F00645

NOAA Form 76-35A

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

DESCRIPTIVE REPORT

Type of Survey:	Navigable Area
Registry Number:	F00645

LOCALITY

State:	South Carolina
General Locality:	Tybee Island
Sub-locality:	Approach to Calibogue Sound

2014

CHIEF OF PARTY
Erik Anderson

LIBRARY & ARCHIVES

Date:

NOAA FORM 77-28 (11-72)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET		**F00645**

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:	**South Carolina**
General Locality:	**Tybee Island**
Sub-Locality:	**Approach to Calibogue Sound**
Scale:	1: **20,000**
Dates of Survey:	**07/24/2014**
Instructions Dated:	**07/22/2014**
Project Number:	**S-G931-NRT2-14**
Field Unit:	**Navigation Response Team 2**
Chief of Party:	**Erik Anderson**
Soundings by:	**Multibeam Echo Sounder**
Imagery by:	
Verification by:	**Pacific Hydrographic Branch**
Soundings Acquired in:	**meters at Mean Lower Low Water**
H-Cell Compilation Units:	***meters at Mean Lower Low Water***

Remarks:

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 Geophysical Data Center (NGDC) and can be retrieved via http://www.ngdc.noaa.gov/.

Descriptive Report Summary to Accompany S-G931-NRT2-2014	
Project	S-G931-NRT2-2014
Survey	F00645
State	Georgia
Locality	TYBEE_ESCAPADE
Sub Locality	Approach to Calibogue Sound, SC
Scale of Survey	1:20000
Sonar Used	R2 Sonic 2024
Horizontal Datum	North American Datum of 1983 (NAD83)
Vertical Datum	Mean Low Low Water(MLLW)
Vertical Datum Correction	Verified Observed Tides from gauge 8670870
Projection	Latitude-Longitude (NAD83) - UTM Zone 17N
Field Unit	NRT2
Survey Dates	7/24/2014 DN:204
Chief of Party	Erik H. Anderson

A. Area Surveyed

This hydrographic survey was acquired in accordance with the requirements defined in the Project Instruction S-G931-NRT2-14.

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
32-04.50 N	32-03.01 N
80-48.88 W	80-50.28 W

B. Survey Purpose

A 174 foot casino vessel grounded in the Approach to Calibogue Sound in South Carolina, near buoy R"2". There is concern that the shoal has migrated towards the channel. The USCG has request that a hydrographic survey to find deep water for vessel traffic in the area.

C. Intended Use of Survey

Hydrography shall consist of Navigable Area Surveys in accordance with the following support documents. Data from survey is intended to supersede all prior survey data in the common area.

D. Data Acquisition and Processing

Please reference Data Acquisition and Processing Report “2014_DAPR_NRT2.xml” for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods.

E. Uncertainty

The following survey specific parameters tide TPU values were used for this survey:

Measured	Zoning
0 meters	0.13 meters

The following survey specific sound speed TPU values were used:

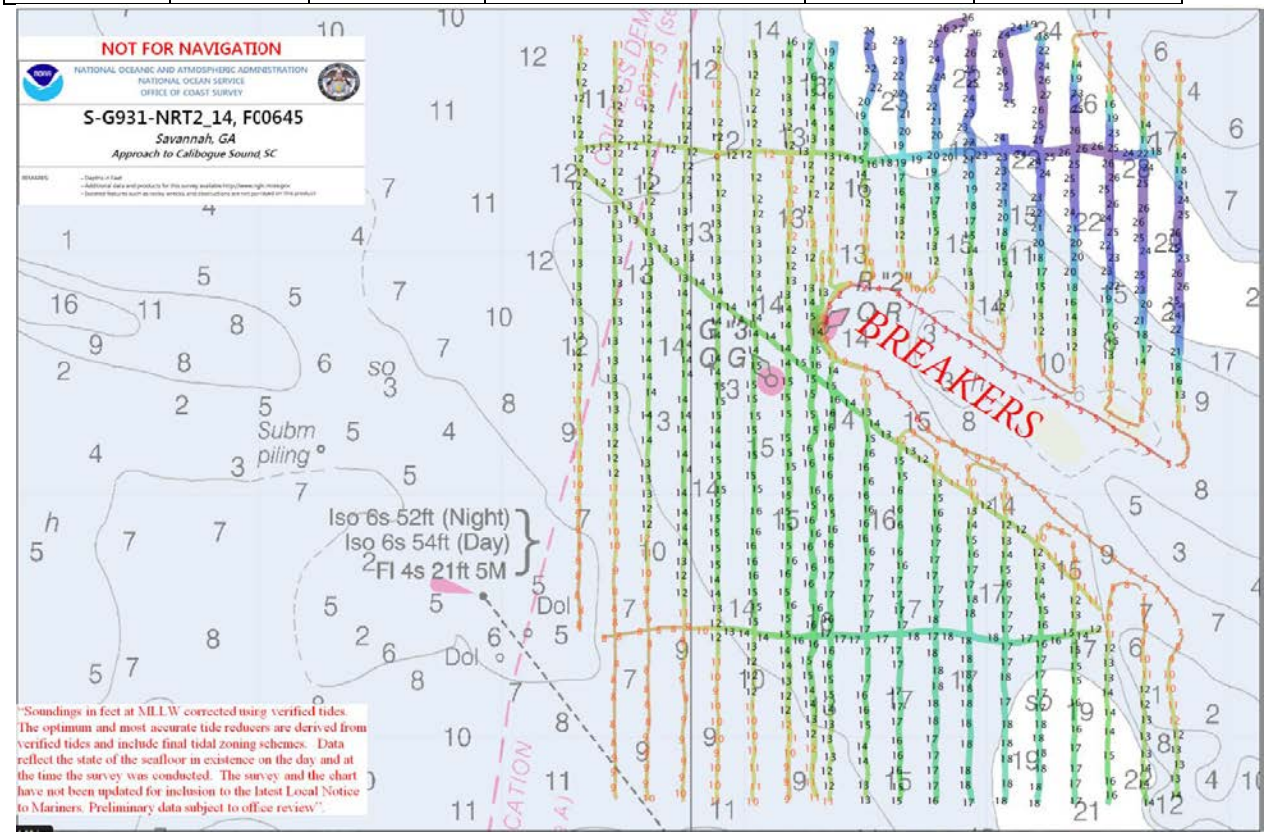
Hull ID	Measured –CTD	Measured-MVP	Surface
S-1210	4 meters/second	0 meters/second	0.3 meters/second

The estimated tidal error contribution to the total survey error budget in the approaches to Calibogue Sound, SC is 0.13 meters at the 95% confidence level, and includes the estimated gauge measurement error, tidal datum computation error, and tidal zoning error.
Sound speed uncertainty at the surface is 0.3 meters/second which is based on the SVP manufactures specified uncertainty.
Sound speed measured uncertainty is 4 meters/seconds. This is determined by cast frequency of every 3 hours.

F. Results and Recommendations

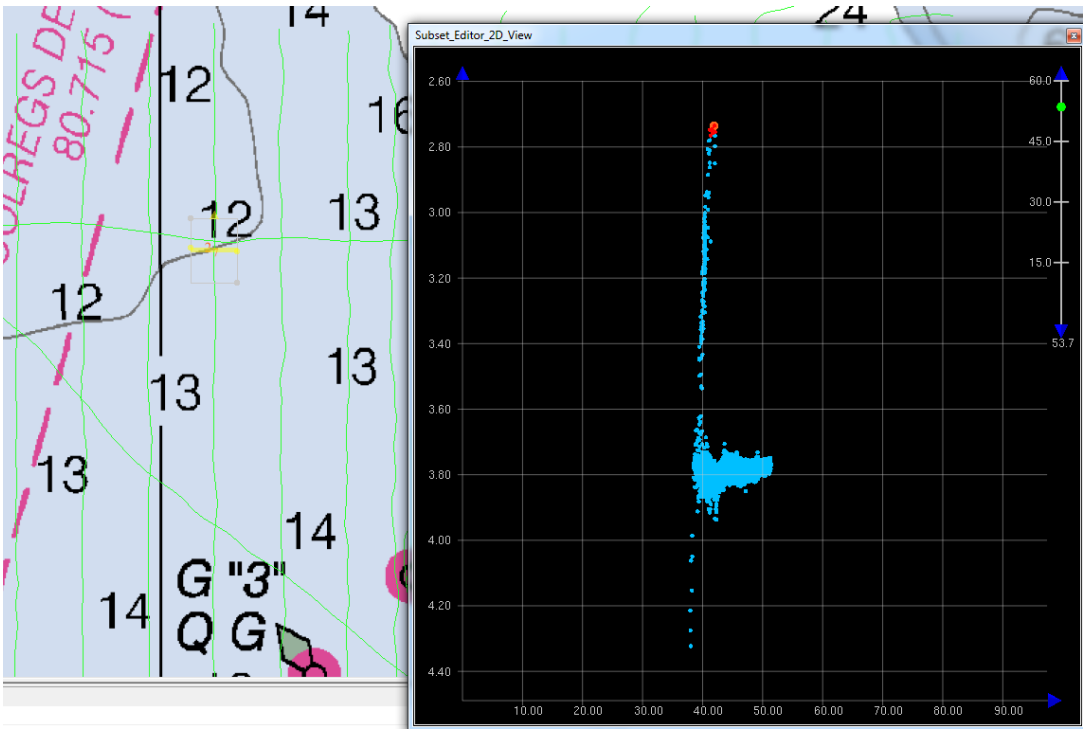
The following are the largest scale RNC and ENC, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
11512	40,000	64	September 1, 2014	9/2014	9/2014
ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5GA20M	40,000	37.2	7/30/2014	9/2014	NO



The image above illustrates the shoal encroachment to the east of R''2''. The area labeled "BREAKERS" in red is bare at low water and has breakers at most other tides. The shoal continues to the south east and was outlined by a 5 meter offset survey line surrounding it. Hydrographer recommends removing soundings and contours in the area noted as breakers, and to chart as baring land with breakers. DTON report was issued.

Office Notes: The DTON Report consisted of the image shown above.



An obstruction was found at 32 04' 13.1''N 080 49' 56.4'' W with a least depth of 2.73 meters with a surrounding depth of 3.75 meters. Hydrographer recommends charting an obstruction. DTON report was issued.

Office Notes: The obstruction was recommended to be charted. The DTON Report is attached.

G. Vertical and Horizontal 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 fort his survey: 8670870 Fort Pulaski, GA.

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

The projection used for this project is 17 North.
DGPS Stations used: Savannah, GA 319kHz

A request for final approved tides was sent to N/OPS1 on 07/29/2014. The final tide note was received on 08/06/2014.

Office Notes: The Tide Note is attached

No changes made to preliminary zoning scheme.

H. Additional Results

Two DTON's were found and summited. The reports can be found in the appendices. The south east Navigation Manager Kyle Ward was contacted as well as USCG.

I. 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. This Survey Summary Report, and all accompanying records and data are approved. Raw data has been submitted to NGDC for archiving.

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 not intended 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.

Approver Name	Approver Title	Approval Date	Signature
Erik H Anderson	Team Lead	09/04/2014	ANDERSON.ERIK.HA NS.1388637370

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : August 4, 2014

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: S-G931-NRT2-2014
HYDROGRAPHIC SHEET: F00645

LOCALITY: Bloody Point Shoal, Tybee Island, SC
TIME PERIOD: July 23, 2014

TIDE STATION USED: 867-0870 Fort Pulaski, GA
Lat. 32° 2.0'N Long. 80° 54.1' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.173 meters

REMARKS: RECOMMENDED ZONING

Preliminary zoning is accepted as the final zoning for project S-G931-NRT2-2014, F00645, during the time period of July 23, 2014.

Please use the zoning file G931NRT22014CORP submitted with the project instructions for S-G931-NRT2-2014. Zones GA1 and SA172D are the applicable zones for F00645.

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).

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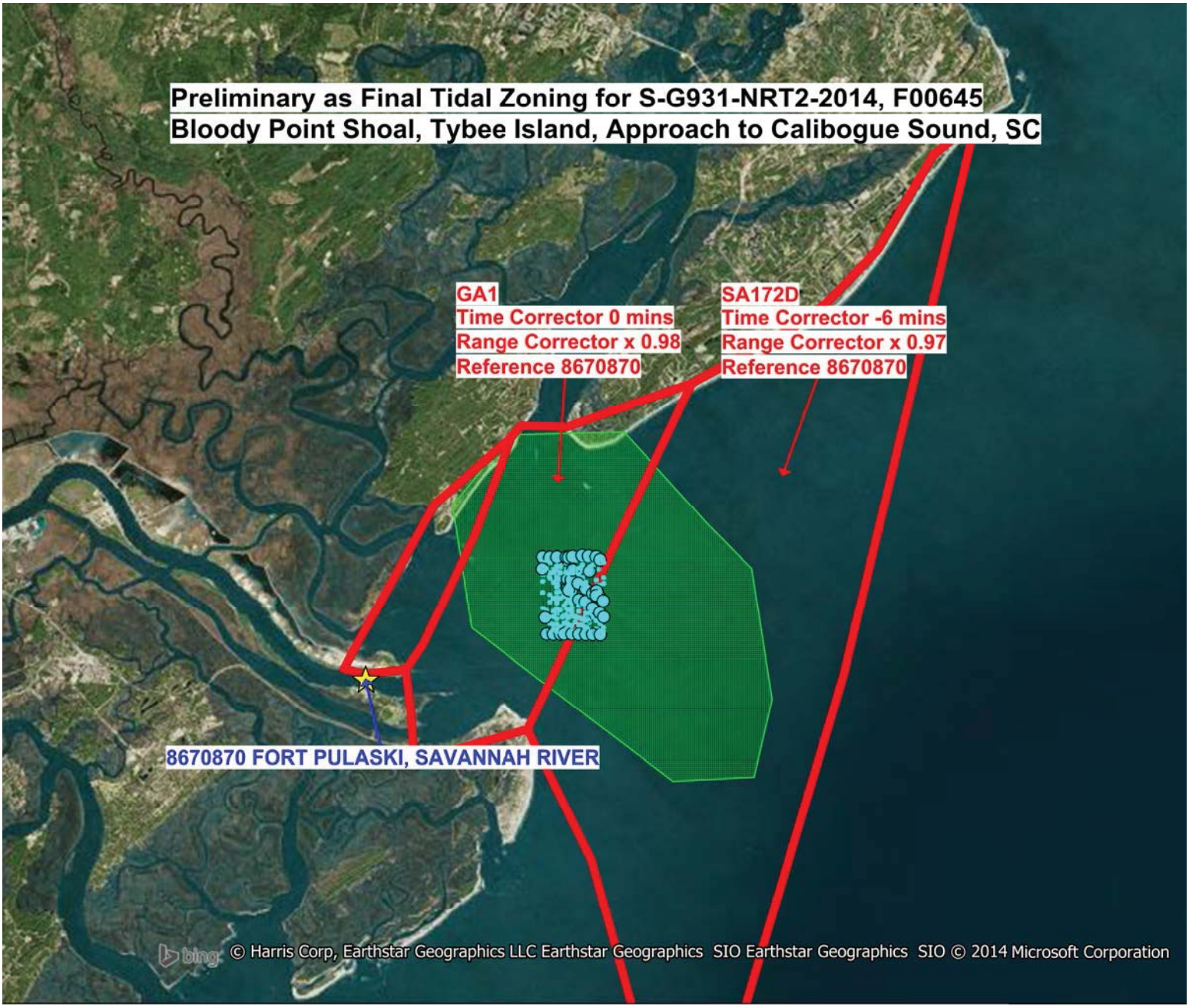
CHIEF, PRODUCTS AND SERVICES BRANCH


Preliminary as Final Tidal Zoning for S-G931-NRT2-2014, F00645
Bloody Point Shoal, Tybee Island, Approach to Calibogue Sound, SC
GA1
Time Corrector 0 mins
Range Corrector x 0.98
Reference 8670870
SA172D
Time Corrector -6 mins
Range Corrector x 0.97
Reference 8670870
8670870 FORT PULASKI, SAVANNAH RIVER
bing
© Harris Corp, Earthstar Geographics LLC Earthstar Geographics SIO Earthstar Geographics SIO © 2014 Microsoft Corporation

S-G931-NRT2-2014-DTON_Report

Registry Number: F00645

State: Georgia

Locality: Tybee Island

Sub-locality: Bloody Point Shoal

Project Number: S-G931_NRT2-14

Survey Date: 07/23/2014

The report contains a pile that was found extending at least 1.0 meter high off the bottom with surrounding depths of 3.75 meters. Since there was no sidescan and the object was detected on the outside of the MB swath during set line spacing to develop the shoal, we can not give an exact least depth on the object.

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
11516	31st	08/01/2006	1:40,000 (11516_1)	[L]NTM: ?
11512	63rd	04/01/2013	1:40,000 (11512_1)	USCG LNM: 6/24/2014 (6/24/2014) NGA NTM: 4/10/2010 (6/28/2014)
11513	25th	04/01/2006	1:80,000 (11513_1)	[L]NTM: ?
11480	40th	03/01/2007	1:449,659 (11480_1)	[L]NTM: ?
11009	38th	12/01/2006	1:1,200,000 (11009_1)	[L]NTM: ?
411	52nd	09/01/2007	1:2,160,000 (411_1)	[L]NTM: ?

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

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Obstruction	2.73 m	32° 04' 13.1" N	080° 49' 56.4" W	---

1 - Dangers To Navigation

1.1) Profile/Beam 6672/242 / tybee057_1658

DANGER TO NAVIGATION

Survey Summary

Survey Position:	32° 04' 13.1" N, 080° 49' 56.4" W
Least Depth:	2.73 m (= 8.95 ft = 1.492 fm = 1 fm 2.95 ft)
TPU (±1.96σ):	**THU (TPEh)** ±0.982 m ; **TVU (TPEv)** ±0.258 m
Timestamp:	2014-204.17:00:35.614 (07/23/2014)
Survey Line:	f00645 / nrt2_1210_r2_2024_mb / 2014-204 / tybee057_1658
Profile/Beam:	6672/242
Charts Affected:	11512_1, 11516_1, 11513_1, 11480_1, 11009_1, 411_1

Remarks:

[None]

Feature Correlation

Source	Feature	Range	Azimuth	Status
tybee057_1658	6672/242	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

9ft (11512_1, 11516_1, 11513_1)

1 ½fm (11480_1, 11009_1, 411_1)

S-57 Data

Geo object 1:	Obstruction (OBSTRN)
Attributes:	CATOBS - 1:snag / stump
	QUASOU - 2:depth unknown
	TECSOU - 3:found by multi-beam
	VALSOU - 2.728 m
	WATLEV - 3:always under water/submerged

Office Notes:
Chart submerged obstruction with unknown depth.

Feature Images

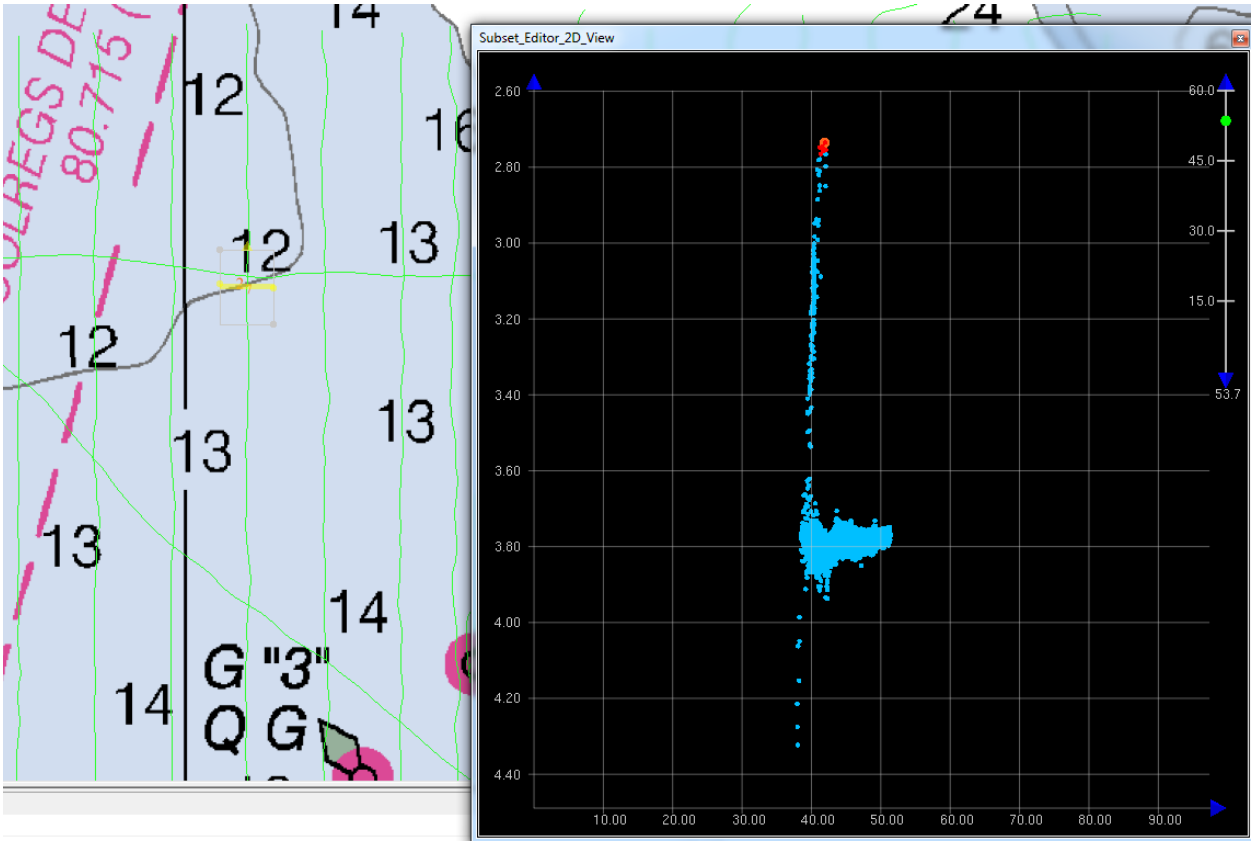


Figure 1.1.1

Figure 1.1.2

APPROVAL

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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 NGDC for archive

- F00645_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- F00645_GeoImage.pdf

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

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Date: 2015.05.21 11:12:11 -07'00'

Approved:_____

Pete Holmberg
Cartographic Team Lead, Pacific Hydrographic Branch

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

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Approved:_____

CDR Benjamin K. Evans, NOAA
Chief, Pacific Hydrographic Branch