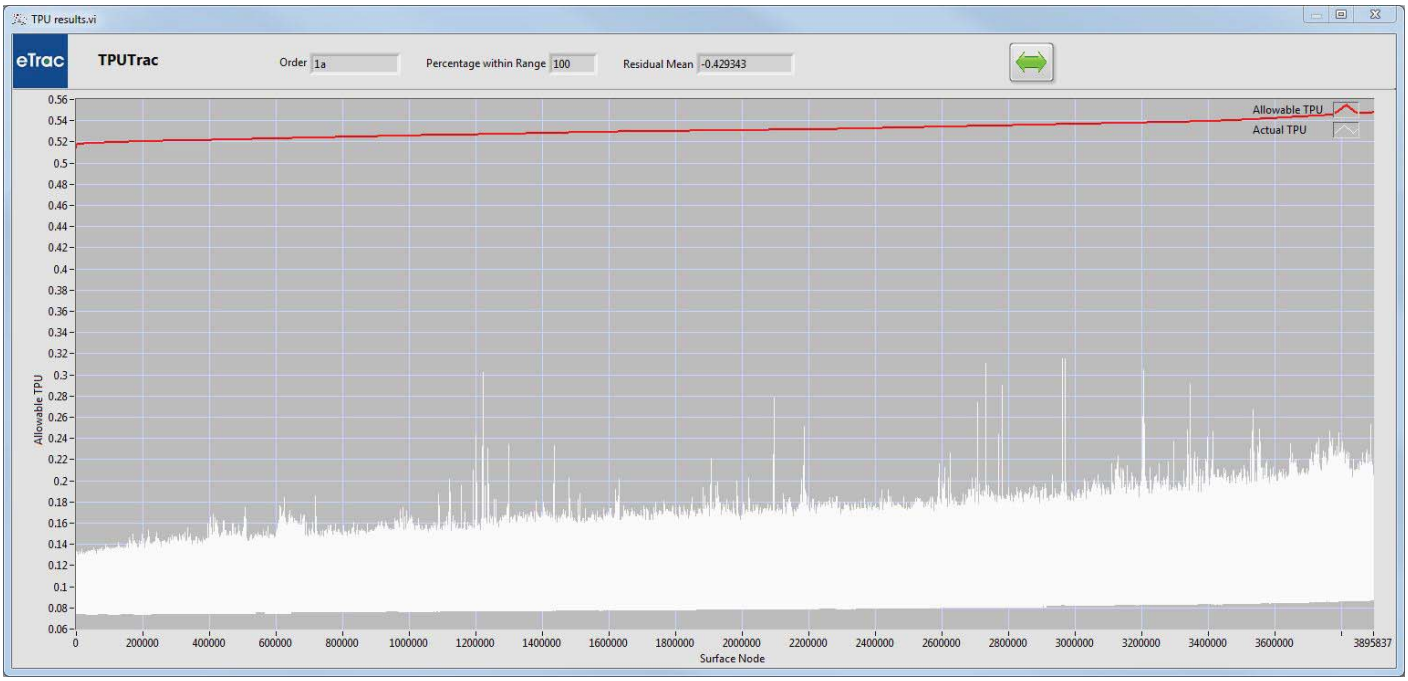


Figure 4: H12946 Finalized 1m Assigned Crossline Lines and Features MBES TPU Statistics

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 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 a surface deliverable.

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12049	1:10000	2009	C & C Technologies, Inc.	SW
H11785	1:20000	2009	Leidos	NW
H11457	1:20000	2006	C & C Technologies, Inc.	SE

Table 7: Junctioning Surveys

H12049

H12946 junctions with H12049 to the Southwest. The junction comparison was performed using approximately 2,700m of overlapping data between H12946 and H12049. Depth differences were evaluated using the JunctionTrac program, developed in-house by eTrac Inc.
Below is a histogram of junction comparison statistics showing the difference between the junctioning surfaces and allowable TVU. 99.9859% of nodes were within allowable TVU. Survey H12946 and H12049 overlap a feature. The extreme outlier in the below graph is noted to be casued by this feature being represented slightly differently in the respective surfaces. Junction comparison statistics are also included in Separate II.

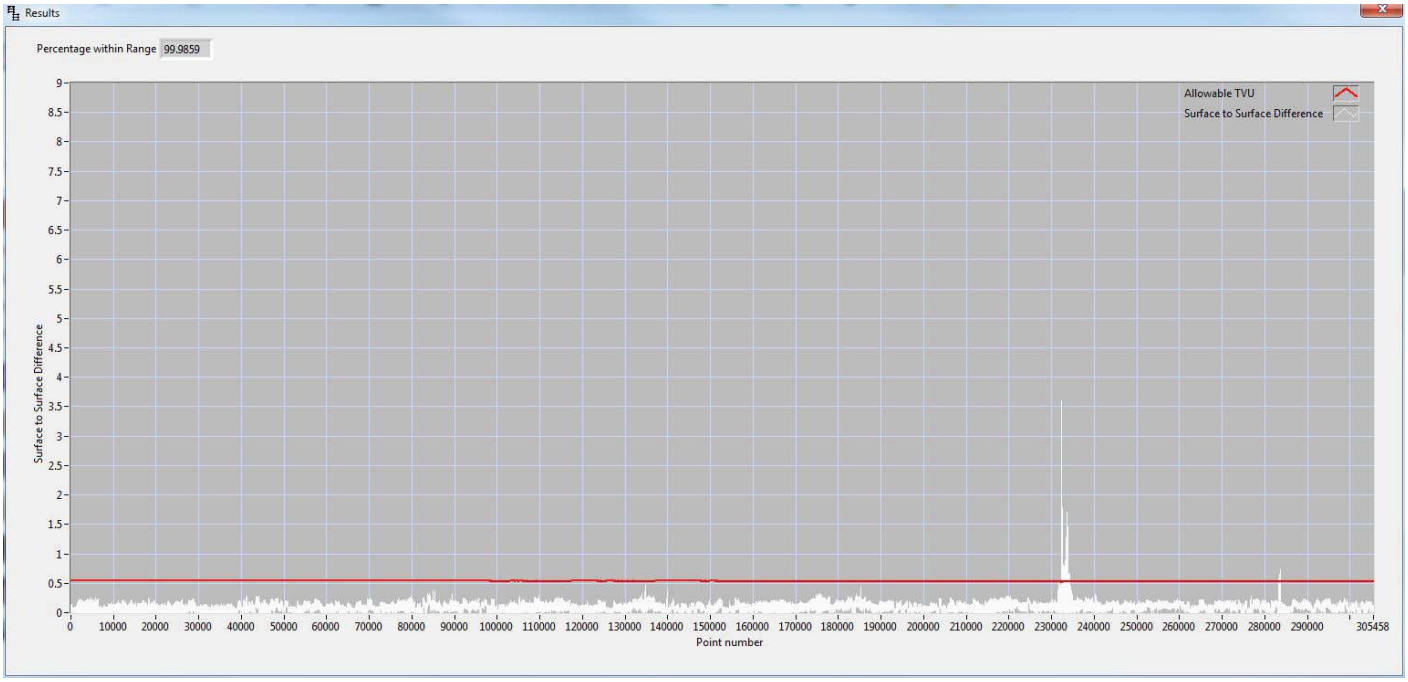


Figure 5: H12946 - H12049 Junction Comparison

H11785

H12946 junctions with H11785 to the North. The junction comparison was performed using approximately 2,700m of overlapping data between H12946 and H11785.Depth differences were evaluated using the JunctionTrac program, developed in-house by eTrac Inc.
Below is a histogram of junction comparison statistics showing the difference between the junctioning surfaces and allowable TVU. 99.9967% of nodes were within allowable TVU. Survey H12946 and H11785 overlap a feature that was not found in survey H12946. The extreme outlier in the below graph is noted to be casued by this feature only being represented in H11785. Junction comparison statistics are also included in Separate II.

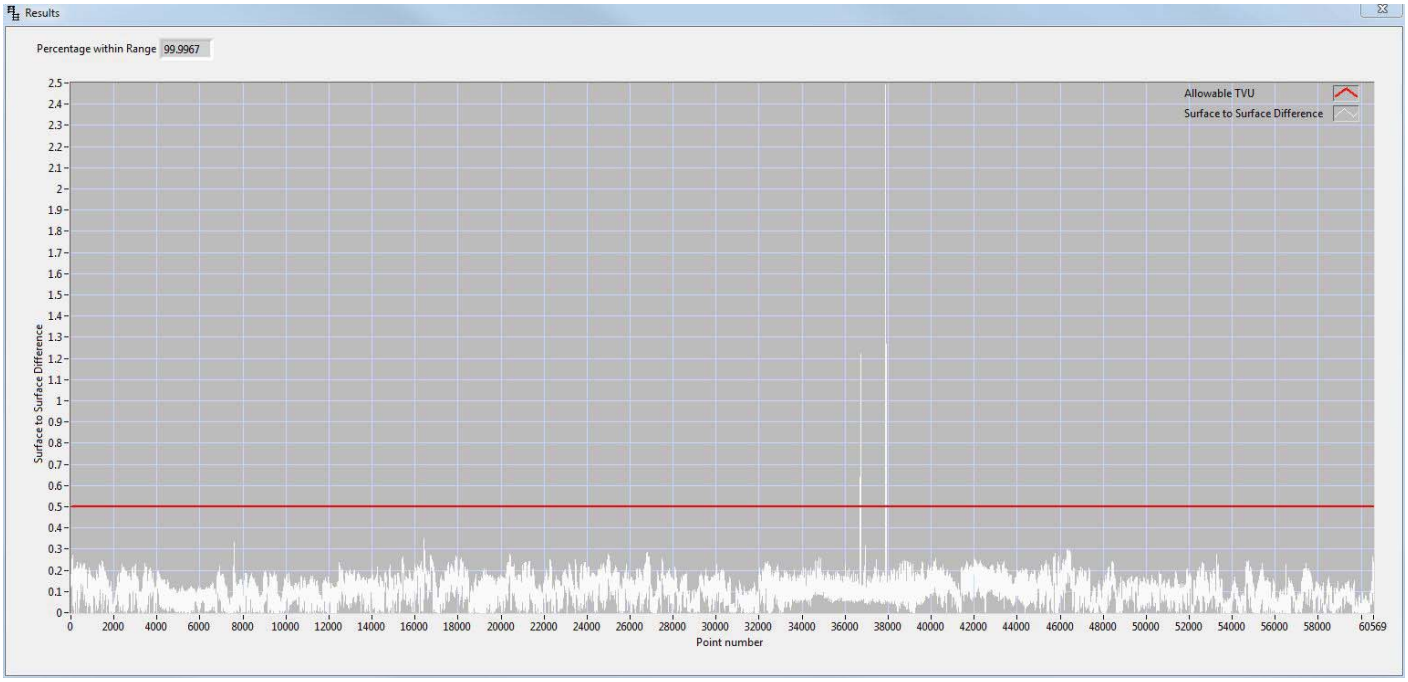


Figure 6: H12946 - H11785 Junction Comparison

H11457

H12946 junctions with H11457 to the East. The junction comparison was performed using approximately 1,300m of overlapping data between H12946 and H11457. Depth differences were evaluated using the JunctionTrac program, developed in-house by eTrac Inc.
Below is a histogram of junction comparison statistics showing the difference between the junctioning surfaces and allowable TVU. 90.3640% of nodes were within allowable TVU. Survey H12946 and H11457 overlap a feature that was not found in survey H12946. The extreme outlier in the below graph is noted to be casued by this feature only being represented in H11457. Survey H11475 was aquired in 2006. The lower percentage is likely caused by the time period between the two surveys. Junction comparison statistics are also included in Separate II.

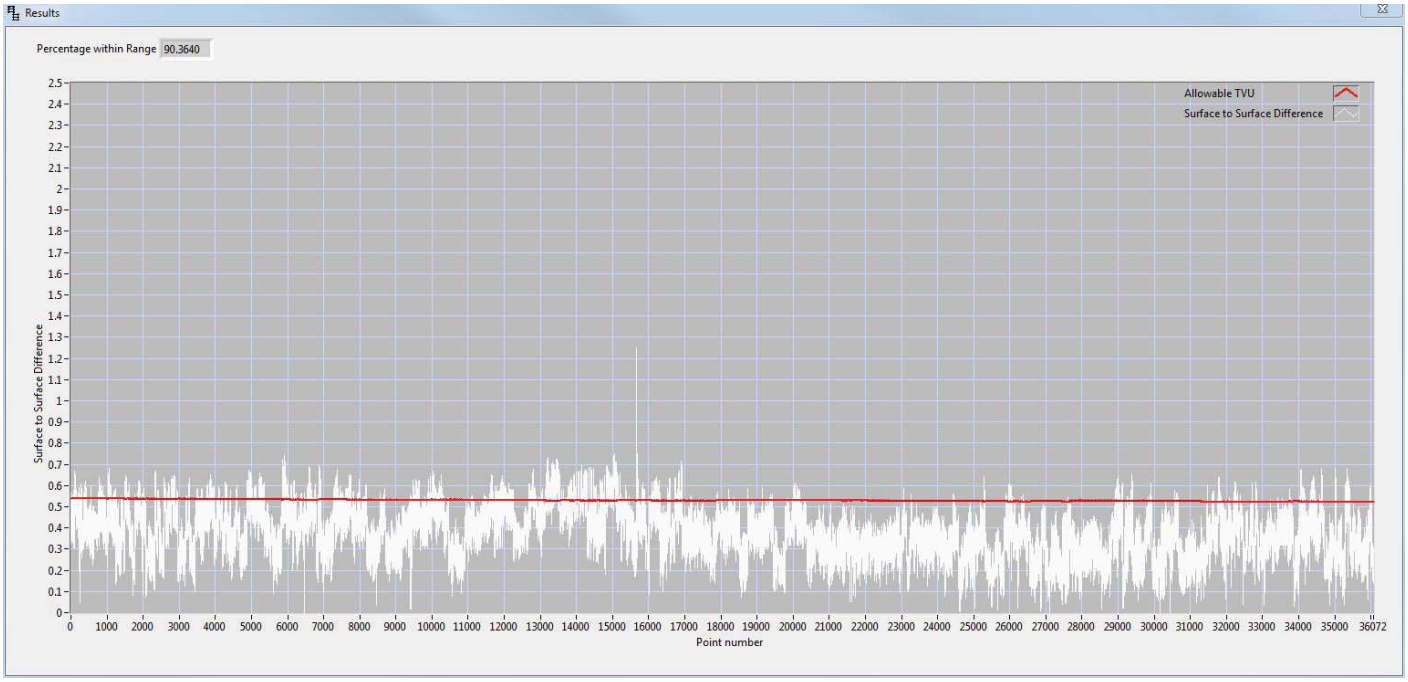


Figure 7: H12946 - H11457 Junction Comparison

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.

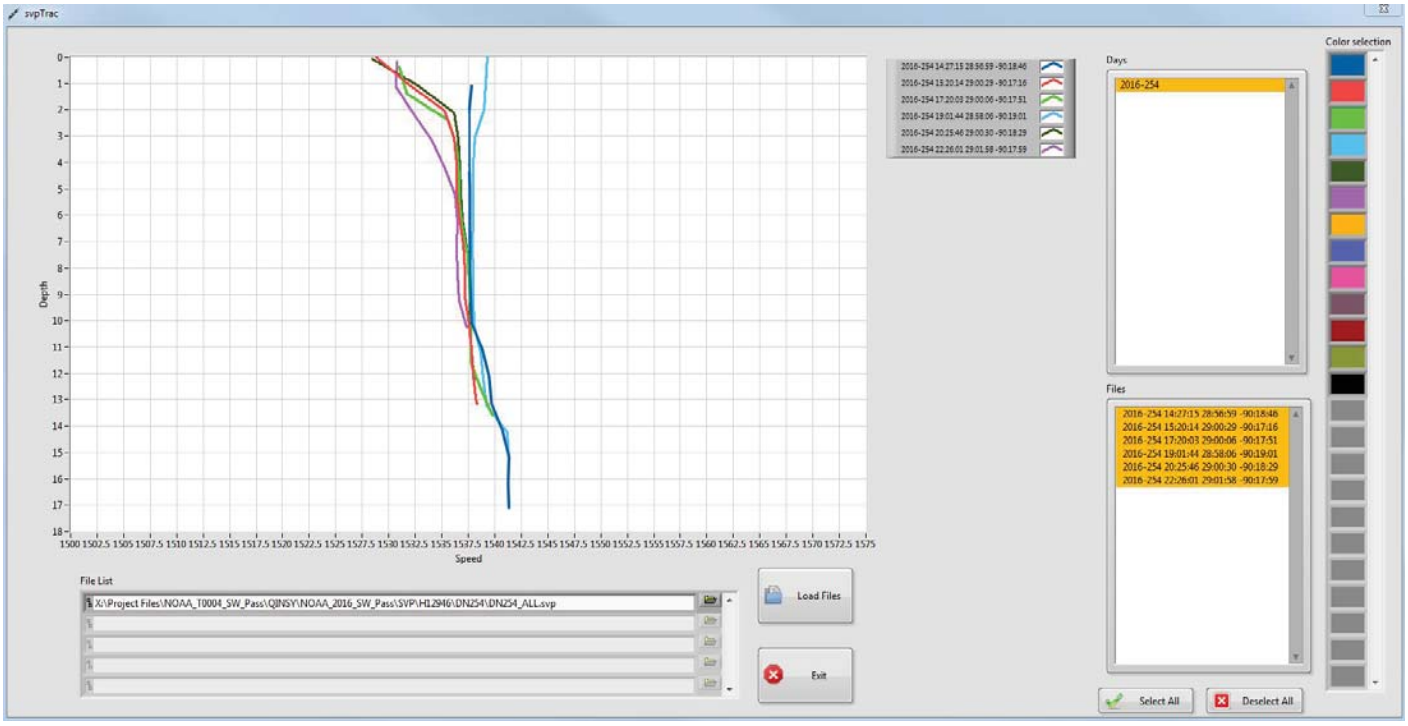


Figure 8: Example of Day to Day SVP Comparison (DN254)

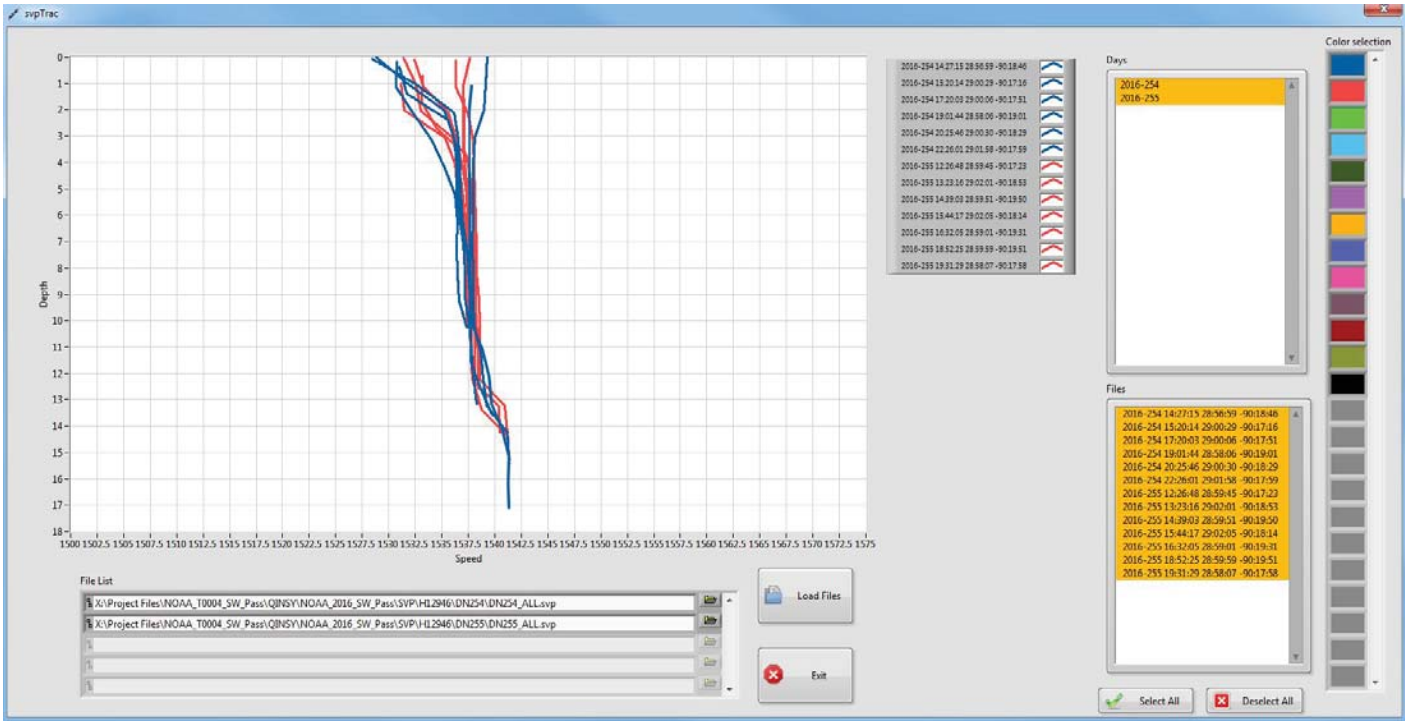


Figure 9: Example of Day to Day SVP Comparison (DN254 & DN255)

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 the DensityTrac 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 DensityTrac program and density statistics were computed.

For H12946 the following percentages represent the results of the density testing:

Assigned Crossline Lines and Features MBES (Finalized 1m CUBE weighted BASE Surface) = 99.1234% of nodes are composed from at least 5 soundings.

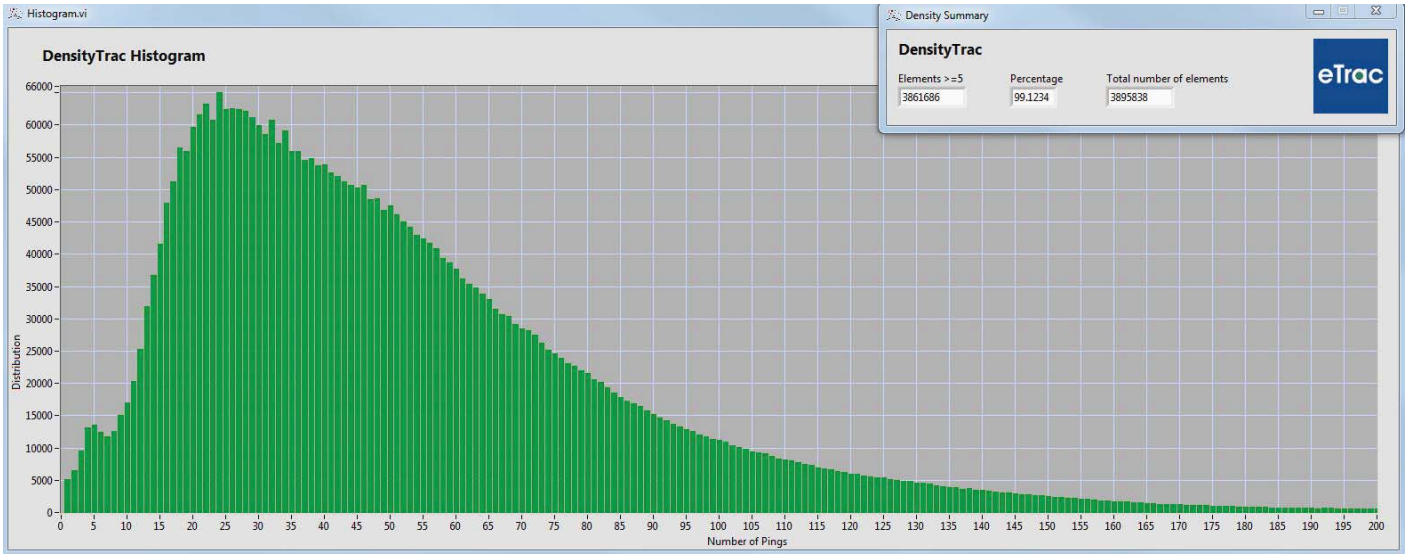


Figure 10: H12946 Finalized 1m Assigned Crossline Lines and Features MBES Density Distribution Statistics

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 H12946 DN255.

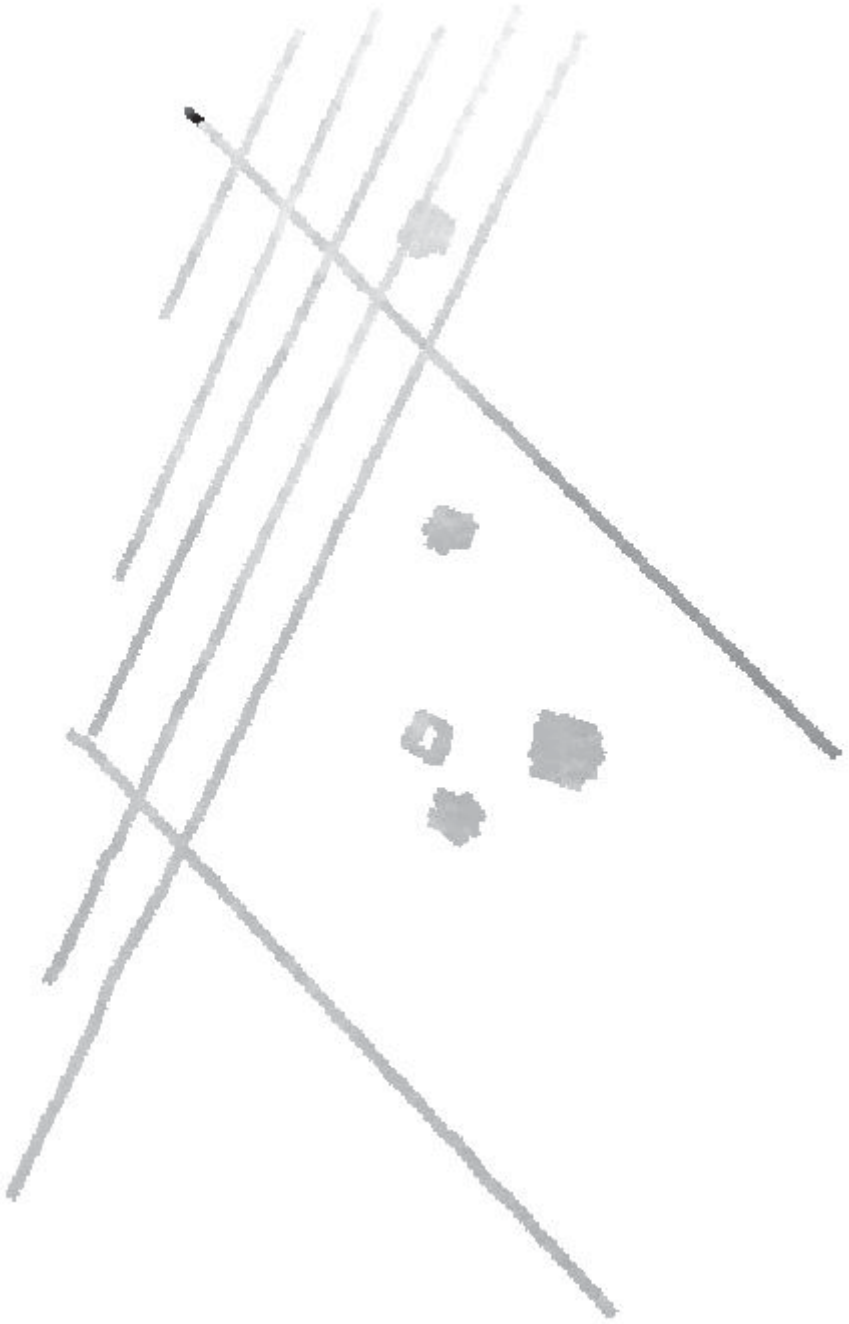


Figure 11: Raw Backscatter From M/V Theory (DN255)

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
H12946_MB_1m_MLLW_Final	CSAR	1 meters	9.14 meters - 17.33 meters	NOAA_1m	Complete MBES
H12946_MB_1m_MLLW	CSAR	1 meters	10.21 meters - 17.33 meters	NOAA_1m	Complete MBES

Table 8: Submitted Surfaces

In areas shoaler than 20 meters, a 1m surface is provided meeting specifications set forth in the Project Instructions. The 1m surface covers the entire survery area of H12946 as all soundings within the survey limits are shoaler than 20 meters.

A parent surface of the 1m surface is provided. The 1m parent surface covers the entire survey area of H12946.

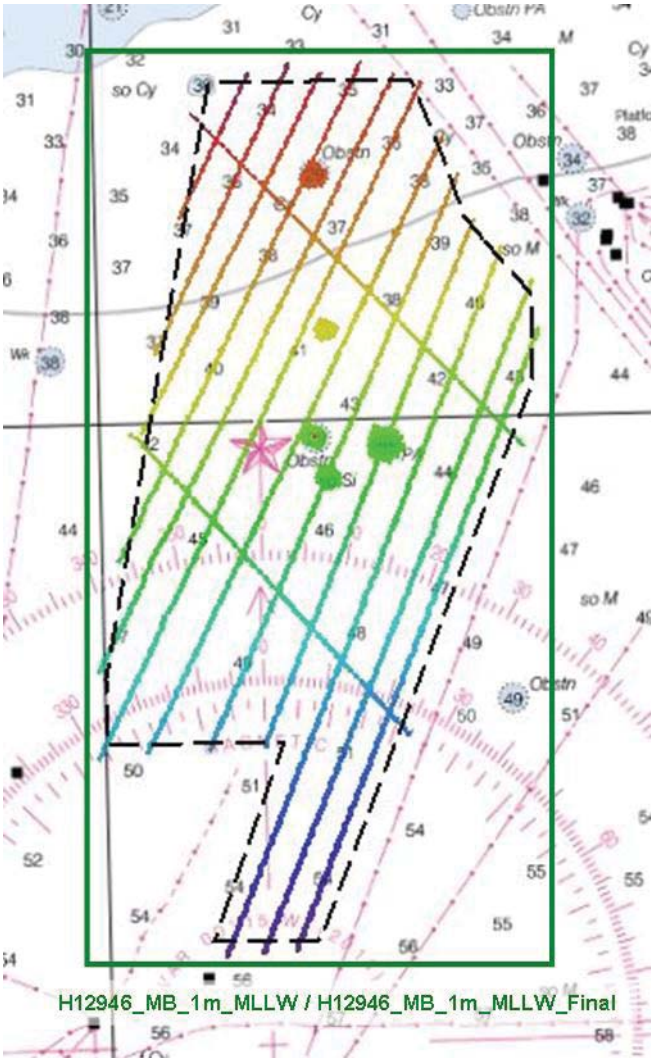


Figure 12: H12946 Delivered BASE Surface Coverage Graphic

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 15N.

During main acquisition 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 H12946 using Caris HIPS and SIPS 9.1. Soundings were compared against the largest scale RNC 11346 and ENC US5LA26M to accomplish the chart comparison. RNC 11346 and ENC US5LA26M do not cover the western half of H12946, and therefore RNC 11357 and ENC US4LA29M were included to complete the chart comparison. The methods and results of the comparison are detailed below. The methods and results of the comparison are detailed below.

Contour Comparison Method:
No contours are present in RNC 11346 and ENC US5LA26M or RNC 11346 and ENC US5LA26M, within the survey limits of H12946, therefore no contour comparisons were conducted.

Sounding Comparison Method:
Using the 1 meter CUBE weighted BASE surface, spot soundings were generated in Caris HIPS and SIPS 9.1 for H12946. 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	03/2014	05/18/2016	05/22/2016
11357	1:80000	43	05/2014	06/07/2016	06/18/2016

Table 12: Largest Scale Raster Charts

11346

Sounding Comparison Results:
In general, the soundings are in excellent agreement, with no major discrepencies. 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 differences are not biased in any particular direction to support a systematic error.

11357

Sounding Comparison Results:
In general, the soundings are in excellent agreement, with no major discrepencies. 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 differences are not biased in any particular direction to support a systematic error.

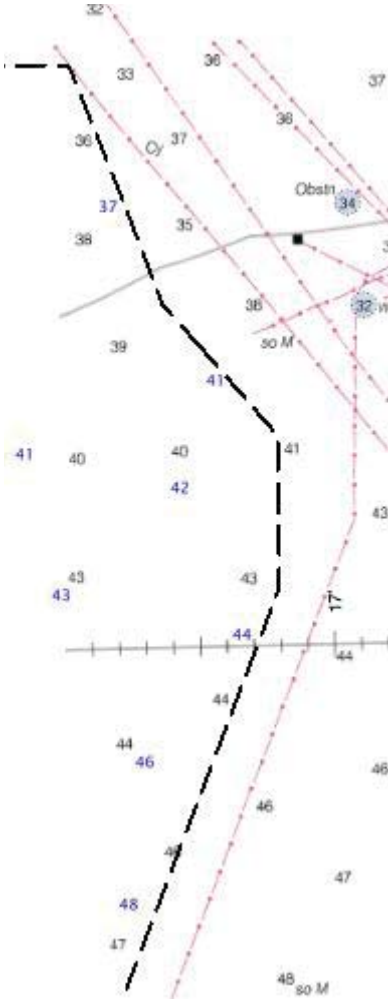


Figure 13: Sounding Comparison (RNC 11346)

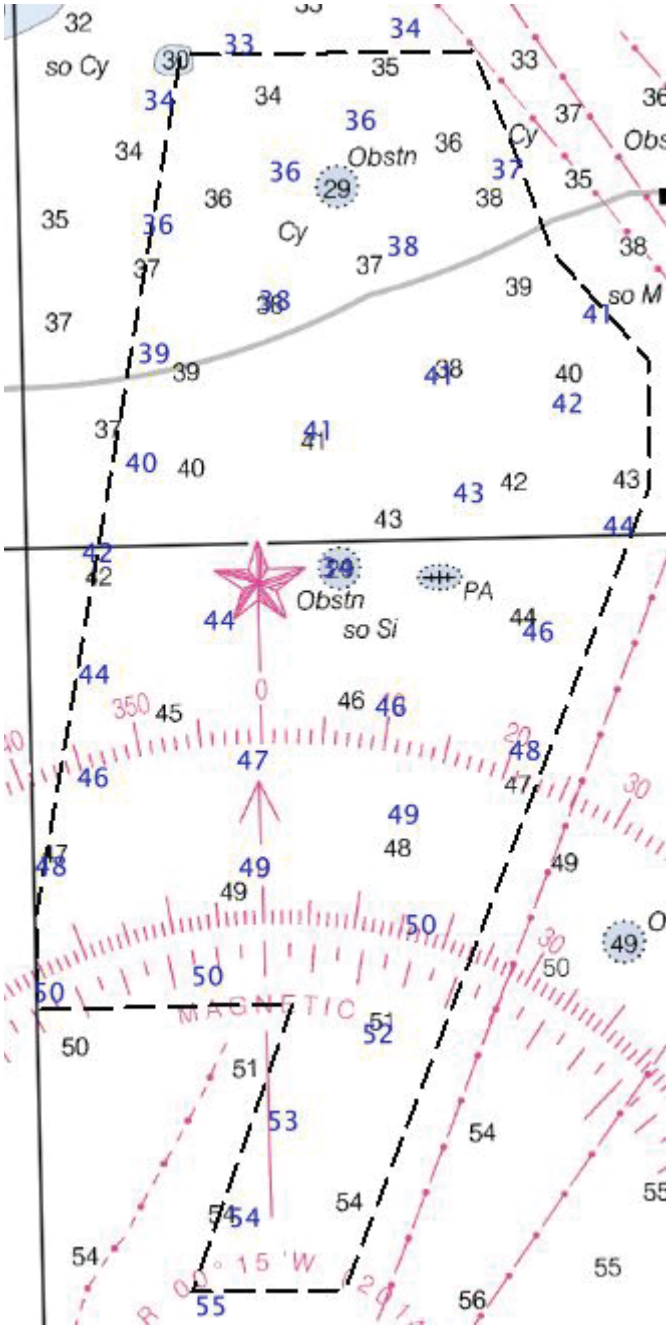


Figure 14: Sounding Comparison (RNC 11357)

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
US4LA29M	1:80000	19	11/26/2014	04/25/2016	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.

US4LA29M

The results of the chart comparison with ENC US5LA29M match those of the chart comparison with RNC 11357.

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 were 3 charted features assigned to H12946. Each 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 H12946_XXX). Refer to the FFF for determinations and recommendations of each feature.

D.1.6 Uncharted Features

There was 1 new feature found in H12946 and 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 H12946_XXX). Refer to the FFF for determinations and recommendations of each feature.

There were 2 uncharted features assigned to H12946. 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 H12946_XXX). Refer to the FFF for determinations and recommendations of each feature.
Note: Both assigned, uncharted features are listed as BSEE Wellheads.

D.1.7 Dangers to Navigation

There were no DTONs found in this survey.

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

3 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.

H12946_F001: soft, grey, clay
H12946_F002: soft, grey, mud with soft, grey, clay
H12946_F003: soft, grey, clay

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 H12946_FXXX).

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

No Aids to Navigation (ATONs) exist for this survey.

D.2.4 Overhead Features

No overhead features exist for this survey.

D.2.5 Submarine Features

No submarine features exist for this survey.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

No significant features exist for this survey.

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=david@etracinc.com, O=eTrac Inc., CN=David R. Neff Reason: I attest to the accuracy and integrity of this document Date: 2016.12.05 14:20:02-08'00'

APPENDIX I

TIDES AND WATER LEVELS

637 Lindaro St #100
San Rafael, CA 94901

September 20, 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:

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.:	H12946
State:	LA
Locality:	Gulf of Mexico
Sublocality:	7 NM Southwest of Port Fourchon

Attachments containing:

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

cc: izzy@etracinc.com

Year_DOY	Min Time	Max Time
2016_254	14:32:36	22:22:45
2016_255	12:33:51	19:27:13

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: H12946

LOCALITY: 7 NM Southwest of Port Fourchon, Gulf of Mexico
TIME PERIOD: September 10 to September 11, 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
September 10 to September 11, 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.

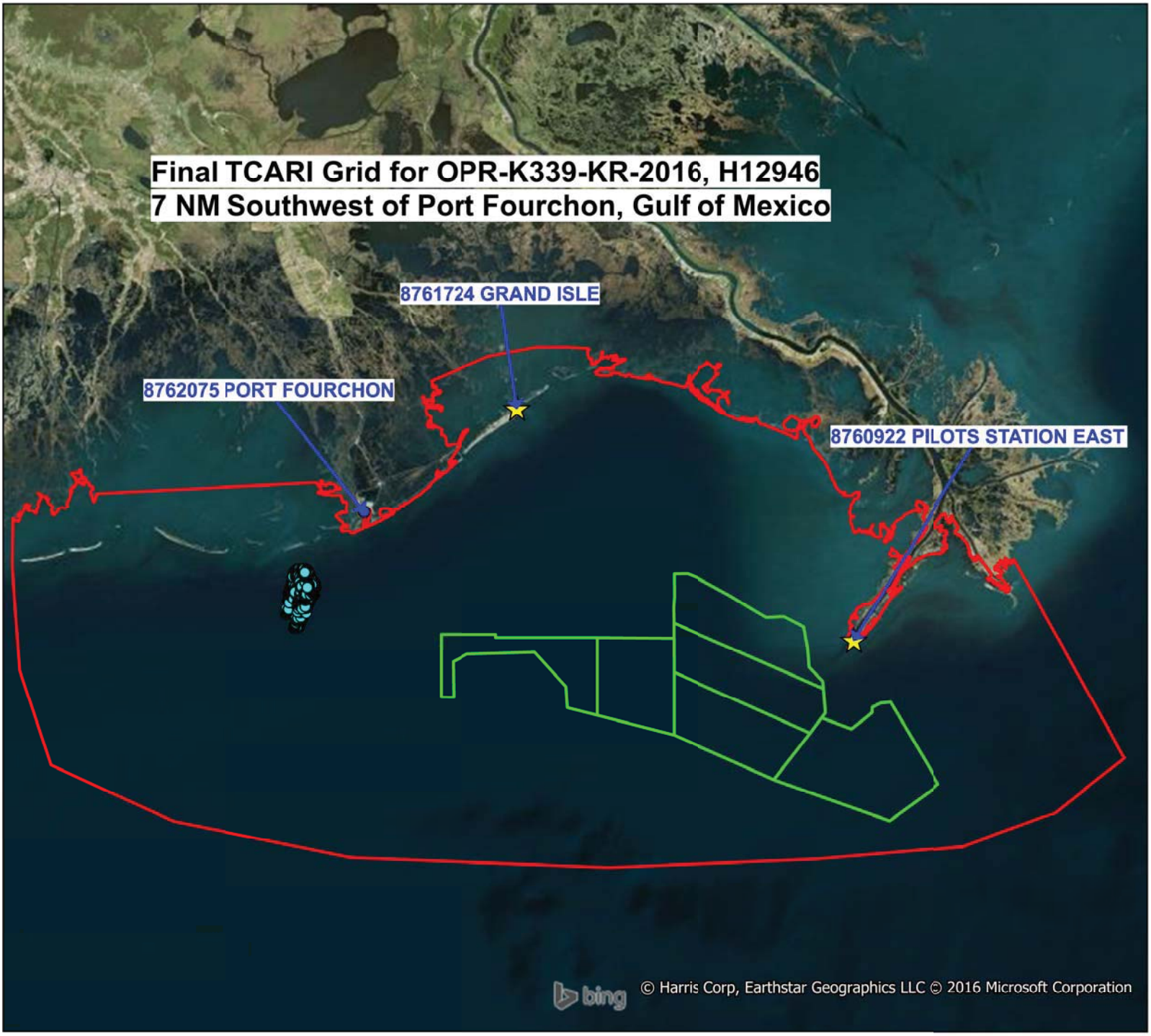
Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 2007-2011 Modified Five-Year Epoch.

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.

_____

CHIEF, PRODUCTS AND SERVICES BRANCH


Final TCARI Grid for OPR-K339-KR-2016, H12946
7 NM Southwest of Port Fourchon, Gulf of Mexico
8761724 GRAND ISLE
8762075 PORT FOURCHON
8760922 PILOTS STATION EAST
bing
© Harris Corp, Earthstar Geographics LLC © 2016 Microsoft Corporation

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

H12946

Survey Date	Day of Year	Start Time	End Time
9/10/2016	254	14:32	22:23
9/11/2016	255	12:33	19:27

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.

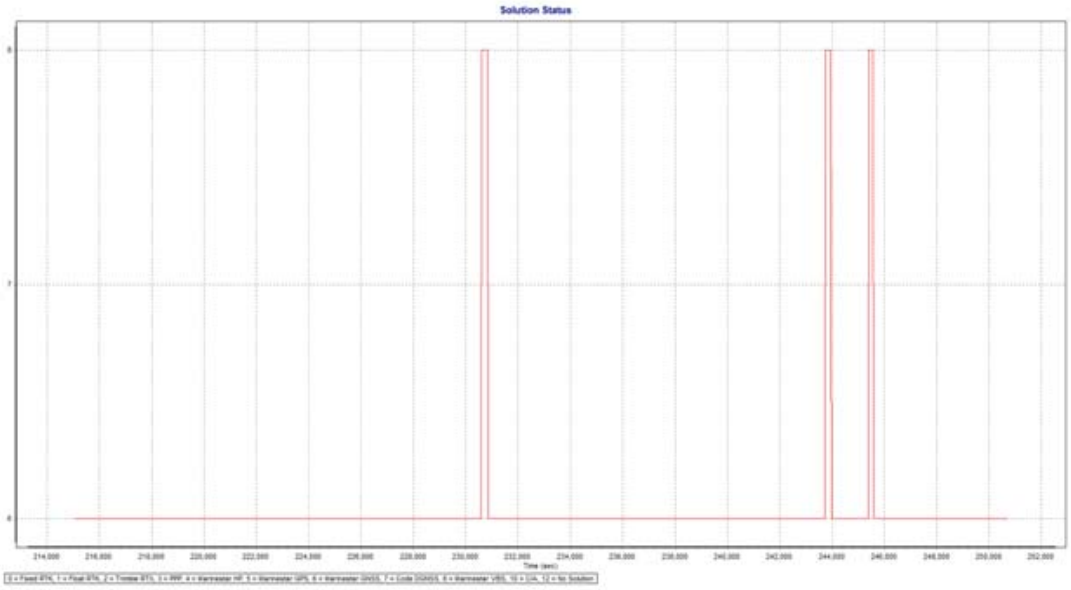
We were held up by the tropical storm coming through the area, which I am sure you heard about. We have had about 5 straight days of data collection since the storm and the completed project mileage as of today sits at about %22. This has given us the amount of data we need to start to make some decisions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

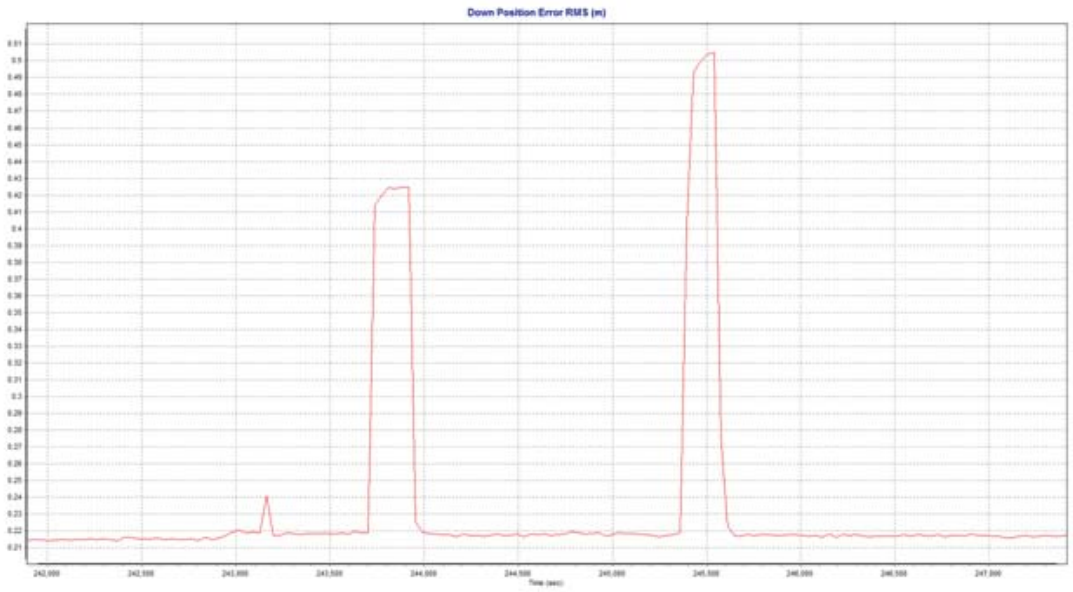
Issue 1: Temporary Loss of G2 Solution Status

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).

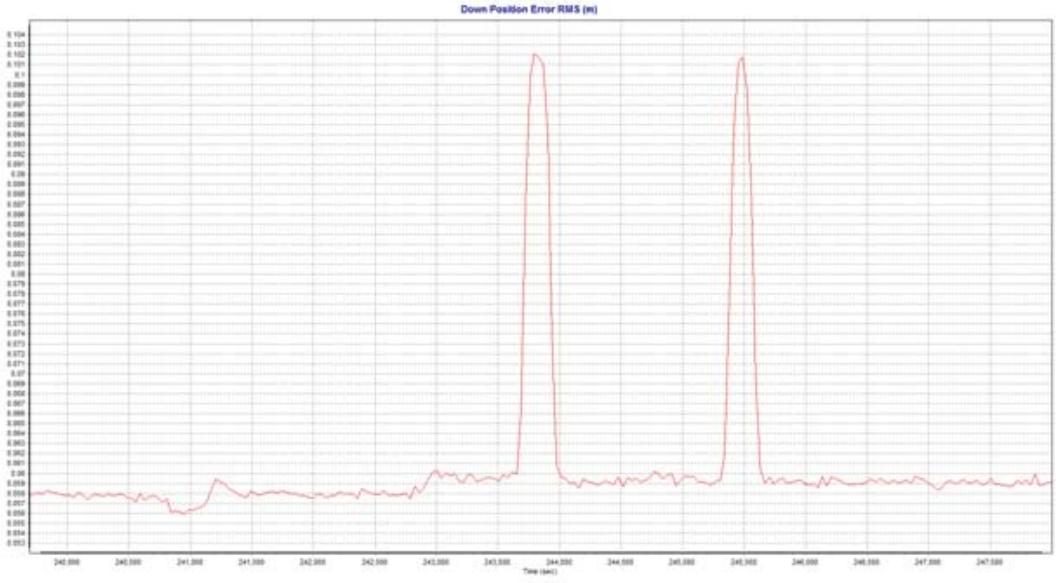
This manifests in the recorded Solution Status viewed in pospac as the solution status changes from 6 to 8:



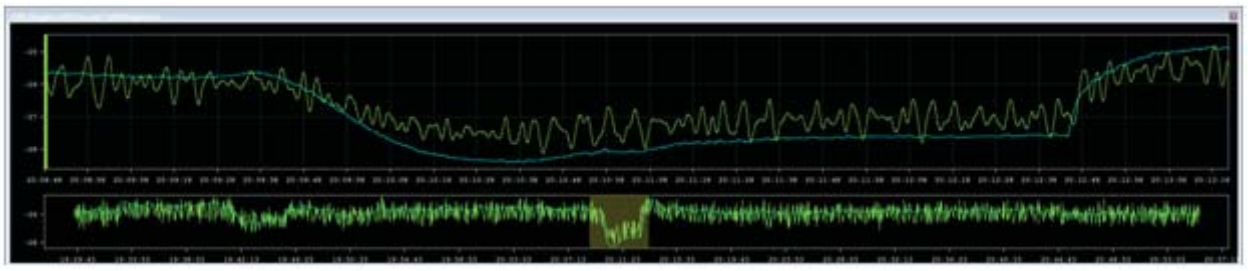
There is an associated spike in uncertainty:



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:



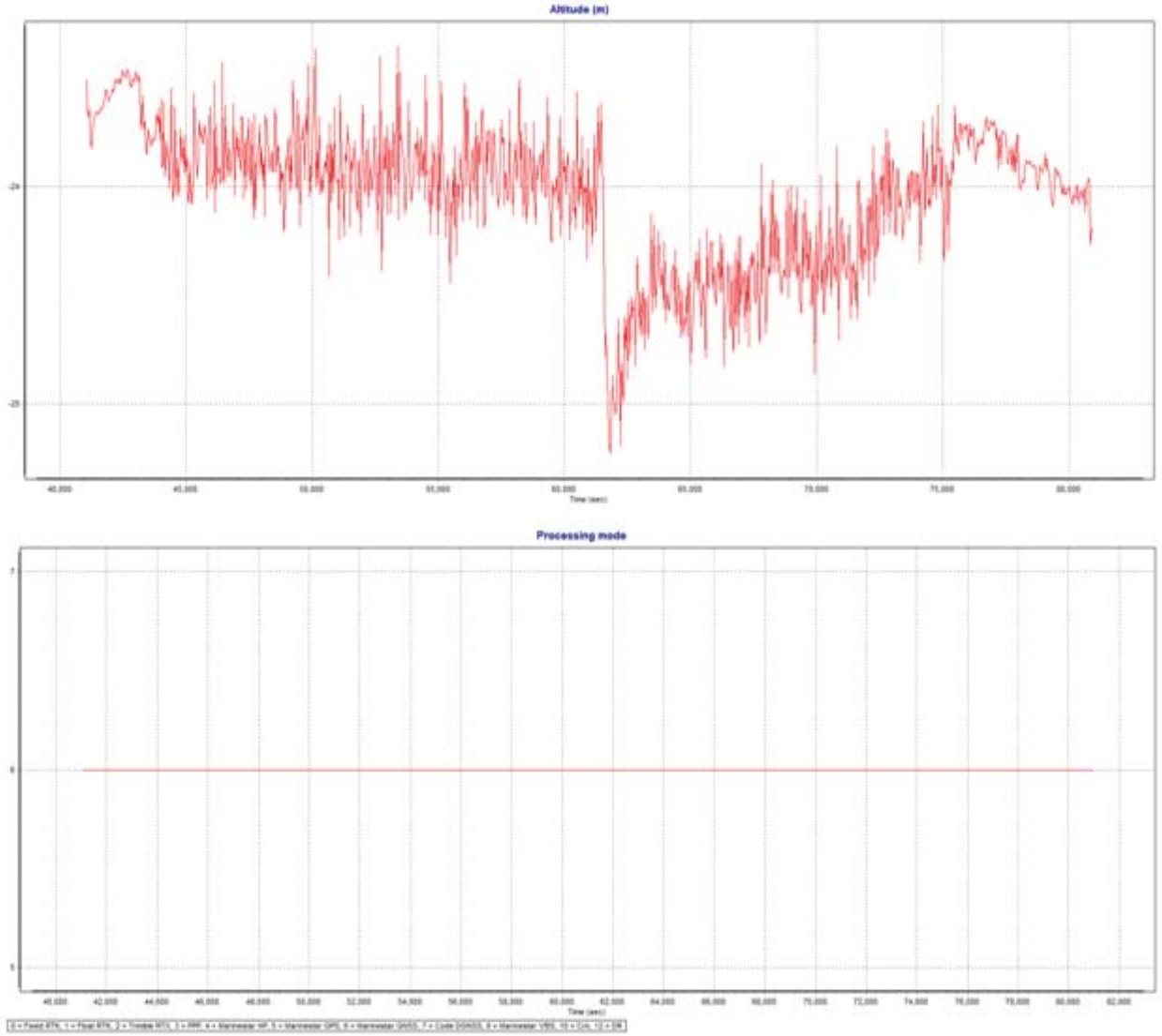
Getting to the HIPS data, both realtime and post processed uncertainty values seem optimistic given the following graph of GPS Height computed in Caris:

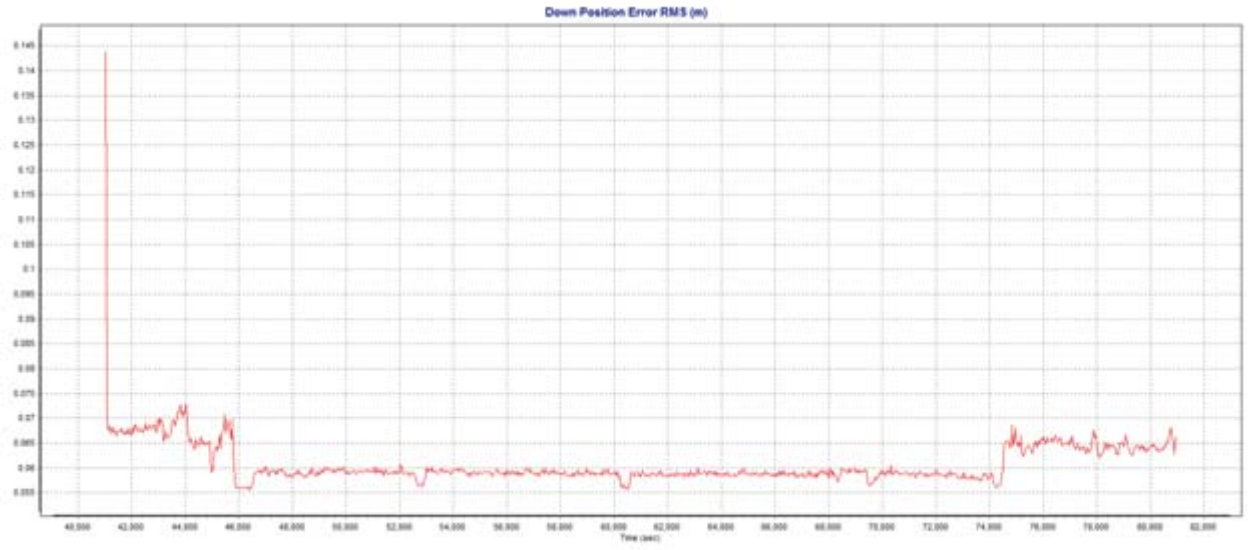


The GPS Height spikes over 1 meter when computed using an ERS solution claiming 0.5m uncertainty at most for the same spike. This, of course translates to a GPS water level issue and manifests in the HIPS depth surface. Depending on when this happens, interpolation may be possible. If it happens through 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.



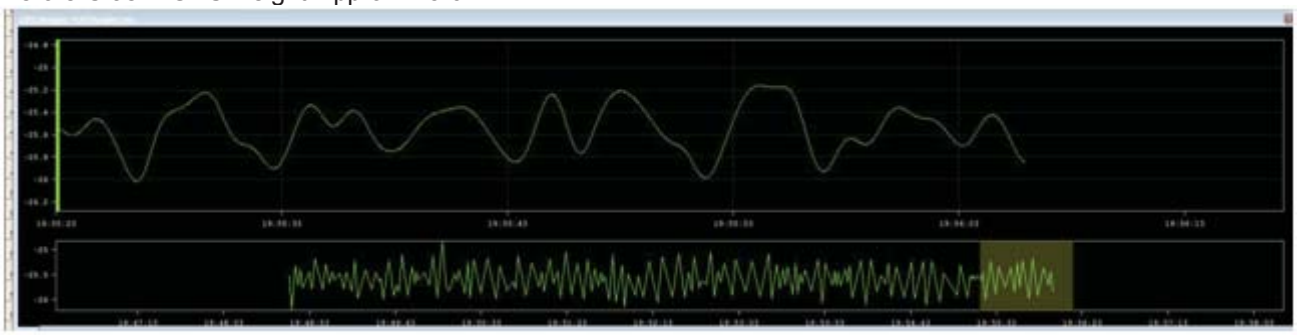


Since this takes such a long time to recover, interpolation is likely not an option. Again a recover is our most likely avenue.

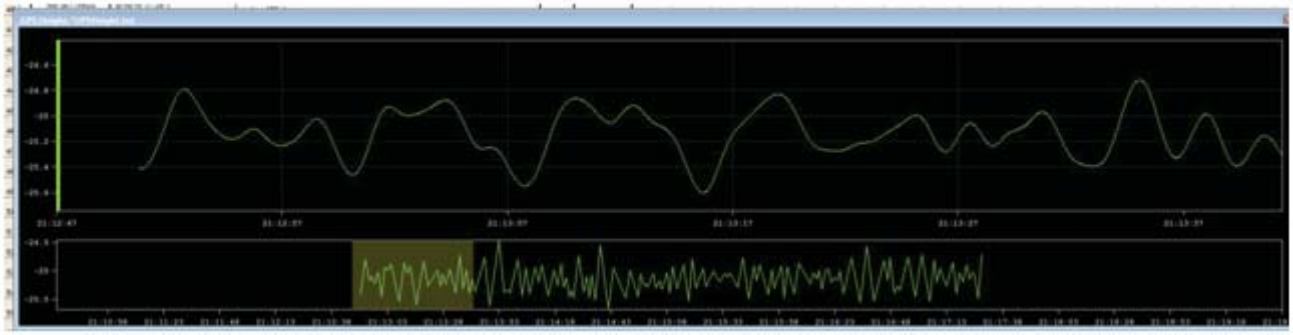
Issue 3: Shift in GPS height tied to Initialization

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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--
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--
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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.

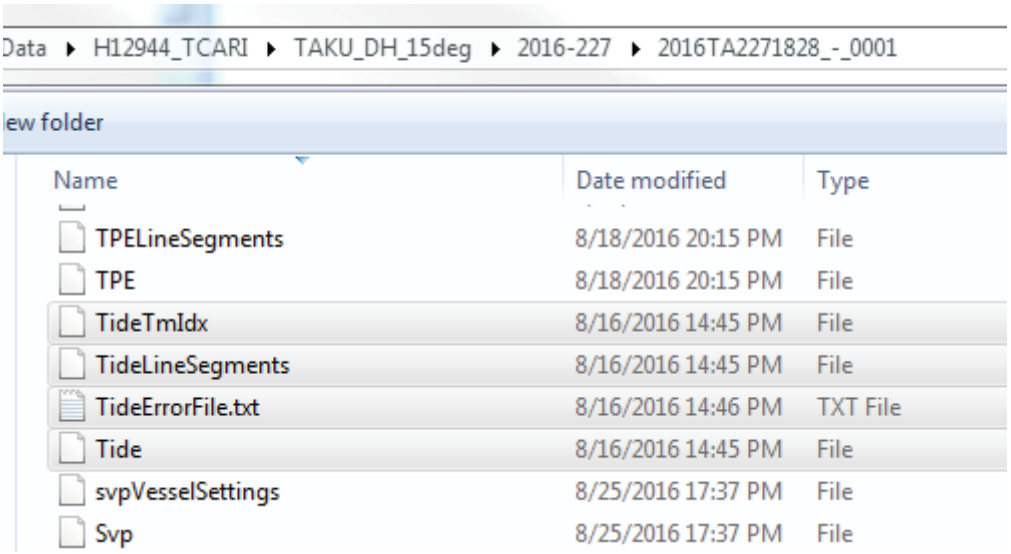
---------- Forwarded message ----------
From: **Corey Allen - NOAA Federal** <corey.allen@noaa.gov>
Date: Mon, Aug 29, 2016 at 12:35 PM
Subject: Re: TCARI Uncertainty Values
To: David Neff <david@etracinc.com>
Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Jacklyn James - NOAA Federal 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

--
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--
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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

--
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

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

Isadora Kratchman <izzy@etracinc.com>

OPR-K339-KR-16 - H12946 eTrac Inc. - Final Tides Request

1 message

Isadora Kratchman <izzy@etracinc.com> Tue, Sep 20, 2016 at 7:57 PM
To: final.tides@noaa.gov
Cc: katrina.wyllie@noaa.gov, jacklyn.c.james@noaa.gov, David Neff <david@etracinc.com>

Please find attached the Final Tides Request for OPR-K339-KR-16 / H12946

Please do not hesitate to contact me with questions.

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

H12946_Final_Tide_Request.zip
21K

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

final.tc file question

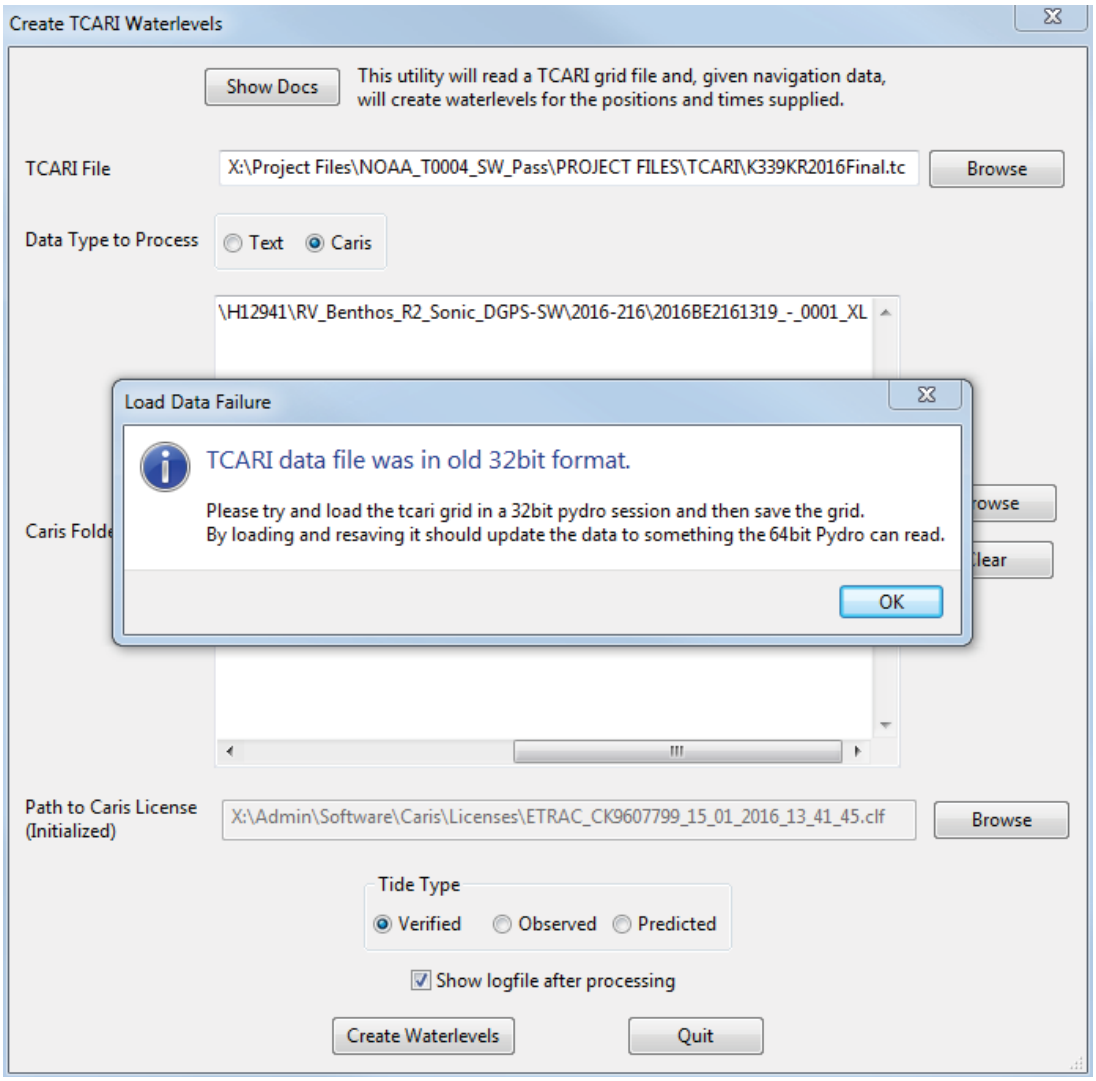
5 messages

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]

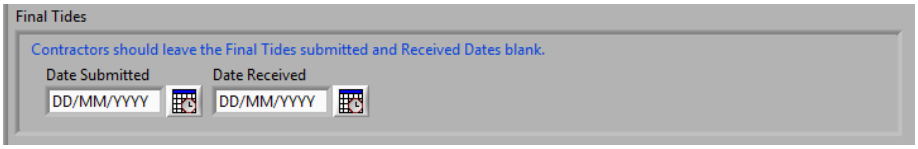
final tides submit and received dates in DR

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]

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

eTrac

Isadora Kratchman <izzy@etracinc.com>

Fwd: Clarification of 2016 Specs

1 message

David Neff <david@etracinc.com> Fri, Aug 26, 2016 at 8:30 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, Aug 26, 2016 at 1:05 PM
Subject: Re: Clarification of 2016 Specs
To: David Neff <david@etracinc.com>
Cc: Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>, Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>

Dave,

The survey you are working is complete coverage so the HSSD says you should be operating your sonars to find objects 2x2x1m tall or larger. It is up to the field units to define their own best practices to meet this HSSD. For instance, if this was a SSS survey and you were looking for 1m tall objects, a field unit may pick everything with a shadow of 85cm or larger as contacts to get MBES data over to ensure the HSSD is met. For this MBES survey, additional MBES data (bathy or water column) will need to be collected over a feature (i.e. feature development section 7.3.3) if it you believe it is fated to be represented on the chart.

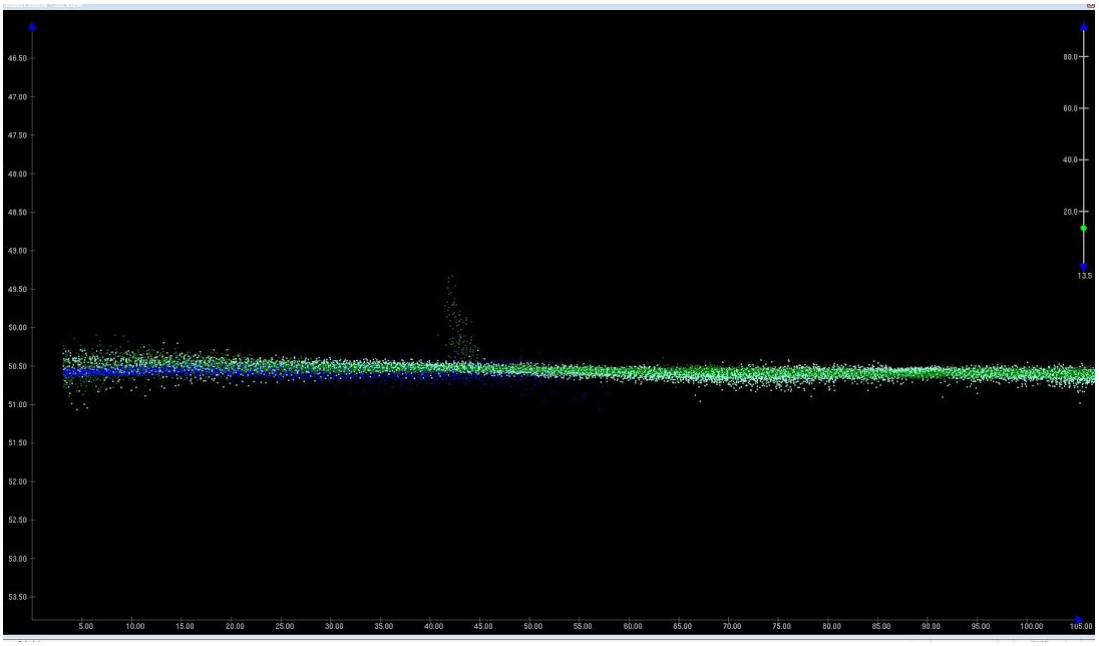
So to answer your question, if these potential objects are less than 2x2x1m tall and are not considered by you to be navigationally significant or fated to be represented on the chart as S-57 features, then no, you will not need to investigate further. Following the designated sounding guidance you have referenced, you also do not need to designate them if they are less than 1m tall. And yes, natural topography is used to describe non-man made, skin of the earth objects like sandwaves and rocks.

Please let me know if you'd like to discuss further.

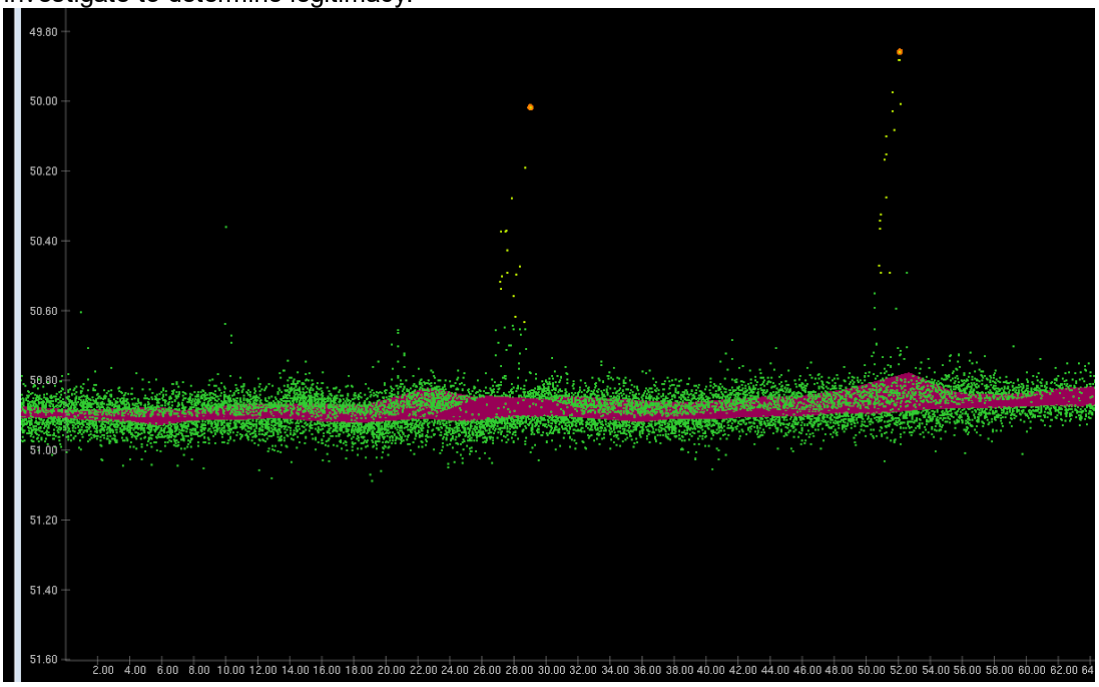
Thank you,
Katrina

On Wed, Aug 24, 2016 at 3:47 PM, David Neff <david@etracinc.com> wrote:

> Hi Katrina and Jacklyn,
>
> I hope the last week of your trip has started off well.
>
> We have a question about the specs and it may not have a straight forward answer, but any advice you can provide would certainly be helpful. I will try to be as clear and concise as possible.
>
> We are seeing what I will refer to as "potential" features in our SW Pass project data. They show as a grouping of soundings near the seafloor. We believe they are fish or organic material moving about the seafloor. However, we are not in the business of "believing".
>
> When there are multiple swaths on them we can easily disprove them as seen in the example below:



When there is a single swath of data (example below), we cannot make any assumptions and may decide to investigate to determine legitimacy.



The question is do we investigate these Single Swath "potential" features if they do not meet the requirements for becoming a designated sounding anyway? For instance if we run the "potential" feature through the criteria below and the answer is "Shall not Designate", do we bother with the investigation? They are all under a meter and have been mainly between 50-70 meters deep.

2. Override Gridded Surface Model - A designated sounding shall not be created to ensure the gridded surface reliably represents a significant shoaler sounding unless both of the following are true:

a. The top of the natural topography is greater than 1m proud of the surrounding seafloor, and

b. The difference between the gridded surface and reliable shoalest sounding is greater than:

i. One-half of the allowable TVU in waters 0-20 meters
ii. The allowable TVU in waters 20+ meters

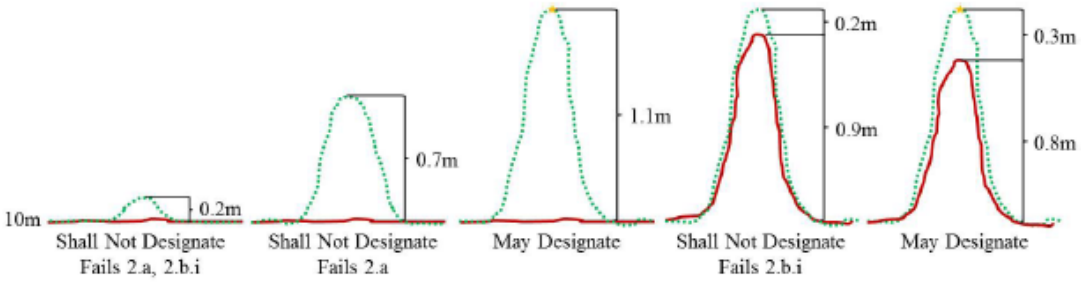


Figure 5.1: The designated sounding guidance above is applied to these example scenarios at depth of 10m. At this depth, the allowed TVU is 0.52m (see Section 5.1.3). Following the designated sounding guidance above, in this 10m depth example, the hydrographer may designate a sounding when the difference between the gridded surface and reliable shoalest sounding is greater than ½ allowable TVU, 0.26m. The red lines represent a gridded surface and the green dots represent reliable shoal soundings.

Also, I think we are a bit hung up on is the wording "natural topography" which seems to us to describe skin of the earth type data. These would likely fall outside of "natural topography" in our interpretation, but should we follow the same guidance?

Again, any advice would be helpful. Thank you

Dave

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

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

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**

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

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

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.

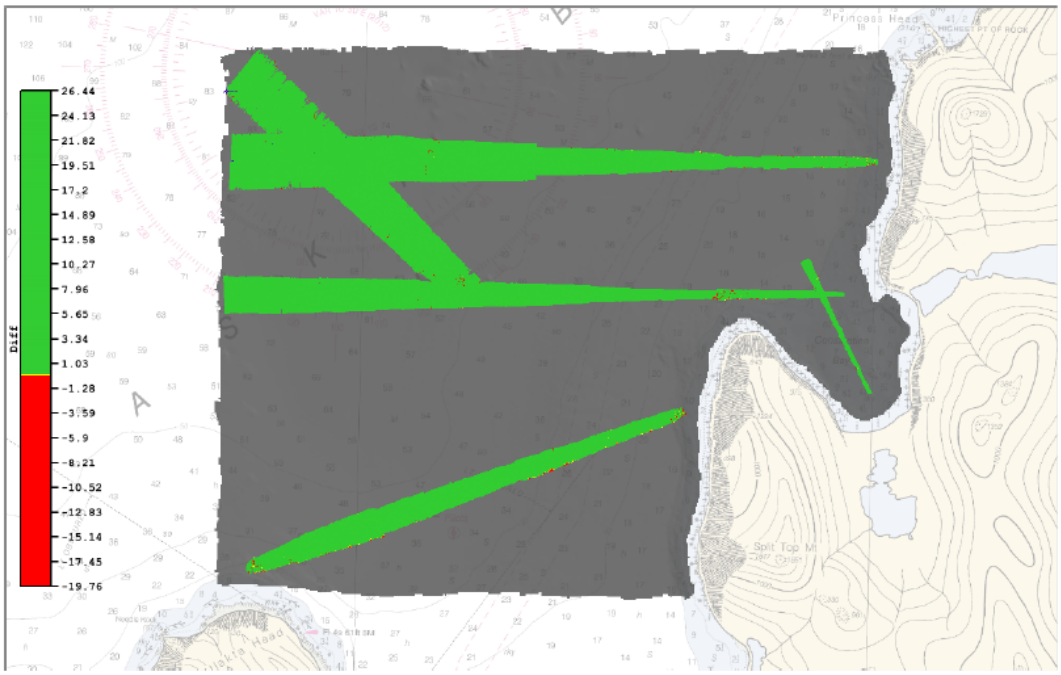


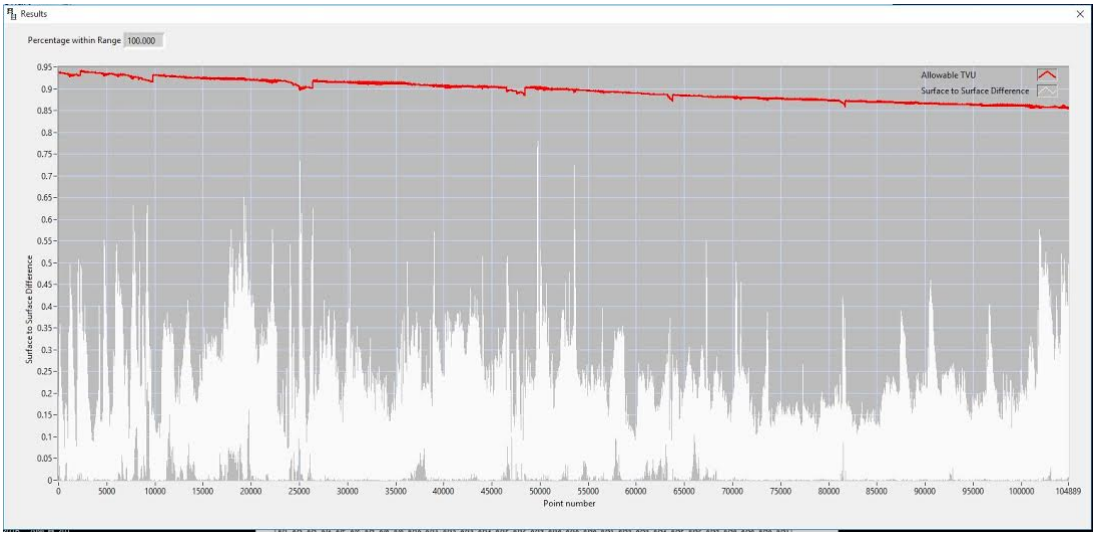
Figure 6: H12940 Crossline Difference vs. Allowable NOAA Uncertainty

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

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

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

04a_NOAAness_XLdiff.doc
170K

Isadora Kratchman <izzy@etracinc.com>

Wellhead pictures

2 messages

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Mon, Sep 26, 2016 at 9:36 PM
To: David Neff <david@etracinc.com>, charting@etracinc.com

Dave,

I attached just a couple wellhead images to this email for your reference.

Katrina

Wellheads.pdf
375K

David Neff <david@etracinc.com> Mon, Sep 26, 2016 at 9:57 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>
Cc: charting@etracinc.com

Thanks Katrina, the charting@etracinc.com issue has been sorted now so the group has received this.

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

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,

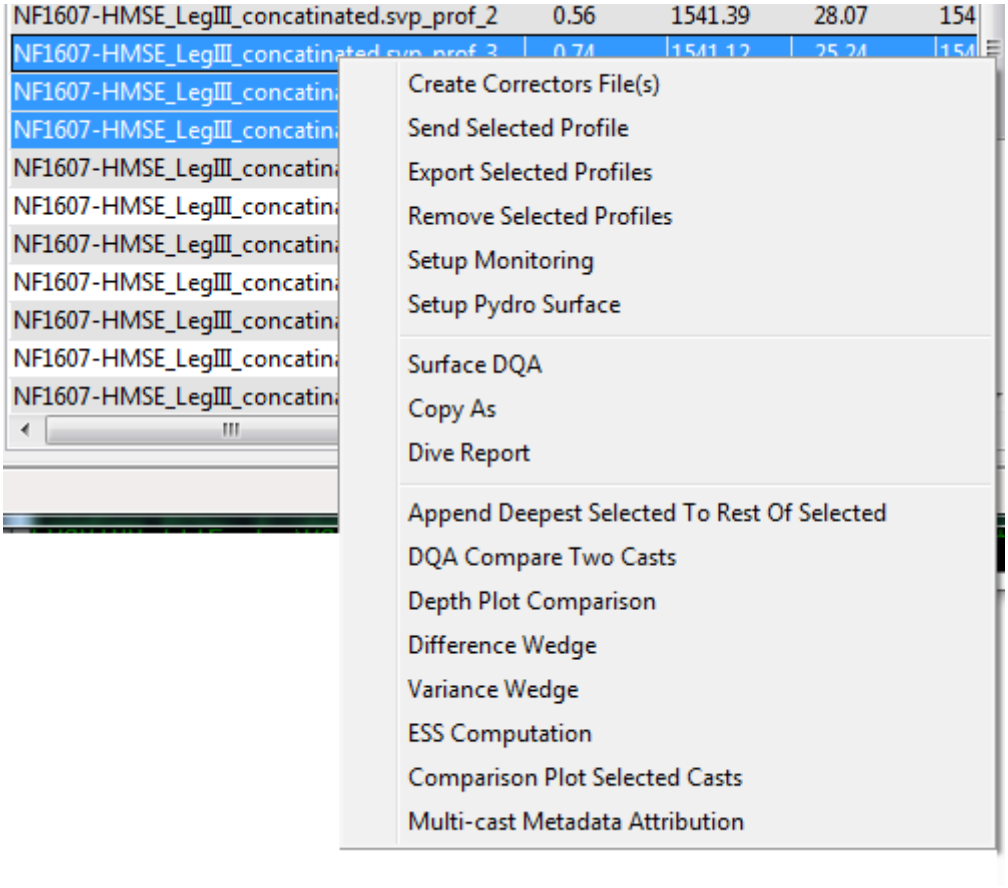
See below from Barry regarding his Velocipy update. Please let us know if this works.

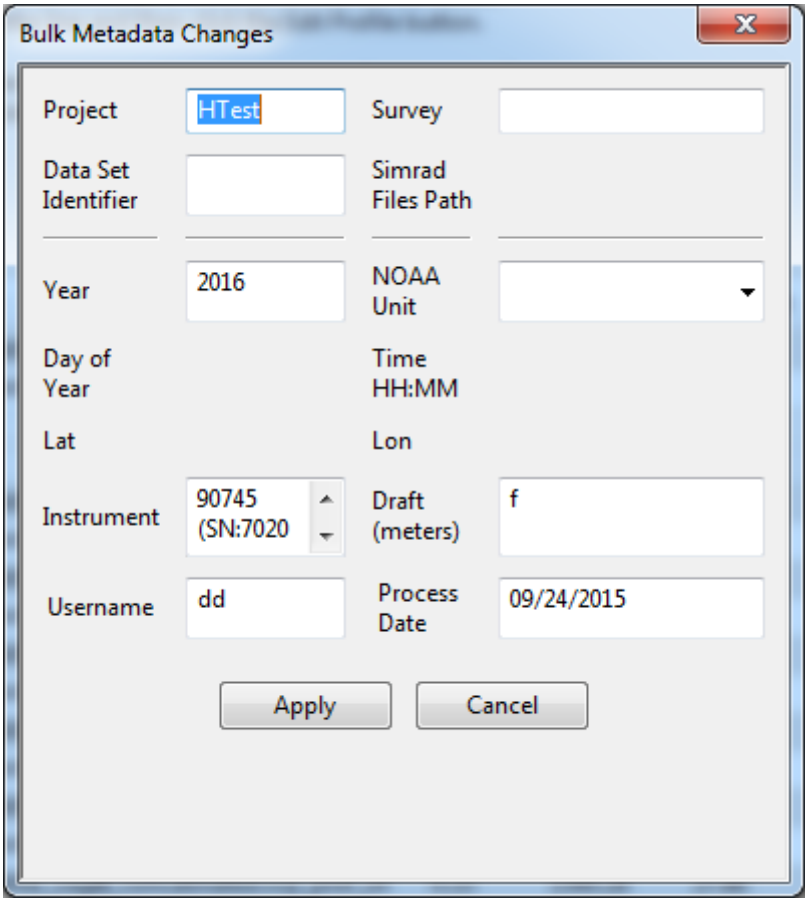
Thank you,
Katrina

---------- 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.

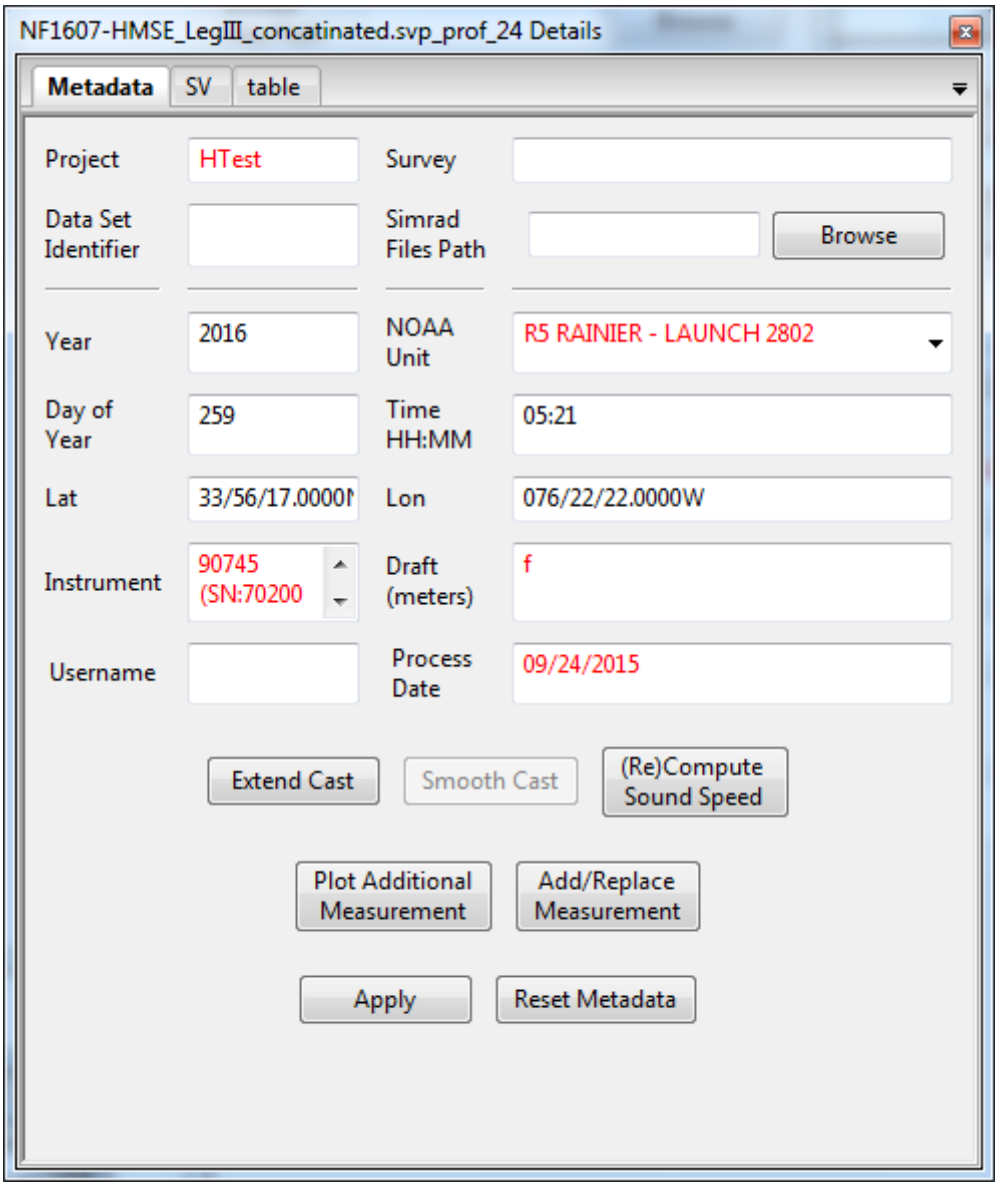
Regards,
Barry

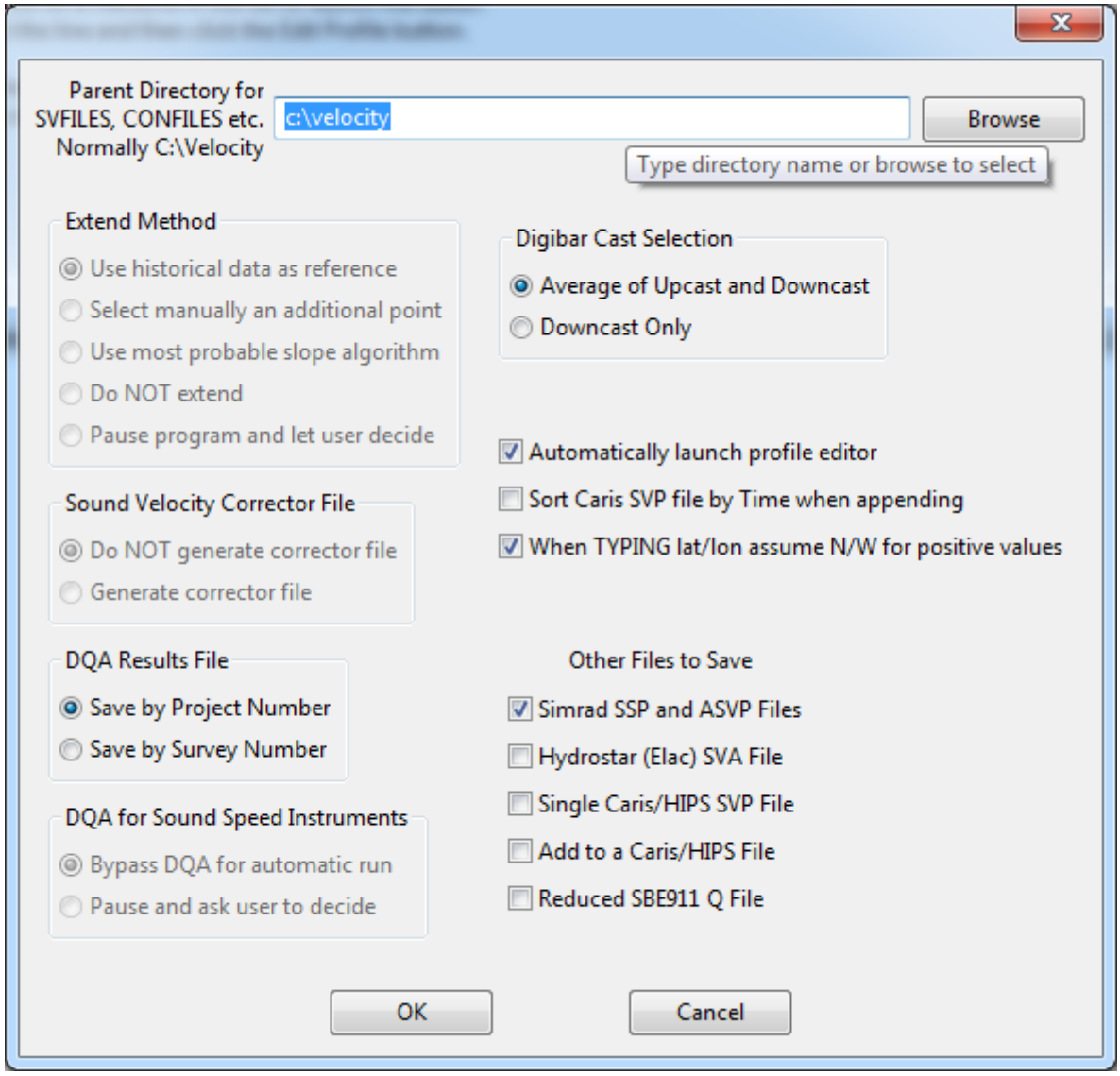




A general note. When you enter metadata for one cast it remembers for the future and for casts that do not contain that metadata it will auto-fill the fields in red. This is most useful for a single vessel processing casts frequently so that he instrument and project and vessel are constant. That is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

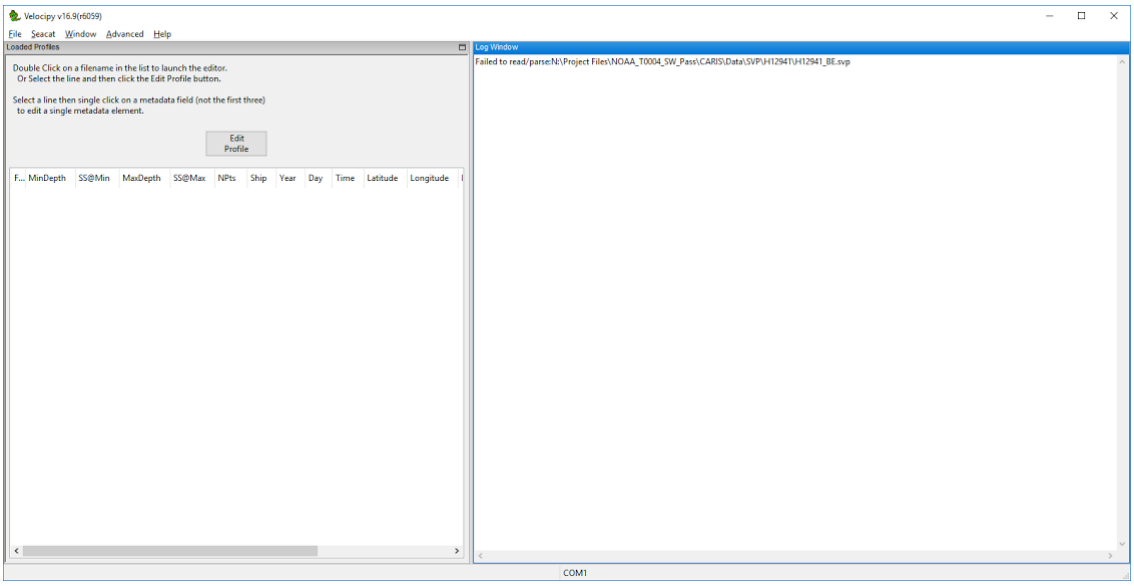
Dave
[Quoted text hidden]
--
Dave Neff, C.H.
Mobile: (415)-517-0020
www.etracinc.com

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

eTrac

Isadora Kratchman <izzy@etracinc.com>

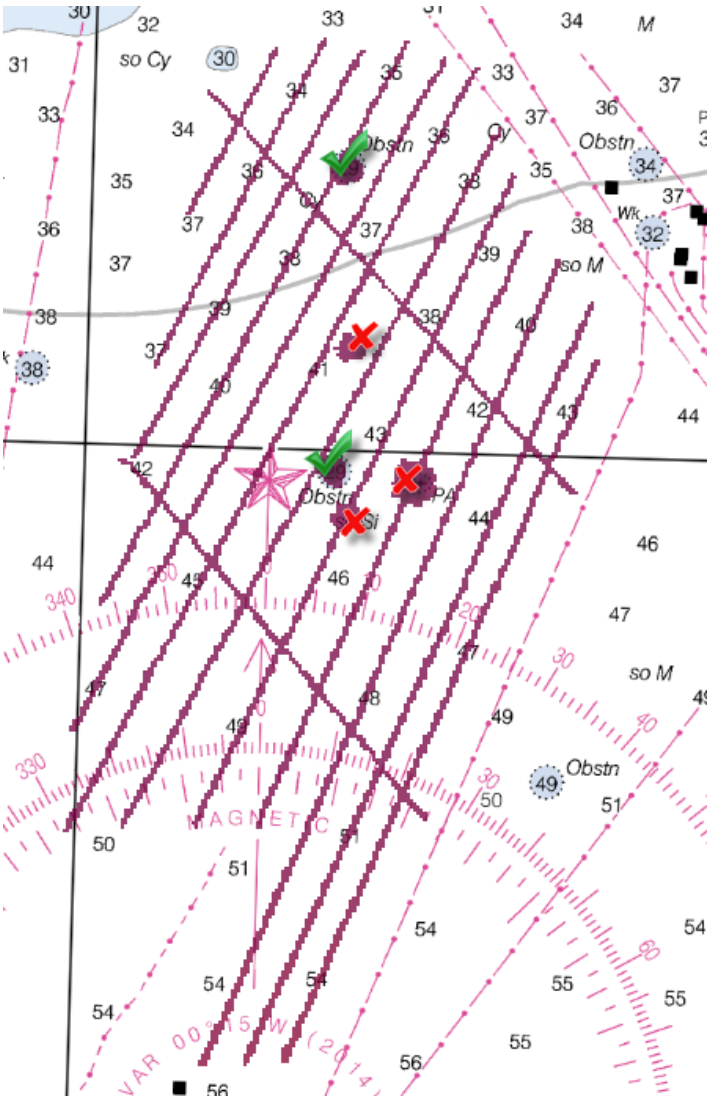
Port Fourchon

3 messages

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Mon, Oct 3, 2016 at 6:04 PM
To: David Neff <david@etracinc.com>
Cc: charting@etracinc.com, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Hi Dave,

My memory is a bit fluffy from a couple weeks ago. For Port Fourchon, is the simple image below correct? You did not see the two BSEE wellheads or wreck PA and you did find the two obstructions?



I understand we're still waiting on final tides, but would you be able to send over a preliminary sounding.hob file for this sheet? I am getting a few requests for information for this proposed anchorage area.

Thank you,
Katrina

David Neff <david@etracinc.com> Mon, Oct 3, 2016 at 7:05 PM
To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

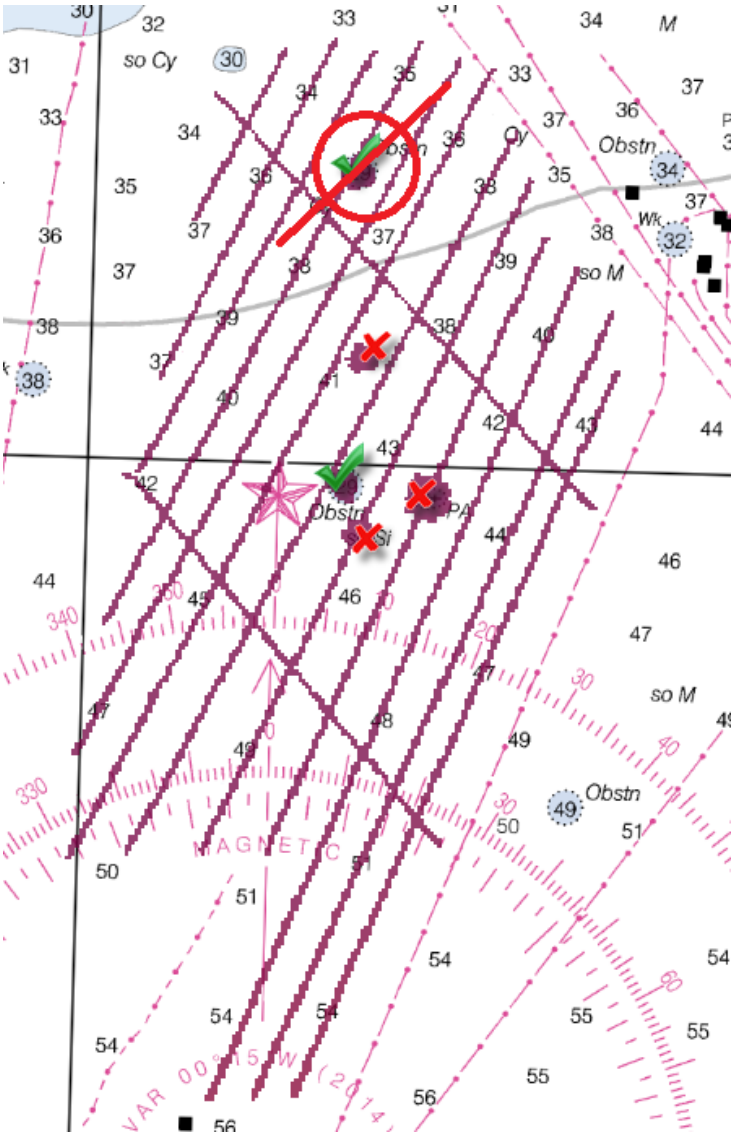
Cc: charting@etracinc.com, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

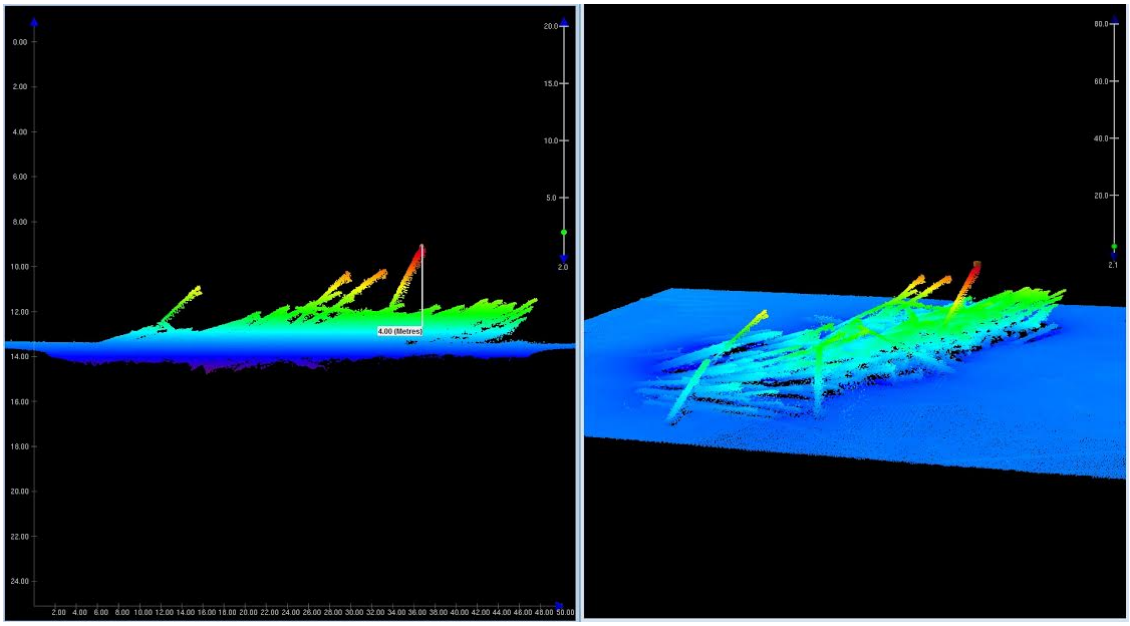
Hi Katrina,

Lucky for you, you caught us just before we started tearing this office apart!

The image is correct accept for the edit I made below. There was nothing found on the northern most feature. I've also attached a screen cap of the feature that we did find. I think you might have gotten a glance at that when you were here?

I've attached a soundings hob based on verified tides with the preliminary TC grid. If my understanding is correct, I believe the new TC grid would affect this sheet very little.





[Quoted text hidden]

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

H12946_Preliminary_Soundings.hob
148K

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> Mon, Oct 3, 2016 at 7:06 PM
To: David Neff <david@etracinc.com>
Cc: charting@etracinc.com, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>

Thank you!

Congrats on the last day of acquisition!

Katrina
[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]

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

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

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.

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

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

APPROVAL PAGE

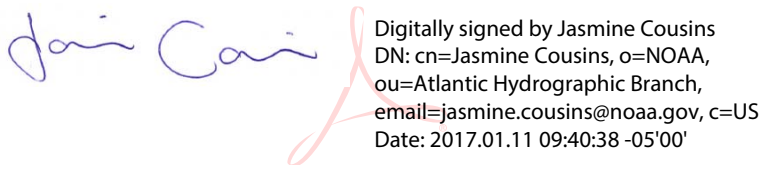
H12946

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

- H12946_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12946_GeoImage.pdf

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



Approved:_____

Lieutenant Commander Briana Welton, NOAA
Chief, Atlantic Hydrographic Branch