

H12764

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

DESCRIPTIVE REPORT

Type of Survey: Basic Hydrographic Survey

Registry Number: H12764

LOCALITY

State(s): Texas

General Locality: Port Mansfield, TX

Sub-locality: NW Approach to Port Mansfield

2015

CHIEF OF PARTY
David Neff, ACSM C.H.

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H12764

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): **Texas**

General Locality: **Port Mansfield, TX**

Sub-Locality: **NW Approach to Port Mansfield**

Scale: **40000**

Dates of Survey: **06/05/2015 to 08/11/2015**

Instructions Dated: **06/23/2015**

Project Number: **OPR-K370-KR-15**

Field Unit: **eTrac Inc.**

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

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Multibeam Echo Sounder Backscatter**

Verification by: **Atlantic Hydrographic Branch**

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

Remarks:

All times are UTC. The purpose of this survey is to update existing NOS nautical charts. H12764 will cover approximately 56 square nautical miles of survey area in the NW Approach to Port Mansfield as designated in NOAA Hydrographic Survey Priorities, 2012 edition. SUBCONSULTANT: Geodynamics LLC, 310A Greenfield Dr., Newport, NC 98570 SUBCONSULTANT: Theory Marine, 777 Viewcrest Dr., Ventura, CA 93003 Projection: UTM 14N, NAD83

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

| | |
|---|-----------|
| <u>A. Area Surveyed</u> | <u>1</u> |
| <u>A.1 Survey Limits</u> | <u>1</u> |
| <u>A.2 Survey Purpose</u> | <u>2</u> |
| <u>A.3 Survey Quality</u> | <u>2</u> |
| <u>A.4 Survey Coverage</u> | <u>3</u> |
| <u>A.5 Survey Statistics</u> | <u>5</u> |
| <u>B. Data Acquisition and Processing</u> | <u>7</u> |
| <u>B.1 Equipment and Vessels</u> | <u>7</u> |
| <u>B.1.1 Vessels</u> | <u>7</u> |
| <u>B.1.2 Equipment</u> | <u>8</u> |
| <u>B.2 Quality Control</u> | <u>8</u> |
| <u>B.2.1 Crosslines</u> | <u>8</u> |
| <u>B.2.2 Uncertainty</u> | <u>9</u> |
| <u>B.2.3 Junctions</u> | <u>10</u> |
| <u>B.2.4 Sonar QC Checks</u> | <u>14</u> |
| <u>B.2.5 Equipment Effectiveness</u> | <u>14</u> |
| <u>B.2.6 Factors Affecting Soundings</u> | <u>14</u> |
| <u>B.2.7 Sound Speed Methods</u> | <u>14</u> |
| <u>B.2.8 Coverage Equipment and Methods</u> | <u>16</u> |
| <u>B.2.9 Data Density Evaluation</u> | <u>16</u> |
| <u>B.3 Echo Sounding Corrections</u> | <u>16</u> |
| <u>B.3.1 Corrections to Echo Soundings</u> | <u>16</u> |
| <u>B.3.2 Calibrations</u> | <u>17</u> |
| <u>B.4 Backscatter</u> | <u>17</u> |
| <u>B.5 Data Processing</u> | <u>17</u> |
| <u>B.5.1 Software Updates</u> | <u>17</u> |
| <u>B.5.2 Surfaces</u> | <u>18</u> |
| <u>C. Vertical and Horizontal Control</u> | <u>19</u> |
| <u>C.1 Vertical Control</u> | <u>20</u> |
| <u>C.2 Horizontal Control</u> | <u>20</u> |
| <u>D. Results and Recommendations</u> | <u>21</u> |
| <u>D.1 Chart Comparison</u> | <u>21</u> |
| <u>D.1.1 Raster Charts</u> | <u>21</u> |
| <u>D.1.2 Electronic Navigational Charts</u> | <u>27</u> |
| <u>D.1.3 AWOIS Items</u> | <u>27</u> |
| <u>D.1.4 Maritime Boundary Points</u> | <u>27</u> |
| <u>D.1.5 Charted Features</u> | <u>27</u> |
| <u>D.1.6 Uncharted Features</u> | <u>27</u> |
| <u>D.1.7 Dangers to Navigation</u> | <u>28</u> |
| <u>D.1.8 Shoal and Hazardous Features</u> | <u>28</u> |
| <u>D.1.9 Channels</u> | <u>28</u> |
| <u>D.1.10 Bottom Samples</u> | <u>28</u> |
| <u>D.2 Additional Results</u> | <u>28</u> |

| | |
|--|--------------------|
| D.2.1 Shoreline | 28 |
| D.2.2 Prior Surveys | 28 |
| D.2.3 Aids to Navigation | 29 |
| D.2.4 Overhead Features | 29 |
| D.2.5 Submarine Features | 29 |
| D.2.6 Ferry Routes and Terminals | 29 |
| D.2.7 Platforms | 29 |
| D.2.8 Significant Features | 29 |
| D.2.9 Construction and Dredging | 29 |
| D.2.10 New Survey Recommendation | 29 |
| D.2.11 Inset Recommendation | 29 |
| E. Approval Sheet | 30 |

List of Tables

| | |
|---|--------------------|
| Table 1: Survey Limits | 1 |
| Table 2: Hydrographic Survey Statistics | 5 |
| Table 3: Dates of Hydrography | 6 |
| Table 4: Vessels Used | 7 |
| Table 5: Major Systems Used | 8 |
| Table 6: Survey Specific Tide TPU Values | 9 |
| Table 7: Survey Specific Sound Speed TPU Values | 9 |
| Table 8: Junctioning Surveys | 11 |
| Table 9: Submitted Surfaces | 18 |
| Table 10: NWLON Tide Stations | 20 |
| Table 11: Water Level Files (.tid) | 20 |
| Table 12: Tide Correctors (.zdf or .tc) | 20 |
| Table 13: USCG DGPS Stations | 21 |
| Table 14: Largest Scale Raster Charts | 21 |
| Table 15: Largest Scale ENCs | 27 |

List of Figures

| | |
|--|--------------------|
| Figure 1: Survey Limits (Black dashed line) | 2 |
| Figure 2: Survey Coverage | 4 |
| Figure 3: H12764 Crossline Comparison | 9 |
| Figure 4: Junction Comparison (H12764 to H12762) | 12 |
| Figure 5: Junction Comparison (H12764 to H12765) | 13 |
| Figure 6: Example of Daily SVP Data Plot (DN210) | 15 |
| Figure 7: Example of Day to Day SVP Comparison (DN210 and DN211) | 15 |
| Figure 8: H12764 2m Complete Coverage MBES Density Distribution Statistics | 16 |
| Figure 9: Raw Backscatter From M/V Jab (DN221) | 17 |
| Figure 10: H12764 Delivered BASE Surface Coverage Graphic | 19 |
| Figure 11: H12764 Contour Comparison (Overview) | 23 |

| | |
|--|-----------|
| <u>Figure 12: H12764 Contour Comparison (90ft).....</u> | <u>24</u> |
| <u>Figure 13: H12764 Contour Comparison (120ft).....</u> | <u>25</u> |
| <u>Figure 14: H12764 Souding Comparison (RNC 11304).....</u> | <u>26</u> |

Descriptive Report to Accompany Survey H12764

Project: OPR-K370-KR-15

Locality: Port Mansfield, TX

Sublocality: NW Approach to Port Mansfield

Scale: 1:40000

June 2015 - August 2015

eTrac Inc.

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

A. Area Surveyed

eTrac Inc. conducted hydrographic survey operations in the vicinity of Port Mansfield, TX. H12764 covers approximately 56 square nautical miles of survey area. H12764 is generally rectangular in geometry, and is approximately 7 nautical miles wide (E-W) by 8 nautical miles long (N-S).

Survey was conducted within these limits between June 5, 2015 (DN156) and August 11, 2015 (DN223).

A.1 Survey Limits

Data were acquired within the following survey limits:

| Northwest Limit | Southeast Limit |
|--------------------------------------|-------------------------------------|
| 26° 48' 43.93" N 97° 10' 51.16" W | 26° 40' 53.35" N 97° 1' 58.74" W |

Table 1: Survey Limits

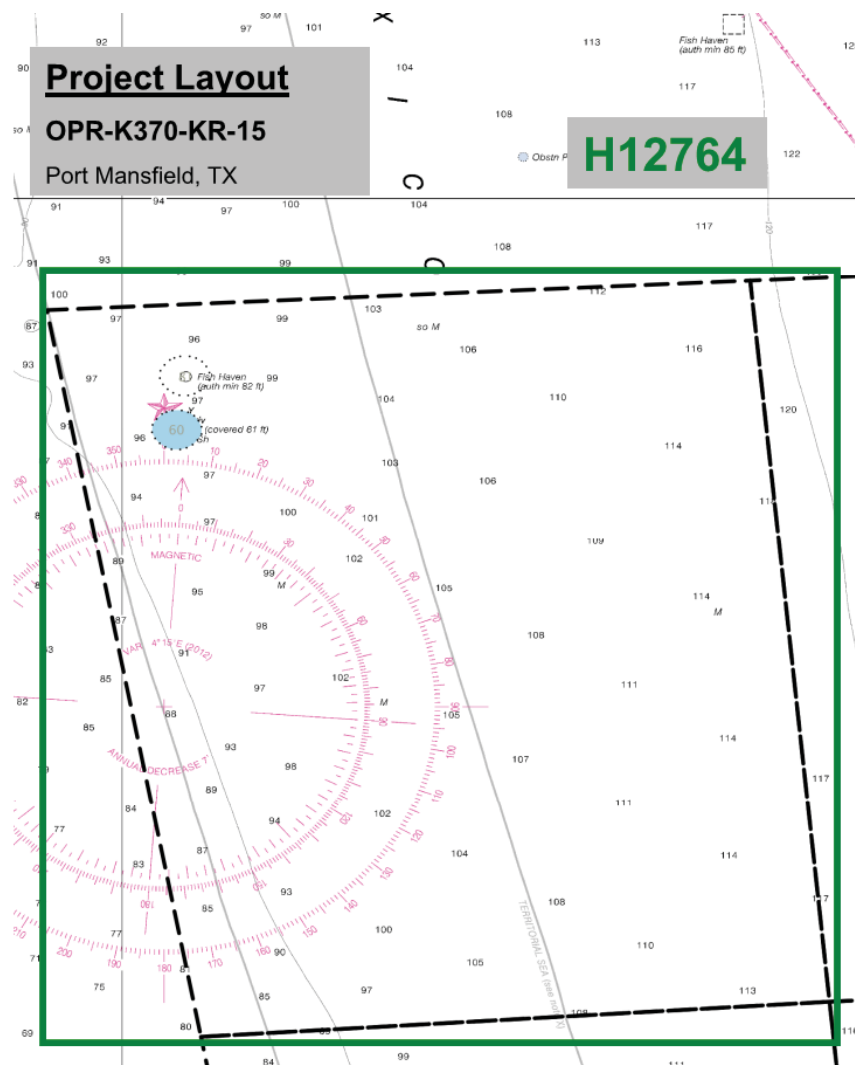


Figure 1: Survey Limits (Black dashed line)

All data were acquired in accordance with the requirements in the Project Instructions and specifications set forth in the Hydrographic Survey Specifications and Deliverables 2015 Edition (HSSD 2015).

A.2 Survey Purpose

The purpose of this survey is to update existing NOS nautical charts. H12764 covers approximately 56 square nautical miles of survey area in Port Mansfield, TX as designated in NOAA Hydrographic Survey Priorities, 2012 edition.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Survey H12764 is accurate to IHO Order 1a as required per the HSSD 2015.

A.4 Survey Coverage

Survey Coverage was in accordance with the requirements in the Project Instructions and HSSD 2015. Depths in H12764 range from 17 to 38 meters. H12764 was surveyed to Complete MBES with backscatter standards set forth in the HSSD 2015.

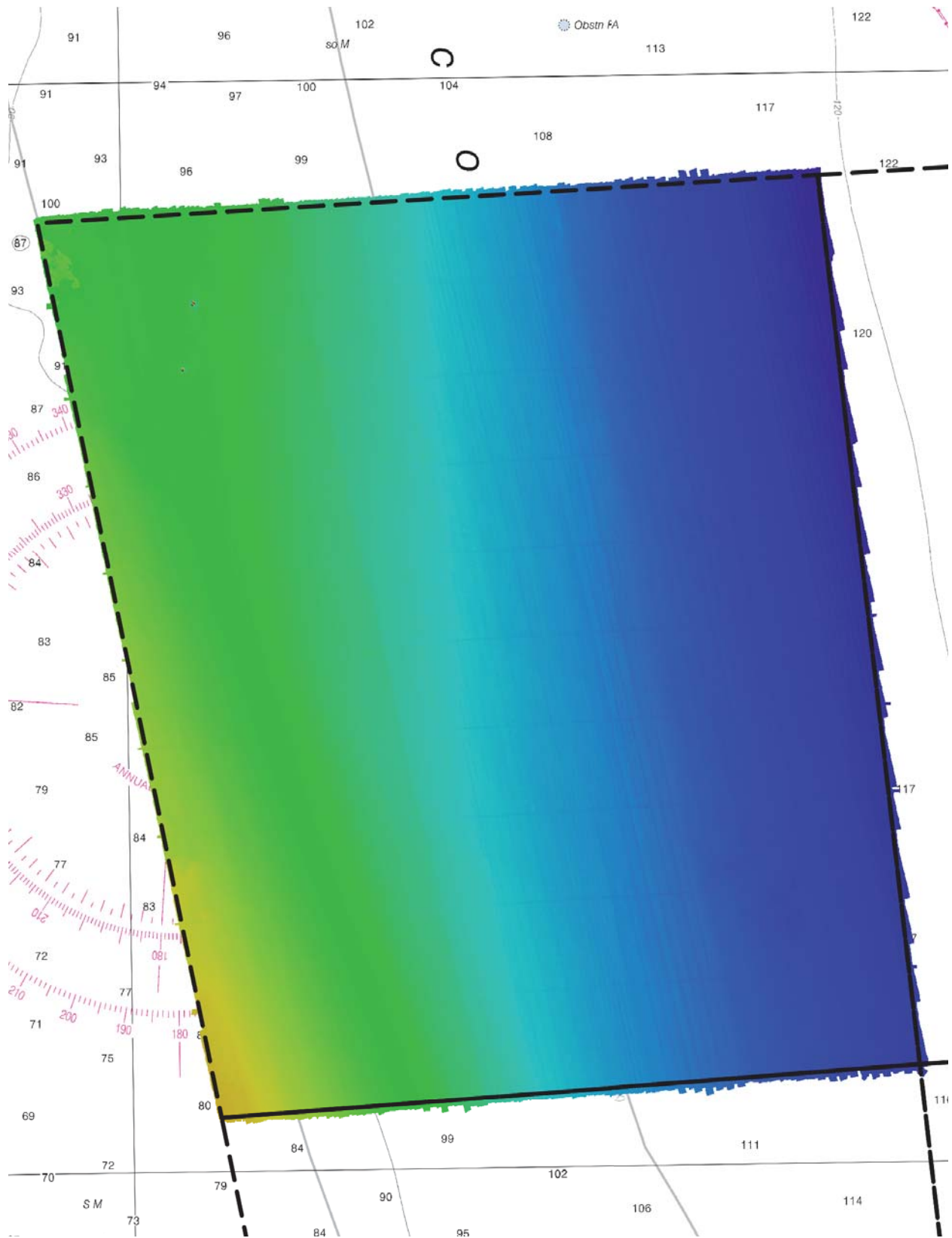


Figure 2: Survey Coverage

A.5 Survey Statistics

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

| | HULL ID | <i>JAB</i> | <i>Benthos</i> | <i>Taku</i> | <i>Total</i> |
|---|-----------------------------|------------|----------------|-------------|--------------|
| LNM | SBES Mainscheme | 0 | 0 | 0 | 0 |
| | MBES Mainscheme | 923 | 232 | 165 | 1320 |
| | Lidar Mainscheme | 0 | 0 | 0 | 0 |
| | SSS Mainscheme | 0 | 0 | 0 | 0 |
| | SBES/SSS Mainscheme | 0 | 0 | 0 | 0 |
| | MBES/SSS Mainscheme | 0 | 0 | 0 | 0 |
| | SBES/MBES Crosslines | 7 | 56 | 0 | 63 |
| | Lidar Crosslines | 0 | 0 | 0 | 0 |
| Number of Bottom Samples | | | | | 7 |
| 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 | | | | | 56 |

Table 2: Hydrographic Survey Statistics

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

| Survey Dates | Day of the Year |
|---------------------|------------------------|
| 06/05/2015 | 156 |
| 06/06/2015 | 157 |
| 06/07/2015 | 158 |
| 06/23/2015 | 174 |
| 06/24/2015 | 175 |
| 06/25/2015 | 176 |
| 06/30/2015 | 181 |
| 07/09/2015 | 190 |
| 07/12/2015 | 193 |
| 07/13/2015 | 194 |
| 07/14/2015 | 195 |
| 07/15/2015 | 196 |
| 07/16/2015 | 197 |
| 07/17/2015 | 198 |
| 07/19/2015 | 200 |
| 07/20/2015 | 201 |
| 07/21/2015 | 202 |
| 07/22/2015 | 203 |
| 07/28/2015 | 209 |
| 07/29/2015 | 210 |
| 07/30/2015 | 211 |
| 07/31/2015 | 212 |
| 08/01/2015 | 213 |
| 08/02/2015 | 214 |
| 08/03/2015 | 215 |
| 08/04/2015 | 216 |
| 08/05/2015 | 217 |
| 08/06/2015 | 218 |
| 08/07/2015 | 219 |
| 08/08/2015 | 220 |
| 08/09/2015 | 221 |
| 08/11/2015 | 223 |

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 | <i>M/V Jab</i> | <i>R/V Benthos</i> | <i>R/V Taku</i> |
|----------------|-----------------------|---------------------------|------------------------|
| LOA | 13 meters | 10 meters | 10 meters |
| Draft | 0.75 meters | 0.6 meters | 0.6 meters |

Table 4: Vessels Used

The M/V Jab is a 13 meter aluminum catamaran equipped with a multibeam moonpool and an A-frame for towed body operations.

The R/V Benthos is a 10 meter aluminum catamaran equipped with a custom over-the-side (port) multibeam hydraulic pole mount, as well as an A-Frame for towed body operations.

The R/V Taku is a 10 meter aluminum catamaran equipped with an Universal Sonar Mount (USM) over-the-side (starboard) multibeam mount, as well as an A-Frame for towed body operations.

B.1.2 Equipment

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

| Manufacturer | Model | Type |
|---------------------|--------------|---------------------------------|
| R2Sonic | 2024 | MBES |
| Applanix | POSMV 320 V5 | Positioning and Attitude System |
| AML | Base.X | Sound Speed System |
| AML | Minos.X | Sound Speed System |
| Trimble | SPS351 | Positioning System |
| Trimble | DSM232 | Positioning System |

Table 5: Major Systems Used

Note: The major systems listed above were used on each vessel. The AML Minos.X, AML Base.X, and Trimble DSM232 were utilized on the M/V Jab. R/V Benthos utilized an AML Base.X and Trimble SPS351. R/V Taku utilized an AML Base.X and Trimble DSM232.

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 5% of mainscheme acquisition.

A comparison of crossline mileage to mainscheme mileage yields a cross line percentage of 4.77%, and is noted to be above the required 4%.

A beam-by-beam statistical analysis was performed using the Line QC reporting tool in Caris HIPS and SIPS 9.0. A 2 meter CUBE weighted BASE surface was created incorporating only the mainscheme lines and excluded crosslines. Note: this surface was created for QC only and is not submitted as a surface deliverable. 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 mainscheme and crossline data across the entire project.

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

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

Note: The R/V Benthos acquired MBES crossline data for H12764 on DN157 and DN158. It was discovered after completion of crossline acquisition that the R/V Benthos was operating a sonar that had a low power port side element. The faulty element caused issues with port side beam formation, creating a lower percentage of accepted beams per IHO Special Order standards as displayed in the graph below. IHO Order 1a compliance remained unaffected and crossline data is noted to be well within specifications set forth in the HSSD 2015.

Resolution: The faulty sonar was immediately replaced on the morning of DN159, isolating the issue to DN157 and DN158 crossline data.

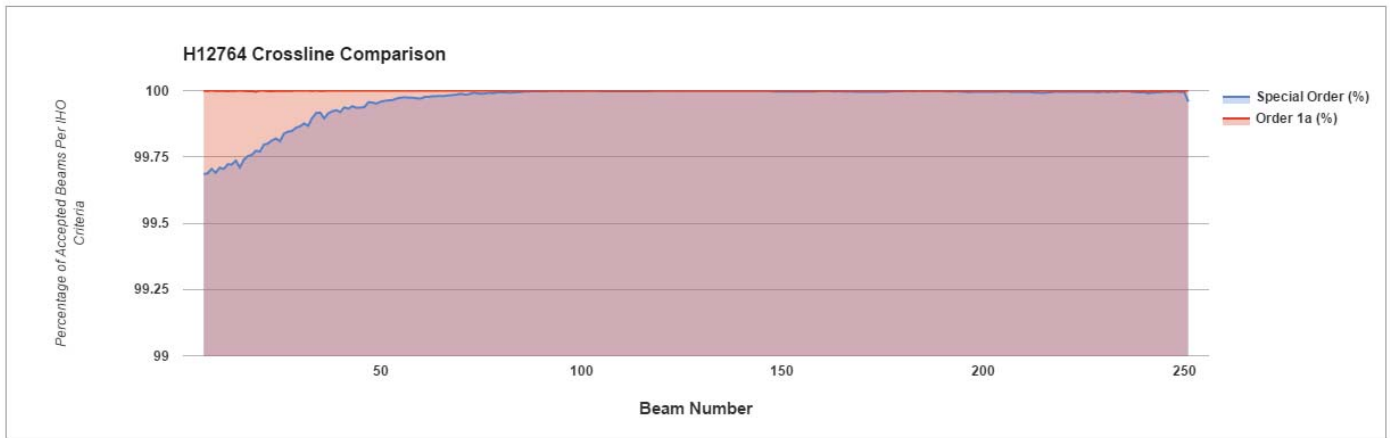


Figure 3: H12764 Crossline Comparison

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

| Measured | Zoning |
|-------------|----------|
| 0.22 meters | 0 meters |

Table 6: Survey Specific Tide TPU Values

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

Table 7: Survey Specific Sound Speed TPU Values

Note: Tide TPU values given as 2 sigma.

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

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

$$\text{Custom Layer} = (\text{Deep} - \text{Shoal})^2$$

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 layers in the following configuration:

$$-\text{Uncertainty}/((0.5^2 + ((\text{Depth} * 0.013)^2))^0.5)$$

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 9.0. 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.

For the 1m surface, the IHO Order 1a uncertainty specification was met by only 43% of the nodes. The 1m surface covers the shoalest portions of the 2 features in H12764 and contains only 14 nodes. The vertical irregularity within the 1m horizontal bin causes 8 of the 14 nodes to fall outside of the Order 1a specifications, creating a low percentage of Order 1a and falsley represents the quality of our data. The IHO Order 1a uncertainty specification was met by 100% of the nodes of the 1m Parent surface, which covers the entire area of H12764. Reference Email Correspondence in Appendix II of this report.

For the 2m surface the IHO Order 1a uncertainty specification was met by 100% of the nodes.

B.2.3 Junctions

The following junctions were made with this survey:

| Registry Number | Scale | Year | Field Unit | Relative Location |
|-----------------|---------|------|------------|-------------------|
| H12762 | 1:40000 | 2015 | eTrac Inc. | S |
| H12765 | 1:40000 | 2015 | eTrac Inc. | E |

Table 8: Junctioning Surveys

H12762

H12764 junctions with H12762 to the south. The junction comparison was performed using approximately 250m of overlapping data between H12764 and H12762. Depths were compared in Caris HIPS and SIPS 9.0 by creating a 2 meter difference surface between the junctioning datasets. Note: the 2 meter difference surface was created for comparison efforts only and is not submitted as a surface deliverable. The comparison showed excellent agreement between H12764 and H12762. Depth differences generally were within 30cm or less, with the majority of depth differences being less than 10cm. Junction comparison statistics are included in Separate II.

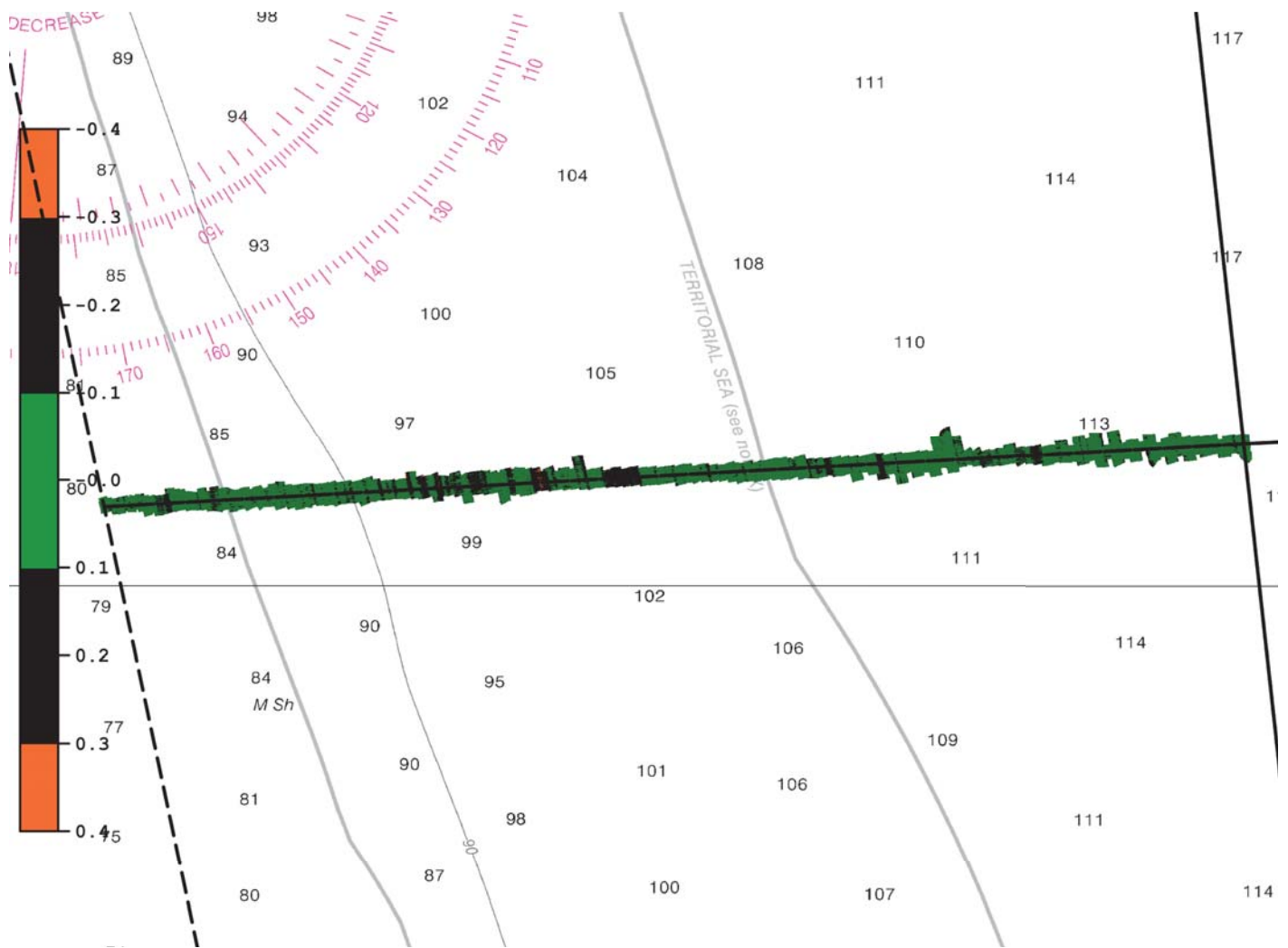


Figure 4: Junction Comparison (H12764 to H12762)

H12765

H12764 junctions with H12765 to the east. The junction comparison was performed using approximately 250m of overlapping data between H12764 and H12765. Depths were compared in Caris HIPS and SIPS 9.0 by creating a 2 meter difference surface between the junctioning datasets. Note: the 2 meter difference surface was created for comparison efforts only and is not submitted as a surface deliverable. The comparison showed excellent agreement between H12764 and H12765. Depth differences generally were within 30cm or less, with the majority of depth differences being less than 10cm. Junction comparison statistics are included in Separate II.

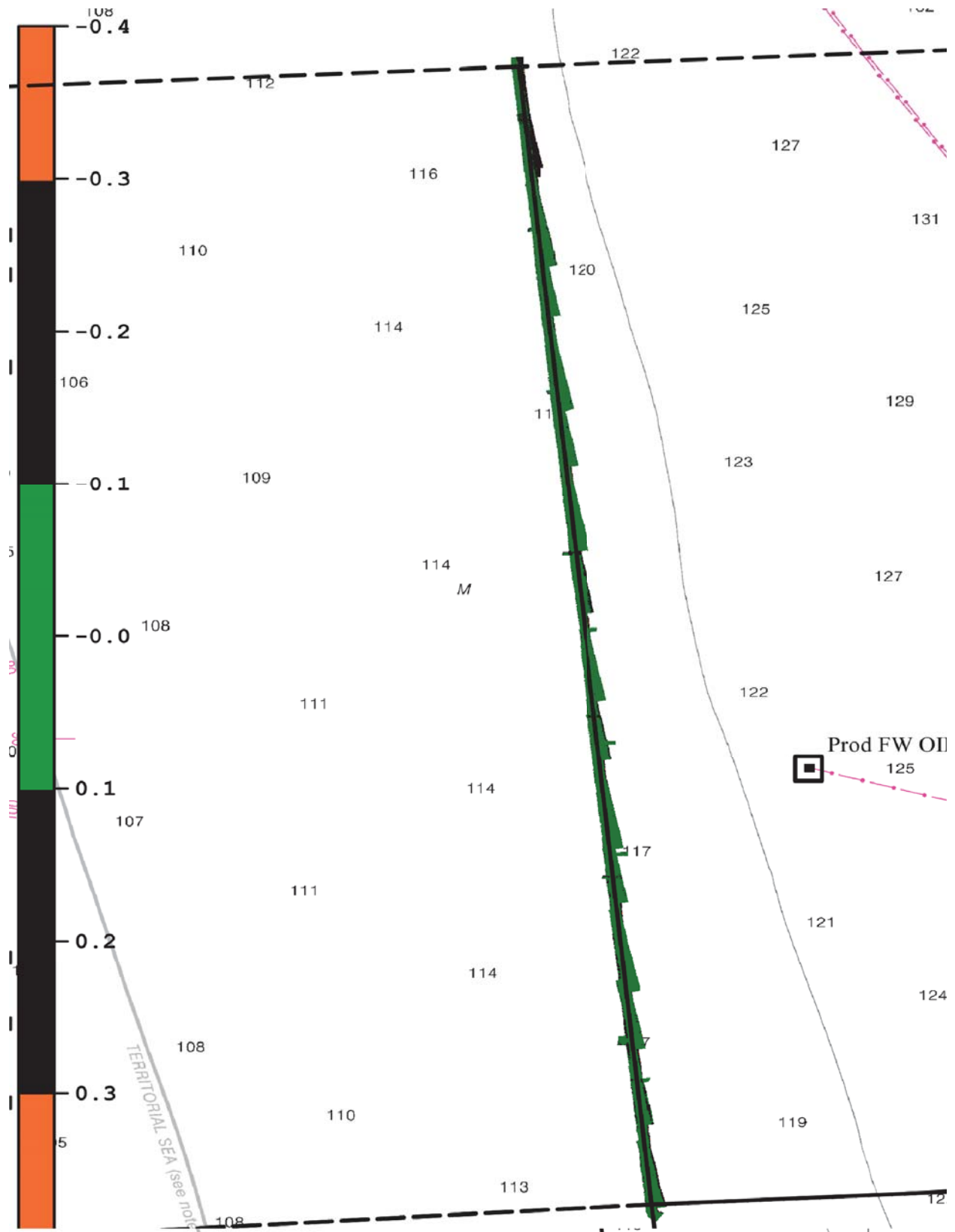


Figure 5: Junction Comparison (H12764 to H12765)

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. Occasionally 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 real-time 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.

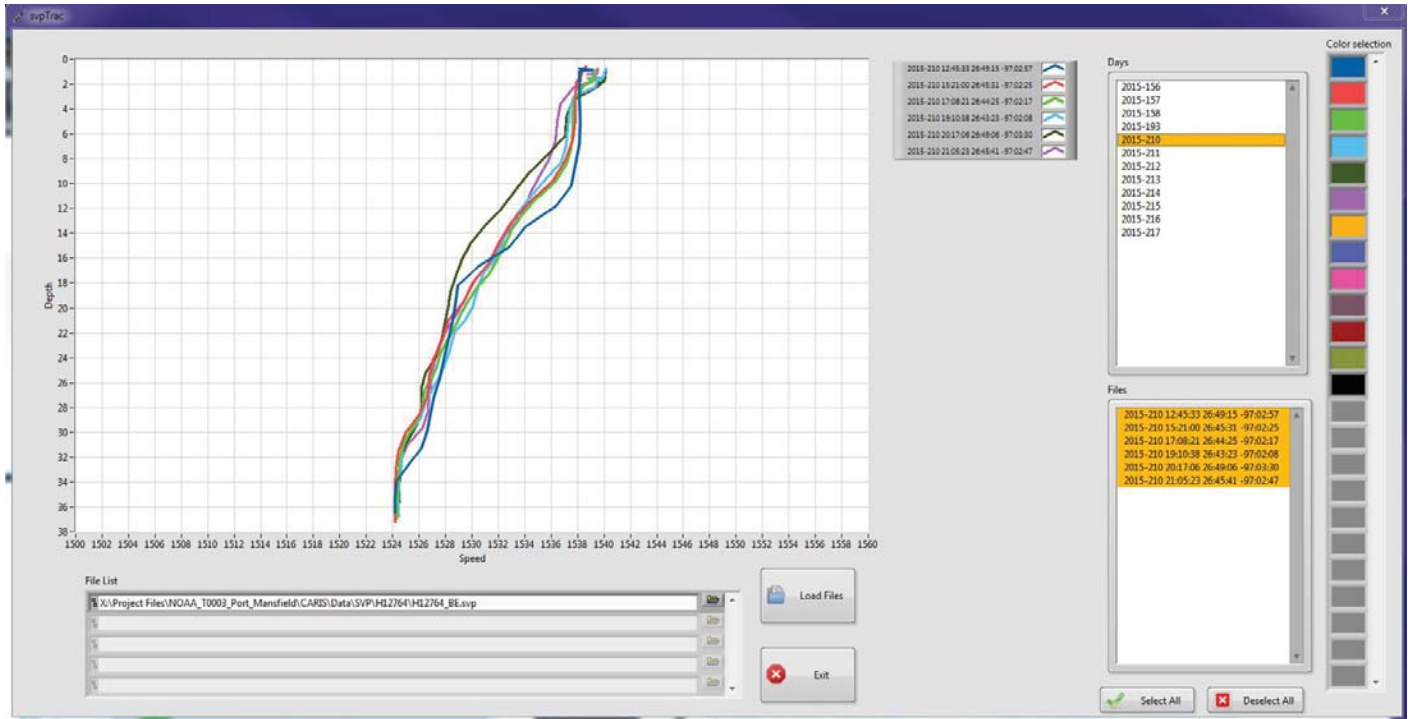


Figure 6: Example of Daily SVP Data Plot (DN210)

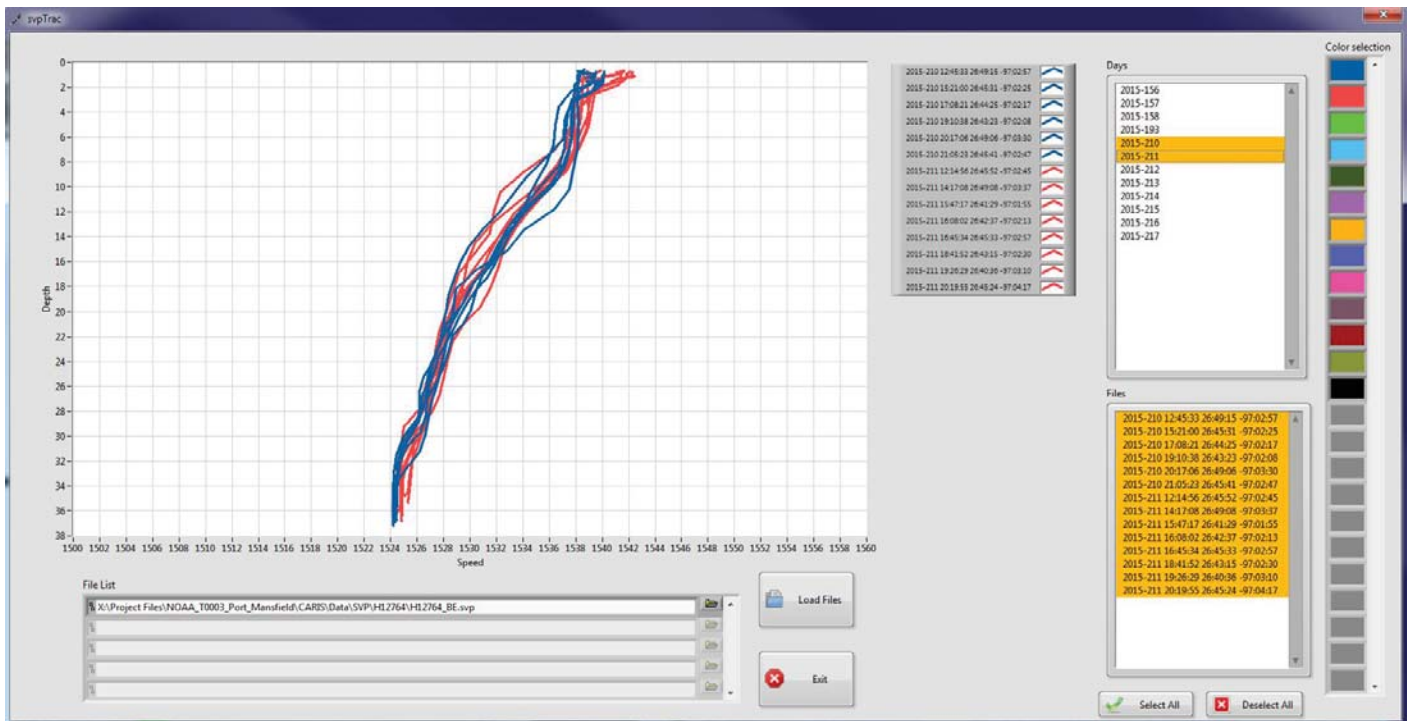


Figure 7: Example of Day to Day SVP Comparison (DN210 and DN211)

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, developed in-house by eTrac Inc. Each BASE surface's nodes were exported to an ASCII CSV file where the fields were (Easting, Northing, Density) for each node. The CSV file was then loaded into the DensityTrac program and density statistics were computed. For H12764 the following percentage represent the results of the density testing:

Complete Coverage MBES (2m Gridded Surface) = 99.95% of all nodes are composed from at least 5 soundings.

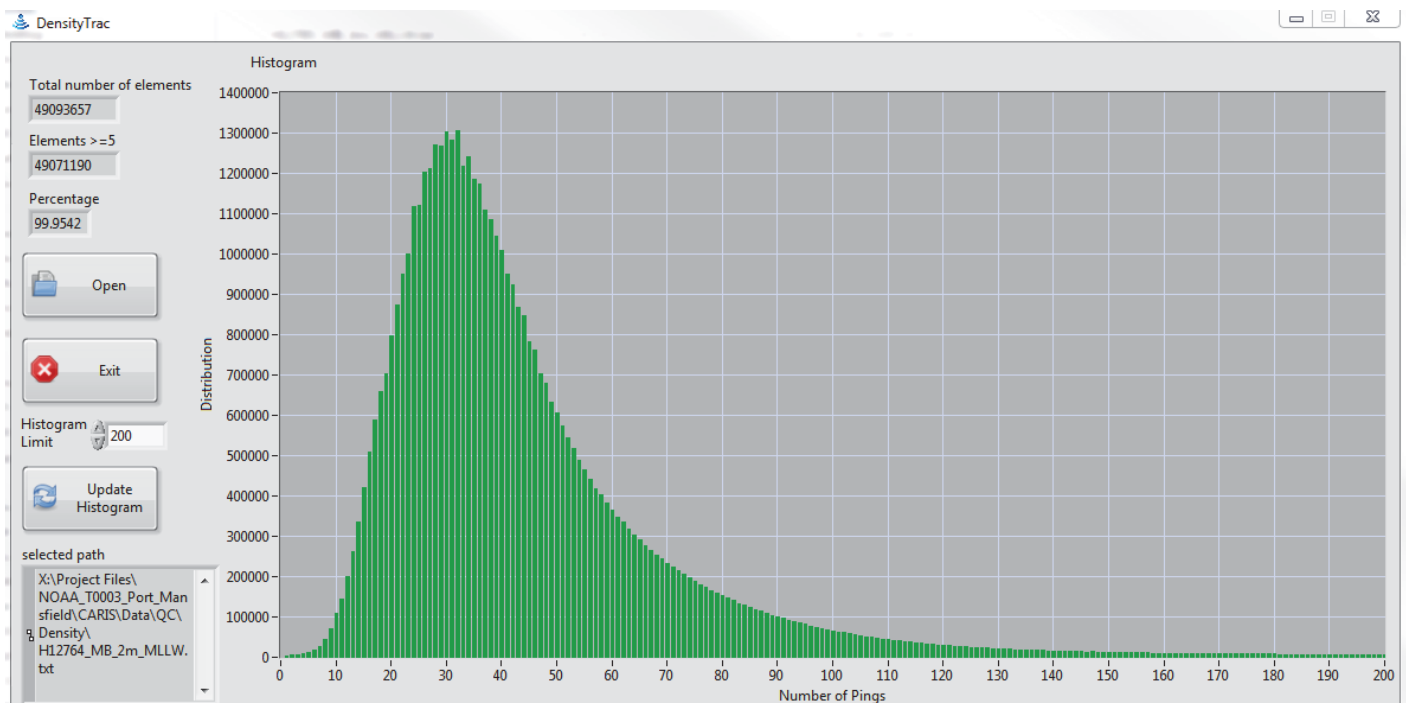


Figure 8: H12764 2m Complete Coverage MBES Density Distribution Statistics

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 9.0 to ensure collection criteria had been met. Shown below is an example of the unprocessed backscatter mosaic from H12764 DN221.

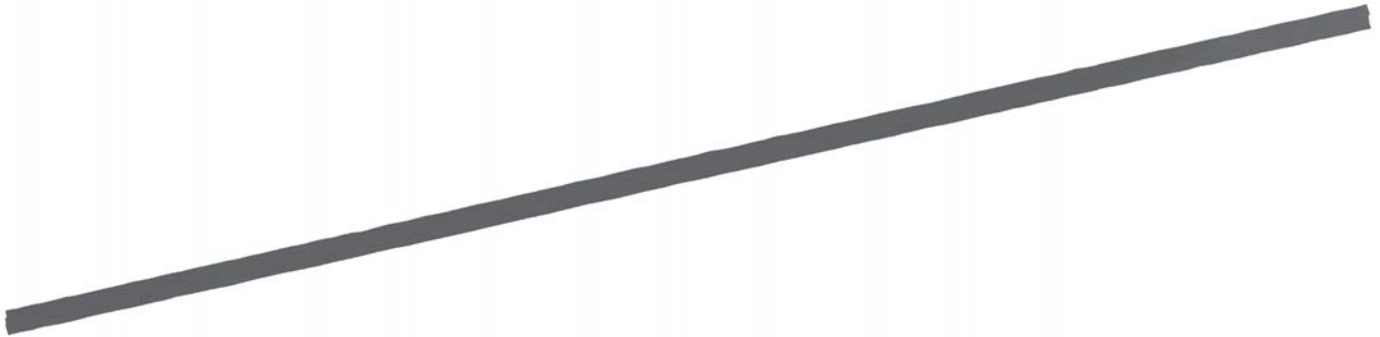


Figure 9: Raw Backscatter From M/V Jab (DN221)

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_3_2

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 |
|---------------------|--------------|------------|-----------------------------------|-------------------|---------------|
| H12764_MB_1m_MLLW | CUBE | 1 meters | 17.36 meters - 19.92 meters | NOAA_1m | Complete MBES |
| H12764_MB_2m_MLLW | CUBE | 2 meters | 18.91 meters - 37.76 meters | NOAA_2m | Complete MBES |
| H12764_MB_1m_Parent | CUBE | 1 meters | 18.77 meters - 38.52 meters | NOAA_1m | Complete MBES |
| H12764_MB_2m_Parent | CUBE | 2 meters | 18.91 meters - 37.76 meters | NOAA_2m | Complete MBES |

Table 9: Submitted Surfaces

In areas shoaler than 20 meters, a 1 meter surface is provided meeting complete coverage MBES with backscatter specifications. Note: The 1m surface contains only 14 nodes, and was created to cover the shoalest portions of the 2 features in H12764 that have minimum depths shoaler than 18 meters.

In areas deeper than 18 meters, a 2 meter surface is provided meeting complete coverage MBES with backscatter specifications.

Parent surfaces of the 1 and 2 meter surfaces are provided, both covering the entire survey area of H12764.

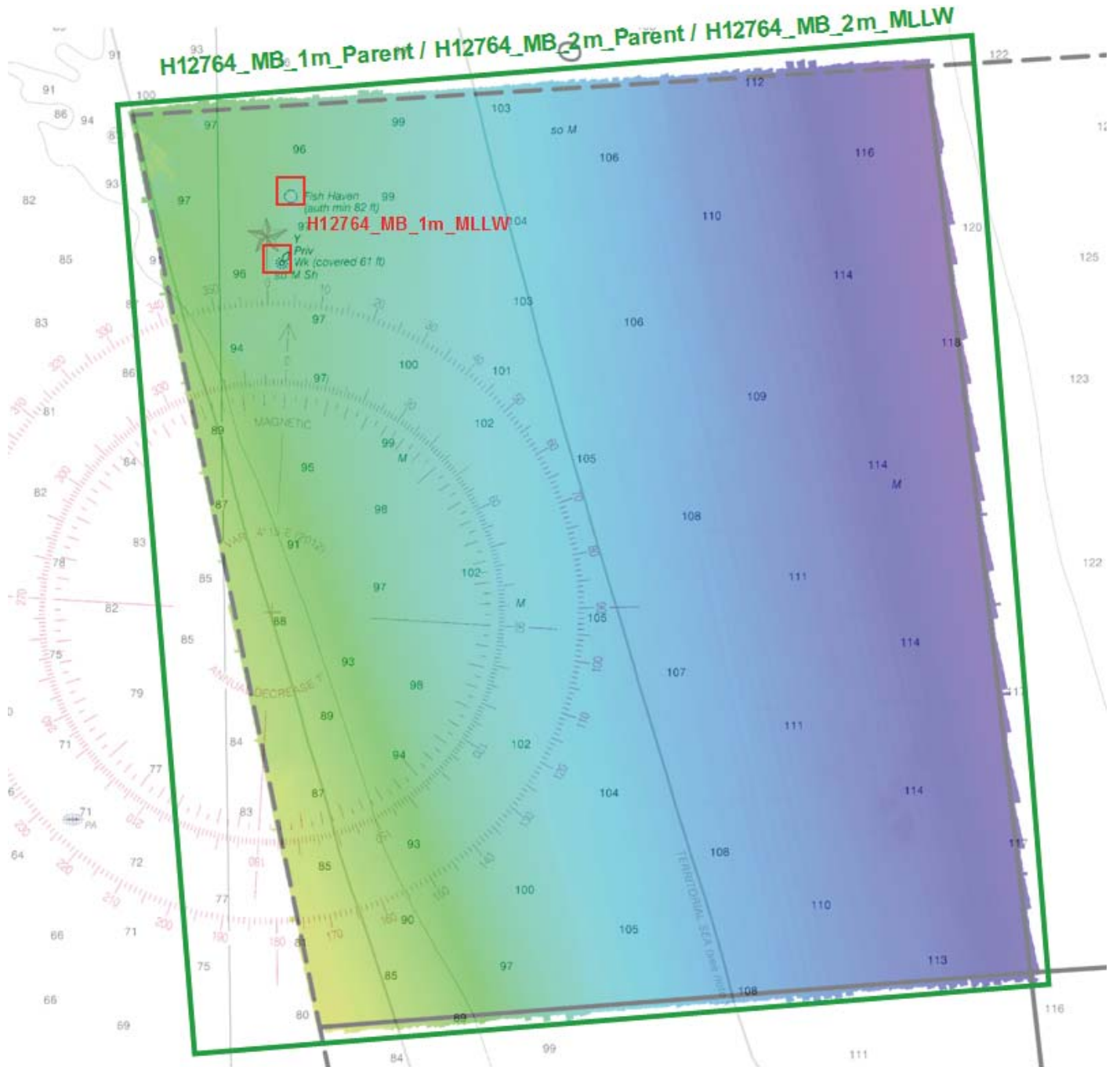


Figure 10: H12764 Delivered BASE Surface Coverage Graphic

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:

Discrete Zoning

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

| Station Name | Station ID |
|-------------------|------------|
| Corpus Christi TX | 877-5870 |

Table 10: NWLON Tide Stations

| File Name | Status |
|-------------|-------------------|
| 8775870.tid | Verified Observed |

Table 11: Water Level Files (.tid)

| File Name | Status |
|--------------------|--------|
| K370KR2015CORP.zdf | Final |

Table 12: Tide Correctors (.zdf or .tc)

C.2 Horizontal Control

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

The projection used for this project is UTM Zone 14N.

DGPS correctors were monitored realtime during data collection for dropouts. No dropouts were witnessed during data collection. In addition to the realtime monitoring of DGPS corrections, position data was

analyzed in the office during post-processing. The attitude editor within Caris HIPS and SIPS 9.0 was utilized to identify any position data that may be insufficient for final delivery.

The following DGPS Stations were used for horizontal control:

| DGPS Stations |
|-------------------------------|
| Aransas Pass, 304kHz, ID: 816 |

Table 13: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

A chart comparison was conducted for H12764 using Caris HIPS and SIPS 9.0. Contours, as well as soundings, were compared against the largest scale RNC 11304 and ENC US4TX15M to accomplish the chart comparison. The methods and results of the comparison are detailed below.

Contour Comparison Method:

Using the 2 meter CUBE weighted BASE surface, the 90 foot and 120 foot contours were generated and displayed against the charted contour. Additionally, the 2 meter BASE surface was viewed by a custom color band range based on the contour intervals (12ft, 18ft, 30ft, 60ft, 90ft, 120ft, 180ft). The results of the comparison are described below.

Sounding Comparison Method:

Using the same 2 meter CUBE weighted BASE surface used for the contour comparison, spot soundings were generated in Caris HIPS and SIPS 9.0 for H12764. 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 | LNМ Date | NM Date |
|-------|---------|---------|--------------|------------|------------|
| 11304 | 1:80000 | 14 | 04/2012 | 09/01/2015 | 09/12/2015 |

Table 14: Largest Scale Raster Charts

11304

Contour Comparison Results:

The 90 foot contour has receded shoreward, on average, approximately 465 meters from the charted contour.

The 120 foot contour has receded shoreward, on average, approximately 800 meters from the charted contour.

Sounding Comparison Results:

With exception to the differences identified through the contour comparison, in general, the soundings are in excellent agreement, with no major discrepancies. Soundings are generally within 1 foot (0.3m) of each other. Occasionally soundings differ by 2 to 3 feet, however generally depth differences appear to be minimal. Depth differences are not biased in any particular direction to support a systematic error.

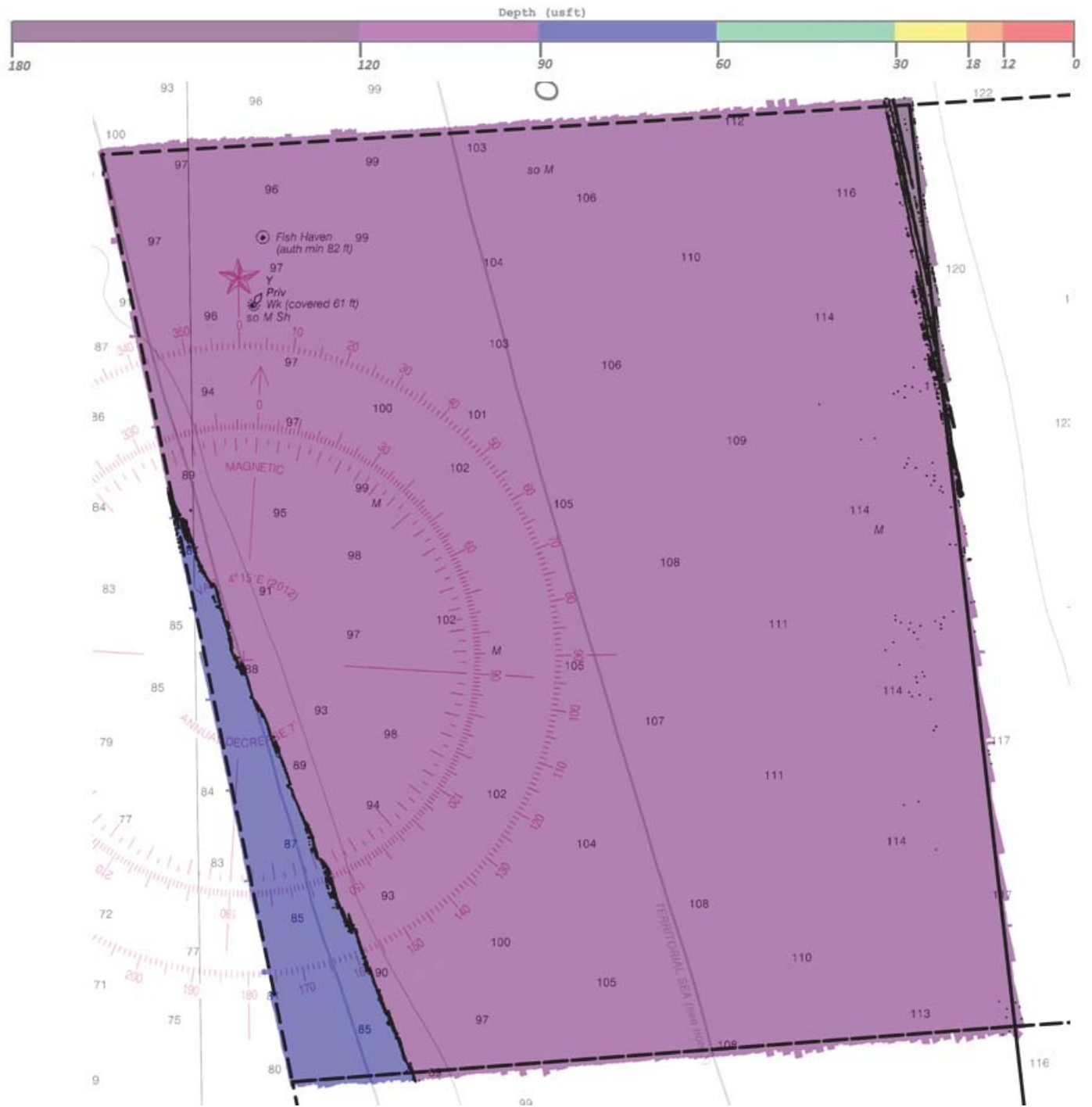


Figure 11: H12764 Contour Comparison (Overview)

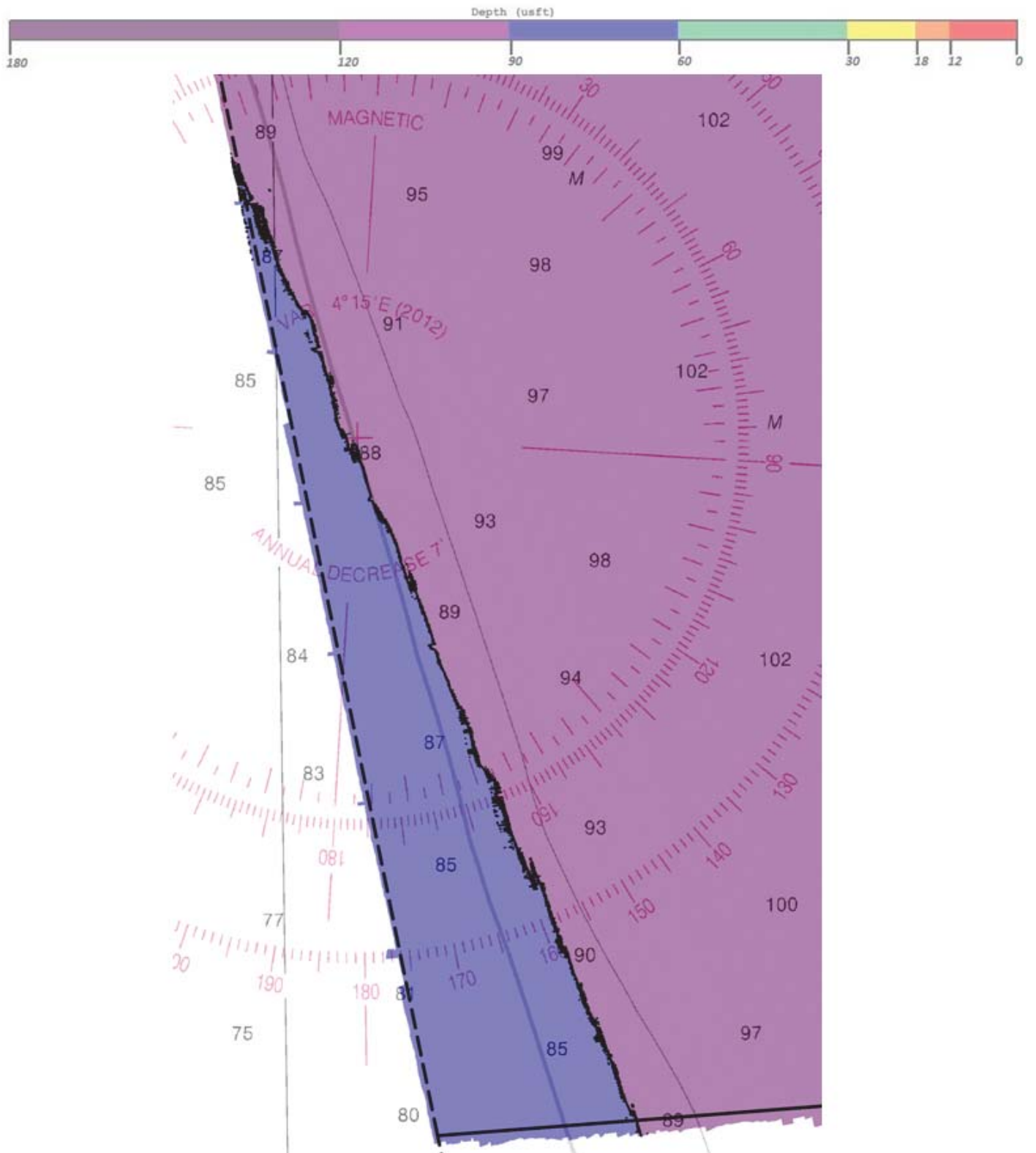


Figure 12: H12764 Contour Comparison (90ft)

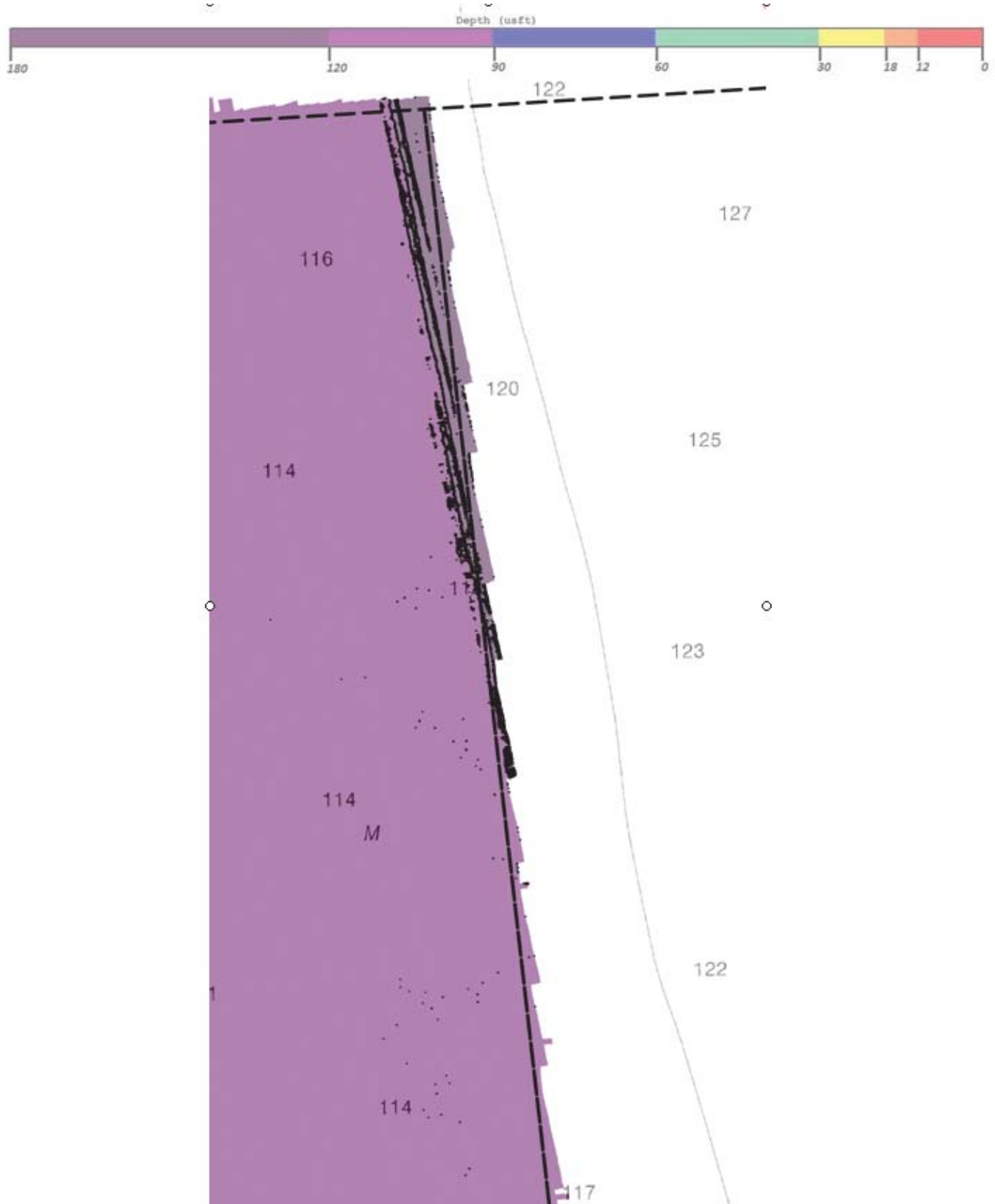


Figure 13: H12764 Contour Comparison (120ft)

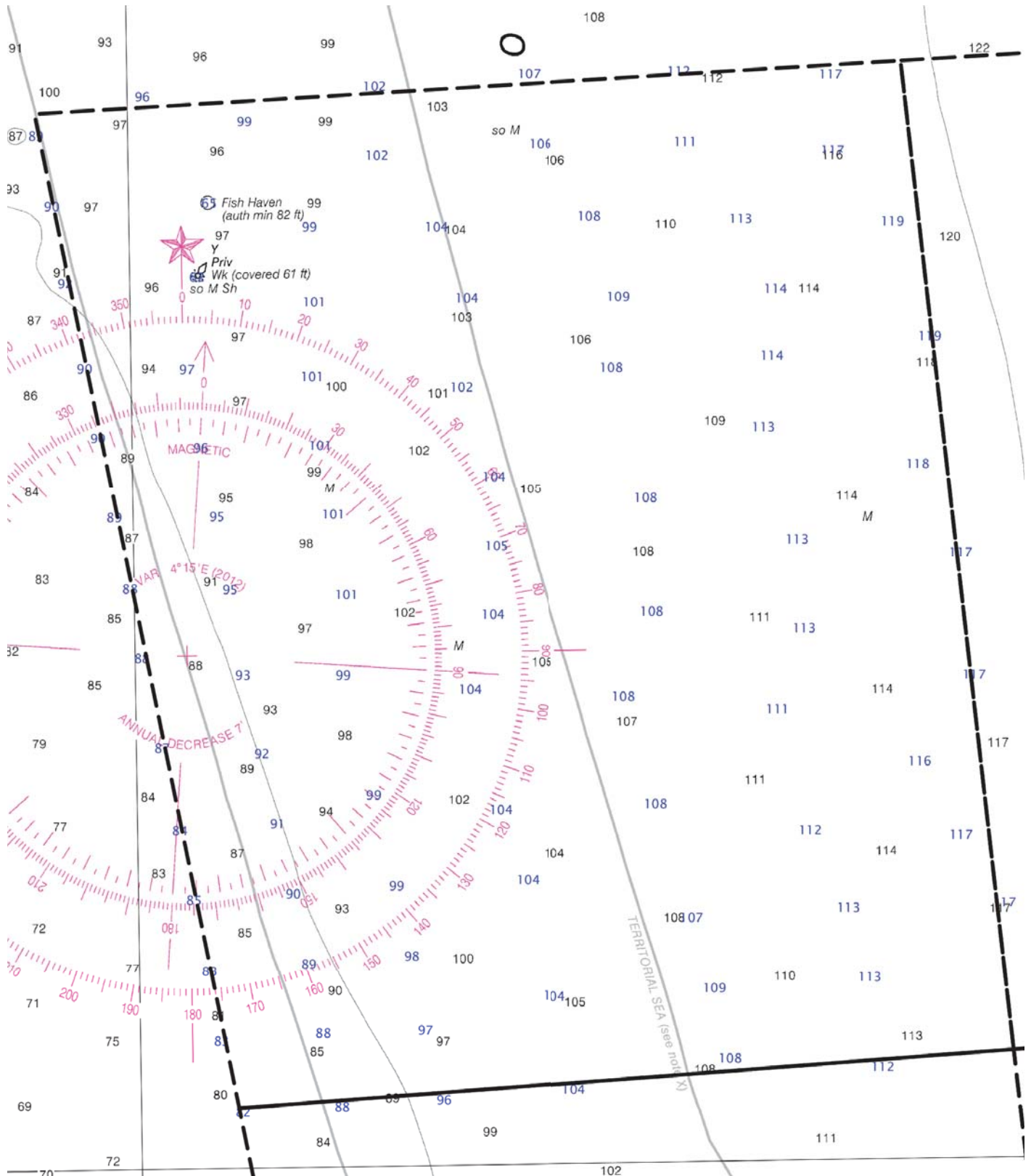


Figure 14: H12764 Souding Comparison (RNC 11304)

D.1.2 Electronic Navigational Charts

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

| ENC | Scale | Edition | Update Application Date | Issue Date | Preliminary? |
|----------|---------|---------|-------------------------|------------|--------------|
| US4TX15M | 1:80000 | 10 | 02/07/2014 | 09/02/2015 | NO |

Table 15: Largest Scale ENC's

US4TX15M

The results of the chart comparison with US4TX15M match those of the chart comparison with RNC 11304.

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 2 charted features assigned to H12764. 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 H12764_XXX). Of the (2) assigned feature the following determinations and recommendations were made:

Update: (2) assigned features were found to be shoaler than the charted minimum depth. An UPDATE action is recommended.

D.1.6 Uncharted Features

There were no uncharted features found in H12764.

D.1.7 Dangers to Navigation

There were no DTONs found in H12764.

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

7 bottom samples were obtained in accordance with sections 7.1 and 8.2 of the HSSD 2015 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.

H12764_D001: soft grey mud with fine brown sand and broken shells

H12764_D002: soft brown mud

H12764_D003: soft brown mud

H12764_D004: soft brown mud

H12764_D005: soft brown mud

H12764_D006: soft brown mud

H12764_D007: soft brown mud

Detailed information and images of the bottom samples listed above are located in the Final Feature File (FFF). Each bottom sample has been given a unique identifier in the "userid" field of the .000 S-57 file (format H12764_DXXX).

D.2 Additional Results

D.2.1 Shoreline

Shoreline was not assigned in the Hydrographic Survey Project Instructions or Statement of Work.

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. | 12/08/2015 |   |

APPENDIX I
TIDES AND WATER LEVELS



eTrac Inc.
637 Lindaro St., Suite 100
San Rafael, CA 94901
888-410-3890

OPR-K370-KR-15 Port Mansfield, TX
Abstract: times of Hydrography
H12764

| Survey Date | Day of Year | Start Time | End Time |
|--------------------|--------------------|-------------------|-----------------|
| 6/5/2015 | 156 | 16:38 | 17:13 |
| 6/6/2015 | 157 | 12:32 | 21:39 |
| 6/7/2015 | 158 | 12:38 | 13:19 |
| 6/23/2015 | 174 | 13:13 | 21:14 |
| 6/24/2015 | 175 | 12:22 | 21:30 |
| 6/25/2015 | 176 | 12:11 | 21:10 |
| 6/30/2015 | 181 | 12:35 | 13:58 |
| 7/9/2015 | 190 | 12:44 | 21:30 |
| 7/12/2015 | 193 | 12:30 | 21:26 |
| 7/13/2015 | 194 | 21:57 | 22:05 |
| 7/14/2015 | 195 | 15:15 | 20:51 |
| 7/15/2015 | 196 | 12:37 | 21:19 |
| 7/16/2015 | 197 | 12:45 | 20:30 |
| 7/17/2015 | 198 | 12:53 | 20:12 |
| 7/19/2015 | 200 | 12:41 | 21:26 |
| 7/20/2015 | 201 | 12:46 | 21:30 |
| 7/21/2015 | 202 | 12:55 | 20:25 |
| 7/22/2015 | 203 | 12:33 | 14:32 |
| 7/28/2015 | 209 | 13:54 | 20:22 |
| 7/29/2015 | 210 | 12:24 | 21:30 |
| 7/30/2015 | 211 | 12:15 | 20:16 |
| 7/31/2015 | 212 | 12:07 | 21:45 |
| 8/1/2015 | 213 | 12:01 | 21:08 |
| 8/2/2015 | 214 | 12:19 | 13:04 |
| 8/3/2015 | 215 | 12:33 | 21:19 |
| 8/4/2015 | 216 | 12:10 | 21:34 |
| 8/5/2015 | 217 | 12:31 | 16:46 |
| 8/6/2015 | 218 | 12:36 | 18:51 |
| 8/7/2015 | 219 | 12:38 | 21:20 |
| 8/8/2015 | 220 | 12:30 | 22:23 |
| 8/9/2015 | 221 | 12:27 | 21:05 |
| 8/11/2015 | 223 | 18:12 | 19:27 |



Isadora Kratchman <izzy@etracinc.com>

Fwd: OPR-K370-KR-15

David Neff <david@etracinc.com>
To: Isadora Kratchman <izzy@etracinc.com>

Fri, Sep 4, 2015 at 11:39 PM

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

From: **Hua Yang - NOAA Affiliate** <hua.yang@noaa.gov>
Date: Thu, Aug 13, 2015 at 10:08 AM
Subject: Re: OPR-K370-KR-15
To: David Neff <david@etracinc.com>
Cc: David Wolcott - NOAA Federal <david.wolcott@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>, "_NOS. CO-OPS. HPT" <nos.coops.hpt@noaa.gov>, "_NOS CO-OPS OET Team" <nos.coops.oetteam@noaa.gov>

Hi David,

The station has been marked as "Completed" and will be deleted from the Hydro Hot List in a week.

Thanks!

-Hua

Thanks,

Hua Yang

Hydrographic Planning Team
NOAA/National Ocean Service
Center for Operational Oceanographic Products and Services
Station 7128
1305 East West Highway, SSMC4
Silver Spring, MD 20910
Office: 301-713-2890 x210
Email: Hua.Yang@noaa.gov
Web: <http://tidesandcurrents.noaa.gov/>

Hydro Hot List: <http://tidesandcurrents.noaa.gov/hydro.shtml>

On Thu, Aug 13, 2015 at 12:16 PM, David Neff <david@etracinc.com> wrote:

Hello David,

Our project in Port Mansfield was completed yesterday. The Corpus Christi gauge can be removed from the hotlist at this time.

Thank you
Dave Neff

On Fri, Jul 10, 2015 at 11:38 AM, David Wolcott - NOAA Federal <david.wolcott@noaa.gov> wrote:
Greetings David,

Corpus Christi was added to the Hot List in support of your survey. Just let us know when you have completed acquisition and we will pull it down.

Thanks,
David

On Thu, Jul 9, 2015 at 3:45 PM, David Neff <david@etracinc.com> wrote:
eTrac Inc. has been officially awarded OPR-K370-KR-15 and is requesting that the station, Coprus Christi, TX (8775870) be added to the Hydro Hot List as soon as possible.

eTrac Inc. is currently conducting survey operations and intends to complete operations by September 1, 2015. I will inform you as the timeline progresses as to when the station can be removed from the HHL.

Regards,
David Neff

On Mon, Jun 1, 2015 at 3:05 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
CO-OPS,

FYI, this task order is in negotiations and has not been awarded.

Thank you,
Katrina Wyllie

On Mon, Jun 1, 2015 at 5:20 PM, David Neff <david@etracinc.com> wrote:

Thank you,

I noticed I had mistyped the end date. We plan on ending survey operations approximately 8/15/15.

Regards,
David

On Jun 1, 2015 3:40 PM, "Hua Yang - NOAA Affiliate" <hua.yang@noaa.gov> wrote:
Hi David,

The station, Coprus Christi, TX (8775870), was just added to the Hydro Hot List for the project.

Thank you for your timely notice.

Best regards,

Hua Yang

Hydrographic Planning Team
NOAA/National Ocean Service
Center for Operational Oceanographic Products and Services
Station 7128
1305 East West Highway, SSMC4
Silver Spring, MD 20910
Office: [301-713-2890](tel:301-713-2890) x210
Email: Hua.Yang@noaa.gov
Web: <http://tidesandcurrents.noaa.gov/>

Hydro Hot List: <http://tidesandcurrents.noaa.gov/hydro.shtml>

On Mon, Jun 1, 2015 at 3:14 PM, David Neff <david@etracinc.com> wrote:
eTrac Inc. will be commencing survey operations on OPR-K370-KR-15 in the vicinity of Port Mansfield, TX. Survey operations are scheduled as follows:

Survey Operations Begin: 06/04/15
Survey Operations End: 06/15/15

Should the survey end date change, I will notify the same email addresses with the updated schedule. Please add Coprus Christi, TX (8775870)

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

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

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

1305 East-West Highway, 7133
Silver Spring, MD 20910
Office: [301-713-2890x153](tel:301-713-2890x153)
Fax: [301-713-4437](tel:301-713-4437)

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

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

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE



David Neff <david@etracinc.com>

Squat/Settlement Test

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Tue, May 19, 2015 at 8:04 AM

To: David Neff <david@etracinc.com>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Dave,

Please find attached the draft CSF and PRF files associated with Port Mansfield.

Thank you,
Katrina

On Mon, May 18, 2015 at 6:41 PM, David Neff <david@etracinc.com> wrote:

Thank you Megan,

Will you be sending the CSF and other associated files now that the draft instructions have officially been sent?

Dave

On Mon, May 18, 2015 at 7:26 PM, Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> wrote:

Dave,

A new dynamic draft table is up to you. It is not required in the HSSD. If there were "any major changes to the loading or change to the vessel power plant" (HSSD 5.2.3.2) then it's required.

I'm responding for Katrina because she is on leave today. Keep sending your questions to Katrina and CC me.

Thanks,
Megan

On Fri, May 15, 2015 at 7:50 PM, David Neff <david@etracinc.com> wrote:

Katrina,

We will be including the same 2 vessels we used in Panama City in our proposal for the TX project.

One question. Shall we be required to define a new dynamic draft table for the vessels as this was performed in January. **HSSD 5.2.3.2** under Dynamic Draft states that this must be performed once a year, but I wasn't sure if this was for meant for field units, contractors, or both.

Thanks, and enjoy the weekend.

--

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

--

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

www.etracinc.com

2 attachments

 **OPR-K370-KR-15_CSF_draft.000**
363K

 **OPR-K370-KR-15_PRF_draft.000**
19K



David Neff <david@etracinc.com>

Updated CSF/PRF

David Neff <david@etracinc.com>

Thu, May 21, 2015 at 8:44 AM

To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Thank you for sending Katrina,

I've already sent the cost estimate based on the original version, but I don't see much change here, as you say we gain an obstruction and lose a wreck. The loss in SNM doesn't appear to warrant a review and resubmital of the cost estimate. All is good here.

Thanks
Dave

On Thu, May 21, 2015 at 8:00 AM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:

Hi Dave,

I attached a new version of the CSF/PRF files. I had not included the 40,000 ENC in the creation of the files I originally sent you (see image attached). This only affects sheet H12761: there is more shoreline detail so the sheet limit has been updated (SNM went down slightly because it no longer includes the piers), and one assigned wreck is no longer assigned but there is a new obstruction that is assigned. Please take a look and let me know if you have any questions or concerns.

Thank you,
Katrina

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



David Neff <david@etracinc.com>

Phone Call 6/8/15

Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Tue, Jun 9, 2015 at 8:27 AM

To: David Neff <david@etracinc.com>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Dave,

The marine mammal log referenced in 2015 HSSD is a fill-able pdf and is attached to this email. The procedure you describe of printing the log off and then scanning it to a digital copy is also acceptable. At the end of each project, those digital pdf forms and any associated digital photographs need to be submitted to pop.information@noaa.gov with a CC to your COR. There is not a sea turtle observation log referenced in 2015 HSSD, but an example log attached to this email can be used to record sea turtle sightings. The sea turtle observations are also submitted on a project by project timeline to the contact provided in Section 7.6 (also with a CC to the COR). A marine mammal DVD will be sent to all of the Contractors and NOAA ships shortly to reinforce marine mammal observation procedures.

Please let me know if you have additional questions on this new section of specs.

Thank you,
Katrina

On Mon, Jun 8, 2015 at 10:04 PM, David Neff <david@etracinc.com> wrote:

Thank you Katrina,

In anticipation to receiving direction from AGO I wanted to clarify one topic in the 2015 specs. Compliance for observing marine mammals. We've performed this on many contracts before for other agencies. In these cases the observation of marine mammals is generally performed by the vessel captains and logged by the hydrographer in the digital log. Occasionally, a form will be provided such as the one in the 2015 specs and in that case the form will be filled out, brought to the office, scanned, and stored with the digital logsheets.

We would propose a similar program in order to operate within compliance on future Task Orders for NOAA. We would have a stack of observation logsheets printed and available on each vessel. In the event of a sighting, a log would be completed and a note would be logged in the digital line log as well. Observation logsheets would be transferred to the office at the end of the day, scanned to PDF and stored digitally with the daily logsheets.

Does this sound satisfactory?

Dave

On Mon, Jun 8, 2015 at 3:48 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:

Hi Dave,

To follow up on the questions you asked on the phone today:

1. Yes, [2015 HSSD](#) have been published. Attached is a document that highlights some of the major changes from the 2014 version.

2. HSD cannot accept weekly reports for Port Mansfield until (and if) a signed task order exists.
3. HSD cannot provide a zoned tide file for Port Mansfield until (and if) a signed task order exists. Civilians can request a zoned tide file from CO-OPS, at their own cost.
4. When (and if) Port Mansfield has a task order, a site visit can be scheduled.

Thank you,
Katrina

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

3 attachments



POP Fillable PDF.pdf
915K



POP Instruction (fillable PDF).pdf
93K



Sea Turtle Observation Log.xls
34K



David Neff <david@etracinc.com>

Distribution of Weekly Reports

David Neff <david@etracinc.com>

Wed, Jul 8, 2015 at 7:27 AM

To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Understood Katrina. Thanks

On Jul 8, 2015 12:07 AM, "Katrina Wyllie - NOAA Federal" <katrina.wyllie@noaa.gov> wrote:

Hi Dave,

I am sending the following email text on behalf of my boss. I understand you will be hearing from contracting this week on the Port Mansfield project so hopefully this email is timely.

Thank you,
Katrina

--

Greetings,

This message is with regard to the new weekly progress reporting described in Section 8.1.1 of the 2015 HSSD. First, let me relay my appreciation to those of you have commenced survey operations this year and have been preparing these weekly documents for us. As they say, a picture is worth a thousand soundings, and it has greatly facilitated our office's understanding of the progress of your respective projects.

Meanwhile, between a few recent personnel changes within our Operations Branch, along with a number of field deployments among our CORs; we've been having difficulty managing your collective reports via our CORs' inboxes. **To that end, I am requesting that the weekly reports are emailed to progress.sketches@noaa.gov in addition to your respective COR.** No changes are requested with respect to the monthly reports (still being uploaded to TOMIS).

Thank you very much for your time and consideration in this matter.

Very respectfully,
~~ michael.gonsalves, LCDR/NOAA
HSD Operations Branch, Chief



David Neff <david@etracinc.com>

Preliminary Zone File for Port Mansfield

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Fri, Jul 10, 2015 at 11:25 AM

To: David Neff <david@etracinc.com>

Cc: Corey Allen - NOAA Federal <corey.allen@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Dave,

Please see attached entire final project package for OPR-K370-KR-15. Let me know if you have any questions.

Megan

[Quoted text hidden]

**OPR-K370-KR-15 Port Mansfield, TX.zip**

2819K



David Neff <david@etracinc.com>

SVP Casts

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Wed, Jul 22, 2015 at 8:49 AM

To: David Neff <david@etracinc.com>

Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Dave,

The plan you have described below is acceptable. The important thing is that the data meets the specifications in the HSSD. You don't have to have an SV on each vessel (although that is usually the most accurate/efficient method of surveying).

Megan

On Wed, Jul 22, 2015 at 11:32 AM, David Neff <david@etracinc.com> wrote:

Hi Megan,

A situation came up today onsite regarding SV and I wanted to run my temporary solution by you to make sure it's ok.

We have 3 boats in TX, each with an SV profiler and 1 spare onsite. One of the vessels profilers stopped working and we brought it to the field office to troubleshoot while they switched to the spare on the vessel. I got a call on the Sat Phone this morning that the spare is now malfunctioning as well. I've sent yet another brand new profiler to the site overnight this morning, but it will not arrive until tomorrow and will not go into use until Friday.

Each of the vessels are working in their own areas which are all separated by substantial distance. For today and tomorrow, I've instructed the vessel with the failed SV to move to one of the other vessels areas and collect data next to them. The idea is to use only one vessels SV casts to correct 2 vessels worth of data for the next 2 days until we get a working unit back onsite. Is this acceptable, or is there some reason each vessel needs to have its own specific profiler?

Thanks

--

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



David Neff <david@etracinc.com>

OPR-K370-KR-15

Hua Yang - NOAA Affiliate <hua.yang@noaa.gov>

Thu, Aug 13, 2015 at 10:08 AM

To: David Neff <david@etracinc.com>

Cc: David Wolcott - NOAA Federal <david.wolcott@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>, "_NOS. CO-OPS. HPT" <nos.coops.hpt@noaa.gov>, "_NOS CO-OPS OET Team" <nos.coops.oetteam@noaa.gov>

Hi David,

The station has been marked as "Completed" and will be deleted from the Hydro Hot List in a week.

Thanks!

-Hua

Thanks,

Hua Yang

Hydrographic Planning Team
NOAA/National Ocean Service
Center for Operational Oceanographic Products and Services
Station 7128
1305 East West Highway, SSMC4
Silver Spring, MD 20910
Office: 301-713-2890 x210
Email: Hua.Yang@noaa.gov
Web: <http://tidesandcurrents.noaa.gov/>

Hydro Hot List: <http://tidesandcurrents.noaa.gov/hydro.shtml>

On Thu, Aug 13, 2015 at 12:16 PM, David Neff <david@etracinc.com> wrote:

Hello David,

Our project in Port Mansfield was completed yesterday. The Corpus Christi gauge can be removed from the hotlist at this time.

Thank you
Dave Neff

On Fri, Jul 10, 2015 at 11:38 AM, David Wolcott - NOAA Federal <david.wolcott@noaa.gov> wrote:

Greetings David,

Corpus Christi was added to the Hot List in support of your survey. Just let us know when you have completed acquisition and we will pull it down.

Thanks,
David

On Thu, Jul 9, 2015 at 3:45 PM, David Neff <david@etracinc.com> wrote:

eTrac Inc. has been officially awarded OPR-K370-KR-15 and is requesting that the station, Coprus Christi, TX (8775870) be added to the Hydro Hot List as soon as possible.

eTrac Inc. is currently conducting survey operations and intends to complete operations by September 1, 2015. I will inform you as the timeline progresses as to when the station can be removed from the HHL.

Regards,
David Neff

On Mon, Jun 1, 2015 at 3:05 PM, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov> wrote:
CO-OPS,

FYI, this task order is in negotiations and has not been awarded.

Thank you,
Katrina Wyllie

On Mon, Jun 1, 2015 at 5:20 PM, David Neff <david@etracinc.com> wrote:

Thank you,

I noticed I had mistyped the end date. We plan on ending survey operations approximately 8/15/15.

Regards,
David

On Jun 1, 2015 3:40 PM, "Hua Yang - NOAA Affiliate" <hua.yang@noaa.gov> wrote:
Hi David,

The station, Coprus Christi, TX (8775870), was just added to the Hydro Hot List for the project.

Thank you for your timely notice.

Best regards,

Hua Yang

Hydrographic Planning Team
NOAA/National Ocean Service
Center for Operational Oceanographic Products and Services
Station 7128
1305 East West Highway, SSMC4
Silver Spring, MD 20910
Office: 301-713-2890 x210
Email: Hua.Yang@noaa.gov
Web: <http://tidesandcurrents.noaa.gov/>

Hydro Hot List: <http://tidesandcurrents.noaa.gov/hydro.shtml>

On Mon, Jun 1, 2015 at 3:14 PM, David Neff <david@etracinc.com> wrote:

eTrac Inc. will be commencing survey operations on OPR-K370-KR-15 in the vicinity of Port Mansfield, TX. Survey operations are scheduled as follows:

Survey Operations Begin: 06/04/15
Survey Operations End: 06/15/15

Should the survey end date change, I will notify the same email addresses with the pdated schedule. Please add Coprus Christi, TX (8775870)

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

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

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

1305 East-West Highway, 7133
Silver Spring, MD 20910
Office: 301-713-2890x153
Fax: 301-713-4437

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



David Neff <david@etracinc.com>

Office Visit Follow Up

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Mon, Oct 5, 2015 at 10:04 AM

To: David Neff <david@etracinc.com>

Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Corey Allen <corey.allen@noaa.gov>, Michael Gonsalves - NOAA Federal <Michael.Gonsalves@noaa.gov>, Matthew Wilson - NOAA Federal <matthew.wilson@noaa.gov>

Dave,
Katrina found the same information as you have stated below. Thank you for the update.
Megan

On Mon, Oct 5, 2015 at 12:17 PM, David Neff <david@etracinc.com> wrote:

Happy Monday,

I wanted to follow up with the group here regarding tidal error. We have been doing quite a bit of research and working with Caris on how Tide error values from CO-OPS are entered when computing TPU. The take away from Caris is that all error values are entered at 1 sigma throughout the software (both in the HVF and during "compute TPU"). All uncertainty values are reported however at 2 sigma (95% CI). Therefore, since the tidal error value for the Port Mansfield project is given from CO-OPS as 0.22m at 2 sigma, we will be using a value of 0.11m for tidal error when we compute TPU.

Please let me know if you would like to discuss further.

Dave

On Fri, Sep 25, 2015 at 8:29 AM, Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> wrote:

Dave,

Katrina has compiled answers to your questions from the office visit. Please see below. Note, she is still working on how to enter CO-OPS tide values into CARIS (i.e. one sigma or two).

Megan

Answers to Outstanding Items from Office Visit:

1. Feature disapprovals conducted with a second 100% of side scan sonar data within the assigned radius should be submitted as a separate mosaic from the 100% coverage mosaic. This guidance will be included in HSSD 2016.

2. If more than one survey is submitted on a drive, organize by project folder and then sheet:

OPR-J357-KR-14

H12717 (containing the Project Reports)

H12717_Checksums.MD5

H12717_Checksum_Results.txt

OPR-J357-KR-14

H12718_Checksums.MD5

H12718_Checksum_Results.txt

3. For Junction Analysis, although the Project Instructions state no junctions are required in TX, the sheet on sheet junction analysis (as performed in Florida) is the best practice and should be included in the DR. If a survey is submitted before the junction survey is done processing, it is acceptable to state that in the DR and report on the junction comparison when the second survey is complete.

4. The fish haven VALSOU in H12718 was correctly changed by AHB to be the least depth within the area

object even though it was sourced from bathymetry instead of a feature.

5. There was a feature that was rejected outside of the survey boundary by mistake. The question was, will eTrac be held accountable for data outside the sheet limit and should they cut their data to the sheet limit? The answer is do not cut the data by the sheet limit and if there are concerns about a feature outside of the sheet boundary, contact the COR as they can be handled on a case-by-case basis.

6. For DtoNs found in non-NOAA contracted work, the best practice is to submit the chart discrepancy through this website: <http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx>. For NOAA contracted work, continue submitting DtoNs through AHB.

7. There was a question about a Florida sheet limit that did not extend far enough to junction with NRT 1 survey. We are investigating why this happened. If you ever see this again, please reach out immediately to COR.

8. One day of tides seemed to have a meteorological issue. After contacting COR and COOPS, COOPS said the day was fine. The day had to be re-run. Was there any kind of filter that could have been applied to the tidal data instead of re-acquiring a day of data? The answer is no, COOPS is our internal tidal experts and they provided the best guidance available.

9. Izzy had asked if she needed to report on marine mammals observed in the sonar record if they were not seen on the surface. The best guidance we have is no, only report on what is actually observed visually.

--

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



David Neff <david@etracinc.com>

Port Mansfield Coast Pilot

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Wed, Oct 14, 2015 at 9:27 AM

To: David Neff <david@etracinc.com>

Cc: Isadora Kratchman <izzy@etracinc.com>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Correct.
Megan

On Wed, Oct 14, 2015 at 12:08 PM, David Neff <david@etracinc.com> wrote:

That's how we understood it Megan. So we will be making changes to the latest downloaded coast pilot and not doing anything with the word document as we've found it contains exact excerpts from the full Coast Pilot document.

Dave

On Wed, Oct 14, 2015 at 8:59 AM, Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> wrote:

Dave,
I stand corrected. The 2015 HSSD requirements are to examine the HSD OPS provided Coast Pilot Word Document **and** to download the most recent Coast Pilot section from the Coast Pilot web site.

From 2015 HSSD, "The hydrographer shall first download the latest edition of Coast Pilot and compare against the information contained in the Coast Pilot Field Report. In the event of a conflict between the two sources, the review shall be completed using the information in the downloaded Coast Pilot."

Megan

On Wed, Oct 14, 2015 at 11:28 AM, Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov> wrote:

Dave,
That's correct. We changed the procedure from 2014 HSSD to 2015 HSSD. In 2014 the hydrographer was responsible for downloading the appropriate Coast Pilot section.

However, in 2015 (for Port Mansfield) HSD OPS provides the Coast Pilot document to the hydrographer. The hydrographer should edit the provided Word Document which may or may not contain more specific (directed) questions. See section 7.5 Coast Pilot Data of 2015 HSSD.

Megan

On Tue, Oct 13, 2015 at 5:55 PM, David Neff <david@etracinc.com> wrote:

Hi Megan/Katrina,

In the Final PI package, we received an excerpt of the Coast Pilot in Word Doc format. For the FL project we downloaded the latest Coast Pilot and suggested changes to any relevant text. We've done the same for the TX project. Should we only be editing the provided Word Document and delivering that as the Coast Pilot review deliverable. What is the purpose of the Word Doc otherwise?

Thanks

Dave

--

10/26/2015

eTrac Inc Mail - Port Mansfield Coast Pilot

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

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



David Neff <david@etracinc.com>

Tide Anomaly DN212

Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Thu, Aug 6, 2015 at 12:51 PM

To: David Neff <david@etracinc.com>

Cc: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>, David Wolcott - NOAA Federal <david.wolcott@noaa.gov>

Dave,

I spoke to CO-OPS and from their viewpoint, the data from July 31st looks good. The "jumps" you discussed below are not "jumps" but can be typical data. The verified data is following the predicted data well.

One possibility of an offset (of ~10cm as seen in your image) is if you cross from one tide zone to another but from looking at your data, the offset is from one line to another (alternating) which are right next to each other and therefore in the same zone.

Megan

On Thu, Aug 6, 2015 at 2:46 PM, David Neff <david@etracinc.com> wrote:

Hello,

eTrac Inc. has been conducting survey operations in the Gulf of Mexico for approximately the past 2 months. We are working in Port Mansfield, TX using the Corpus Christi gauge. We witnessed a tidal anomaly on July 31 (DN212) which cause our data to exceed specifications. We are rerunning that days data, however Megan Greenaway asked me to relay this message to your team to make you aware and close the loop. We checked some other gauges and saw similar events, so it seems natural. See original forwarded email below.

Dave

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

From: **David Neff** <david@etracinc.com>

Date: Wed, Aug 5, 2015 at 9:56 AM

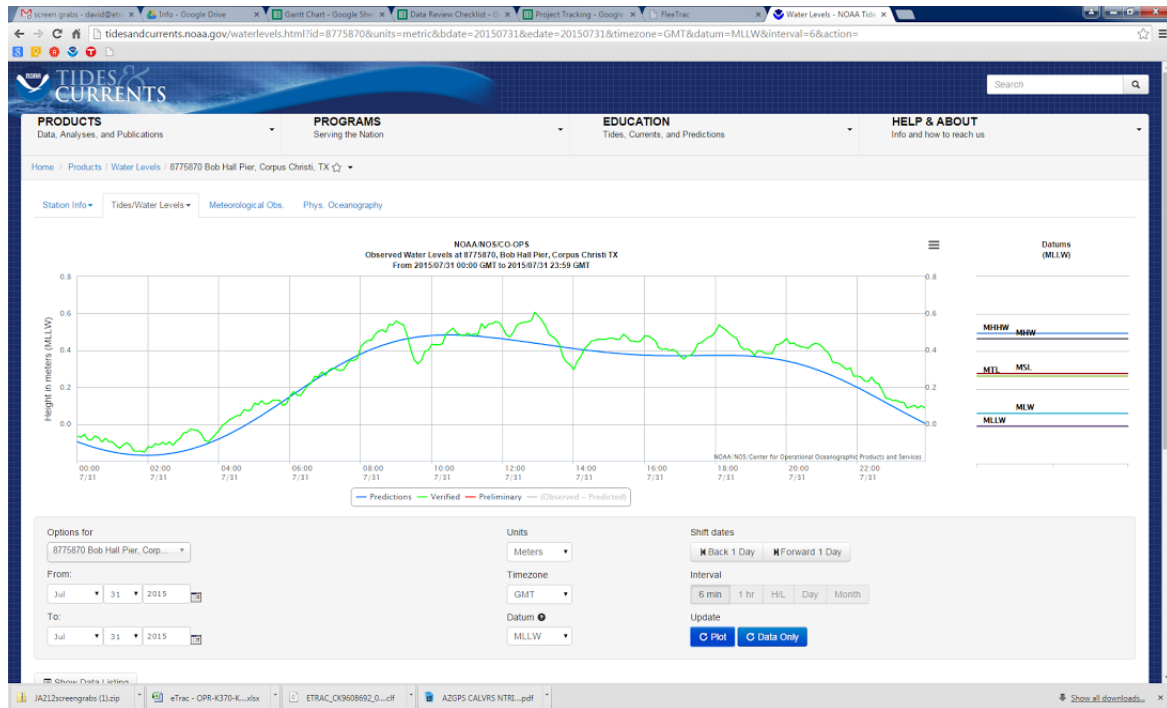
Subject: Tide Anomaly DN212

To: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Hi Megan,

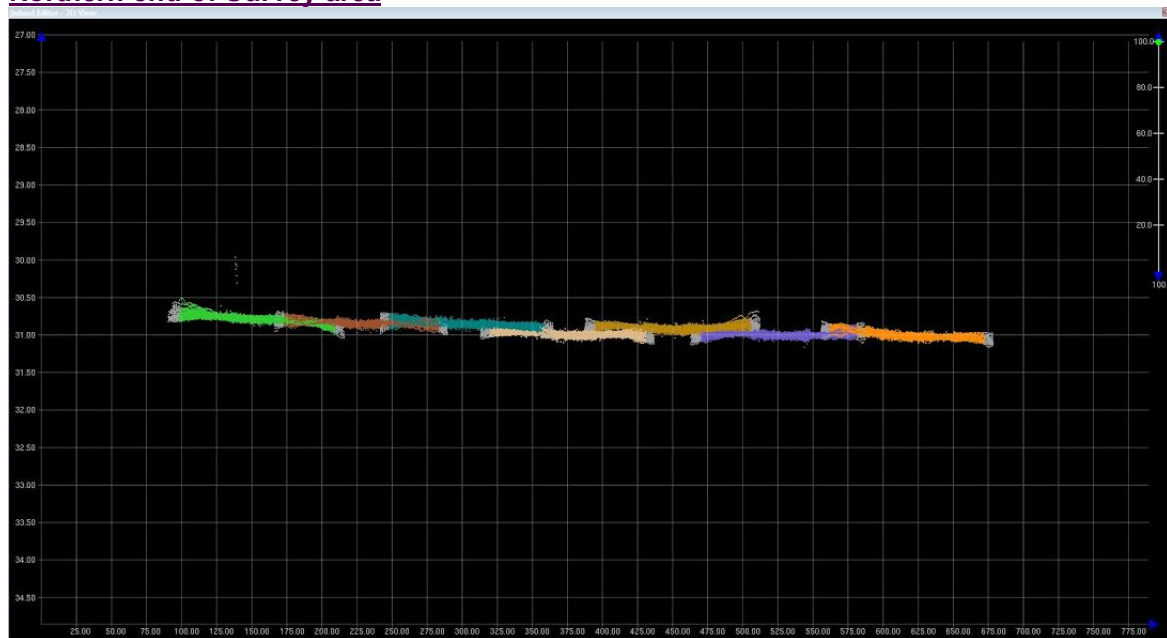
We have a tide anomaly that is affecting data collected on that day. On 7/31 (DN212) the assigned gauge displayed some stepping.

<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8775870&units=metric&bdate=20150731&edate=20150731&timezone=GMT&datum=MLLW&interval=6&action=>

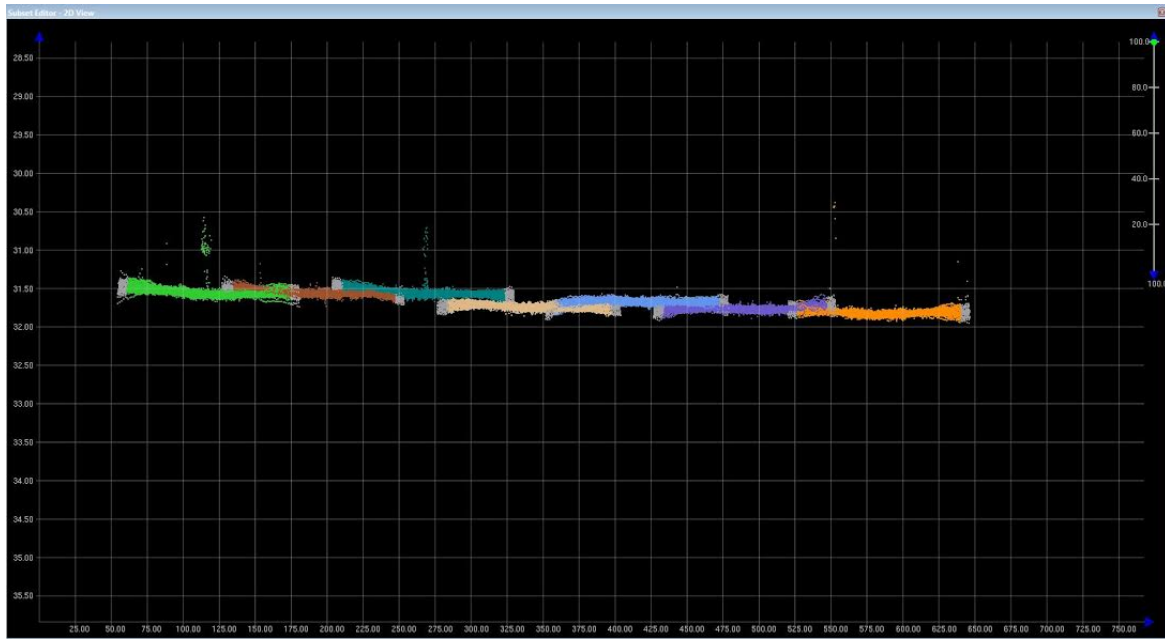


This is the only day we have seen this happen at the gauge and is also the only day where we are seeing our data being affected in such a way. See below

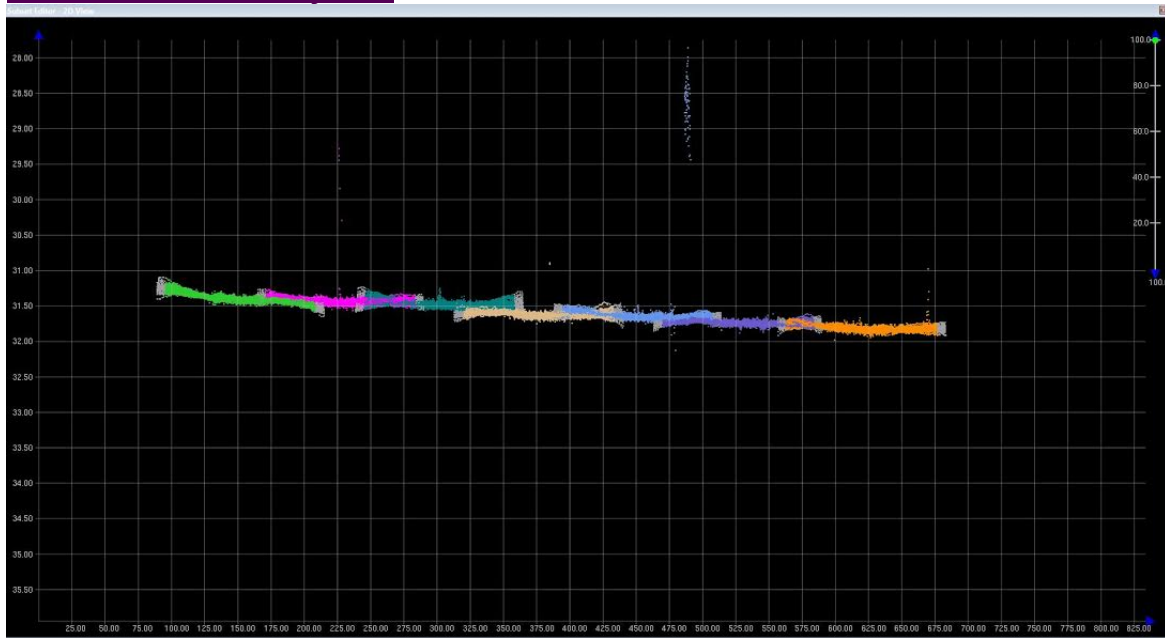
Northern end of Survey area



Middle of Survey Area

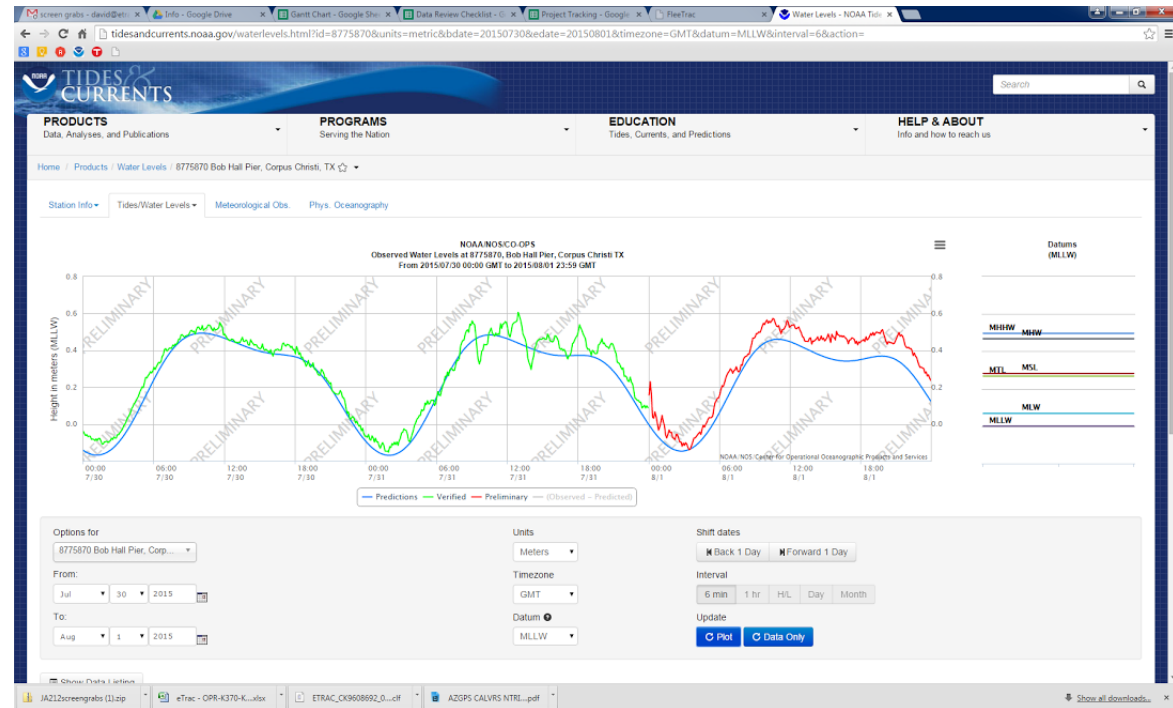


Southern End of Survey Area



The data is currently out of spec due to this. We are planning on recovering this day, unless you had any suggestions?

The tides for Port Mansfield have in general been noisier than what we were dealing with in Florida. I'm not sure if there any option to get smoothed tides from CO-OPS for the final deliverable?



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: Depth Thresholding and Designated Soundings

4 messages

David Neff <david@etracinc.com>

Fri, Oct 23, 2015 at 9:00 PM

To: Kori Ktona <kktona@g.cofc.edu>, Isadora Kratchman <izzy@etracinc.com>

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

From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>

Date: Fri, Oct 23, 2015 at 12:55 PM

Subject: Re: Depth Thresholding and Designated Soundings

To: David Neff <david@etracinc.com>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Dave,

I have seen this behavior before in Caris. Have you tried regenerating your critical sounding layer before finalizing? And are you sure you are clicking the box during finalization for "apply designated soundings"?

Thank you,
Katrina

On Fri, Oct 23, 2015 at 3:12 PM, David Neff <david@etracinc.com> wrote:

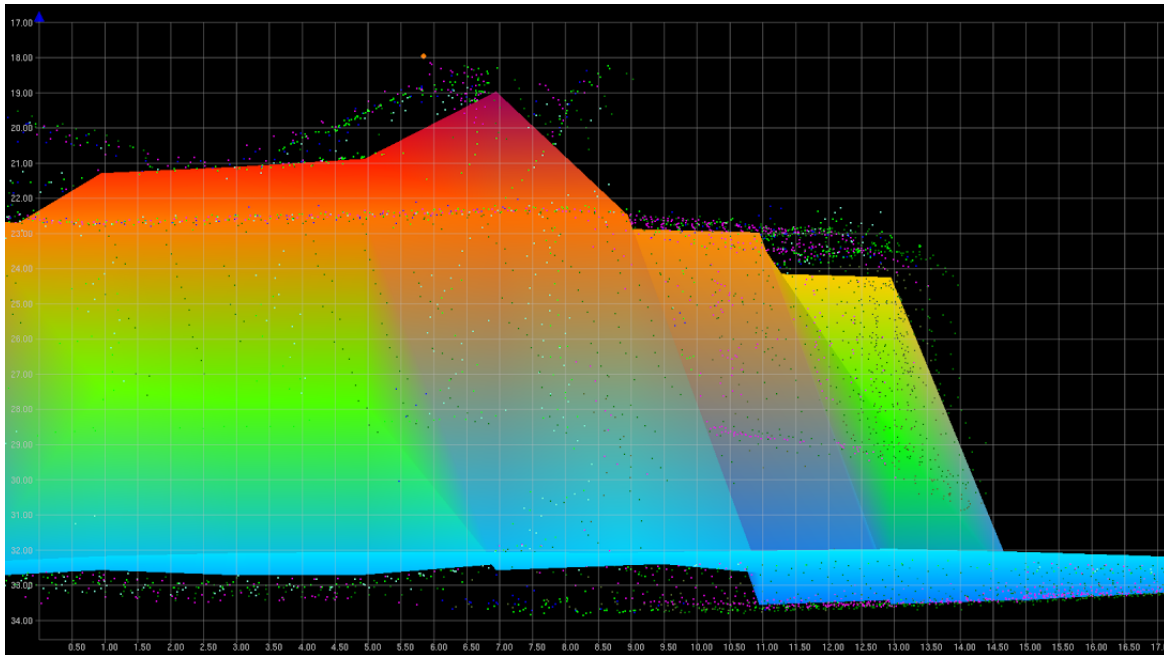
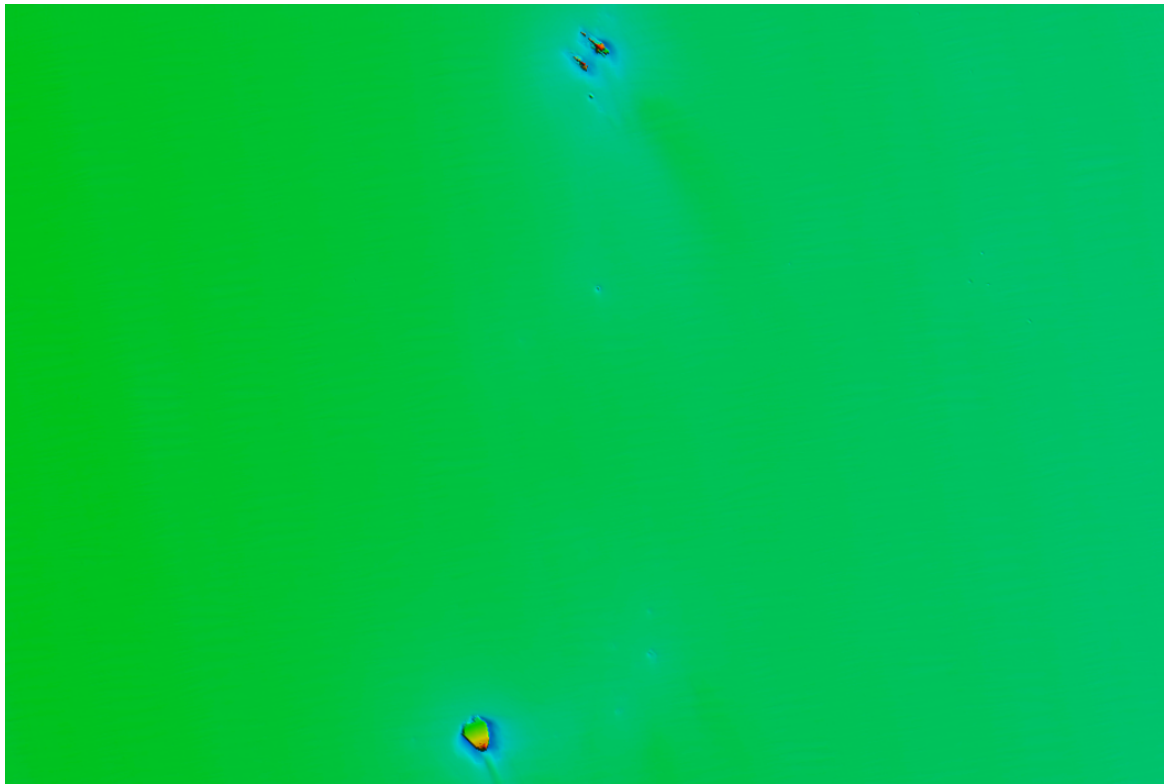
Hi Megan and Katrina,

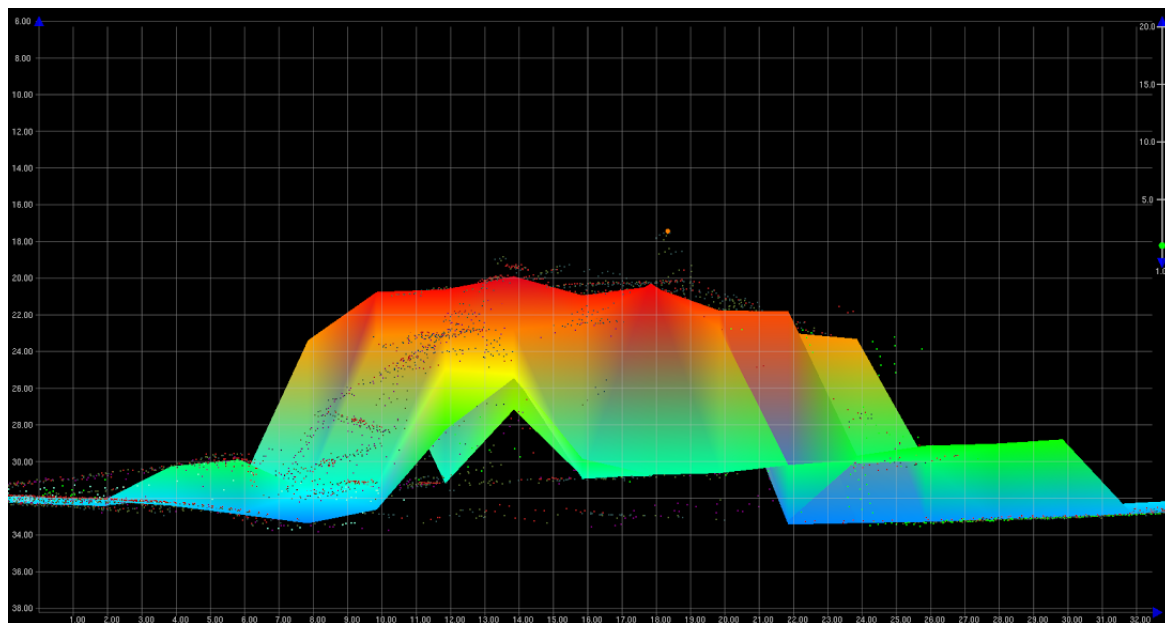
We had a similar issue on the FL project, but with the depth thresholding technique you've taught us we are wondering how to handle this.

Our surface for H12764 is entirely deeper than 18m except for 2 designated soundings on wrecks. The designated soundings on the 2 wrecks are JUST shoaler than 18m. When we finalize the surface and depth threshold from 0-18m, it doesn't include the 2 designated soundings so the surface does not snap to them. It seems like we would either need to break our depth thresholding protocol to get the surface to recognize these 2 designated soundings.

The other option is to make a 1m surface. There are 14 nodes between 18m and 20m. It seems unhelpful to create that as a deliverable?

Below are some screen captures to help





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

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

David Neff <david@etracinc.com> Fri, Oct 23, 2015 at 10:53 PM
 To: Kori Ktona <Kori@etracinc.com>, Isadora Kratchman <izzy@etracinc.com>, "Diamond, Lisa" <diamondlm@g.cofc.edu>

Kori,

Can you find in the specs where it suggests this?

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

From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>

Date: Fri, Oct 23, 2015 at 2:58 PM

Subject: Re: Depth Thresholding and Designated Soundings

To: David Neff <david@etracinc.com>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Dave,

Oh right, the designated soundings won't apply because it's being depth thresholded at the same step and those depths are less than 18m. I understand the problem now. For this case, you will need to follow the specs and create the 1m surface with a depth threshold 0-20m at a resolution of 1m. This should ensure the least depths are represented in the 1m finalized surface.

Katrina

On Fri, Oct 23, 2015 at 5:07 PM, David Neff <david@etracinc.com> wrote:

Yes, we've tried both those things. It seems like Caris intends to do exactly what's happening. I can work with

Caris to understand better if this is supposed to happen or not, but for the sake of keeping delivery schedule we could get around it by changing the depth thresholding to be just above the shoalest designated sounding and describe our action in the DR?

Dave

[Quoted text hidden]

[Quoted text hidden]

David Neff <david@etracinc.com>

Tue, Oct 27, 2015 at 2:59 PM

To: Isadora Kratchman <izzy@etracinc.com>, Kori Ktona <Kori@etracinc.com>, Lisa Diamond <lisa@etracinc.com>

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

From: **David Neff** <david@etracinc.com>

Date: Mon, Oct 26, 2015 at 10:49 AM

Subject: Re: Depth Thresholding and Designated Soundings

To: Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Katrina,

We went ahead and made the finalized 0-20m 1m surface for H12764. The surface is composed of only 14 nodes, all of them being over the 2 wreck features within the sheet. When we run the QC report for this small subset (attached), 8 of the nodes fall outside of Order 1a due to the vertical irregularity within the 1m horizontal bin. Being such a small subset of the entire surface, the QC report is coming out at %42. I've also attached the QC report of the parent 1m surface to show the quality of the data as a whole. I thought of 2 options moving forward.

1. Submit the report as is and discuss/explain in the DR the reason for the high uncertainty in the QC report.
2. Ask HSD for a waiver to extend the thresholding of the 1m surface. Say 0-25m. This may be valuable as the finalized 1m surface is only displaying the nodes at the tops of the features, rather than developing the full feature.

Let me know what you think would be the best approach or if there is a third option that is preferable.


Thanks


Dave

[Quoted text hidden]

[Quoted text hidden]

2 attachments

 **H12764_MB_1m_MLLW_QC.txt**
1K

 **H12764_MB_1m_Parent_QC.txt**
1K

David Neff <david@etracinc.com>

Tue, Oct 27, 2015 at 3:43 PM

To: Isadora Kratchman <izzy@etracinc.com>, Kori Ktona <Kori@etracinc.com>, Lisa Diamond <lisa@etracinc.com>

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

From: **Katrina Wyllie - NOAA Federal** <katrina.wyllie@noaa.gov>

12/8/2015

eTrac Inc Mail - Fwd: Depth Thresholding and Designated Soundings

Date: Tue, Oct 27, 2015 at 7:02 AM

Subject: Re: Depth Thresholding and Designated Soundings

To: David Neff <david@etracinc.com>

Cc: Megan Greenaway - NOAA Federal <megan.greenaway@noaa.gov>

Hi Dave,

Please move forward with your Option 1.

Thank you,

Katrina

[Quoted text hidden]

[Quoted text hidden]

APPROVAL PAGE

H12764

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

- H12764_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12761_H12762_H12763_H12764_H12765_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