

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

**DESCRIPTIVE REPORT**

Type of Survey: Navigable Area

Registry Number: F00664

**LOCALITY**

State(s): Alaska

General Locality: Norton Sound

Sub-locality: Approaches to Nome

**2015**

CHIEF OF PARTY  
CDR David J. Zezula, NOAA

LIBRARY & ARCHIVES

Date:

F00664

<b>Descriptive Report Summary to Accompany F00664</b>	
Project	OPR-S327-FA-15
Survey	F00664
State	Alaska
Locality	Norton Sound
Sub Locality	Approaches to Nome
Scale of Survey	1:20,000
Sonars Used	Reson 7125 400kHz
Horizontal Datum	North American Datum of 1983 (NAD83)
Vertical Datum	Mean Lower Low Water (MLLW)
Vertical Datum Correction	Verified Observed Tides
Projection	Latitude-Longitude (NAD83) - UTM Zone 3N
Field Unit	Fairweather S220 Launches 2806 and 2808
Survey Dates	07/24/2015-08/14/2015
Chief of Party	CDR David J. Zezula, NOAA
Remarks	<i><b>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 <a href="http://www.ncei.noaa.gov/">http://www.ncei.noaa.gov/</a>.</b></i>

*The survey scale was self-appointed by the field unit and has since been given as 1:10,000 by the Operations Branch.*

#### **A. Area Surveyed**

This hydrographic survey was acquired in accordance with the requirements defined in the Project Instruction F00664 Expectations. All requirements set forth in the NOS Field Procedures Manual for Hydrographic Surveying (FPM) dated May 2014; Hydrographic Survey Technical Directives (HTD) 2013-5; and NOS Hydrographic Surveys Specifications and Deliverables Manual (HSSD) dated April 2015 were met.

*See attached Field Examination Instructions (titled F00664 Expectations) and related correspondence.*

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
64/29/24.63 N	64/28/47.21 N
165/25/09.65 W	165/28/13.98 W

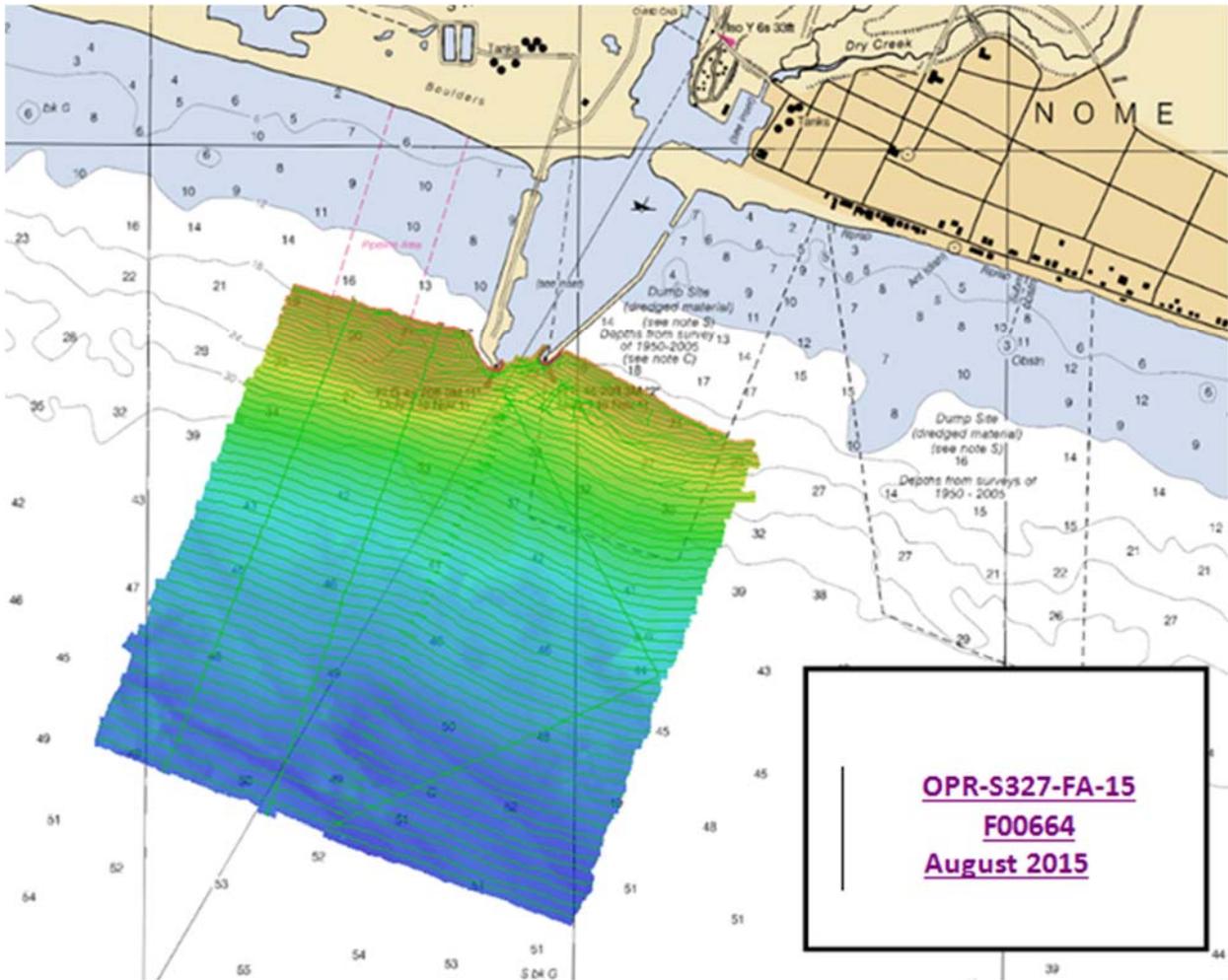


Figure 1: F00664 Area Surveyed

## B. Survey Purpose

The purpose of this field examination is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products. Information for survey priorities was collected and compiled from a number of users/customers in the region: Alaska Marine Pilots, USCG D17 & the buoy tender USCGC HICKORY, Crowley Tug & Barge, as well as field reports from USCG and NOAA personnel. Survey area addressed 1.06 square nautical miles all of which are Navigationally Significant in accordance with the National Hydrographic Survey Priorities Edition 2012.

### C. Data Acquisition and Processing

Please reference Data Acquisition and Processing Report OPR-S327-FA-15 for a complete description of data acquisition and processing systems, survey vessels, quality control procedures, and data processing methods.

### D. Uncertainty

All data meet the data accuracy specifications as stated in the HSSD. It was found that 99.9% of nodes in the 1m grid met or exceed NOAA specifications for all depths of survey F00664; see Figure 2 and the Standards Compliance Review in Appendix II.

*The Standards Compliance Review is summarized below and is not appended to this report.*

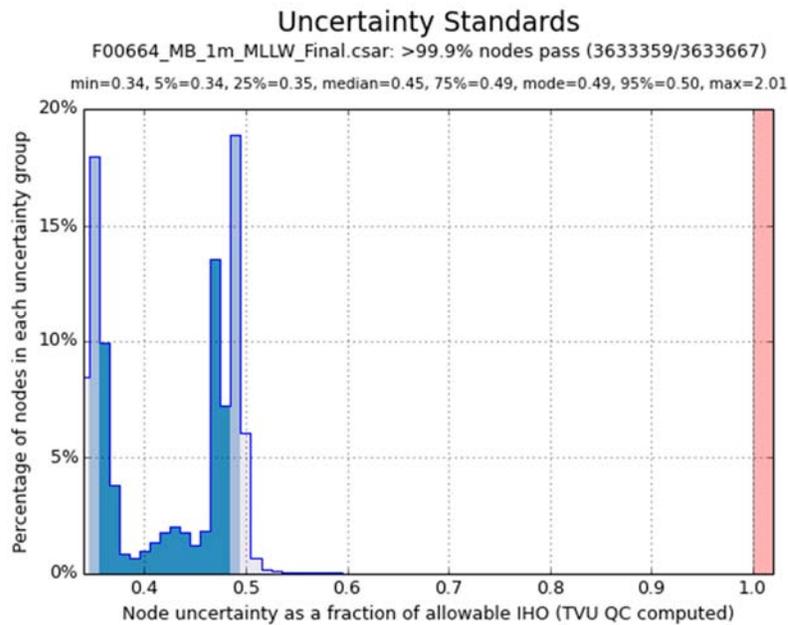


Figure 2: F00664 IHO Statistics

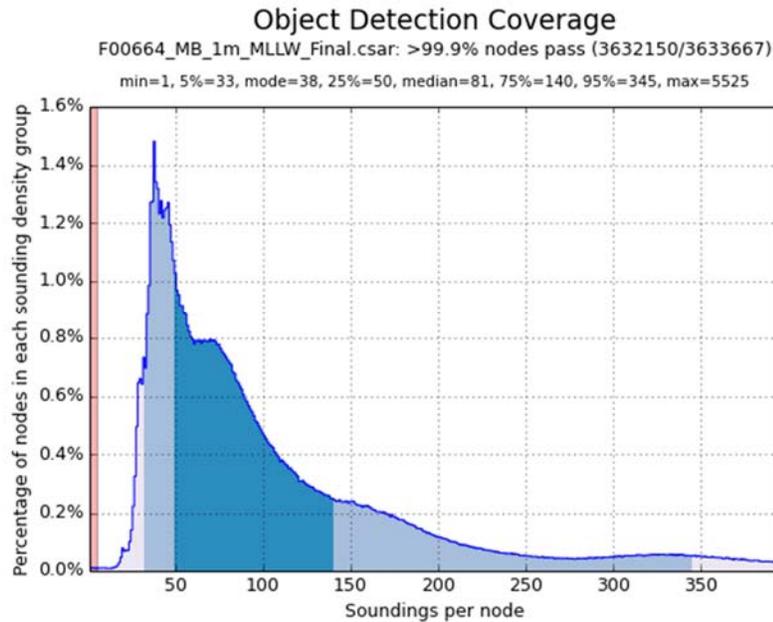


Figure 3: F00664 Density Statistics

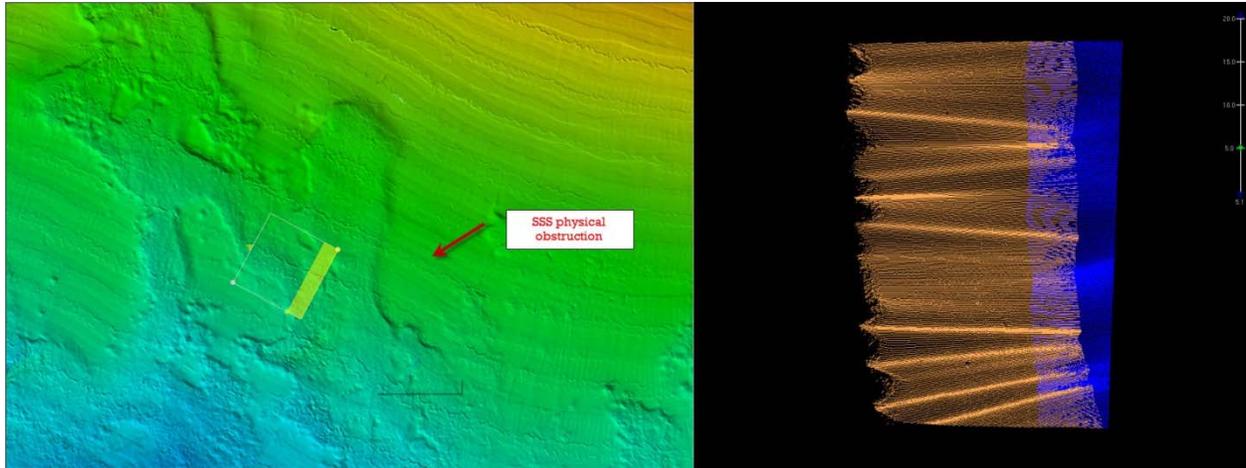
Density requirements for F00664 were achieved with 99.9% of finalized surface nodes containing five or more soundings.

### E. Factors Affecting Soundings

#### Hull mounted Side Scan Sonar on launch 2808:

The hull mounted Side Scan Sonars on FA 2808 physically interfered with the port beams of the Reson 7125 sonar. A 51 degree bathymetry filter was applied to the port side of the MBES data to minimize degraded data quality. Data was reaccepted in areas with lack of overlap.

*The data is adequate for charting despite the presence of side scan interference.*



#### F. Results and Recommendations

The following are the largest scale RNC and ENC, which cover the survey area:

#### Raster Charts

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
16206	1:20,000	9	03/2015	10-20-2015	10-17-2015
16200	1:40,000	15	10/2014	10-20-2015	10-17-2015

#### Electronic Navigation Charts

ENC Name	Scale	Edition	Update Application Date	Issue Date	Preliminary
US3AK80M	1:150,000	1	10/24/2013	10/24/2013	No
US5AK82M	1:50,000	2	06/09/2015	06/09/2015	No
US2AK95M	1:600,000	1	11/09/2015	11/09/2015	No

Chart 16206: Soundings from survey F00664 generally agreed with the majority of charted depths on Chart 16206. The charted depths outside of the entrance of the Nome breakwaters tend to be 1-5 feet shallower than the surveyed soundings (Figures 4 and 5).

Chart 16200: There is only one charted depth within the survey area on Chart 16200. Surveyed soundings agreed within a half fathom of the charted depth.

Figure 6 shows discrepancies where surveyed soundings were at least three feet different than the charted depths. In all cases, the surveyed soundings were deeper than the charted depths.

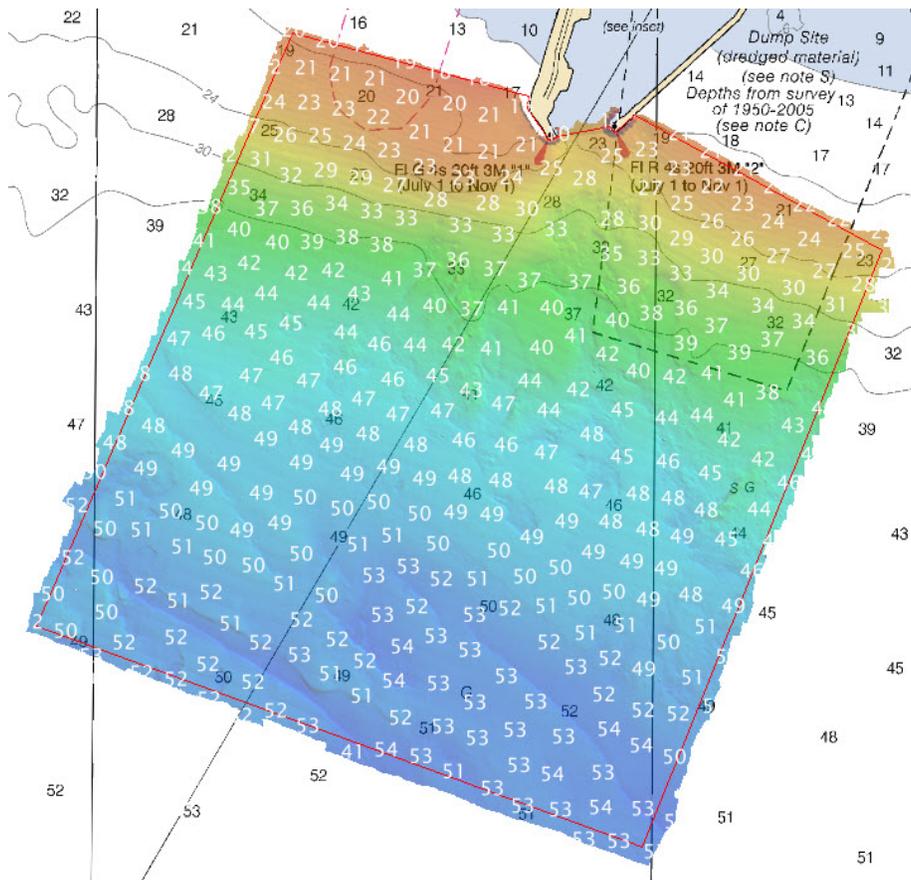


Figure 4: F00664 Sounding Overview (mm at chart scale 1:10000, radius 10)

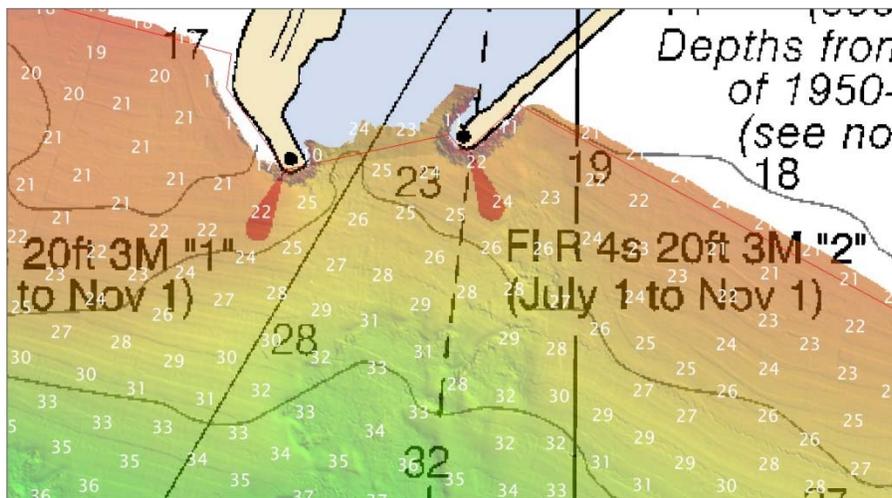


Figure 5: F00664 Close up of soundings at port entrance (mm at map scale 1:10000, radius 5)

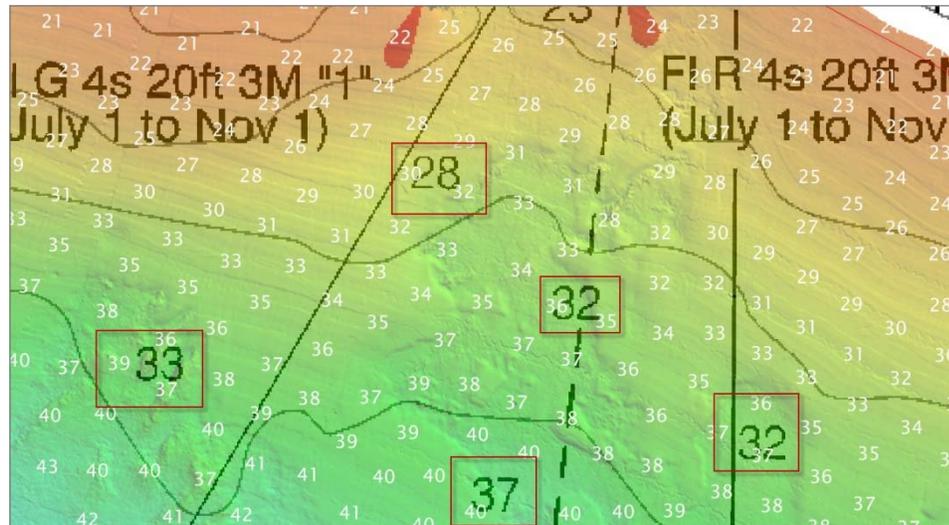


Figure 6: Chart 16206 F00664 Sounding discrepancies 3ft or greater

### Submitted Surfaces

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
F00664_MB_1m_MLLW	CUBE	1m		NOAA_1m	Full Coverage
F00664_MB_1m_MLLW_Final	CUBE	1m	0-20m	NOAA_1m	Full Coverage

The NOAA CUBE parameters mandated in HSSD were used for the creation of all CUBE BASE surfaces in Survey F00664. The surfaces have been reviewed where noisy data, or 'fliers' are incorporated into the gridded solution causing the surface to be more shoal or deeper than the true seafloor. Where these spurious soundings cause the gridded surface to be shoaler or deeper than the reliably measured seabed by greater than the maximum allowable Total Vertical Uncertainty at that depth, the noisy data have been rejected and the surface recomputed. Additionally, the SARScan Flier Finder was used to identify fliers that may have been missed by manual editing. The 1m finalized grid was loaded and a flier height of 2m and 1m were used. The 2m flier height was used first and, after identified fliers were cleaned and the surface recomputed, the Flier Finder was run again with the 1m flier height. The 1m setting identified 143 fliers, four of which were determined to be actual fliers. The majority of identified fliers were in the area near the breakwater where there is an abundance of rip-rap, which makes it extremely difficult to separate out what may be loose rocks versus what may be fliers. See figures 7 and 8.

The horizontal datum for this project is North American Datum of 1983 (NAD83) UTM zone 8N. During real-time acquisition, launches 2806 and 2808 received WAAS correctors for increased accuracies similar to USCG DGPS stations. WAAS and SBETs were the methods of positioning for survey F00664. No DGPS Stations were available for horizontal control.

*NAD83 is the horizontal datum used for DGPS, however, WAAS uses WGS84. Since the real-time positions were overwritten with the application of SBETs, the data is now referenced to NAD83.*

## H. Additional Results

### Sound Speed

CTD casts were taken at one to four hour intervals. On DN226, launch 2806 encountered unstable SV profiles due to fresh water intrusion which required more casts being taken near the entrance of the breakwater. See figure 9 for cast locations.

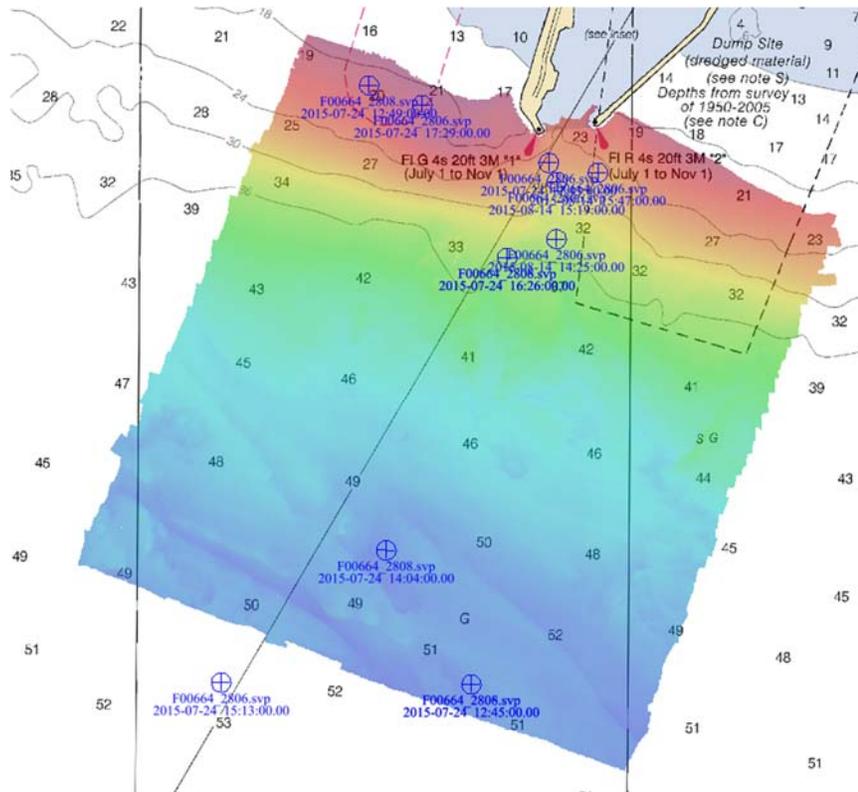


Figure 9: CTD cast locations

### Crosslines

Surface differencing in CARIS HIPS/SIPS was used to assess crossline agreement with main-scheme lines. Crosslines acquired for this survey total 5.97% of mainscheme acquisition. Figure 10 depicts a difference surface between a 1-meter surface made with mainscheme lines only and a 1-meter surface made with crosslines only. This difference surface is submitted digitally in the Separates II Digital Data folder. The two surfaces agree within +/- 0.16 meters at the 95%



Figure 7: F00664 Example of 1m flier height in Flier Finder near breakwater

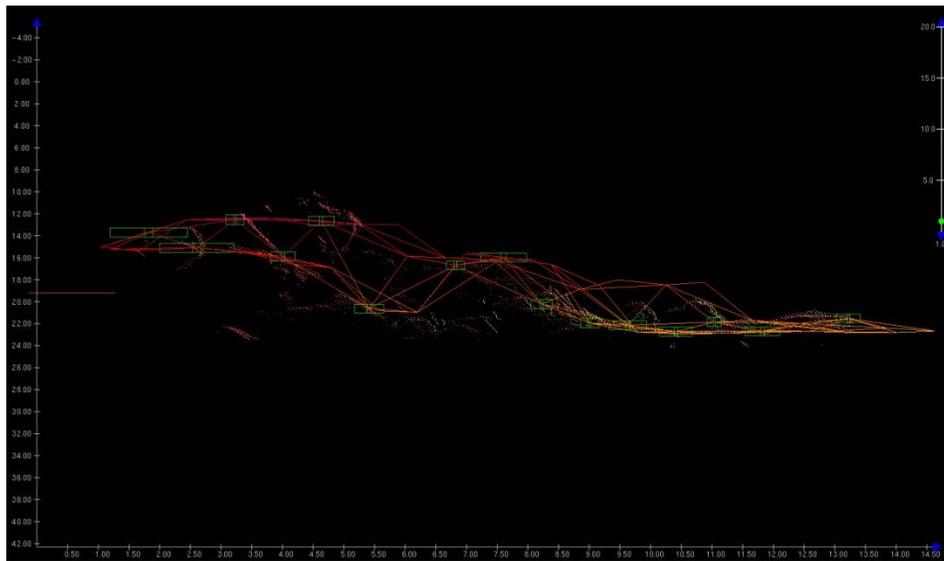


Figure 8: F00664 2D Subset view of data near breakwater with Cube Hypothesis and Wire Frame reference surface

**G. Vertical and Horizontal Control**

The vertical datum for this project is Mean Lower Low Water. The vertical control method used for survey F00664 was Discrete Zoning. A request for final tides was submitted on August 18, 2015. Final tides were received on September 28, 2015 and preliminary zoning was accepted as final. The following National Water Level Observation Network (NWLON) stations served as datum control:

*NWLON Gauges*

Operating Water Level Station	Station ID
Norton Sound, AK	9468756

*See attached Tide Note dated September 21, 2015.*

confidence level (Figure 11), therefore crosslines agree with mainscheme lines within the total allowable vertical and horizontal uncertainty in their common areas.

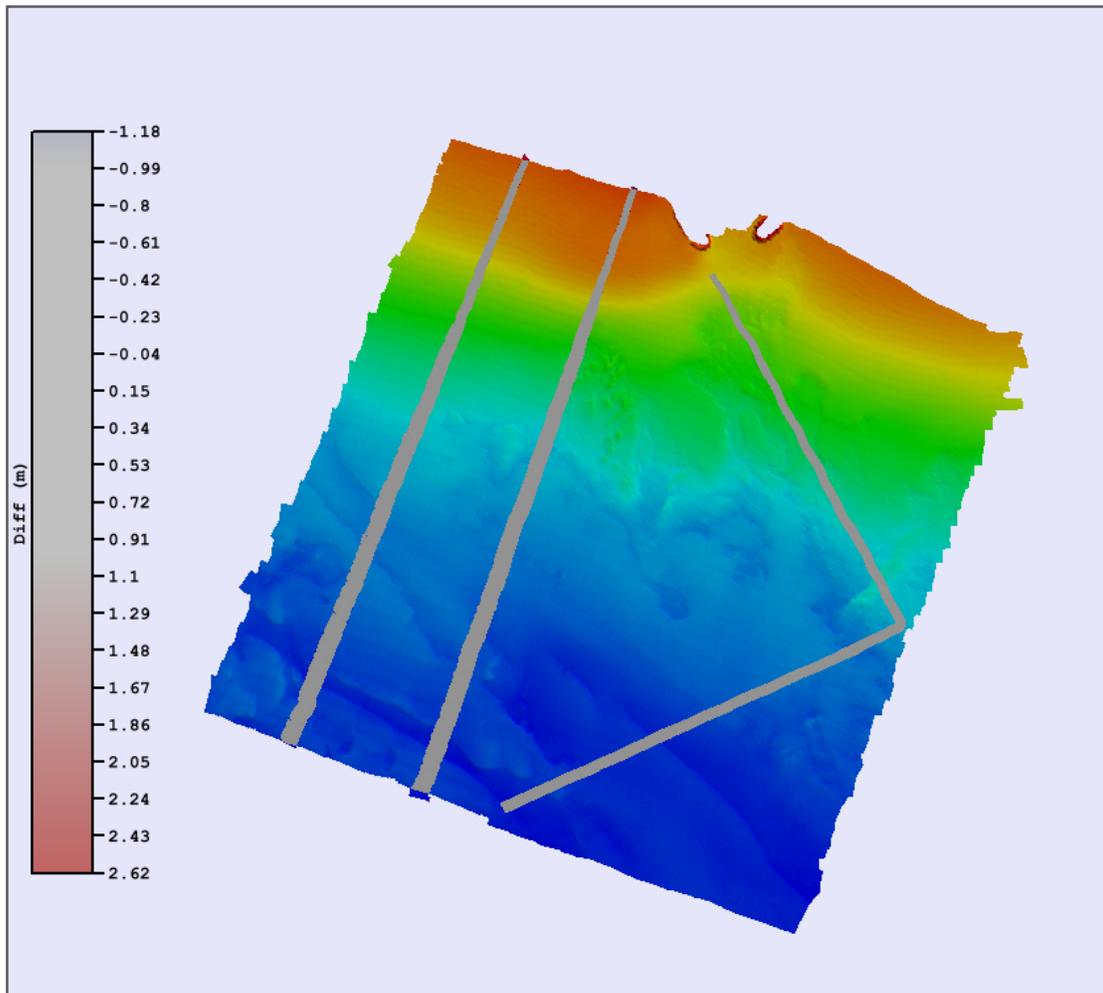


Figure 10: Mainchscheme/Crossline Difference Surface

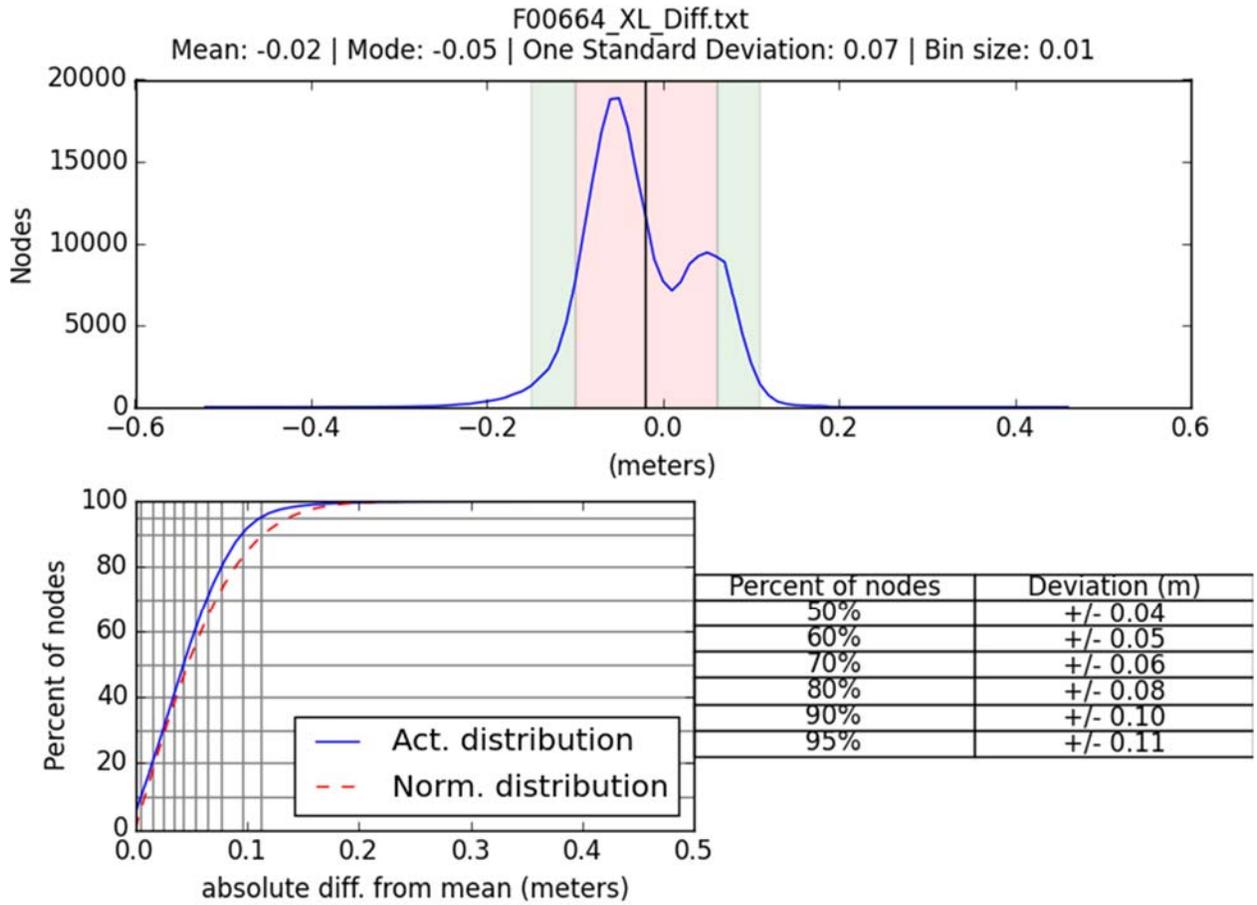


Figure 11: Mainscheme/Crossline Differencing Statistics

## Holidays

A gap was created during acquisition on DN 205. Due to time constraints, launch 2808 was not able to revisit the gap and collect coverage. See Figures 12 and 13. No density holidays were discovered.

*The data is adequate for charting despite the presence of the small holiday.*

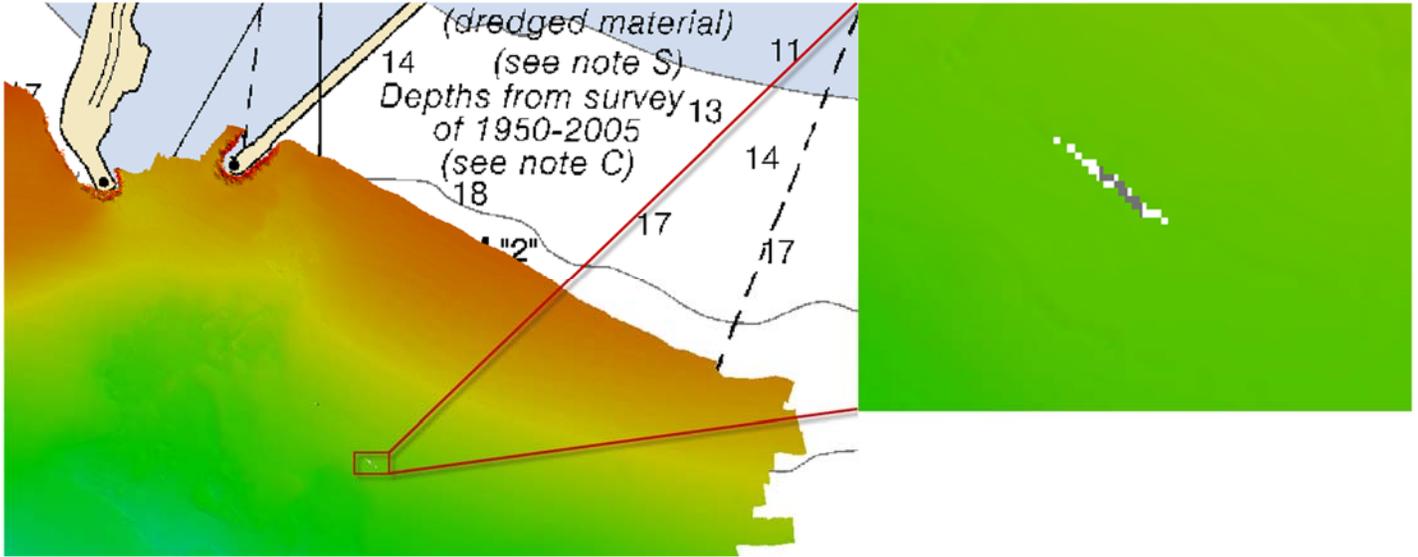


Figure 12: Holiday created on DN 205

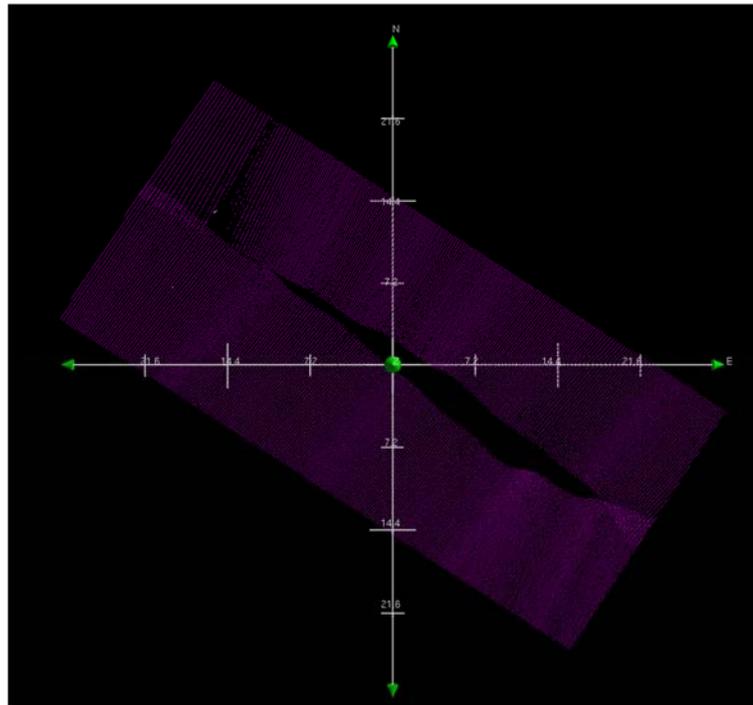


Figure 13: 3D View of Holiday

### Critical Soundings

Survey F00664 includes 56 designated soundings that are needed to correctly depict the sea floor. In order to mitigate the number of critical soundings, a 50cm grid was created. It was found that the finer resolution grid did not significantly reduce the number of designated soundings therefore the 1m grid was used as the submitted surface. The majority of the soundings were placed on the eastern side of the sheet. (See Figure 14)

*A total of 48 designated soundings were submitted with this survey.*

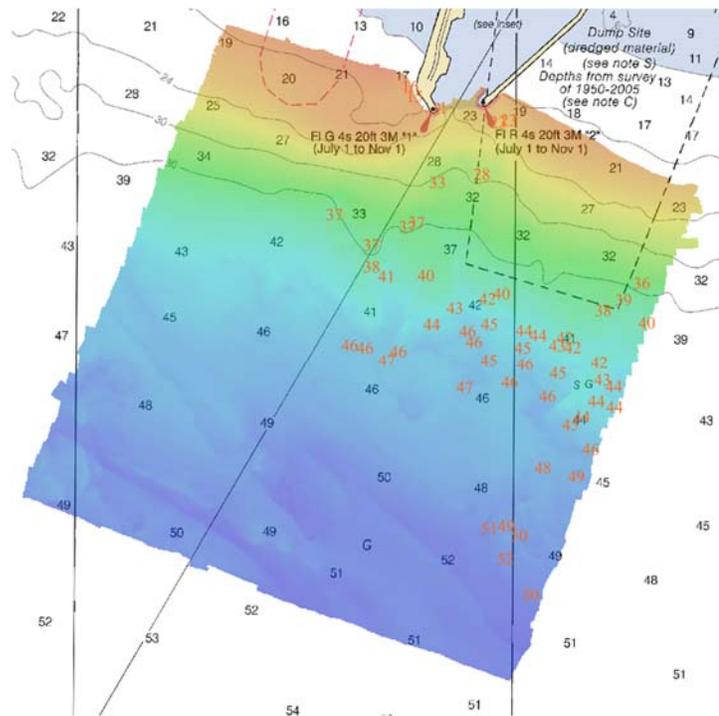


Figure 14: F00664 Critical Sounding Locations

Figures 15-17 are examples of Critical Soundings taken from subset editor. Multiple lines verified that the object was not noise.

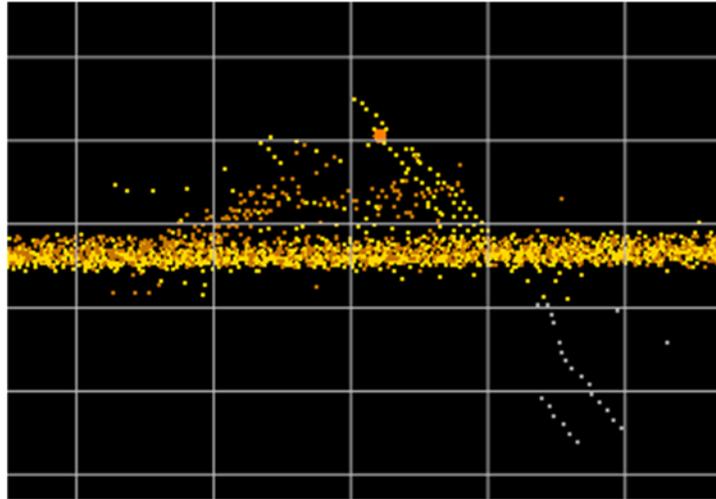


Figure 15: F00664 Critical Sounding Example

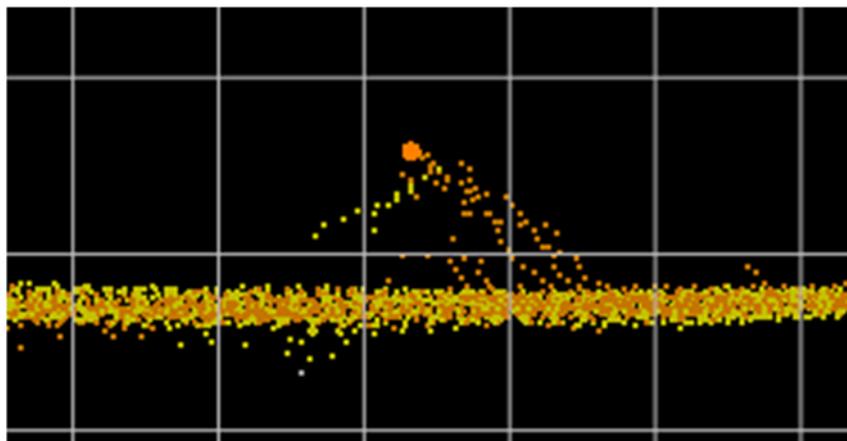


Figure 16: F00664 Critical Sounding Example

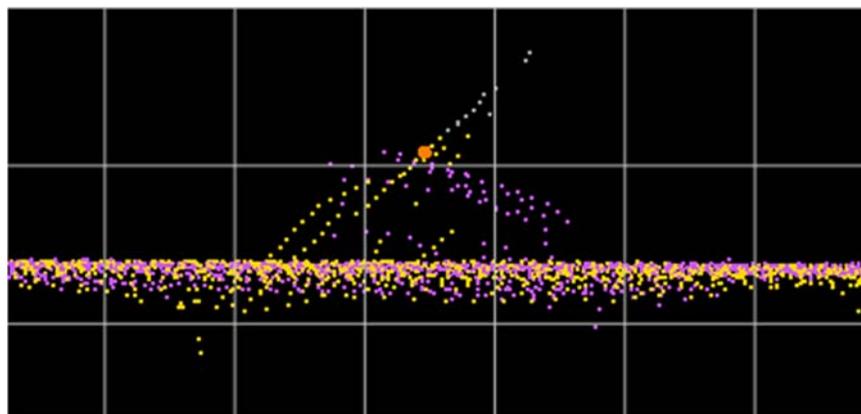


Figure 17: F00664 Critical Sounding Example

**Features**

A composite source file and project reference file were created using the appropriate ENC. There were no charted features in the survey area.

*There were charted features within and near the limits of the survey, however, no feature were assigned for investigation.*

**Junction Surveys**

The database at NGDC was searched and no contemporary junction surveys were found. A prior survey, H11453 from 2005, was identified. The hydrographer recommends that survey soundings from F00664 in common areas be used to supersede the charted depths.

**Coast Pilot**

There are no recommended changes to the Coast Pilot Report.

**Aids to Navigation**

All aids to navigation in the survey area were found to be correctly positioned and serving their intended purpose.

## H. Approval

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 field sheets, this Survey Summary 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, Standing and 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 Survey Summary Report.

Report Name	Report Date Sent
Data Acquisition and Processing Report	21 April 2016

Approver Name	Approver Title	Approval Date	Signature
CDR David J. Zezula, NOAA	Chief of Party	24 April 2016	 ZEZULA.DAVID.J.1097241836 2016.04.24 20:18:39 -07'00'
LT Matthew M. Forney	Operations Officer	24 April 2016	 FORNEY.MATTHEW.MICHAEL .1365213409 2016.04.24 16:36:42 -07'00'
HCST Douglas Bravo	Chief Survey Technician	24 April 2016	 2016.04.24 09:34:28 -07'00'
ENS Tyler Fifield	Sheet Manager	24 April 2016	



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

**PROVISIONAL TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE :** September 21, 2015

**HYDROGRAPHIC BRANCH:** Pacific

**HYDROGRAPHIC PROJECT:** OPR-S327-FA-2015

**HYDROGRAPHIC SHEET:** F00664

**LOCALITY:** Nome Harbor, Norton Sound, AK

**TIME PERIOD:** July 24 - August 14, 2015

**TIDE STATION USED:** 9468756 Nome, AK

Lat. 64° 29.7'N Long. 165° 26.4' W

**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters

**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 0.406 meters

**ESTIMATED ZONING ERROR:** 0.24 meters

**REMARKS: RECOMMENDED ZONING**

**Use zone(s) identified as:** NOME1

**Refer to attachments for zoning information.**

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

**Note 2:** Annual leveling for Nome, AK (9468756) was not completed in FY15. A review of the water level data collected during the survey period for this sheet indicates good data quality, however the sensor stability cannot be verified until the most recent set of levels are reviewed. This provisional tide note should be used as the final tide for this sheet and after the leveling information has been received and reviewed, a follow-up memo to OCS will validate the stability of the data. Should the most recent set of levels indicate that the sensor was not stable during the period of survey operations, CO-OPS will immediately provide a revised Tide Note with updated water level reference information.

**HOVIS.GERALD.THOMAS.JR.1365860250**

Digitally signed by  
HOVIS.GERALD.THOMAS.JR.1365860250  
DN: c=US, o=U.S. Government, ou=DoD,  
ou=PKI, ou=OTHER,  
cn=HOVIS.GERALD.THOMAS.JR.1365860250  
Date: 2015.09.23 14:58:13 -04'00'

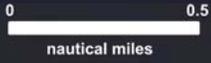
CHIEF, PRODUCTS AND SERVICES BRANCH



**Final Tidal Zoning for  
OPR-S327-FA-2015, F00664  
Nome Harbor, Norton Sound, AK**

**NOME1**  
Time Corrector 0 mins  
Range Corrector x1.02  
Reference 9468756

★ 9468756 NOME



Clinton Marcus - NOAA Federal <clinton.r.marcus@noaa.gov>

---

## FA Nome and Barrow Project Numbers

1 message

---

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

Fri, Aug 28, 2015 at 9:57 AM

To: "ops.fairweather" <ops.fairweather@noaa.gov>, Clinton Marcus - NOAA Federal <clinton.r.marcus@noaa.gov>, Ryan Wartick - NOAA Federal <ryan.wartick@noaa.gov>

Cc: Corey Allen - NOAA Federal <corey.allen@noaa.gov>, "\_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>

FA,

Please use this email as the record in your supplemental correspondence folder. Nome, AK project F00664 should be cataloged under OPR-S327-FA-15 project metadata and Barrow, AK project F00666 should be cataloged under S-S922-FA-15 project metadata, and all corresponding final tides requests should match these project numbers. The tide instructions and file naming conventions for discrete and TCARI zoning do not need to be changed.

Thank you,  
Katrina



Clinton Marcus - NOAA Federal <clinton.r.marcus@noaa.gov>

---

## F00664 Nome Survey

3 messages

---

**Matthew Forney - NOAA Federal** <matthew.forney@noaa.gov> Wed, Oct 28, 2015 at 12:30 PM  
To: ChiefOps MOP - NOAA Service Account <chiefops.mop@noaa.gov>, Corey Allen - NOAA Federal <Corey.Allen@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>  
Cc: \_OMAO MOP OPS Fairweather <ops.fairweather@noaa.gov>, Clinton Marcus - NOAA Federal <Clinton.R.Marcus@noaa.gov>, Tyler Fifield - NOAA Federal <tyler.p.fifield@noaa.gov>, "ChiefST.Fairweather" <ChiefST.Fairweather@noaa.gov>

Good Afternoon,

We are seeking guidance about F00664, Approach to Nome, on how to proceed. In an effort to not duplicate efforts, we would like to hear from you in writing whether a memo or summary is required. Please provide FA with guidance, so we can finalize and deliver this survey to PHB. I appreciate your time and effort. Please do not hesitate to contact me with any questions or concerns.

V/R  
Matt

LT Matthew Forney  
Operations Officer  
NOAA Ship *Fairweather*  
1010 Stedman Street  
Ketchikan, Alaska 99901

Cell: 907-254-2842  
Iridium: 808-659-0054  
Personal Cell: 513-235-5328

---

**Michael Gonsalves - NOAA Federal** <michael.gonsalves@noaa.gov> Thu, Oct 29, 2015 at 9:52 AM  
To: Matthew Forney - NOAA Federal <matthew.forney@noaa.gov>  
Cc: ChiefOps MOP - NOAA Service Account <chiefops.mop@noaa.gov>, Corey Allen - NOAA Federal <Corey.Allen@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, \_OMAO MOP OPS Fairweather <ops.fairweather@noaa.gov>, Clinton Marcus - NOAA Federal <Clinton.R.Marcus@noaa.gov>, Tyler Fifield - NOAA Federal <tyler.p.fifield@noaa.gov>, "ChiefST.Fairweather" <ChiefST.Fairweather@noaa.gov>

Hey Forney,

Thank you for the follow-up. After consulting with HTD 2013-5: Descriptive Report Requirements for Non-Standard Surveys, we feel a Descriptive Report Summary would be most appropriate for F00664, Approach to Nome. So you don't have to go looking up the HTD, I pasted the text below. Please let me know if you have any questions.

[HTD 2013-5:](#)

[Descriptive Report Summary is for surveys that during planning are determined to have a high likelihood of being used for charting, but are non-standard, which may include; field examinations,](#)

track lines or reconnaissance surveys. The reporting requirements parallel the general section of the XML DR, but allow more flexibility in reporting details.

The attached DR Summary Template shall be used as guidance for surveys approved for the DR Summary reporting category.

Upon the effective date of this HTD, the Descriptive Report Memo and Descriptive Report Summary are acceptable formats for documenting surveys, when approved by HSD Operations Branch, NSD Navigation Response Branch or as directed in the Project Instructions.

A DAPR is still required – field units must gain approval from HSD or NSD to waive the DAPR requirement.

~~ michael.gonsalves, LCDR/NOAA

HSD Operations Branch, Chief

On Wed, Oct 28, 2015 at 4:30 PM, Matthew Forney - NOAA Federal <[matthew.forney@noaa.gov](mailto:matthew.forney@noaa.gov)> wrote:  
Good Afternoon,

We are seeking guidance about F00664, Approach to Nome, on how to proceed. In an effort to not duplicate efforts, we would like to hear from you in writing whether a memo or summary is required. Please provide FA with guidance, so we can finalize and deliver this survey to PHB. I appreciate your time and effort. Please do not hesitate to contact me with any questions or concerns.

V/R  
Matt

LT Matthew Forney  
Operations Officer  
NOAA Ship *Fairweather*  
1010 Stedman Street  
Ketchikan, Alaska 99901

Cell: 907-254-2842  
Iridium: 808-659-0054  
Personal Cell: 513-235-5328

---

**Matthew Forney - NOAA Federal** <[matthew.forney@noaa.gov](mailto:matthew.forney@noaa.gov)>

Thu, Oct 29, 2015 at 2:34 PM

To: Tyler Fifield - NOAA Federal <[tyler.p.fifield@noaa.gov](mailto:tyler.p.fifield@noaa.gov)>, Clinton Marcus - NOAA Federal <[Clinton.R.Marcus@noaa.gov](mailto:Clinton.R.Marcus@noaa.gov)>, "ChiefST.Fairweather" <[ChiefST.Fairweather@noaa.gov](mailto:ChiefST.Fairweather@noaa.gov)>, \_OMAO MOP OPS Fairweather <[ops.fairweather@noaa.gov](mailto:ops.fairweather@noaa.gov)>

LT Matthew Forney  
Operations Officer  
NOAA Ship *Fairweather*  
1010 Stedman Street  
Ketchikan, Alaska 99901

Cell: 907-254-2842

Iridium: 808-659-0054  
Personal Cell: 513-235-5328

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

From: **Michael Gonsalves - NOAA Federal** <michael.gonsalves@noaa.gov>  
Date: Thu, Oct 29, 2015 at 9:52 AM  
Subject: Re: F00664 Nome Survey  
To: Matthew Forney - NOAA Federal <matthew.forney@noaa.gov>  
Cc: ChiefOps MOP - NOAA Service Account <chiefops.mop@noaa.gov>, Corey Allen - NOAA Federal <Corey.Allen@noaa.gov>, Katrina Wyllie - NOAA Federal <katrina.wyllie@noaa.gov>, \_OMAO MOP OPS Fairweather <ops.fairweather@noaa.gov>, Clinton Marcus - NOAA Federal <Clinton.R.Marcus@noaa.gov>, Tyler Fifield - NOAA Federal <tyler.p.fifield@noaa.gov>, "ChiefST.Fairweather" <ChiefST.Fairweather@noaa.gov>

Hey Forney,

Thank you for the follow-up. After consulting with HTD 2013-5: Descriptive Report Requirements for Non-Standard Surveys, we feel a Descriptive Report Summary would be most appropriate for F00664, Approach to Nome. So you don't have to go looking up the HTD, I pasted the text below. Please let me know if you have any questions.

HTD 2013-5:

Descriptive Report Summary is for surveys that during planning are determined to have a high likelihood of being used for charting, but are non-standard, which may include; field examinations, track lines or reconnaissance surveys. The reporting requirements parallel the general section of the XML DR, but allow more flexibility in reporting details.

The attached DR Summary Template shall be used as guidance for surveys approved for the DR Summary reporting category.

Upon the effective date of this HTD, the Descriptive Report Memo and Descriptive Report Summary are acceptable formats for documenting surveys, when approved by HSD Operations Branch, NSD Navigation Response Branch or as directed in the Project Instructions.

A DAPR is still required – field units must gain approval from HSD or NSD to waive the DAPR requirement.

~~ michael.gonsalves, LCDR/NOAA

HSD Operations Branch, Chief

On Wed, Oct 28, 2015 at 4:30 PM, Matthew Forney - NOAA Federal <matthew.forney@noaa.gov> wrote:  
Good Afternoon,

We are seeking guidance about F00664, Approach to Nome, on how to proceed. In an effort to not duplicate efforts, we would like to hear from you in writing whether a memo or summary is required. Please provide FA with guidance, so we can finalize and deliver this survey to PHB. I appreciate your time and effort. Please do not hesitate to contact me with any questions or concerns.

V/R  
Matt

LT Matthew Forney  
Operations Officer  
NOAA Ship *Fairweather*  
1010 Stedman Street  
Ketchikan, Alaska 99901

Cell: [907-254-2842](tel:907-254-2842)  
Iridium: [808-659-0054](tel:808-659-0054)  
Personal Cell: [513-235-5328](tel:513-235-5328)

## F00664 Expectations

### Purpose:

The purpose of this document is to document the field expectations for field examination survey F00664.

### Background:

Field Examinations (“F” numbers) are hydrographic surveys planned to adequately supersede prior surveys in the common area. They differ from basic or navigable area surveys (“H” numbers) in that they are intended to cover only limited areas.

There are two scenarios for field examination surveys: 1) planned ahead registry, vs. 2) registry after field unit has acquired the data. If the survey is planned and registered ahead of data acquisition, then the field examination shall follow normal survey operations and requirements as described in the Hydrographic Survey Specification and Deliverables (HSSD). Because F00664 was not a planned survey and was registered after data acquisition then the field unit shall follow the guidance below.

### Requirements:

Unless specifically noted, the requirements in the HSSD shall be met.

- In the case of a field examination survey registered after the field unit has acquired the data, the following tasks will be transferred from HSD Operations to the field unit.
  - The Composite Source File (CSF) and Project Reference File (PRF) will not be compiled by HSD Operations. The field unit is responsible for compiling the CSF and PRF using the most recent and largest scale ENC in the area. All charted features within the survey area shall be addressed.
  - The Coast Pilot Field Report will not be provided by HSD Operations. Coast Pilots are updated on a weekly basis. The field unit shall download appropriate Coast Pilot sections from the Coast Pilot website (<http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm>) for verification.
  - The Junction Surveys will not be compiled by HSD Operations. The field unit is responsible for compiling the junction surveys for junction comparisons by downloading the survey information from NCEI’s website (<https://www.ngdc.noaa.gov/mgg/bathymetry/hydro.html>)
  - The field unit will provide an outline of the project area to HSD Operations for the purposes of facilitating vertical control with CO-OPS. In addition, the VDatum Separation Model will not be compiled by HSD Operations.
- The Descriptive Report (DR) deliverable shall be a DR Summary and not the standard DR. For further information on a DR Summary see HTD 2013-5 Descriptive Report Requirements for Non-Standard Surveys.
- Any other deviations from the HSSD shall be discussed with HSD Operations for approval. In addition, deviations shall be documented in the Descriptive Report and all correspondence shall be filed in the Correspondence folder.

APPROVAL PAGE

F00664

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

- F00664\_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- F00664\_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications.

Approved: \_\_\_\_\_

**Peter Holmberg**

Cartographic Team Lead, Pacific Hydrographic Branch

The survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: \_\_\_\_\_

**CDR Benjamin K. Evans, NOAA**

Chief, Pacific Hydrographic Branch