

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey

Field No.

Registry No.

LOCALITY

State

General Locality

Sublocality

CHIEF OF PARTY

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28 U.S. DEPARTMENT OF COMMERCE (11-72) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION <p style="text-align: center;">HYDROGRAPHIC TITLE SHEET</p>	REGISTRY NUMBER: <p style="text-align: center;">F00506</p>
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
<p>State/Territory: Florida</p> <p>General Locality: Key Largo</p> <p>Sub-Locality: The Elbow & Molasses Reef</p> <p>Scale: _____ Date of Survey: April 19 to April 22, 2005</p> <p>Instructions Dated: _____ Project Number: OPR-SH918 S-H918-NRT2-05</p> <p>Vessel: NOAA Launch 1210</p> <p>Chief of Party: David B. Elliott - Team Leader</p> <p>Surveyed by: David Elliott, Robert Ramsey & Laurie Brennan (NRT2)</p> <p>Soundings by: Innerspace 455</p> <p>Graphic record scaled by: DE, RR, LB</p> <p>Graphic record checked by: DE, RR, LB</p> <p>Protracted by: N/A Automated Plot: N/A HP DesignJet 2500CP (office)</p> <p>Verification by: Atlantic Hydrographic Branch <i>Personnel</i></p> <p>Soundings in: Meters at MLLW</p> <p>Remarks:</p> <p><i>1) All Times are UTC.</i></p> <p><i>2) This is a basic Hydrographic Survey under the Navigable Area Concept.</i></p> <p><i>3) Projection is UTM Zone 17.</i></p> <p><i>Bold, red, italic notes in the Descriptive Report were made during office processing.</i></p>	

TABLE OF CONTENTS

A. AREA SURVEYED	1-4
B. DATA ACQUISITION AND PROCESSING	5
B.1. EQUIPMENT	5
B.2. QUALITY CONTROL	5
B.3. CORRECTIONS TO ECHO SOUNDING	6
C. VERTICAL AND HORIZONTAL CONTROL.....	7
D. RESULTS AND RECOMMENDATIONS	8
D.1. CHART COMPARISON	8
D.2. ADDITIONAL RESULTS	9
E. APPROVAL SHEET.....	10

DESCRIPTIVE REPORT

to accompany

~~OPR-SH918~~ *S-H918-NRT2-05*

Field Examination, F00506

Year of Survey: 2005

Navigation Response Team 2 - Launch 1210

David B. Elliott- Team Leader

A. AREA SURVEYED

This Field Examination survey was conducted during the Safe Sanctuaries, NOAA Oil Spill Drill between *from* April 19th to April 22nd of 2005.

The purpose of this survey was to locate the position of a commercial cargo ship and collect some side scan imagery in the vicinity of a simulated grounding on the “Elbow Reef”. In addition to this task the National Marine Sanctuaries Program made an informal request for some single beam sounding data on “Molasses Reef”.

Survey Dates: April 19, 2005 (DN: 109) to April 22, 2005 (DN:112)

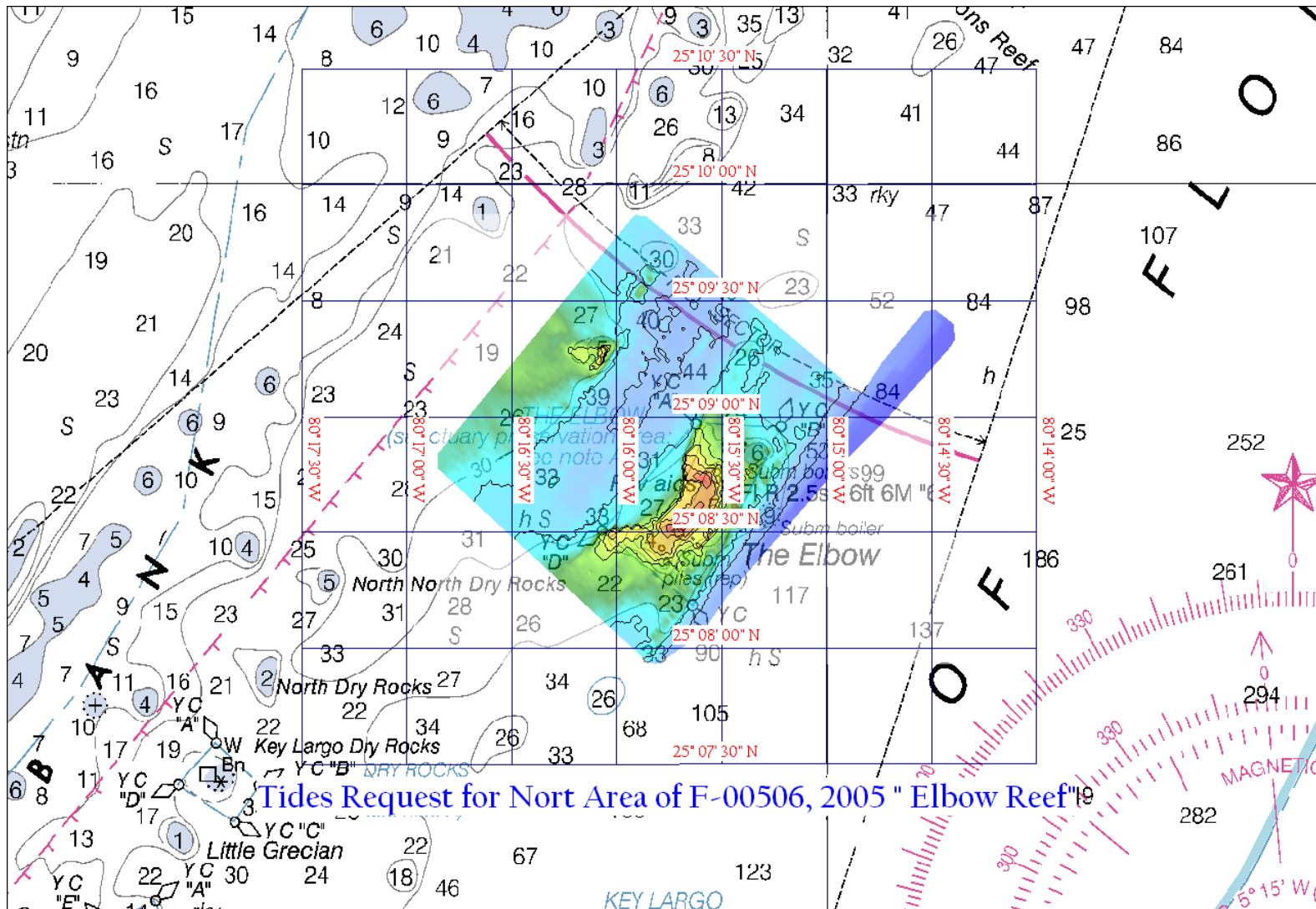
Survey Limits = **The Elbow Reef**

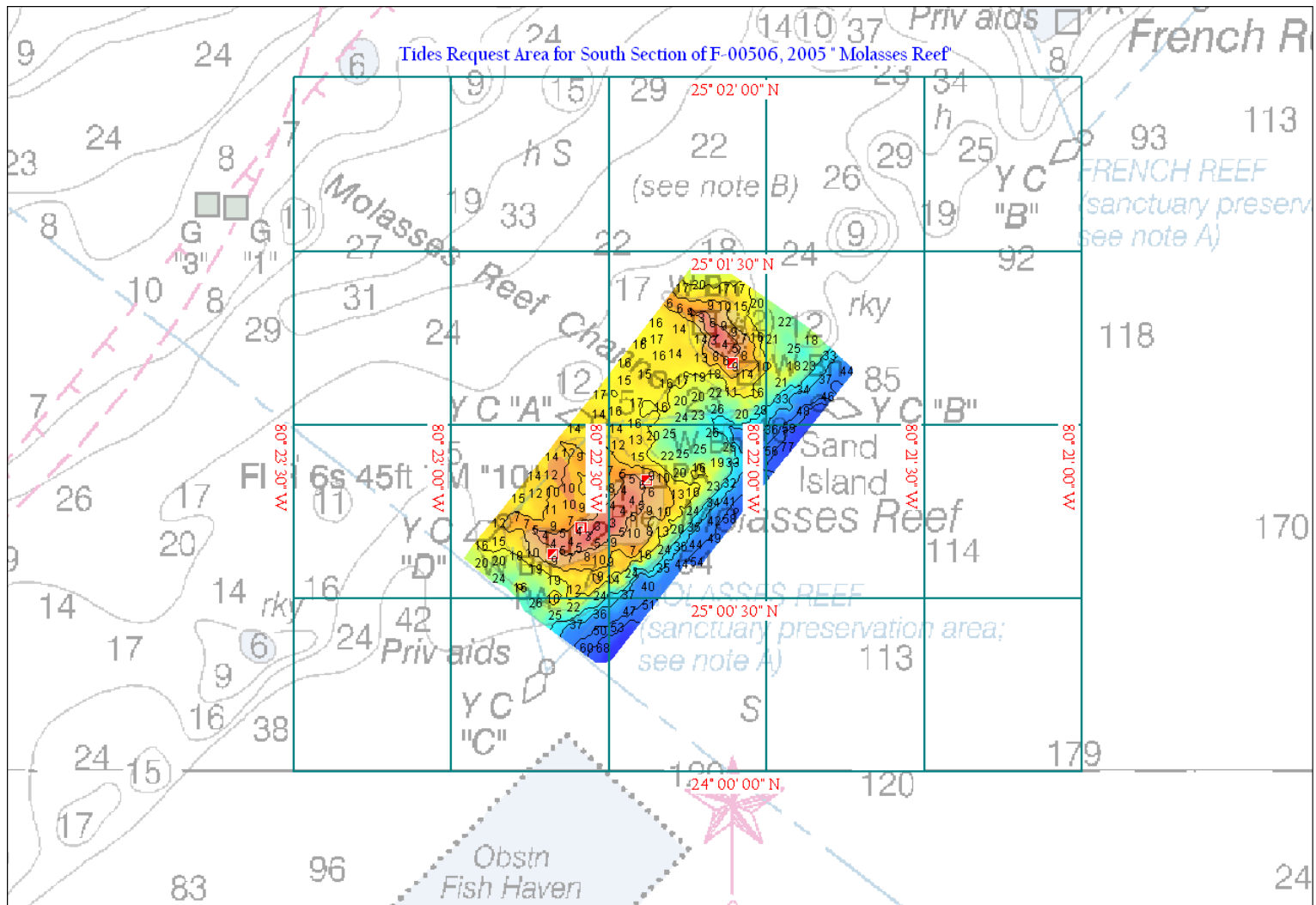
25° 10' 00" N	080° 14' 00" W = North
25° 07' 30" N	080° 17' 00" W = South

Survey Limits = **Molasses Reef**

25° 01' 30" N	080° 21' 30" W = North
24° 00' 00" N	080° 23' 00" W = South

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 Team 2 and survey Launch 1210. The vessel was configured as described in the Data Acquisition and Processing Report (DAPR)* for this project. Major data acquisition systems are summarized below.

An Innerspace model 455 depth sounder, S/Ns 205 was 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 TPU (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 the grounding site.

A Trimble DGPS Beacon Receiver (S/N 0220261525) was used as the primary navigation station on launch 1210.

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 launch 1210, a 27-foot SeaArk with a draft of 0.5 meters, was used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel.

** DAPR filed at the Atlantic Hydrographic Branch (AHB)*

B.2. QUALITY CONTROL

The integrity of the survey data for F00506 has been insured by following the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, 2003.

The lead line for launch 1210 was calibrated using a steel tape on March 02, 2005 (DN:061). 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 were taken on March 02, 2005 (DN:061) These measurements were conducted in Tybee Island on the Savannah River using the level method. Settlement and squat correctors were applied to the sounding plots using the Carris 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 (1st 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 lights. 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 100/500kHz.

A coverage of 200% was obtained wherever possible in the required survey areas and 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, or sea state, were seen periodically. Significant contacts and shadows were processed with 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

There were no Junctions for comparison on F00506.

B.3. CORRECTIONS TO ECHO SOUNDING

A table detailing all sound velocity casts is contained in the submittal data tree under SVP - 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 Carris HIPS.

Field soundings are corrected by unverified actual heights from NOAA/CO-OPS.

The Real Time Actual 6 min Tides are downloaded from:

"http://co-ops.nos.noaa.gov/data_res.html", for all gauges required in the given projects defined by the ZDF file provided in the project letter, and instruction. Tide values are downloaded in blocks of data that covers the Times of Hydrography, and saved in a text file format. The MapInfo program is then used with the "HYDRO_MI" pre-Survey function, of "Create Cowlis", this function converts the text file into a Caris tide file (.tid). *Approved tides and zones were applied in CARIS during office processing.*

All elevations and soundings on survey F00506 are based on MLLW unless otherwise specified.

A Request for Approved Tides letter was sent to N/OPS1 on May 26, 2005 (Appendix **V** eesV).*
** Data filed with the original field records.*

Horizontal Control *See also the Evaluation Report*

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 17. The control reference station used for this survey was a USCG DGPS Beacon Site of strongest signal strength, determined by the DGPS instrument.

Horizontal dilution of precision (HDOP) was monitored on Hypack daily on all survey platforms. No value exceeded 2.5, 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.

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

There are ~~three~~ *four* charts affected by this survey:

11451, 31 st edition, Feb. 01, 2003	1:80,000
<i>11462, 24th edition, Mar. 16, 2002</i>	<i>1:80,000</i>
11463, 17 th edition, Apr. 01, 2003	1:40,000
11464. 16 th edition, Feb. 10, 2004 0	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. *Concur.*

The following is a list of notable sounding discrepancies on the chart:

“The Elbow” reef

- 1.) The charted 9 foot sounding at 25° 08' 34.7" N, 080° 15' 16.7" W, is now 45 feet. *Concur. Depth disproved by side scan development.*
- 2.) The charted 5 foot sounding at 25° 09' 17.7" N, 080° 16' 04.2" W, is now 9 feet. *Concur.*

“Molasses Reef”

- 1.) The charted 2 foot baring sounding rocks on Sand Island at 25° 01' 15.7" N, 080° 22' 05.9" W, is now 3 feet deep. No features are baring now at this location. The symbols should be retained on the chart and the underlined 2 foot notation removed. *Concur with clarification. See also the Evaluation Report.*

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

“The Elbow” reef

- 1.) The charted submerged boiler at 25° 08' 34.7" N, 080° 15' 16.7" W, does not exist. This is the same region where the 9 foot sounding originated in 1934. *Concur.*
- 2.) The charted submerged boilers at 25° 08' 46.4" N, 080° 15' 21.0" W, does not exist and the notation should be removed from the chart. *Concur.*

The following is a list of Charted features that were investigated by echo sounder.

“The Elbow” reef

1.) The charted rock symbol at 25° 08’ 53.0” N, 080° 15’ 26.5” W, is now 18-~~25~~ **23** feet deep. The north end of the reef approximately 450 meters northeast of Elbow Reef light has been sheared off over the last seventy years. The depths in this area reflect 10-20 feet deeper. The charted visible rock does not exist, and should be removed from the chart. This feature originated from the 1934 survey. *Concur.*

AWOIS Item Investigations

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

Dangers to Navigation

There were no DTONS within the confines of F00506. *Concur.*

D. 2. ADDITIONAL RESULTS

Aids to Navigation and Other Detached Positions

All Navigation Aids serve their intended purpose. Charted positions should be superseded by new survey positions. *Concur with clarification. Defer to Marine Chart Division, Source Data Branch for review and charting recommendation.*

Ferry Routes

There are no Ferry routes within the confines of F00506. *Concur.*

Submarine Cables and Pipelines

There are no cables or pipelines. *Concur.*

Bridges

There are no Bridges. *Concur.*

Molasses Reef ATONs

Registry Number: F-00506
State: Florida
Locality: Atlantic Ocean
Sub-locality: Molasses Reef
Project Number: Molasses Reef
Survey Date: 04/22/2005

The following were positioned aids on Molasses Reef. Positions were acquired by DGPS. ALL charted "PA"s should be removed.

Charts Affected

Number	Version	Date	Scale
11464	16th Ed.	02/10/2001	1:40000
11451	32nd Ed.	03/01/2005	1:80000
11462	24th Ed.	03/16/2002	1:80000
11450	9th Ed.	11/01/2003	1:180000
11460	39th Ed.	12/01/2003	1:466940
11013	45th Ed.	07/01/2003	1:1200000
411	49th Ed.	03/01/2003	1:2160000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Molasses Reef R LT "10"	Sounding	-12.98 m	025° 00' 42.349" N	80° 22' 35.208" W	---
1.2	Molasses Reef South Danger DBN	Sounding	-1.83 m	025° 00' 37.804" N	80° 22' 40.561" W	---
1.3	8 inch steel pile	Sounding	-1.43 m	025° 00' 47.881" N	80° 22' 31.207" W	---
1.4	Molasses Reef North Danger DBN	Sounding	-1.92 m	025° 00' 50.398" N	80° 22' 22.746" W	---
1.5	Sand Island Reef Danger DBN	Sounding	-2.91 m	025° 01' 10.838" N	80° 22' 06.423" W	---

1 - Detached Positions

1.1) Molasses Reef R LT "10"

Survey Summary

Survey Position: 025° 00' 42.349" N, 80° 22' 35.208" W
Least Depth: -12.98 m
Timestamp: 2005-112.14:26:24.000 (04/22/2005)
DP Dataset: F-00506 / NRT2_1210_DPnonechosounder / 2005-112 / 04222005
Profile/Beam: 1/1
Charts Affected: 11464_1, 11451_9, 11462_1, 11450_1, 11460_1, 11451_16, 11451_17, 11013_1, 411_1

Remarks:

Plat with WX site.

Feature Correlation

Address	Feature	Range	Azimuth	Status
F-00506/NRT2_1210_DPnonechosounder/2005-112/04222005	1/1	0.00	000.0	Primary

Hydrographer Recommendations

[None] ***Retain as charted. See also page 9 of the Descriptive Report***

S-57 Data

Geo object 1: Light (LIGHTS)
Attributes: CATLIT - 18:bearing light
 COLOUR - 3:red
 HEIGHT - 12.98 m
 INFORM - Plat with WX site.
 LITCHR - 2:flashing
 OBJNAM - Molasses Reef Lt "10"
 PICREP - Skeletal Tower
 SIGPER - 10 s
 STATUS - 1:permanent
 VERDAT - 12:Mean lower low water

Feature Images

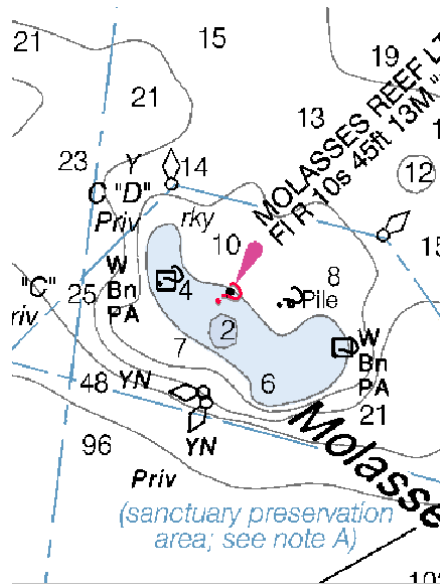


Figure 1.1.1

1.2) Molasses Reef South Danger DBN

Survey Summary

Survey Position: 025° 00' 37.804" N, 80° 22' 40.561" W
Least Depth: -1.83 m
Timestamp: 2005-112.14:47:04.000 (04/22/2005)
DP Dataset: F-00506 / NRT2_1210_DPnonechosounder / 2005-112 / 04222005
Profile/Beam: 2/1
Charts Affected: 11464_1, 11451_9, 11462_1, 11450_1, 11460_1, 11451_16, 11451_17, 11013_1, 411_1

Remarks:

DGPS position Acquired.

Feature Correlation

Address	Feature	Range	Azimuth	Status
F-00506/NRT2_1210_DPnonechosounder/2005-112/04222005	2/1	0.00	000.0	Primary

Hydrographer Recommendations

Remove "PA" ***Concur. Retain daybeacon symbol as charted. See also page 9 of the Descriptive Report***

S-57 Data

Geo object 1: Daymark (DAYMAR)
Attributes: COLPAT - 4:squared
 HEIGHT - 1.83 m
 INFORM - DGPS position Acquired.
 OBJNAM - Molasses Reef South Danger DBN (Remove PA)
 PICREP - single steal "i" beam with WT dbn
 STATUS - 1:permanent
 VERDAT - 12:Mean lower low water

Feature Images

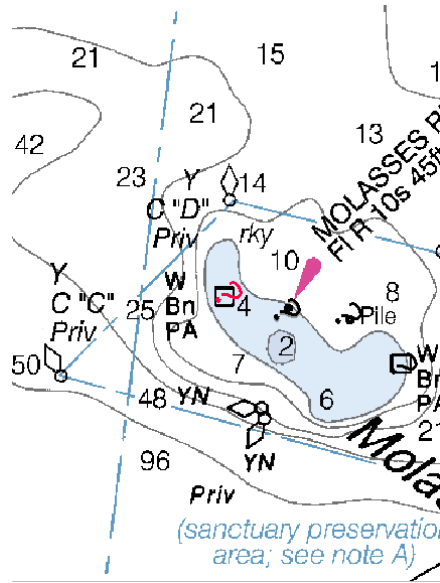


Figure 1.2.1

1.3) 8 inch steel pile

Survey Summary

Survey Position: 025° 00' 47.881" N, 80° 22' 31.207" W
Least Depth: -1.43 m
Timestamp: 2005-112.14:49:41.000 (04/22/2005)
DP Dataset: F-00506 / NRT2_1210_DPnonechosounder / 2005-112 / 04222005
Profile/Beam: 3/1
Charts Affected: 11464_1, 11451_9, 11462_1, 11450_1, 11460_1, 11451_16, 11451_17, 11013_1, 411_1

Remarks:

Steel pile approx: 10" diameter, with NO light.

Feature Correlation

Address	Feature	Range	Azimuth	Status
F-00506/NRT2_1210_DPnonechosounder/2005-112/04222005	3/1	0.00	000.0	Primary

Hydrographer Recommendations

Revise to new survey position 25°00'47.881" , -080°22'31.207". **Concur.**

S-57 Data

Geo object 1: Pile (PILPNT)
Attributes: CATPLE - 3:post
 CONVIS - 1:visual conspicuous
 HEIGHT - 1.43 m
 INFORM - Steel pipe approx: 10" diameter, with NO light.
 OBJNAM - pile

Feature Images

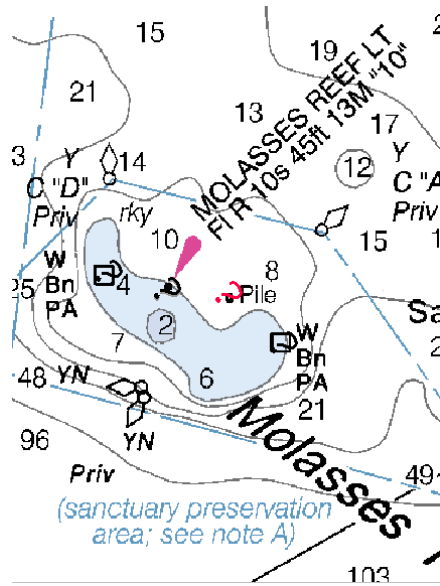


Figure 1.3.1

1.4) Molasses Reef North Danger DBN

Survey Summary

Survey Position: 025° 00' 50.398" N, 80° 22' 22.746" W
Least Depth: -1.92 m
Timestamp: 2005-112.14:51:17.000 (04/22/2005)
DP Dataset: F-00506 / NRT2_1210_DPnonechosounder / 2005-112 / 04222005
Profile/Beam: 4/1
Charts Affected: 11464_1, 11451_9, 11462_1, 11450_1, 11460_1, 11451_16, 11451_17, 11013_1, 411_1

Remarks:

DGPS position Acquired.

Feature Correlation

Address	Feature	Range	Azimuth	Status
F-00506/NRT2_1210_DPnonechosounder/2005-112/04222005	4/1	0.00	000.0	Primary

Hydrographer Recommendations

Remove "PA" ***Concur. Retain daybeacon symbol as charted. See also page 9 of the Descriptive Report***

S-57 Data

Geo object 1: Daymark (DAYMAR)
Attributes: COLPAT - 4:squared
 HEIGHT - 1.92 m
 INFORM - DGPS position Acquired.
 OBJNAM - Molasses Reef North Danger DBN
 PICREP - single steal "I" beam with WT DBN
 STATUS - 1:permanent
 VERDAT - 12:Mean lower low water

Feature Images

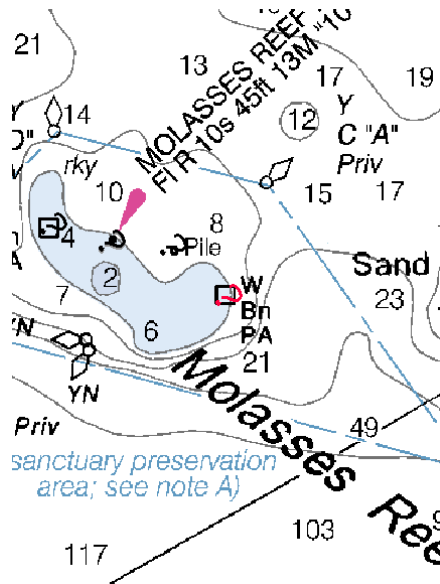


Figure 1.4.1

1.5) Sand Island Reef Danger DBN

Survey Summary

Survey Position: 025° 01' 10.838" N, 80° 22' 06.423" W
Least Depth: -2.91 m
Timestamp: 2005-112.14:54:53.000 (04/22/2005)
DP Dataset: F-00506 / NRT2_1210_DPnonechosounder / 2005-112 / 04222005
Profile/Beam: 5/1
Charts Affected: 11464_1, 11451_9, 11462_1, 11450_1, 11460_1, 11451_16, 11451_17, 11013_1, 411_1

Remarks:

Feature Correlation

Address	Feature	Range	Azimuth	Status
F-00506/NRT2_1210_DPnonechosounder/2005-112/04222005	5/1	0.00	000.0	Primary

Hydrographer Recommendations

[None] *Retain as charted. See also page 9 of the Descriptive Report*

S-57 Data

Geo object 1: Daymark (DAYMAR)
Attributes: COLPAT - 4:squared
 HEIGHT - 2.91 m
 INFORM -
 OBJNAM - Sand Island Reef Danger DBN
 PICREP - single steal "i" beam with WT dbn
 STATUS - 1:permanent
 VERDAT - 12:Mean lower low water

Feature Images

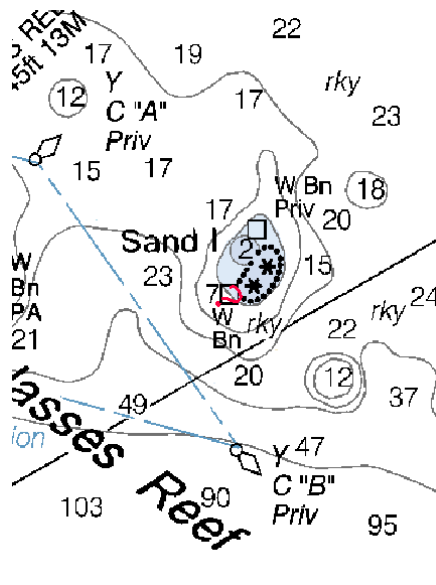


Figure 1.5.1

E. APPROVAL SHEET

**Field Examination
Key Largo, FL
Survey Registry No. F00506**

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 : August 1, 2005

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-H918-NRT2-2005
HYDROGRAPHIC SHEET: F00506

LOCALITY: Elbow Reef and Molasses Reef, Florida
TIME PERIOD: April 19 - April 21, 2004

TIDE STATION USED: 872-3214 Virginia Key, Florida
Lat. 25 43.9'N Long. 080 09.7' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.662 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: SA238 & SA239

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).

Fa



CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00506 (2005)**

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:

Hydrographic Processing System
MicroStation J, version 7.01.04.16
I/RAS B, version 7.01.000.18
MapInfo, version 6.5
CARIS HIPS/SIPS 2000 version 5.4
PYDRO, version 5.3.3rc3

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

C. VERTICAL AND HORIZONTAL CONTROL

HORIZONTAL CONTROL

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values.

D.1 CHART COMPARISON 11451 (32nd Edition, Mar/05)

Corrected through NM Mar 5/05
Corrected through LNM Feb 22/05
11462 (24th Edition, Mar 16/02)
11463 (17th Edition, Apr/03)
Corrected through NM Apr 19/03
Corrected through LNM Apr 1/03
11464 (16th Edition, Feb 10/00)

Hydrography

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. Attention is directed to the following:

1) Two charted rocks awash in Latitude 25°01'15.29"N, Longitude 80°22'07.26"W and Latitude 25°01'14.01"N, Longitude 80°22'06.10"W, respectively, originate with an unascertainable source. The area was investigated and the items were neither verified nor disproved. It is recommended that the two charted features be deleted and two rocks, depth unknown be charted in the above locations.

2) The charted Subm piles rep, in the vicinity of Latitude 25°08'23"N, Longitude 80°15'47"W, originating with an unascertainable source, were not addressed by the hydrographer. No change in charting status is recommended

3) A charted 4 foot depth in 25°08'25.93"N, Longitude 80°15'50.67"W, originating with an unascertainable source, was neither verified nor disproved by the present survey. No change in charting status is recommended.

The present survey is adequate to supersede the charted hydrography within the common area.

COMPARISON WITH PRIOR SURVEYS

A comparison with prior surveys was not done during office processing in accordance with section 4. of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995, and the project instructions.

ADEQUACY OF SURVEY

This is an adequate basic hydrographic/side scan sonar survey.

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 charts were used for compilation of the present survey:

11462 (24th Edition, Mar 16/02)
11463 (17th Edition, Apr/03)
Corrected through NM Apr 19/03
Corrected through LNM Apr 1/03
11464 (16th Edition, Feb 10/00)

APPROVAL SHEET
F00506 (2005)

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproof 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.

Marilyn Schlüter Date: 9/30/05
Marilyn L. Schlüter
Cartographer
Atlantic Hydrographic Branch

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: Robert H. Robinson Date: 30 SEPTEMBER 2005
for P. Tod Schättgen
Commander, NOAA
Chief, Atlantic Hydrographic Branch

80° 22'30"

80° 22'00"

25° 01'30"

Sand Island
Obstruction Daybeacon
(7)

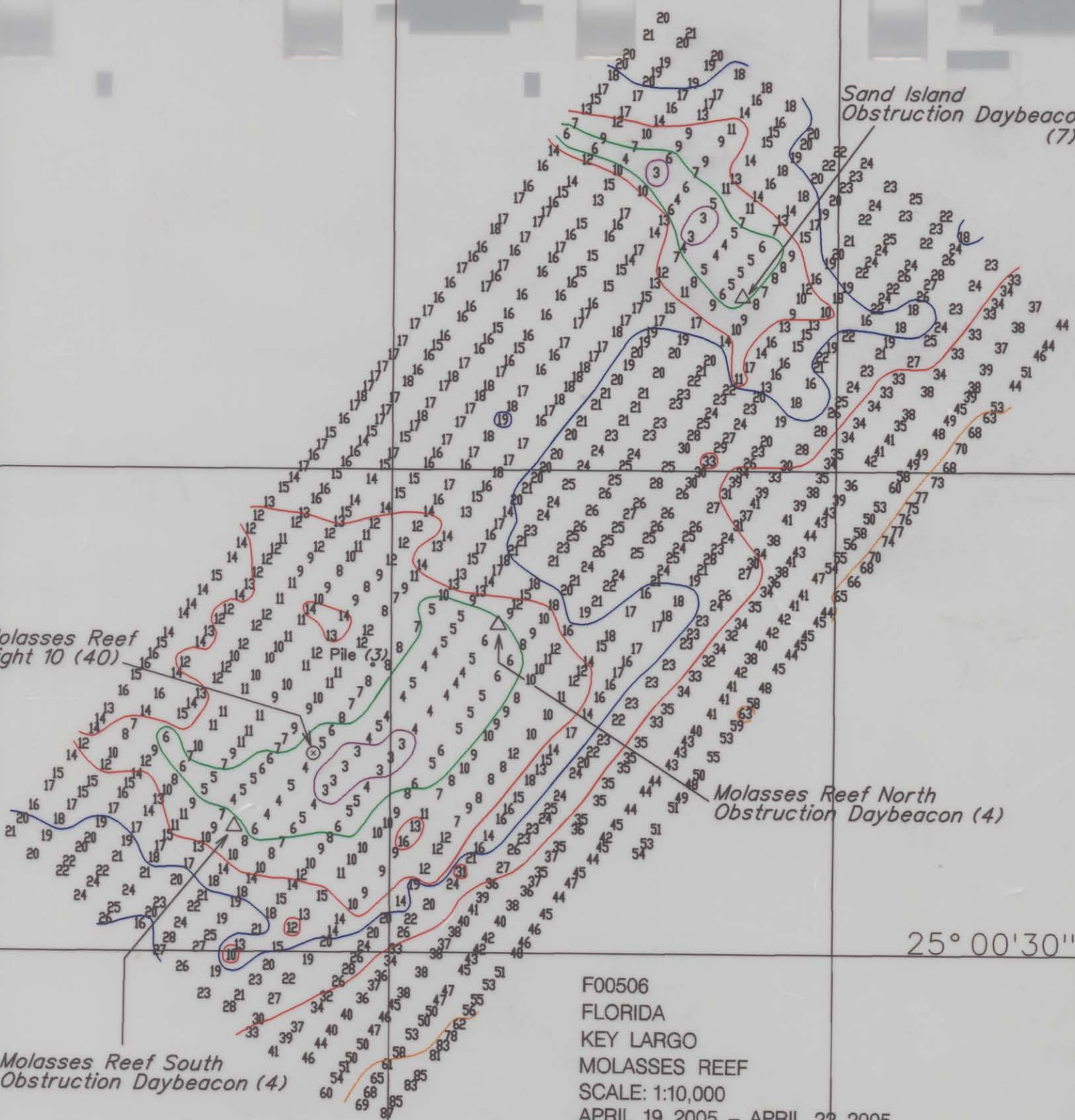
Molasses Reef
Light 10 (40)

Molasses Reef North
Obstruction Daybeacon (4)

25° 00'30"

Molasses Reef South
Obstruction Daybeacon (4)

F00506
FLORIDA
KEY LARGO
MOLASSES REEF
SCALE: 1:10,000
APRIL 19, 2005 - APRIL 22, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 1 OF 2



80° 15' 30"

25° 10' 00"

80° 15' 00"

25° 09' 30"

80° 14' 30"

F00506
FLORIDA
KEY LARGO
THE ELBOW
SCALE: 1:10,000
APRIL 19, 2005 - APRIL 22, 2005
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 2 OF 2

80° 16' 00"

25° 09' 30"

80° 16' 30"

25° 09' 00"

25° 08' 30"

25° 08' 00"

Handwritten text in a vertical column, likely a survey log or data record. The text is dense and contains various numbers and descriptive phrases. There are several red and blue circles and lines drawn around specific parts of the text, possibly indicating corrections or key data points. The text is oriented vertically, reading from top to bottom.

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FOU 506

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
11462	8/31/05	<i>[Signature]</i> NORRIS WILK	Full Part Before After Marine Center Approval Signed Via FULL APPLICATION Drawing No. OF SOUNDINGS THROUGH 11463 & 11464
11463	8/29/05	<i>[Signature]</i>	Full Part Before After Marine Center Approval Signed Via FULL APPLICATION Drawing No. OF SOUNDINGS AND CURVES FROM SMOOTH SHEET
11464	8/26/05	<i>[Signature]</i>	Full Part Before After Marine Center Approval Signed Via FULL APPLICATION Drawing No. OF SOUNDINGS AND CURVES FROM SMOOTH SHEET
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