

H11345

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SERVICE

## DESCRIPTIVE REPORT

Type of Survey ..... Basic Hydrography

Field No. .... N/A

Registry No. .... H11345

### LOCALITY

State ..... Florida

General Locality ..... Tampa Bay

Sublocality ..... Northern Section

2004

CHIEF OF PARTY

David B. Elliott - Team Leader

LIBRARY & ARCHIVES

DATE .....

NOAA FORM 77-28 U.S. DEPARTMENT OF COMMERCE  
(11-72) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTRY NUMBER:

## HYDROGRAPHIC TITLE SHEET

**H11345**

INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NUMBER: N/A

State/Territory: **Florida**

General Locality: **Tampa Bay**

Sub-Locality: **Northern Section**

Scale: **1:10,000** Date of Survey: June 2, 2004 to June 8, 2004

Instructions Dated: **01 June 2004** Project Number: **S-J913-NRB-04**

Vessel: **NOAA Launch 1210 & NOAA Launch 3002**

Chief of Party: **David B. Elliott - Team Leader**

Surveyed by: **David Elliott, Robert Ramsey & Laurie Brennan (NRT2)**  
**Mark McMann, Lucy Masimillio (NRT1)**

Soundings by: **Innerspace 448**

Graphic record scaled by: **DE, RR, LB, MM, LM**

Graphic record checked by: **DE, RR, LB, MM, LM**

Protracted by: **N/A** Automated Plot: **N/A**  
**Hewlett Packard Design Jet 2500 CP (office)**

Verification by: **Atlantic Hydrographic Branch *Personnel***

Soundings in: ***Feet* Meters at MLLW**

Remarks: ***Red, bold, italic notes in the descriptive report were made during office processing.***

***1) All Times are UTC.***

***2) This is a basic Hydrographic Survey under the Navigable Area Concept.***

***3) Projection is UTM Zone 17.***

## TABLE OF CONTENTS

A. AREA SURVEYED .....	1
B. DATA ACQUISITION AND PROCESSING .....	2
B.1. EQUIPMENT .....	2
B.2. QUALITY CONTROL .....	3
B.3. CORRECTIONS TO ECHO SOUNDING .....	4
C. VERTICAL AND HORIZONTAL CONTROL.....	5
D. RESULTS AND RECOMMENDATIONS .....	6
D.1. CHART COMPARISON .....	6
D.2. ADDITIONAL RESULTS .....	7
E. APPROVAL SHEET.....	8

**DESCRIPTIVE REPORT**

**to accompany**

**HYDROGRAPHIC SURVEY H-11345**

**S-J913-NRB-04**

**Scale of Survey: 1:10,000**

**Year of Survey: 2004**

**Navigation Response Team 2 - Launch 1210**

**David B. Elliott- Team Leader**

**A. AREA SURVEYED**

This hydrographic survey was conducted in accordance with Port Letter Instructions for project S-J913-NRB-04, Tampa Bay, Florida. The instructions are dated June 01, 2004.

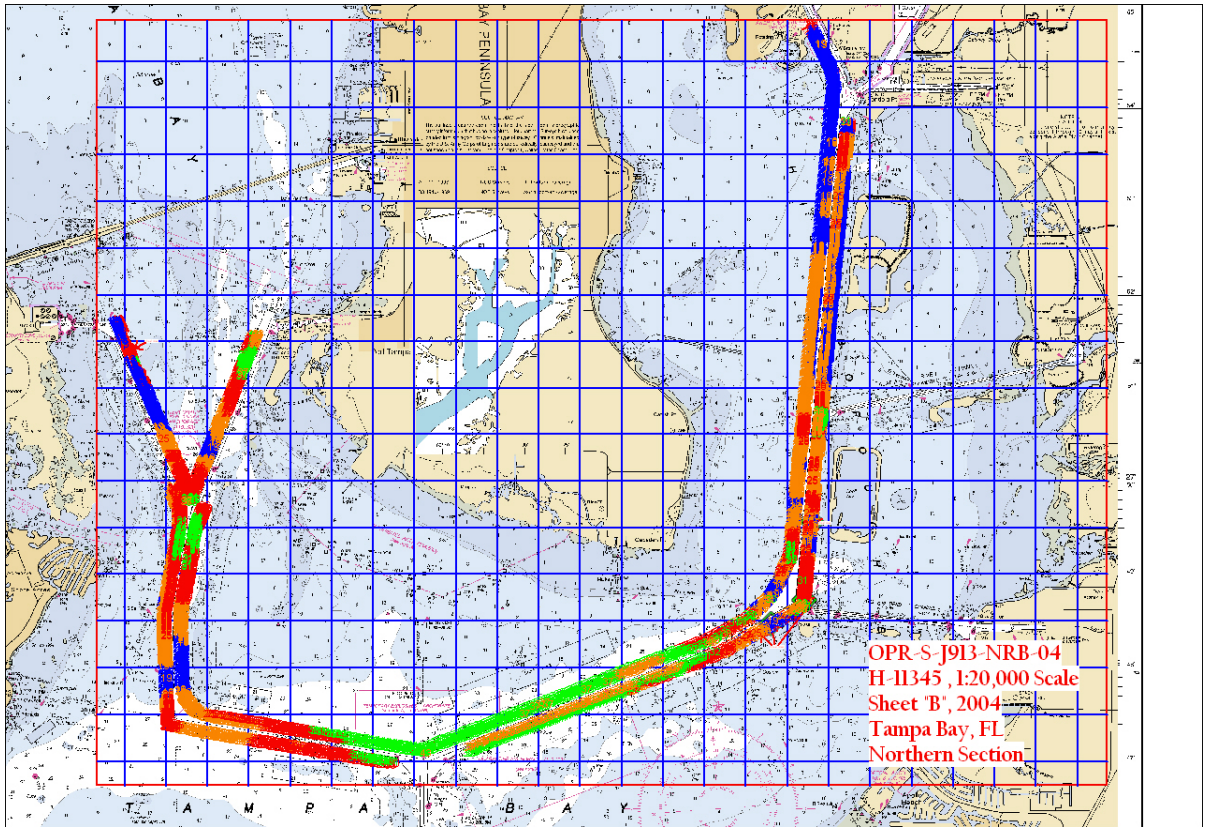
The purpose of this project is to collect new hydrography in an effort to ease congestion in Tampa Bay's main shipping channels. A plan has been developed among representatives of local recreational boating groups in the area as well as the Tampa Pilot's Association. The plan calls for establishment of auxiliary channels or fairways along the edges of existing shipping channels for use by vessels with drafts of 10 feet or less. As part of that plan, the Tampa area maritime constituents involved in the development of these recommended auxiliary channels have requested that NOAA's Navigation Response Team survey these regions. The constituents feel that updated hydrography in these channels will provide incentive for mariners who might otherwise be reluctant to use them.

Survey Limits for Sheet "B" - H-11345 are as follows:

27° 46' 44" N  
082° 23' 08" W  
27° 54' 56" N  
082° 35' 20" W

Survey Dates: June 2, 2004 (DN: 154) to June 3, 2004 (DN: 155)

Survey limits are displayed graphically in the chartlet on the following page.



## **B. DATA ACQUISITION AND PROCESSING** *See also the Evaluation Report.*

### **B.1. EQUIPMENT**

Data were acquired by Navigation Response Teams 1 & 2 with survey Launch's 1210 & 3002. The vessel were configured as described in the Data Acquisition and Processing Report (DAPR\*) for this project. Major data acquisition systems are summarized below.

*\*Filed at Atlantic Hydrographic Branch (AHB).*

An Innerspace model 455 depth sounders, S/Ns 189 & 190 were used to collect all echo soundings on this survey. A standard lead line calibrated in meters, S/N 1210, was used during this survey for comparison with the echo sounder. No problems were encountered with any of the sounding equipment.

A Klein 3110 side scan sonar recorder (S/N 315) with a model 3210 towfish (S/N 414), was used throughout this survey. The side scan sonar equipment was used to investigate charted features.

Launch 1210 was the only launch to tow side scan during this project.

Trimble DGPS Beacon Receivers were used as the primary navigation station on both launches.

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler, model 19-03, S/N 198671-1477.

NOAA launches 1210 & 3002, 27-foot SeaArks with a draft of 0.5 meters, were used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel.

### **B.2. QUALITY CONTROL** *See also the Evaluation Report.*

The integrity of the survey data for H-11345 has been insured by following the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, June 2003.

The lead line for launch 1210 was calibrated using a steel tape on March 25, 2003(DN:084). No corrections were necessary. A static draft of 0.5 meters was applied to the sounding plots by the Carris program. The draft was measured by subtracting the difference from a punch mark on the side of launch 1210, 0.6 meter above the transducer, to the water surface.

Settlement and squat measurements for launch 1210 & 3002 were taken on May 19, 2004(DN:140) These measurements were conducted in Jacksonville, FL on the St. Johns River using the level method. Settlement and squat correctors were applied to the sounding plots using the Caris program.

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to a high accuracy (1<sup>st</sup> order) calibration point.

### **Side Scan Sonar Quality Control**

Daily confidence checks were conducted by observing side scan imagery in the vicinity of known contacts, such as buoys or sand waves. Side scan data were considered satisfactory if these contacts could be distinguished throughout the entire range of the side scan trace. The confidence checks were performed daily at 100kHz.

A coverage of 200% was obtained wherever possible in the required survey areas and AWOIS items where water depth and/or hazards permitted. Side scan sonar coverage was conducted to the 12-foot depth curve and single beam reduced line spacing was performed in other areas where warranted. The towfish was deployed off the starboard quarter of the vessel, which proved very stable. Distorted images caused by strong tidal currents were seen periodically. All contacts and shadows were scaled and entered into Caris HIPS/SIPS to determine the height off the bottom. The significant contacts were then compared by position, as well as common depth and relationship to channels to determine if further investigations were needed. All areas surveyed were track line/swath line plotted to insure complete coverage.

The system frequencies used were 100kHz and 500kHz. The recorder was set on one of either 50/75/100-meter range scales. There were no water depths greater than 35 meters.

When operating in shoaler waters (e.g. less than 30 meters deep), a short tow was required for the Klein system. When cable-out was approximately 7 meters or less, minor degradation of the side scan imagery and Innerspace echosounder traces were noted due to cross-talk between the two systems.

### **Junctions *See also the Evaluation Report***

Not Applicable to this survey.

## **B.3. CORRECTIONS TO ECHO SOUNDING**

A table detailing all sound velocity casts is contained in Separates III\* - Sound Velocity Profile Data. Sound velocity data has been submitted with the digital data package. Cast data is organized on the digital media as follows: vessel / day of cast / cast data.

There are no deviations to be discussed in this section.

## C. VERTICAL AND HORIZONTAL CONTROL

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler. The manufacturer calibrated this unit on December 19, 2003. Data quality assurance tests were performed after each cast. Program VELOCWIN was used for computing the correctors. Corrections were applied to the sounding plot using the Caris HIPS.

Field reductions of soundings, were downloaded from NOAA CoOps site. They were zoned with 6 minute intervals from Port Manatee, FL (872-6384), St. Petersburg (872-6520) and McKay Bay Entrance, FL (872-6667). Values and correctors were applied at the perspective locations of Hydrography by zoning from the Port Instructions. A copy of the smooth tide package request for this survey is included.

All elevations and soundings on survey H-11345 are based on MLLW unless otherwise specified. *Concur.*

A Request for Approved Tides letter was sent to N/OPS1 on June 25, 2004 (Appendix IV\*).  
*Final approved tides were re-applied to the survey in Caris during office processing.*  
*\*Data filled with the original field records*

### **Horizontal Control**

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 17. Horizontal dilution of precision (HDOP) was monitored on Hypack daily on all survey platforms. Neither value exceeded 4.00, and adequate satellite coverage was maintained throughout the survey period. All positioning equipment was operated in a manner consistent with the manufacturer's requirements and as described in the DAPR\*\*. There were no equipment malfunctions which affected the positional quality of the data. *Concur.*  
*\*\*Filed at AHB.*



## D. RESULTS AND RECOMMENDATIONS *See also the Evaluation Report.*

There are two charts affected by this survey:

11415, 6<sup>th</sup> edition, Nov. 01, 2003 1:40,000  
11416, 6<sup>th</sup> edition, Jan. 01, 2004 1:40,000

### **General Agreement with Charted soundings**

In general survey soundings compared with the charted soundings within two to three feet. The smooth tides may resolve some of these soundings. All charted soundings should be superseded by this survey. *The currently charted obstructions along the edges of the channels should be retained on the chart. These features were not addressed individually due to time constraints.*

***Concur.***

**The following is a list of items that were investigated or disproved by 200% side scan sonar:**

There was no side scan conducted within the confines of H-11345. ***Concur.***

**The following is a list of noteworthy soundings and regions that are less than the depth of the requested survey clearance of 10 feet.**

- 1.) The region defined by 27° 51' 09.4" N, 082° 34' 46.0" W, to a point northwest at 27° 51' 41.5" N, 082° 35' 00.9" W, and approximately 150 meters wide reflects depths from five to nine feet. ***Concur.***
- 2.) An eight foot sounding exists at 27° 48' 42.78"N, 082° 26' 47.30"W. This sounding defines the western edge of a charted shoal. ***Concur.***
- 3.) The region defined by 27° 54' 45.9" N, 082° 26' 42.9" W, to a point north northeast at 27° 54' 54.2" N, 082° 26' 41.5" W, and approximately 50 meters wide reflects depths from four to nine feet. ***Concur.***

**The following is a list of soundings that are charted at depths less than the requested survey clearance for the 10 foot draft auxiliary channel.**

- 1.) The charted six foot sounding at 27° 49' 00.3"N, 082° 27' 05.0" W, now reflects 23 feet. ***Concur.***

2.) The charted six foot sounding at 27° 49' 20.5"N, 082° 26' 43.2" W, now reflects 17 feet. **Concur.**

*Note: The current survey soundings for H-11345 reflect soundings substantially deeper, due to apparent dredging in the two regions above.*

#### **AWOIS Item Investigations**

There were no AWOIS items assigned to this survey. **Concur.**

#### **Dangers to Navigation**

There were no DTONS within the confines of H-11345. **Concur.**

### **D. 2. ADDITIONAL RESULTS**

#### **Aids to Navigation and Other Detached Positions**

All Navigation Aids serve their intended purpose. No positions were acquired. **Concur.**

#### **Ferry Routes**

There are no Ferry routes within the confines of H-11345. **Concur.**

#### **Submarine Cables and Pipelines**

Not Applicable. **Concur.**

## **E. APPROVAL SHEET**

**S-J913-NRB-04  
Tampa Bay, FL  
Survey Registry No. H-11345**

Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy. All field sheets, this Descriptive Report, and all accompanying records and data are approved.

This survey is adequate to supersede all prior surveys in common areas, and for application to the relevant NOS nautical charts.



**Submitted: David B. Elliott - Team Leader  
Navigation Response Team 2**



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: January 31, 2005

HYDROGRAPHIC BRANCH: Atlantic  
HYDROGRAPHIC PROJECT: OPR-J918-NRB-2004  
HYDROGRAPHIC SHEET: H11345

LOCALITY: Tampa Bay, FL  
TIME PERIOD: June 2 - June 3, 2004

TIDE STATION USED: 872-6250 St. Petersburg, FL  
Lat. 27° 45.6'N Lon. 82° 37.6'W  
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.602 meters


TIDE STATION USED: 872-6667 McKay Bay Entrance, FL  
Lat. 27° 54.8'N Lon. 82° 25.5'W  
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.722 meters

REMARKS: RECOMMENDED ZONING  
Use zone(s) identified as: TB84, TB86, TB87, TB88, TB88A, TB89,  
TB89A, TB102, TB111A, TB111, & TB112

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 new 1983-2001 National Tidal Datum Epoch (NTDE).

Note 2: Use tide data from the appropriate station with applicable zoning correctors for each zone according to the order in which they are listed in the Tidezone corrector file (.ZDF). For example, tide station one (TS1) would be the first choice for an applicable zone followed by TS2, etc. when data are not available.

  
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT FOR H11345 (2004)**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

**B. DATA ACQUISITION AND PROCESSING**

The following software was used to process data at the Atlantic Hydrographic Branch:

MapInfo, version 6.5  
MicroStation J, version 07.01.04.16  
IRAS B, version 07.01.000.18  
CARIS HIPS/SIPS version 5.4  
PYDRO, version 3.7.2

The smooth sheet was plotted using a Hewlett Packard Design Jet 2500CP plotter.

**B.2. QUALITY CONTROL**

**Junctions**

H11344 (2004) to the south

A standard junction was effected between the present survey and H11344(2004). Junction comparison indicates 1-3 ft. agreement within the common junction area. There are no junctional surveys to the east, west or north.

**D. RESULTS AND RECOMMENDATIONS**

**CHART COMPARISON**

**11416 (6<sup>th</sup> Edition, Jan 04)**

Corrected through NM Jan 10/04

Corrected through LNM Dec 30/03

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in Section D. of the Descriptive Report.

**CHARTED FEATURES**

The following features were neither verified nor disproved by the hydrographer. It is recommended that these features be retained as charted.

<u>Feature</u>	<u>Latitude</u>	<u>Longitude</u>
20 Rks	27°49'50.06"N	82°34'21.29"W
25 Rks	27°49'56.67"N	82°34'15.37"W
23 Rks	27°49'54.22"N	82°34'13.58"W
23 Obstn	27°49'53.37"N	82°34'07.66"W
22 Rk	27°50'03.65"N	82°34'04.22"W
17 Obstn	27°50'10.75"	82°33'59.81"W
20 Rk	27°50'43.09"N	82°33'49.36"W
23 Obstn	27°49'02.18"N	82°34'23.96"W
20 Obstn	27°47'20.10"N	82°33'57.88"W
22 Obstn	27°47'13.08"N	82°33'18.97"W
7 Obstn	27°48'21.37"N	82°27'19.74"W
Obstn (cov 21 ft)	27°50'46.12"N	82°26'34.46"W
10 Obstn	27°52'11.02"N	82°26'27.43"W
21 Obstn	27°52'46.37"N	82°26'24.69"W

**ADEQUACY OF SURVEY**

This is an adequate hydrographic/side scan sonar survey. No additional field work is recommended.

**MISCELLANEOUS**

Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS chart was used for compilation of the present survey:

11416 (6<sup>th</sup> Edition, Jan 04)  
 Corrected through NM Jan 10/04  
 Corrected through LNM Dec 30/03

*Bryan Chauveau*

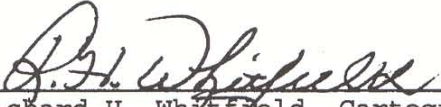
---

Bryan Chauveau  
Hydrographer  
Verification of Data  
Evaluation and Analysis

**APPROVAL SHEET**

**H11345 (2004)**


The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

  
Richard H. Whitfield, Cartographer,  
Atlantic Hydrographic Branch

Date: 4/29/05

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

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



P. Tod Schattgen  
Lieutenant Commander, NOAA  
Chief, Atlantic Hydrographic Branch

Date: \_\_\_\_\_

6/28/05



MARINE CHART BRANCH  
**RECORD OF APPLICATION TO CHARTS**

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H11345

**INSTRUCTIONS**

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

- 1. Letter all information.
- 2. In "Remarks" column cross out words that do not apply.
- 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
11416	5/2/05	Bryan Chauvaud	Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.