

**F00712**

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: F00712

**LOCALITY**

State: New York

General Locality: New York Harbor

Sub-locality: Rockaway Inlet

**2018**

CHIEF OF PARTY  
LTJG Dylan Kosten

LIBRARY & ARCHIVES

Date:

**HYDROGRAPHIC TITLE SHEET**

**F00712**

**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: **New York**

General Locality: **New York Harbor**

Sub-Locality: **Rockaway Inlet**

Scale: **1: 5,000**

Dates of Survey: **02/20/2018 to 02/23/2018**

Instructions Dated: **01/25/2018**

Project Number: **S-B914-NRT5-18**

Field Unit: **Navigation Response Team 5**

Chief of Party: **LTJG Dylan Kosten**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Multibeam Echo Sounder**

Verification by: **Pacific Hydrographic Branch**

Soundings Acquired in: **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 Centers for Environmental Information (NCEI) and can be retrieved via <http://www.ncei.noaa.gov/>.*

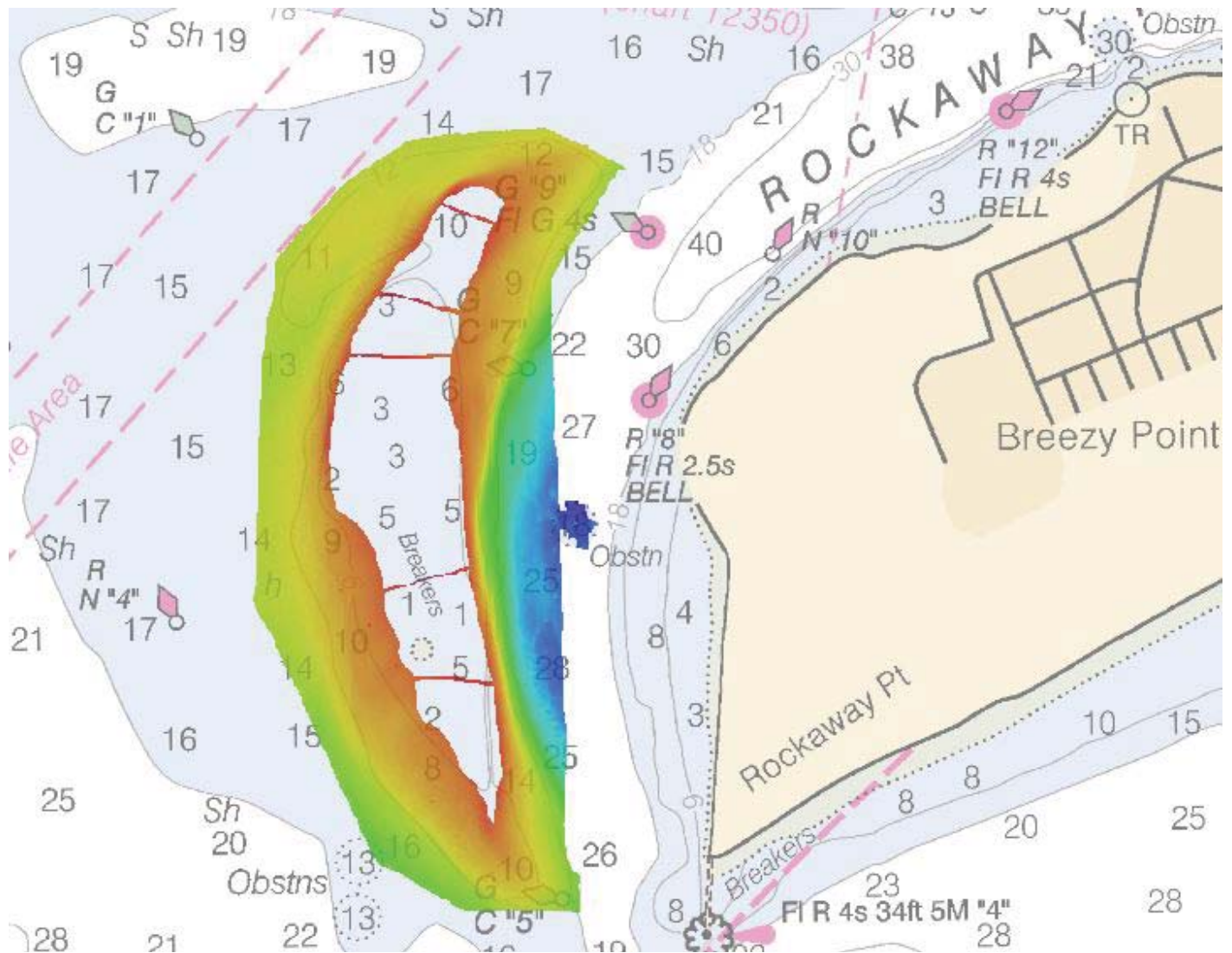
<b>Descriptive Report Summary</b> <b>F00712</b>	
Project	S-B914-NRT5-18
Survey	F00712
State	New York
Locality	New York Harbor
Sub Locality	Rockaway Inlet
Scale of Survey	1:5000
Sonars Used	Kongsberg Maritime EM 2040C (MBES)
Horizontal Datum	North American Datum 1983
Vertical Datum	Mean Lower Low Water
Vertical Datum Correction	VDatum
Projection	Projected UTM 18
Field Unit	Navigation Response Team 5
Survey Dates	02/20/2018 - 02/23/2018
Chief of Party	LTJG Dylan Kosten

**A. Area Surveyed**

This hydrographic survey was acquired in accordance with the requirements defined in the Project Instruction S-B914-NRT5-18.

Data were acquired within the following survey limits:

<b>Northwest Limit</b>	<b>Southeast Limit</b>
40° 33' 37.76" N 73° 57' 1.48" W	40° 32' 27.39" N 73° 56' 42.03" W



Overview of F00217

## B. Survey Purpose

The United States Coast Guard has requested a hydrographic survey in Rockaway Inlet. Vessels have hit bottom where navigable waters are charted. The concern is that the shoal in this area has spread. Survey data from this project is intended to supersede all prior survey data in the common area.

## C. Intended Use of Survey

The entire survey is adequate to supersede previous data.

## **D. Data Acquisition and Processing**

Please reference the S3007 Data Acquisition and Processing Report 2018 for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods.

## **E. Uncertainty**

Total Propagated Uncertainty (TPU) values for F00712 were derived from a combination of fixed values or equipment and vessel characteristics, as well as field assigned values for sound speed uncertainties. A visual inspection of the Uncertainty layer revealed fairly consistent and IHO passing uncertainty across the surface, and a visual inspection of the Density layer revealed the areas of lowest density are in deeper waters. In addition to the usual a priori estimates of uncertainty, some real time and post processed uncertainty sources were also incorporated into the depth estimates of the survey. Real-time uncertainties from the Kongsberg MBES sonar were incorporated and applied during post processing. The recorded delayed heave Applanix files included an estimate of the heave uncertainty and were applied during post-processing. All of the aforementioned uncertainties were applied in CARIS. As stated, F00712 is an ellipsoidally referenced survey (ERS) and the tidal component was accomplished with a separation model.

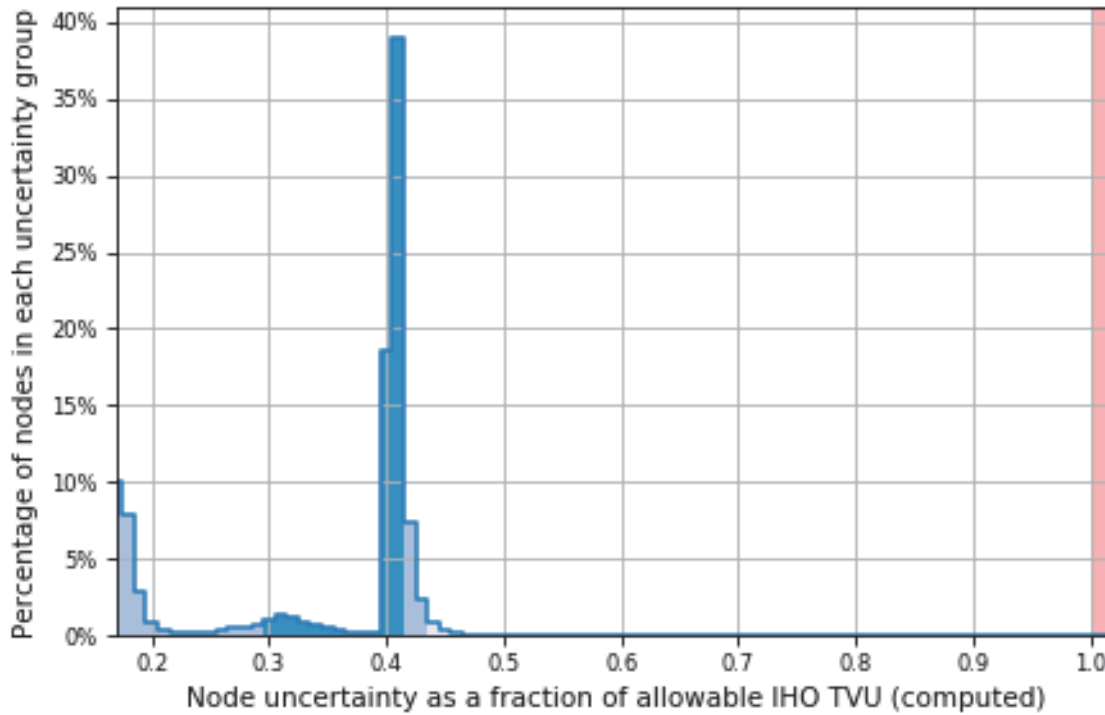
QC Tools from PydroExplorer were run and showed that the grids passed the assessments for uncertainty and density requirements.

## Uncertainty Standards

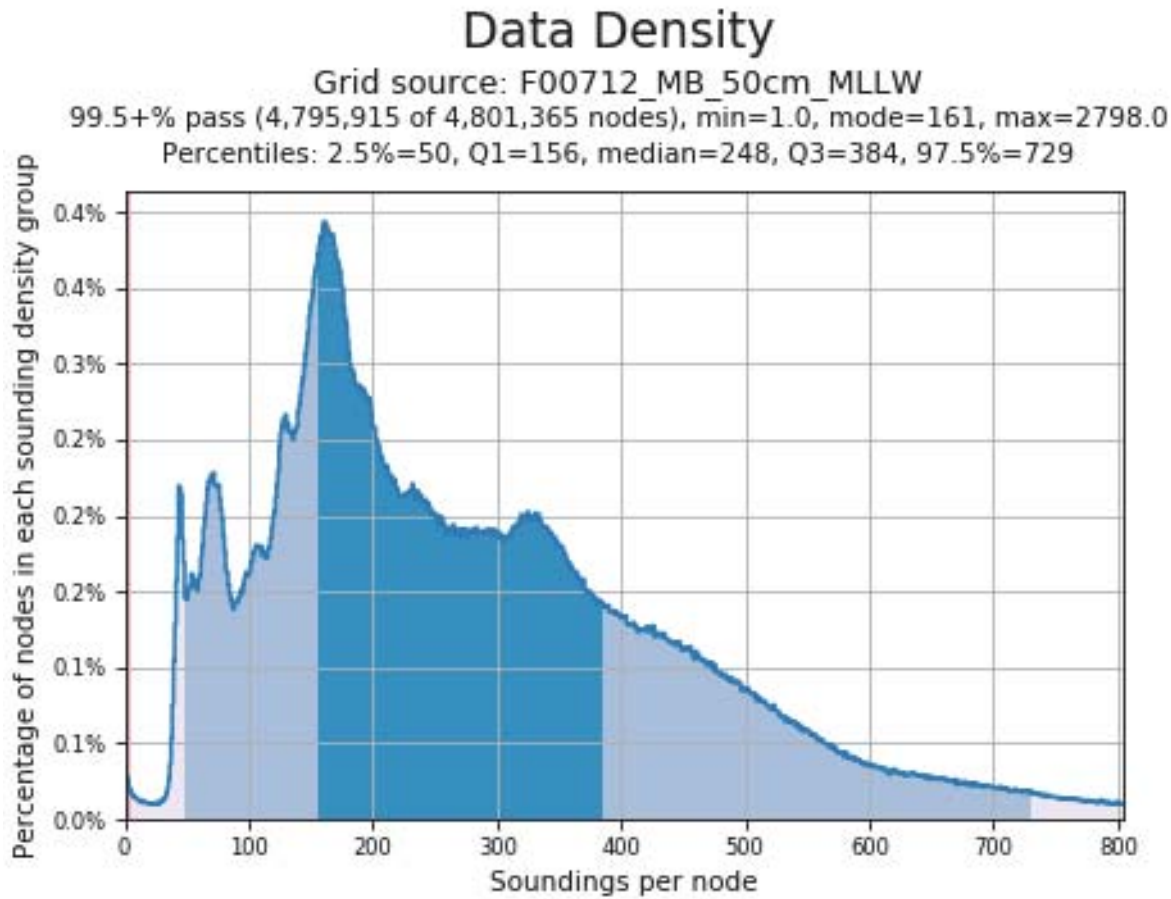
Grid source: F00712\_MB\_50cm\_MLLW

99.5+% pass (4,801,353 of 4,801,365 nodes), min=0.17, mode=0.41, max=1.34

Percentiles: 2.5%=0.17, Q1=0.30, median=0.41, Q3=0.41, 97.5%=0.43



*Node uncertainty graph generated from QC Tools.*



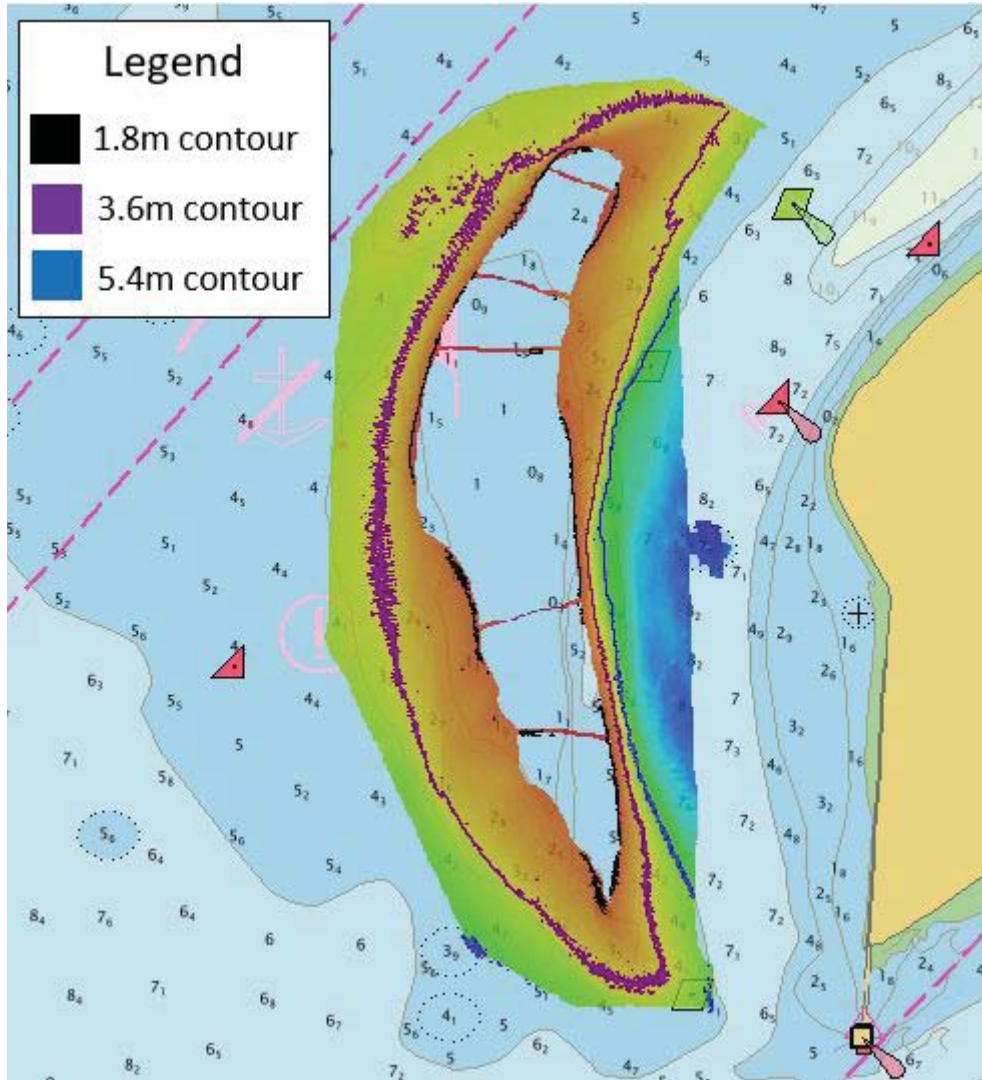
*Density graph generated from QC Tools.*

## F. Results and Recommendations

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5NY19M	1:15000	24	12/15/2017	12/15/2017	NO

Data from F00712 compares well with the charted depths with the exception of the shoalest areas. In the figure below, the black line is the 1.8 meter contour, which extends further northeast and southeast compared to the charted 1.8 meter contour. The purple line represents the 3.6m contour and matches fairly well as charted with the exception to the east where it extends further. The 5.4m contour, shown as a blue line, matches the charted 5.4 meter contour.



*The shoalest contours do not line up with the charted contours. The 1.8 meter and the 3.6 meter contour differ from the charted contours. The 5.4 meter contour matches well with the chart.*

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

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
F00712_MB_50cm_MLLW	CUBE	50 cm	0.2 m - 10.6 m	0.5m	Object Detection
F00712_MB_50cm_MLLW_Final	CUBE	50 cm	0.2 m - 10.6 m	0.5m	Object Detection



## G. Vertical and Horizontal Control

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

The vertical control method used for this survey was VDatum.

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

Station Name	Station ID
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A VDatum model, S-B914-NRT5-18\_Sheets\_xyNAD83-MLLW\_geoid12b, was provided to the field unit to use in processing.

The horizontal datum for this project is North American Datum 1983. The projection used for this survey is Projected UTM 18.

The following DGPS Stations were used for horizontal control:

DGPS Stations
NJNT
NJTP
NJ12
SHK5
NYBR
NYC1

The horizontal datum for this project is North American Datum of 1983 (NAD83). The projection used for this project is Universal Transverse Mercator (UTM) Zone 18 North.

## H. Additional Results

There is an offset of 0.21 meters between data collected late on DN035 and surrounding data. SBETs were applied to remove a previous larger offset but a 0.21 meter offset remains. A similar offset is found for DN051 line 007 compared to sounding data.

## 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.

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, 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.

Approver Name	Title	Date	Signature
Michael Bloom	PST	08/02/2018	BLOOM.MICHAEL.GRAHAM.1029463049 <small>Digitally signed by BLOOM.MICHAEL.GRAHAM.1029463049 Date: 2018.08.02 14:44:32 -04'00'</small>
Dylan Kosten	LTJG	08/02/2018	KOSTEN.DYLAN.ANDREW.1504527405 <small>Digitally signed by KOSTEN.DYLAN.ANDREW.1504527405 Date: 2018.08.02 14:14:07 -04'00'</small>

APPROVAL PAGE

F00712

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

- Descriptive Report
- Collection of Bathymetric Attributed Grids (BAGs)
- Collection of backscatter mosaics
- Processed survey data and records
- GeoPDF of survey products

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: \_\_\_\_\_

**Commander Olivia Hauser, NOAA**  
Chief, Pacific Hydrographic Branch