H10956

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 No. H10956

LOCALITY

State Florida

General Locality Key West

Sub-locality Key West Harbor and Vicinity

2000 - 2001

CHIEF OF PARTY

G. F. Glang, LCDR, NOAA

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DATE

NOAA FORM 77-28

U.S. DEPARTMENT OF COMMERCE

(11-72)

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTRY NUMBER:

H10956

HYDROGRAPHIC TITLE SHEET

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: Florida

General Locality: Key West

Sub-Locality: Key West Harbor and Vicinity

Scale: 1:5,000 Date of Survey: 4/14/00 -6/22/00

and

6/11/01 - 6/16/01

Instructions Dated: 3/30/00 Project Number: OPR-H355-WH

Vessel: **NOAA Ship WHITING, S-329**

Chief of Party: Lieutenant Commander Gerd F. Glang, NOAA

Surveyed by: WHITING Personnel

Soundings by: Odom Echotrac DF3200 MK II Echosounder

Graphic record scaled by: WHITING Personnel

Graphic record checked by: WHITING Personnel

Hewlett Packard Design Jet 2500CP (office)

Protracted by: N/A Automated Plot: HP-750C (field)

Verification by: Atlantic Hydrographic Branch personnel

Soundings in: METERS FEET at MLLW

Remarks: Notes in the Descriptive Report were made during office processing.

- 1) All Times are UTC.
- 2) This is a basic Hydrographic Survey.
- 3) Projection is UTM Zone 19.

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DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H10956

Scale of Survey: 1:5,000

Year of Survey: 2000-2001

NOAA Ship WHITING

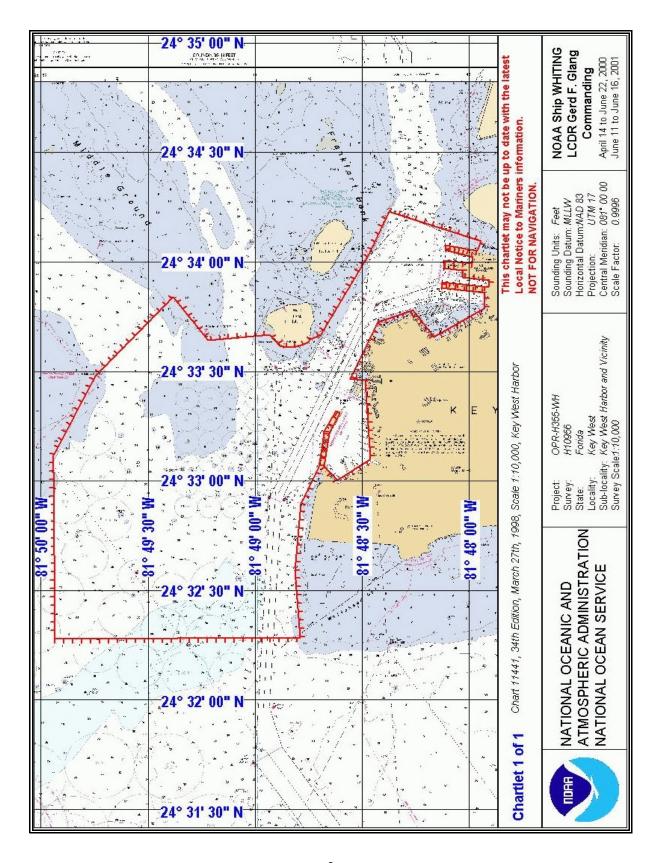
LCDR Gerd F. Glang, Commanding

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for project OPR-H355-WH, Key West Harbor and Vicinity, Florida. The original instructions are dated March 30, 2000. These instructions were appended with new Tidal Requirements June 25, 2001. Data acquisition for this survey occurred during the 2000 and 2001 field seasons.

This Descriptive Report pertains to sheet "D" of project OPR-H355-WH, which includes Key West Harbor. The assigned registry number for this sheet is H10956, as prescribed in the Letter *of* Instruction.

For complete survey limits, see the chart on the following page.



B. DATA ACQUISITION AND PROCESSING See also the evaluation report

EQUIPMENT

Data were acquired by NOAA Ship WHITING's Launch 1005 and Launch 1014. These launches are 8.5-meter aluminum Jensen vessels with a 0.5-meter transducer draft.

Launch 1005 acquired vertical beam echosounder (VBES)*, shallow-water multibeam (SWMB), side scan sonar (SSS), bottom samples and sound velocity data. An Odom Echotrac DF3200 MK II echosounder was used for VBES hydrography. A Reson SeaBat 8101 multibeam system was used for SWMB hydrography and SSS imagery. All positioning and attitude were determined with a TSS POS/MV 320 (version 2) GPS-aided inertial motion sensor. Velocity casts were conducted with SeaBird SeaCat CTD instruments.

Launch 1014 acquired VBES data, High Speed High Resolution Side Scan Sonar (HSHRSSS) data, Detached Positions (DP) and Bottom Samples and served as a platform for dive investigations. Equipment for VBES data acquisition are as described above. The KLEIN T5000 HSHRSSS was hull mounted during data acquisition. Positioning was determined with a Trimble DSM212L integrated differential GPS receiver. Attitude data were determined using a TSS DMS-05 attitude sensor.

No unusual equipment configurations were used. No problems were encountered which would affect accuracy of data. Refer to the Data Acquisition and Processing Report (DAPR) for detailed equipment and vessel configuration information.

* NOTE: Launch 1005 VBES data were not processed when SWMB data were acquired.

QUALITY CONTROL

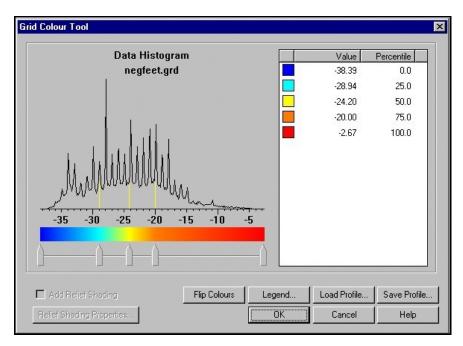
Side Scan Sonar Quality Control

Daily confidence checks were made by observing the outer ranges of the side scan sonar images. A good check consisted of distinguishing contacts or sand waves across the entire range of the side scan trace.

Shallow Water Multibeam Quality Control

There were no faults with the SWMB system which affected data integrity. Due to time constraint during the 2001 field season SWMB lines were run at a distance of 25m and filtered to 70° to ensure full seafloor ensonification. Loss of data integrity was not evident and outer beams well represented adjoining soundings when viewed in subset. Refer to this project's DAPR for detailed discussion of SWMB system calibrations, data acquisition, and data processing.

Below is a Data Histogram generated in MAPINFO quantifying sounding ranges within the H10956 sounding data set.



Crosslines

12.1 nautical miles of SWMB crosslines comprising 7.1% of the 100% SWMB data were acquired. Crossline and mainscheme comparisons were made in MAPINFO 5.0, and no differences greater than two feet were observed. Quality Control Reports were generated in CARIS/HIPS and can be found in Separate V.* *Concur*

Junctions See also the evaluation report

This sheet junctions with WH-00 survey H10953 to the south, south-west and H10955 to the northwest. Agreement between soundings was very good and no differences greater than two feet were observed. *Concur*

* Data filed with original field records

Statistics

Square Nautical Miles Surveyed	1.77	
Linear Nautical Miles SSS	47.21	
Linear Nautical Miles SWMB	177.2	
Linear Nautical Miles Crosslines	12.1	
Detached Positions	152	
Bottom Samples	16	
Dives	5	
Sound Velocity Casts	25	
Days At Sea	12	
Number of raw SWMB soundings	108,087,003	
Number of raw VBES soundings	786,996	
Number of soundings in final plot	8,955	

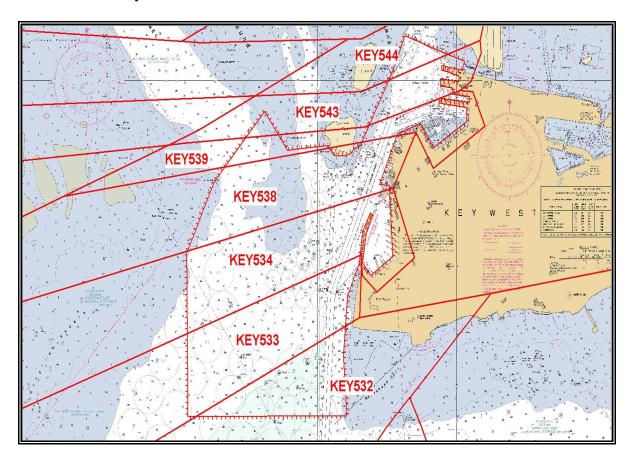
Corrections to Echo Sounding

All methods or instruments were used as described in the project DAPR. A table detailing all sound velocity casts is located in Separate III. *Data filed with original field records*

C. VERTICAL AND HORIZONTAL CONTROL

VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). The primary tide station at Key West, FL (872-4580) served as control for datum determination. Tertiary, 30-day gauges at Fleming Key (872-4571) and West Jetty Navaid (872-4639) provided ancillary tide data. Tidal zoning for this survey is consistent with the Letter Instructions. The zones used for this survey are shown below.



A Request for Approved Tides letter was sent to N/OPS1 on June 10, 2001 (Appendix IV). Verified tides from the N/OPS1 CO-OPS website were downloaded on July 6, 2001, and applied to all sounding data. *Approved tides and zones were reapplied during office processing.*

HORIZONTAL CONTROL See also the evaluation report

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83).

Horizontal position control was obtained using Global Positioning System (GPS) augmented with U.S. Coast Guard differential GPS reference-station correctors. The primary differential beacon used for this survey was Key West, FL, and the secondary differential beacon was Miami, FL. No local horizontal control stations were established for this survey.

Beacon Name	Beacon Latitude	Beacon Latitude	Transmission Frequency	Site ID
Key West	24°34'54" N	081°39'12" W	286	811
Miami	25°44'00" N	080°09'36" W	322	810

Daily monitoring of the horizontal dilution of precision (HDOP) and the positional dilution of precision (PDOP) were monitored by all vessels. Neither value exceeded 4.00, and adequate satellite coverage was maintained throughout the survey in accordance with Hyrographic Surveys Specifications and Deliverables (HSSD). All positioning equipment was operated in a manner consistent with the manufacturers requirements and as described in the DAPR. There were no equipment malfunctions or atmospheric conditions which affected the positional quality of the data.

D. RESULTS AND RECOMMENDATIONS See also the evaluation report

CHART COMPARISON

There are three charts affected by this survey:

11441 38th Edition, October 4, 1997

11445 29th Edition, December 6, 1997

11447 34th Edition, April 18, 1998

General Agreement with Charted soundings

Navigable areas in H10956 were covered with 100% SWMB ensonification. Sounding data agreed well with charted depths. Soundings along channel edges and in anchorage areas were generally consistent with the chart. The following is a general discussion of features and soundings in the main geographic areas within the survey. Discrete differences are addressed in the "Dangers to Navigation" and "Charting Recommendations" sections and all AWOIS items, significant contacts and dives are addressed individually in Section D.1. All soundings mentioned in this report have been corrected with zoned, verified tides. *Concur*

Cut B Range to east of Kingfish Shoals

This area includes the Cut B Range, a high-traffic channel supporting both commercial and private vessels including large, deep-draft cruise ships en route for berth alongside the Mole Piers. The channel continues further north past Buoy 23 into the Turning Basin near the US Coast Guard Station. Large cargo vessels and tankers

frequent this traffic pattern. Concur

The region of wire drag depths along the southern portion of Cut B Range was surveyed with 100% SWMB ensonification. The hydrographer recommends this area be updated with contemporary survey soundings and the green region be removed. *Concur*

The 18ft curve along the Cut B Range, at the point of Fort Taylor (24°32'46.57" N 081°48'47.24" W) has migrated slightly westward toward the channel. Soundings were between 13ft and 17ft near charted 21ft. See inset at right. *Concur*

Concur

The private mooring buoy charted at position 24°32'38.05" N 081°49'242.17" W is actually located further to the southeast northwest at position 24°32'37 38.20" N 081°49'23.08" W. This location was confirmed by divers on DN 2001-166. . Concur - MCD action recommended - See also LNM 09/03, 7th Dist.

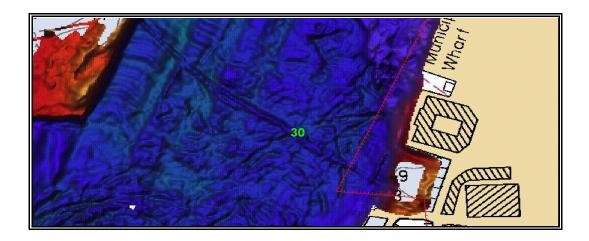
The charted Obstructions south of the "WR5" buoy were assigned AWOIS items. All were covered with 100% SWMB and disproved or showed deeper depths than charted. **Concur**-See pages 13, 26, 31, and 38 of this report.

Tank Island and Key West Harbor Range

Tank Island, now commonly referred to as Sunset Key, is maintained by a prominent hotel chain which provides a small passenger ferry from the vicinity of Municipal Wharf to the island. *Concur*

Soundings northeast of channel buoy G "15" and south of Tank Island generally agreed with the chart and in some cases were deeper by one to two feet. The 18ft curve south of Light "19" is migrating southeast. *Concur*

The Obstructions charted between G "15" and Tank Island were assigned AWOIS items and covered with 100% SWMB ensonification. Most were disproved with depths deeper than charted. *Concur - See pages 19, 20, 21, 22, 23, and 27 of this report.*



The charted cable/pipeline at 24°33'36.28" N 081°48'42.02" W is visible in the DTM. The 30ft DtoN submitted at position 24°33'30.887" N 081°48'35.286" W is associated with this submerged pipeline. See *the above* inset below. *Concur with clarification - Chart 30 Obstn with danger curve - See also Item #12 on page 57 of this report.*

Truman Annex (Located in Lat. 24°33'12"N, Lon. 081°48'34"W)

Soundings within Truman Annex agreed with the chart and in some instances were two to three feet deeper than the charted 31ft controlling depth. Four AWOIS items were assigned in this area and each was disproved. There are seven piers charted within Truman Annex that are no longer in existence and the hydrographer recommends for removal. These are addressed in the Shoreline section to follow. *Concur - See also pages 14, 15, 17, 18, 47, and 48 of this report.*

Key West Bight Channel and Turning Basin

Soundings within the Turning Basin and Key West Bight Channel generally agreed with the chart. Along the westernmost portion of the *Key West Bight* channel soundings were shoaler than the controlling least depth of 16ft 14.8ft. One 14ft sounding over an Obstruction was signified as a DtoN. *Concur - See also pages 41, 56, and item #7 on page 57 of this report.*

Along the south portion of Key West Bight Channel between AtoNs Fl R 4s 2 and QR 16ft 4M 4 debris was evident in the SSS imagery. Inaccessible by launch due to pilings, dolphins and vessels moored or anchored, SWMB investigation of this area was not possible. In recent years this area has seen expansion and construction of hotels and piers. The area is frequented by small, private vessels with minimal draft. Concur - Retain, as charted, all features within the above defined area.

Significant correlating SSS contacts chosen in the southern-most area of the channel were investigated by divers. A large block was found with a least depth of 25ft. This Obstruction was also designated a DtoN. *Concur - See also pages 42, 56, and item #8 on page 57 of this report.*

Within the Turning Basin soundings matched very well with the chart. The 12ft and 18ft contours agreed well with current survey soundings. The area to the west of the basin is a retreat for private, abandoned and derelict vessels. *Concur*

Key West Bight

Key West Bight is a high traffic area frequented by small fishing vessels, local charters and small, private vessels seeking moorage and provisions. Areas safely accessible by launch were covered with 100% SWMB ensonification. Many piers, pilings and dolphins are either uncharted or improperly charted and are addressed in the Shoreline section to follow. *Concur*

Charting Recommendations

The following is a list of recommendations for charted depths found to have deeper survey soundings: Concur with clarification - Charted soundings shown in tabulation are from the 34th edition of chart 11447.

Description	Observed	Surveyed Position		Dagaman dation
Description	Depth	Latitude	Longitude	Recommendation
Charted 16ft	26ft	24°33'09.55" N	081°48'56.84" W	chart contemporary soundings
Charted 17ft	19ft	24°33'12.07" N	081°49'36.97" W	chart contemporary soundings
Charted 18ft	21ft	24°33'02.49" N	081°49'35.59" W	chart contemporary soundings
Charted 18ft	21ft	24°32'48.85" N	081°49'36.35" W	chart contemporary soundings
Charted 18ft	21ft	24°32'49.07" N	081°49'22.31" W	chart contemporary soundings
Charted 21ft	25ft	24°32'29.99" N	081°49'44.76" W	chart contemporary soundings
Charted 22ft	26ft	24°32'46.11" N	081°49'14.52" W	chart contemporary soundings
Charted 24ft	32ft	24°32'21.43" N	081°49'06. 06 64" W	chart contemporary soundings

The following is a list of recommendations for areas found to have shoaler survey soundings than charted where no correlating contact or feature was evident: *Concur with clarification*- *Charted soundings shown in tabulation are from the* 34th edition of chart 11447.

Description	Observed	Surveyed Position		D
	Depth	Latitude	Longitude	Recommendation
Charted 27ft	23ft	24°32'41.22"N 24°32'40.43"N	081°49'17.55"W 081°49'18.21"W	chart contemporary soundings
Charted 27ft	2 3 4ft	24°32'44.39" N 24°32'44.43"N	081°49'27.07" W 081°49'27.39"W	chart contemporary soundings
Charted 33ft	30ft	24°33'21.83" N	081°48'36.95" W	chart contemporary soundings

AWOIS Item Investigations and Significant Contacts

There were twenty-five AWOIS items within the survey limits. The following are discussions of each item as well as dives and significant contacts.

Item Description: Charted 22' Obstruction

Source: NM dated 9/12/56

Item Position: Latitude 24°32'30.53" N, Longitude 081°49'16.33" W

Required Investigation: SD, S2, SWMB, DI **Radius:** 500

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2001

Least Depth Position Number: Ping:905 Beam:100 Line Number 210 1703

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 500m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 28 feet (8.7m) were discovered which was consistent with the surrounding depths.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the 22ft Obstruction *cleared* to 22 ft at position Latitude 24°32'30.53" N, Longitude 081°49'16.33" W. Concur - Delete dangerous Obstructed to 22 ft.

AWOIS: 2,569

Item Description: Charted 28' Obstruction

Source: TPOO485/74, FE34WD/82-OPR--H654-R/H

Item Position: Latitude 24°33'05.48" N, Longitude 081°48'35.23" W

Required Investigation: SD, S2, SWMB, DI Radius: 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 105-2000, 162-2001

Least Depth Position Number: Ping:505 Beam:14 Line Number 107 1335

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 50m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 32 feet (9.9m) were discovered which was consistent with the surrounding depths .

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the 28ft Obstruction at position Latitude 24°33'05.48" N, Longitude 081°48'35.23" W. *Concur - Delete dangerous* 28 Obstn

Item Description: Charted Dangerous Wreck

Source: CL1519/79, LNM2/80, FE342WD/82--OPR-H654-R/H

Item Position: Latitude24°33'01.50" N, Longitude 081°48'38.16" W

Required Investigation: SD, S2, SWMB, DI **Radius:** 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 105-2000, 162-2001

Least Depth Position Number: Ping:4011 Beam:89 Line Number 023 1316

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire 50m search radius. No significant contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of a submerged wreck. While surveying in the vicinity of the AWOIS item WHITING personnel noted that no wreck awash was visible at MLLW. No soundings less than 32 feet (9.8m) were discovered.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the charted wreck in position Latitude 24°33'01.50" N Longitude 081°48'38.16" W. *Concur - Delete Visible Wk*

Item Description: Charted Dangerous Wreck

Source: LNM11/77, CL94/78, OPR-H406-PE-78, FE342WD/82--OPR-H654-R/H

Item Position: Latitude 24°32'34.44" N, Longitude 081°49'33.47" W

Required Investigation: VS, SD, S2, SWMB, DI Radius: 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001_162_006_1802_03

Date(s): 165-2000, 163-2001

Least Depth Position Number: Ping:1727 Beam:100 Line Number 227 1258

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire 50m search radius. One contact (2001_162_006_1802_03) fell within the AWOIS radius. Sounding data were used to generate a DTM which indicated the presence of a large wreck approximately 245 feet in length, laying 015°. The SWMB least depth was 10 feet (3.06 2.98m) corrected using Verified Approved Tides. This wreck is currently marked with buoy G "WR5" Q G which sits directly atop the wreckage.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends that the Wreck at Latitude 24°32'34.44" N, Longitude 081°49'33.47" W remain as charted. *Concur with clarification - Revise to dangerous 10 Wk in Latitude 24°32'35.32"N, 081°49'33.15"W*.

Item Description: Charted Submerged Wreck

Source: FE342WD/82--OPR-H654-R/H

Item Position: Latitude 24°33'21.16" N, Longitude 081°48'28.66" W

Required Investigation: SD, S2, SWMB, DI **Radius:** 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 105-2000, 162-2001

Least Depth Position Number: Ping: 1797 Beam: 75 Line Number 103 1346

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 50m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of a wreck. No soundings less than 30 feet (9.34m) were discovered which was consistent with surrounding depths.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the charted wreck at position Latitude 24°33'21.16" N, Longitude 081°48'28.66" W. *Concur - Delete dangerous 28 Wk*

Item Description: Charted Wreck

Source: FE342WD/82--OPR-H654-R/H

Item Position: Latitude 24°33'16.02" N, Longitude 081°48'27.83" W

Required Investigation: SD, S2, SWMB, DI **Radius:** 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 105-2000, 162-2001

Least Depth Position Number: Ping: 7925 7983 Beam: 85 18 Line Number 023 1316

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 50m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 29 26 feet (8.79m) (7.9m) were discovered which was consistent with surrounding depths.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the charted wreck at position Latitude 24°33'16.02" N Longitude 081°48'27.83" W. *Concur - Delete dangerous 4 Wk PA*

Item Description: Charted Wreck

Source: FE342WD/82--OPR-654-RU

Item Position: Latitude 24°33'08.37" N Longitude 081°48'51.24" W

Required Investigation: SD, S2, SWMB, DI **Radius:** 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 164-2000, 164-2001

Least Depth Position Number: Ping: 1000 Beam: 18 Line Number 146 1652

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 50m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 34 feet (10.37m) were discovered which was consistent with the surrounding depths.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the charted wreck at position Latitude 24°33'08.37" N Longitude 081°48'51.24" W. *Concur with clarification - This wreck is not charted on the 35th edition of chart 11447.*

Item Description: Charted Wreck

Source: FE342WD/82--OPR-H654-R/H

Item Position: Latitude 24°33'03.32" N, Longitude 081°49'04.02" W

Required Investigation: SD, S2, SWMB, DI **Radius:** 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001_162_013_1634_4

Date(s): 162-2000, 162-2001

Least Depth Position Number: Ping:7227 Beam:91 Line Number 125 1525

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire 50m search radius. One contact (2001_162_013_1634_4) resembling a small wreck fell within the AWOIS radius and is believed to be AWOIS item 2577. The SWMB least depth on this item is 20 feet (6.13m) corrected using **Verified Approved** Tides.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a submerge sunken wreck at position Latitude 24°33'03.32" N Longitude 081°49'04.02" W with a least depth of 20 feet. *Concur with clarification - Revise charted dangerous 19 Wk to dangerous 20 Wk.*

Item Description: Charted Rock(s)

Source: FE342WD/82--OPR-H654-R/H, D00126-127/99--S-H906-AHP

Item Position: Latitude 24°33'25.82" N Longitude 081°48'42.08" W

Required Investigation: SD, S2, VS, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 164-2000, 162-2001

Least Depth Position Number: Ping:3060 Beam:88 Line Number 148 1524

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of a rock. No soundings less than 33 feet (10.16m) were discovered which was consistent with the surrounding depths. It is likely these charted rocks were removed during dredging operations.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted Rocks at position Latitude 24°33'25.82" N Longitude 081°48'42.08" W be removed. *Concur - Delete dangerous 33 Rks - See also pages 22 and 23 of this report.*

Item Description: Charted Rock(s)

Source: FE342WD/82--OPR-H654-R/H, D00126-127/99-- S-H906-AHP

Item Position: Latitude 24°33'26.89" N Longitude 081°48'40.86" W

Required Investigation: SD, S2, VS, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 164-2000, 162-2001

Least Depth Position Number: Ping:3060 Beam:88 Line Number 148 1524

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of a rock. No soundings less than 33 feet (10.16m) were discovered which was consistent with the surrounding depths. It is likely these charted rocks were removed during dredging operations.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted Rocks at position Latitude 24°33'26.89" N Longitude 081°48'40.86 " W be removed. *Concur - Delete dangerous 32 Rks - See also pages 21 and 23 of this report.*

Item Description: Charted Rock(s)

Source: FE342WD/82--OPR-H654-R/H, D00126-127/99-- S-H906-AHP

Item Position: Latitude 24°33'26.14" N Longitude 081°48'42.33" W

Required Investigation: SD, S2, VS, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 164-2000, 162-2001

Least Depth Position Number: Ping:3060 Beam:88 Line Number 148 1524

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of a rock. No soundings less than 33 feet (10.16m) were discovered which was consistent with the surrounding depths. It is likely these charted rocks were removed during dredging operations.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted Rocks at position Latitude 24°33'26.89 **25.15**" N Longitude 081°48'40.86 **41.36**" W be removed. **Concur - Delete dangerous 35 Rks - See also pages 21 and 22 of this report.**

Item Description: Charted Rock

Source: FE342WD/82--OPR-H654-R/H, D00126-127/99-- S-H906-AHP

Item Position: Latitude 24°33'38.58" N Longitude 081°48'35.89" W

Required Investigation: S2, SWMB, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001_162_114_1301_03

Date(s): 164-2000, 164-2001, 165-2001, 167-2001

Least Depth Position Number: Ping:5574 Beam:54 Line Number 146 1652

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire 100m search radius. SSS imagery indicated the presence of rocks. A SWMB least depth of 23 feet (7.16m corrected with Verified Approved Tides) was determined. Divers confirmed the location of the shoalest rock and using Diver's Least Depth Gauge (DLDG) concurred a least depth of 23 feet.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends retaining the 23ft charted Rock at position Latitude 24°33'38.58 39" N Longitude 081°48'35.89" 36.11" W. Concur with clarification - Retain dangerous 23 Rk in revised position.

Item Description: Charted 22ft Obstruction

Source: H08294-WD/56

Item Position: Latitude 24°32'33.3100" N Longitude 081°49'045.45 00" W

Required Investigation: S2, SWMB, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2000, 162-2001

Least Depth Position Number: Ping:6302 Beam:90 Line Number 122 1426

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 26 feet (7.97m) were discovered which was consistent with the surrounding depths.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted Wire Drag/Obstruction at position Latitude 24°32'33.31" N Longitude 081°49'04.45" W be removed. *Concur - Delete dangerous Obstn cleared to 22ft*.

Item Description: Charted 22ft Obstruction

Source: H08294-WD/56

Item Position: Latitude 24°32'27.0" N Longitude 081°49'23.0" W

Required Investigation: S2, SWMB, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 164-2000, 162-2001

Least Depth Position Number: Ping: 1003 Beam: 83 Line Number 216 1847

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 28 feet (8.52m) were discovered which was consistent with the surrounding depths.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted Wire Drag/Obstruction at position Latitude 24°32'27.20" N Longitude 081°49'232.40 " W be removed. *Concur* - *Delete dangerous Obstruction of the charted to 22 ft.*

Item Description: Charted Obstruction

Source: CL789/82-- OPR-H654-RU/HE-82

Item Position: Latitude 24°33'10.2533" N Longitude 081°49'00.028" W

Required Investigation: SD, S2, SWMB, DI **Radius:** 50

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001_162_014_1619_3

Date(s): 169-2000, 162-2001

Least Depth Position Number: Ping:189 Beam:11 Line Number 257 2152

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: Latitude 24°33'10.38" N, Longitude 081°48'59.99" W

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire 50m search radius. Inspection of SSS imagery indicated the presence of three cement anchor blocks. The SWMB least depth atop the western-most block was 20 feet (6.06m corrected with Verified Tides). Shoaler soundings (17 to 18 feet) were observed west of the AWOIS position and follow the natural trend in the area.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted Obstruction at position Latitude 24°33'10.25" N Longitude 081°49'00.02" W remain as charted. *Concur*

Item Description: Derelict 36ft commercial wood fishing boat.

Source: CL1001/83

Item Position: Latitude 24°34'0.73" N, Longitude 081°48'6.43" W

Required Investigation: S2, SWMB, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2001, 164-2001

Least Depth Position Number: Ping:66 Beam:97 Line Number 281 1346

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of a wreck or Obstruction. No soundings less than 31 feet (9.48m) were discovered which was consistent with the surrounding depths.

CHARTING RECOMMENDATION

Recommendations: This item is no longer charted on 11441 or 11447. The hydrographer recommends charting contemporary survey soundings. *Concur*

Item Description: Charted 14ft Obstruction

Source: HO8294-WD/56

Item Position: Latitude 24°32'50.83" N, Longitude 081°49'37.43" W

Required Investigation: S2, SWMB, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001 162 005 1816 2

Date(s): 162-2001, 163-2001

Least Depth Position Number: Ping:4784 Beam:21 Line Number 232 1422

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. One contact was (2001_162_005_1816_2) was located within the AWOIS radius indicating the presence of coral. Processed sounding data were used to generate a DTM which also indicated the presence of coral. The SWMB least depth on this item was 19 feet (5.78m) corrected using Verified Approved Tides.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 19ft Rock at position Latitude 24°32'50.8365" N, Longitude 081°49'37.4308" W. *Concur with clarification - Delete Obstacleared to 14ft. Chart 19ft Co Hd with danger curve.*

Item Description: Charted 28ft Obstruction

Source: Unknown

Item Position: Latitude 24°32'25.82" N Longitude 081°49'08.99" W

Required Investigation: S2, SWMB, DI Radius: 500

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2000, 162-2001

Least Depth Position Number: Ping:692 Beam:101 Line Number 201A - Data rejected

due to poor quality.

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 500m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 27 feet (8.43m) were discovered which was shoaler than surrounding depths. The hydrographer believes contemporary survey methods were adequate to disprove the existence of this item.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends removing the charted 28ft Obstruction at position Latitude 24°32'25.82" N Longitude 081°49'08.99" W and contemporary survey soundings be charted. *Concur - Delete dangerous 28 Obstn*

Item Description: Charted 26ft Obstruction

Source: Unknown

Item Position: Latitude24°32'28.64" N Longitude 081°49'34.32" W

Required Investigation: S2, SWMB, DI Radius: 500

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2001, 163-2001

Least Depth Position Number: Ping:6072 Beam:11 Line Number 228 1317

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 500m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 27 feet (8.40m) were discovered which was consistent with the surrounding depths. The hydrographer believes contemporary survey methods were adequate to disprove the existence of this item.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted 26ft Obstruction at position Latitude24°32'28.64" N Longitude 081°49'34.32" W be removed and contemporary survey soundings be charted. *Concur - Delete dangerous 26 Obstn*

Item Description: Charted 20ft Obstruction

Source: Unknown

Item Position: Latitude 24°32'45.16" N Longitude 081°49'50.03" W

Required Investigation: S2, SWMB, DI Radius: 500

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2001, 163-2001

Least Depth Position Number: Ping:3540 Beam:101 Line Number 245 1833

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 500m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 23 feet (7.08m) were discovered which was consistent with the surrounding depths.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the charted 20ft Obstruction at position Latitude 24°32'45.16" N Longitude 081°49'50.03" W be removed. *Concur - Delete dangerous 20 Obstn*

Item Description: Charted 18ft Obstruction

Source: Unknown

Item Position: Latitude 24°33'02.88" N Longitude 081°49'24.92" W

Required Investigation: S2, SWMB, DI Radius: 500

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2001

Least Depth Position Number: Ping:3601 Beam:12 Line Number 219 1945

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 500m search radius. No contacts were observed within the AWOIS radius. Processed sounding data were used to generate a DTM which did not indicate the presence of an Obstruction. No soundings less than 20 feet (6.17m) were discovered which was consistent with the surrounding depths. The hydrographer believes contemporary survey methods were adequate to disprove the existence of this item.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the Obstruction at Latitude 24°33'02.88" N Longitude 081°49'24.92" W be removed. *Concur - Delete dangerous 18 Obstn*

AWOIS: 10,537

Item Description: Obstruction

Source: Unknown

Item Position: Latitude 24°33'29.**3**0" N Longitude 081°48'30.**7**0" W

Required Investigation: S2, SWMB, DI Radius: 100

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: N/A

Date(s): 164-2000

Least Depth Position Number: Ping:1919 Beam:92 Line Number 135 2036

Investigation Used: 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: SWMB was acquired over a portion of the 100m search radius. The AWOIS radius was not entirely accessible by launch due to numerous vessels, piers and dolphins in the area. The SWMB DTM showed a flat bottom with no indications of an Obstruction. No soundings less than 17 feet (5.2m) were discovered.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the Obstruction at Latitude 24°33'29.30" N Longitude 081°48'30.70" W be removed. *Concur - Delete dangerous Obstn*

AWOIS: 10,538

Item Description: Obstructions

Source: Unknown

Item Position: Latitude 24°33'434.0" N Longitude 081°48'246.9900" W

Required Investigation: S2, ES, SWMB, DI **Radius:** 100

Charts Affected: 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2001, 163-2001

Least Depth Position Number: Ping:169 Beam:7 Line Number 313 2056

Investigation Used: 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: SWMB was acquired over a portion of the 100m search radius. The AWOIS radius was not entirely accessible by launch due to numerous vessels, piers and dolphins in the area. The SWMB DTM showed a flat bottom with no indications of an Obstruction. No soundings less than 17 feet (5.31m) were discovered.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the Obstructions at position Latitude 24°33'434.00" N Longitude 081°48'246.9900" W be removed. *Concur - Delete dangerous* 26 Obstns.

AWOIS: 10,542

Item Description: Shoaling reported (1975)

Source: Unknown

Item Position: Latitude 24°33'52.0" N Longitude 081°48'06.0" W

Required Investigation: S2, ES, SWMB, DI **Radius:** 100

Charts Affected: 11447

INVESTIGATION

Contact No: N/A

Date(s): 162-2001, 164-2001

Least Depth Position Number: Ping:99 Beam:44 Line Number 291 1238

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: 100% SSS and 100% SWMB coverage were acquired over the entire assigned 100m search radius. No contacts were observed within the AWOIS radius. Survey soundings were consistent with the charted depths in this area. No evidence of shoaling was noted.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends the Shoaling at position Latitude 24°33'52.0" N Longitude 081°48'06.0" W be removed and contemporary survey soundings be charted. *Concur - Delete notation - Shoaling rep (1975)*

Item: 2001_162_001_1856_6

Item Description: Coral

Source: SSS

Item Position: Latitude 24°32'43.39" N Longitude 081°49'54.71" W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001 162 001 1856 6

Date(s): 162-2001, 163-2001

Least Depth Position Number: Ping:2884 Beam:99 Line Number 251 1951

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This item was identified during mainscheme side scan operations. 100% SWMB revealed a least depth of 201 feet (6.04m) corrected with Verified Approved Tides. This sounding was several feet shoaler than the surrounding charted depths. Imagery indicated the presence of coral. This item was submitted as a DToN.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 201ft Rock at position Latitude 24°32'43.39" N Longitude 081°49'54.71" W. **Do not concur**See also page 3 of the evaluation report and Item#15 on page 57 of this report.

Item: 2001 162 008 1739 1

Item Description: Three Anchor Blocks

Source: SSS

Item Position: Latitude 24°32'31.38" N Longitude 081°49'26.86" W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001_162_008_1739_1

Date(s): 162-2001

Least Depth Position Number: Ping:1537 Beam:84 Line Number 220 2001

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This item was identified during mainscheme side scan operations. 100% SWMB revealed a least depth of 24 feet (7.3m) corrected with Verified Approved Tides. This sounding was shoaler than surrounding charted depths. Imagery indicated the presence of three cement anchor blocks.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 24ft Obstruction at position Latitude 24°32'31.38" N Longitude 081°49'26.86" W. *Concur with clarification - Chart* 24 ft Obstruction in Latitude 24°32'30.97"N, Longitude 081°49'27.42"W.

Item: 2001_162_018_1539_5

Item Description: Debris

Source: SSS

Item Position: Latitude 24°33'03.42" N Longitude 081°48'42.55" W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001 162 018 1539 5

Date(s): 164-2000, 162-2001

Least Depth Position Number: Ping:377 Beam:12 Line Number 131 2109

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This item was identified during mainscheme side scan operations. 100% SWMB revealed a least depth of 16 feet (5.0m) corrected with Verified Approved Tides. Imagery indicated the presence of debris alongside the pier.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 16ft Obstruction at position Latitude 24°33'03.42" N Longitude 081°48'42.55" W. *Do not concur - No significant contacts were seen during office review of SSS and SWBM imagery located in the area of this investigation. Chart soundings from present survey.*

Item: 2001 162 032 2017 2

Item Description: Rock

Source: SSS

Item Position: Latitude 24°33'55.92" N Longitude 081°48'10.376" W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001_162_032_2017_2

Date(s): 162-2001, 164-2001

Least Depth Position Number: Ping: 1328 Beam: 76 Line Number 260 1443

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This item was identified during mainscheme side scan operations. 100% SWMB revealed a least depth of 26 feet (7.9m) corrected with Verified Tides. Imagery indicated the presence of a rock. This item was submitted as a DToN.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 26ft Rock at position Latitude 24°33'55.92" N Longitude 081°48'10.37 6" W. *Concur - Chart 26 Rk - See also Item#4 on page 57 of this report.*

Item: 2001_162_023_2059_2

Item Description: Obstruction

Source: SSS

Item Position: Latitude: 24°33'47.0116" N Longitude 081°48'19.0118.76" W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001 162 023 2059 2, 2001 163 001 1320 8

Date(s): 162-2001, 163-2001, 2001-164

Least Depth Position Number: Ping: 2007 Beam: 8 Line Number 263 1457

Ping:1939 Beam:15 Line Number 305 2141

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This item was identified during mainscheme side scan operations. 100% SWMB revealed a 14 foot sounding (4.46m corrected with Verified Approved Tides) within Key West Bight Channel. This channel has a tabulated depth of 16.1ft. Imagery indicated the presence of an Obstruction which is in the same location as the pier on chart 11441. The item resembled a pier with dimensions 120' x 15', the longest side of which extended into the channel. This item was submitted as a DToN.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 14ft Obstruction at position Latitude: 24°33'47.0+16" N Longitude 081°48'19.0+18.76" W. Concur - Chart dangerous 14 Obstn - See also page 10 of this report and Item#7 on page 57 of this report.

Item: 2001_163_001_1320_1

Item Description: Obstruction

Source: SSS

Item Position: Latitude 24°33'44.69" N Longitude 081°48'26.16" W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001 163 001 1320 1

Date(s): 162-2001, 163-2001, 164-2001, 2001-167

Least Depth Position Number: Ping: 4880 Beam: 91 Line Number 138 1933

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This item was identified during mainscheme side scan operations. Imagery indicated the presence of an Obstruction. 100% SWMB revealed a least depth of 25 feet (7.59m corrected with Verified Approved Tides) within Key West Bight Channel. On DN 2001-167 divers confirmed the presence of a heavily encrusted block approximately 7'x9' with a height of 5'. This item was submitted as a DToN.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 25ft Obstruction at position Latitude 24°33'44.69" N Longitude 081°48'26.16" W. *Concur - Chart dangerous 25 Obstn - See also page 56 of this report and Item#8 on page 57 of this report.*

Item: Wreck

Item Description: Charted Wreck PA

Source: SSS

Item Position: Latitude 24°33'54.64 **55.33**" N Longitude 081°48'35.9736" W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001 162 037 1935 1

Date(s): 162-2001, 163-2001, 166-2001

Least Depth Position Number: Ping:218 Beam:20 Line Number 911_1515

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This item was located during mainscheme side scan operations. A SWMB least depth of 5 feet (1.69m corrected with Verified Approved Tides) was determined. On DN 2001-167 divers confirmed the contact to be a small, fiberglass vessel approximately 15ft in length.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a wreck at position Latitude 24°33'54.6448" N Longitude 081°48'35.9736.54" W. Concur with clarification - Chart dangerous 5 Wk in Latitude 24°33'54.48"N, Longitude 081°48'36.54"W. - Delete dangerous wreck, depth unknown in Latitude 24°33'55.33"N, Longitude 081°48'35.36"W.

Item: 2001_165_115_1240_9

Item Description: Unknown

Source: SSS

Item Position: Latitude 24°34′02.767″ N Longitude 081°48′20.2330″ W

Charts Affected: 11441, 11447

INVESTIGATION

Contact No: 2001 165 115 1240 9

Date(s): 2000-164, 2001-165

Least Depth Position Number: Ping:9018 Beam:93 Line Number 142 1812

Investigation Used: 100% SSS, 100% SWMB

Surveyed Position: N/A

Position Determined By: Differential GPS

Investigation Summary: This contact was identified during mainscheme side scan operations. Sounding data were used to generate a DTM. The contact was evident in the DTM and corresponded with the SSS contact position. The SWMB least depth was 27 feet (8.21m corrected with Verifie Approved Tides) which was shoaler than surrounding depths. Due to time constraints dive investigations were not conducted on this item. Chart 11447 describes the area as Rocky and SSS imagery confirmed this with what appears to be a Rock.

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends charting a 27ft Rock at position Latitude 24°34'02.767" N Longitude 081°48'20.2330" W. *Concur - Chart dangerous 27 Rk*

Dangers to Navigation

Fifteen items were submitted as a Danger to Navigation associated with this survey. For a complete listing, see Appendix I. *Appended to this report - See also the evaluation report*

D.2. ADDITIONAL RESULTS

Aids to Navigation (AToN) and Other Detached Positions

The following is a list of AToN located in the *Light List* and on chart 11447. Digital photos of each are located in Appendix II*. All AToN were found to be on station and serving their intended purpose. *Concur*

Light List Number	Description	Latitude**	Longitude**
14810 14930 buoy	G 23 Fl G 4s	24°33'37. 013 "	081°48'35. 090 "
14885 buoy	G 13 Fl G 4s	24°32'33. 939 "	081°48'58. 485 "
14887.7 fixed Aid	Fl 2 10s 14ft Priv	24°32'43. 307 "	081°48'45. 815 "
14890 buoy	R 14 Q R	24°32'54. 480 "	081°48'51. 435''
14895 buoy	G 15 Fl G 4s	24°32'55. 079 "	081°48'55. 828 "
14910 buoy	G "17" Fl G 4s	24°33'31. 350 "	081°48'53. 787 "
14915 buoy	G 19 Fl G 2.5s	24°33'31. 564 "	081°48'45. 594 "
14920 <i>fixed Aid</i>	F 5ft PA Priv	24°33'22. 757 "	081°48'31. 591 "
14925 <i>fixed Aid</i>	G 21	24°33'40. 317 "	081°48'41. 007 "
14935 buoy	R 24 Fl R 4s	24°33'48. 389 "	081°48'25. 764 "
14940 buoy	G 25 Fl G 2.5s	24°33'49. 779 "	081°48'29. 667 "
14945 <i>fixed Aid</i>	Fl G 4s 16ft 4M 27	24°34'01. 929 "	081°48'27. 877 "
14950 buoy	G 29 Fl G 4	24°34'12. 585 "	081°48'17. 907 "
14955 <i>fixed Aid</i>	G 31	24°34'08 .973 "	081°48'06. 367 "
14975 <i>fixed Aid</i>	Fl R 4s 2	24°33'45 .830 "	081°48'20. 554 "
14980 <i>fixed Aid</i>	QR 16ft 4M 4	24°33'47. 904 "	081°48'05. 631 "
15155 buoy	G WR5 Q G	24°32'34 .334 "	081°49'33. 087 "
15250 fixed Aid	Fl R 2.5s 36ft 4M 18	24°33'28 .359 "	081°49'42. .832 "
15255 fixed Aid	Fl G 4s 16ft 4m 19	24°33'40. 790 "	081°49'13. 947 "

^{*} Data filed with original field records.

^{**} Survey positions

Shoreline See also the evaluation report

Detached positions were acquired in areas accessible by launch on docks, sea walls, piers, piles and dolphins with particular emphasis on structures in the vicinity of Truman Annex, Key West Bight and the US Coast Guard Station. DPs were taken with the item to starboard amidship or to the bow. All DP range and bearings were noted at time of acquisition and are noted in the tables to follow. *Concur*

DPs were compared to the shoreline file (submitted in DXF format to WHITING with the 2000 Project Instructions) and the current charting in these areas. Several new features such as piers, piles and dolphins have been identified within the survey limits. Verified shoreline and associated DPs are shown in the final DP plot* where the original digital shoreline file is depicted in blue and changes to the current charting, which have been verified by this survey, are depicted in red. Areas verified with no recommended changes are shown in black. Some unverified features included in the new shoreline file were scaled from the original shoreline, chart or SSS mosaic and are depicted in brown. *Concur*

Shoreline field notes were originally recorded on both the echogram and on a working plot ("boat sheet") of the area during data acquisition*. Digital photographs of each item were taken at the time of verification and have been submitted on CD-ROM with the digital data package*. The naming convention of the image files is based on the fix number(s) of DP(s) represented in each photo. *Concur*

Shoreline verification was performed in the vicinities of Truman Annex, Key West Bight and the US Coast Guard Station. Access to the shoreline was restricted in areas between Truman Annex and Key West Bight, and within Key West Bight itself due to numerous vessels anchored or moored along docks, piers, and wharves or swimmers in the area. These areas are shown in blue on the final plots*. *Concur*

Construction of a new ferry terminal was in progress at the end of West Bight Channel, position 24°33'47.07" N, 081°47'57.78" W. Detached positions were taken at the corners of the new pier and along the seawall to accurately depict the location of this new pier. *Concur*

The area within Key West Bight has several discrepancies with regards to placement of piers and the existence of old and new piers. Also several dolphins are charted that no longer exist. These are indicated on the final shoreline plots*. DPs were taken on the end of piers that were accessible by launch and are also shown on the DP final plot*. Any new piers, piles, dolphins or corrections to pier positions are shown in red. Items recommended for removal are listed below as well on the final shoreline plots*.

^{*} Data filed with original field records.

L () Cl () L	Surveye	D 14:	
Item(s) Charted As	Latitude	Longitude	Recommendation
Submerged Piles	24-33-46.5 N	081-48-18.61 W	remove from chart **
Dolphin	24-33-40.76 N	081-48-11.15 W	remove from chart **
Dolphin	24-33-40.86 N	081-48-10.76 W	remove from chart **
Dolphin	24-33-41.12 N	081-48-10.42 W	remove from chart **
Dolphin	24-33-43.75 N	081-48-08.73 W	remove from chart *
Dolphin	24-33-43.54 N	081-48-08.54 W	remove from chart *
Dolphin	24-33-40.42 N	081-48-07.3 W	remove from chart **
Dolphin	24-33-40.65 N	081-48-06.96 W	remove from chart **
Pier	24-33-41.03 N	081-48-09.99 W	remove from chart *
Pier	24-33-40.51 N	081-48-09.59 W	remove from chart **
Pier <i>Ruins</i>	24-33-41.25 N	081-48-11.3 W	remove from chart **
Pier	24-33-43.11 N	081-48-01.5 W	remove from chart **
Pier	24-33-43.53 N	081-48-00.76 W	remove from chart **
Pier	24-33-43.98 N	081-48-00.73 W	remove from chart**
Pier	24-33-45.27 N	081-47-58.06 W	remove from chart **
Pier	24-33-46.66 N	081-47-58.38 W	remove from chart *
Pier <i>Ruins</i>	24-33-47.69 N	081-47-57.34 W	remove from chart**
Dolphin	24-33-47.44 N	081-47-58.84 W	remove from chart *
Dolphin	24-33-47.13 N	081-47-58.68 W	remove from chart *
Dolphin	24-33-47.37 N	081-47-58.08 W	remove from chart *
Dolphin	24-33-47.91 N	081-47-57.45 W	remove from chart *
<i>Finger</i> Piers	24-33-04.6 N	081-48-39.16 W	remove from chart *
Pier 7 <i>Ruins</i>	24-33-05.22 N	081-48-32.9 W	remove from chart *
Pier <i>Ruins</i>	24-33-05.11 N	081-48-31.57 W	remove from chart *

L () Cl () L	Surveyed	D 14:		
Item(s) Charted As	Latitude Longitude		Recommendation	
Pier 1 <i>Ruins</i>	24-33-16.22 N	081-48-30.96 W	remove from chart *	
Pier 2 <i>Ruins</i>	24-33-14.39 N	081-48-30.79 W	remove from chart *	
Pier 3 <i>Ruins</i>	24-33-12.63 N	081-48-30.68 W	remove from chart *	
Pier 4 <i>Ruins</i>	24-33-10.93 N	081-48-30.62 W	remove from chart *	
Pier 5 <i>Ruins</i>	24-33-09.18 N	081-48-30.62 W	remove from chart *	
Wreck Awash <i>AWOIS</i> #2570	24-33-01.4 50 N	081-48-38. 24 16W	remove from chart *	
Pier along Mole Pier	24-33-09.81 N	081-48-41.82 W	remove from chart*	

*Concur - ** Do not concur - See also the evaluation report

Charted shoreline in these areas is highly simplified and does not entirely reflect all features in the survey area. Several areas (particularly in Key West Bight) were inaccessible by launch due to dolphins, piles, anchored or moored vessels or shallow depths. The hydrographer recommends contemporary photogrammetry be performed for this area and be applied to Chart 11447. *Concur - MCD and RSD action recommended*

The following is a list of detached positions for shoreline verification with charting recommendations. DPs were taken with the item amidship to the starboard side unless otherwise noted with an asterisk (*). The positions listed below are the raw DP positions with no offsets applied. The shoreline file depicted on the final DP plot reflect all positions with offsets applied (ie: offset and bearing of item being surveyed.) *Concur*

Position	Item	Surveyed Position		D
Number	Surveyed	Latitude	Longitude	Recommendations
Event #22681	s mole pier	24°33' 3003.10 "	081°48'42 .49 "	remain as charted *
Event #22682	n mole pier	24°33'13 .59 "	081°48'40 .61 "	remain as charted *
Event #22683	n mole pier	24°33'18 .91 "	081°48'37 .66 "	remain as charted *
Event #22684	Pier B	24°33'24 .25 "	081°48'33 .49 "	new pier, current DPs reflect the new positioning *
Event #22685	Pier B	24°33'28 .76 "	081°48'31 .72 "	new pier, current DPs reflect the new positioning *
Event #22686	dolphin	24°33'29 .69 "	081°48'31 .39 "	uncharted, chart new position *
Event #22687	pier	24°33'30 .21 "	081°48'30 .41 "	remain as charted *
Event #22688*	pier	24°33'33 .11 "	081°48'29 .60 "	remain as charted *
Event #22689	dolphin	24°33'33 .39 "	081°48'29 .52 "	uncharted, chart new position *
Event #22690	dolphin	24°33'34 .04 "	081°48'29 .76 "	remain as charted *
Event #22691	pier	24°33'35 .54 "	081°48'29 .21 "	remain as charted *
Event #22692	pier	24°33'36 .68 "	081°48'28 .72 "	remain as charted *
Event #22693	dolphin	24°33'37 .32 "	081°48'28 .49 "	remain as charted *
Event #22694	pier face	24°33'39 .81 "	081°48'27 .06 "	remain as charted *
Event #22695	pier corner	24°33'41 .53 "	081°48'26 .21 "	remain as charted *
Event #22696	pier	24°33'42 .46 "	081°48'25 .45 "	remain as charted *
Event #22697*	pier	24°33'42 .96 "	081°48'24 .77 "	remain as charted *
Event #22698	dolphin mooring plt	24°33'42 .93 "	081°48'25 .37 "	uncharted, chart new position *
Event #22700	pile	24°33'46 .29 "	081°48'16 .38 "	remain as charted *
Event #22701	pile	24°33'46 .37 "	081°48'16 .15 "	remain as charted *
Event #22702	pile	24°33'46 .50 "	081°48'15 .98 "	remain as charted *
Event #22703	pile	24°33'46 .69 "	081°48'15 .69 "	uncharted, chart new position *
Event #22704	pile	24°33'46 . 78 "	081°48'15 .40 "	uncharted, chart new position *
Event #22705*	rock jetty	24°33'46 .54 "	081°48'14 .30 "	remain as charted *
Event #22706	mid rock jetty	24°33'47 .05 "	081°48'11 .25 "	remain as charted *
Event #22707	mid rock jetty	24°33'47 .46 "	081°48'09 .<i>01</i>"	remain as charted *
Event #22709	end of pier dolphin	24°33'47 .13 "	081°48'05 .47 "	remain as charted *
Event #22710	end of pier to stbd	24°33'44 .92 "	081°48'09 .78 "	remain as charted *
Event #22711	pier	24°33'44 .36 "	081°48'10 .93 "	remain as charted *

Position	Item	Surveye	D 1.4	
Number	Surveyed	Latitude	Longitude	Recommendations
Event #22712	pier	24°33'43 .93 "	081°48'11 .79 "	remain as charted *
Event #22713	pier	24°33'45 .04 "	081°48'13 .29 "	remain as charted *
Event #22714	pier	24°33'45 .07 "	081°48'13 .31 "	remain as charted *
Event #22715	piles	24°33'42 .86 "	081°48'12 .20 "	remain as charted *
Event #22716	piles	24°33'43 .23 "	081°48'11 .<i>61</i> "	remain as charted *
Event #22717	piles	24°33'44 .30 "	081°48'10 .21 "	remain as charted *
Event #22718	<i>Floating</i> pier end	24°33'44 .56 "	081°48'09 .28 "	chart new pier position *
Event #22719	<i>Floating</i> pier end	24°33'42 .95 "	081°48'08 .07 "	chart new pier position *
Event #22720	dolphin	24°33'42 .52 "	081°48'08 .38 "	mischarted, chart new position *
Event #22721	pile	24°33'42 .05 "	081°48'09 .74 "	uncharted, chart new position *
Event #22722	pile	24°33'41 .96 "	081°48'10 .16 "	uncharted, chart new position *
Event #22723	pile	24°33'41 .80 "	081°48'10 .76 "	uncharted, chart new position *
Event #22724	pile	24°33'41 .69 "	081°48'11 .21 "	uncharted, chart new position *
Event #22725	pile	24°33'41 .60 "	081°48'11 .51 "	uncharted, chart new position *
Event #22726	pier	24°33'41 .28 "	081°48'09 .03 "	uncharted, chart new position *
Event #22727	pier	24°33'39 .52 "	081°48'08 .69 "	uncharted, chart new position *
Event #22728*	corner	24°33'38 .79 "	081°48'08 .96 "	remain as charted *
Event #22729	pier	24°33'40 .06 "	081°48'08 .93 "	uncharted, chart new position *
Event #22730*	wall	24°33'39 .55 "	081°48'07 .67 "	remain as charted *
Event #22731	pier	24°33'41 .16 "	081°48'07 .73 "	uncharted, chart new position *
Event #22732	pier	24°33'41 .32 "	081°48'07 .30 "	uncharted, chart new position *
Event #22733	pier	24°33'43 .23 "	081°48'06 .65 "	mischarted, chart new position *
Event #22734*	wall	24°33'41 .57 "	081°48'04 .08 "	remain as charted *
Event #22735* See#22736	pier	24°33'42 .07 "	081°48'03 .90 "	mischarted, chart new position *
Event #22736	pier	24°33'44 .55 "	081°48'06 .14 "	remain as charted Revise position
Event #22737	pile	24°33'45 .16 "	081°48'05 .33 "	uncharted, chart new position *

Position	Item	Surveye	D 1.4	
Number	Surveyed	Latitude	Longitude	Recommendations
Event #22738	pile	24°33'44 . 72 "	081°48'04 .87 "	uncharted, chart
	-			new position *
Event #22739	pier/building	24°33'44 .71 "	081°48'04 .14 "	remain as charted *
Event #22740	pier	24°33'46 .03 "	081°48'04 .50 "	uncharted, chart
Event #227 10	•	21 33 10:03	001 100 1.50	new position *
Event #22741	pier face	24°33'46 .01 "	081°48'04 .<i>01</i>"	uncharted, chart
	See#22740			new position *
Event #22742	pier/building	24°33'45 .03 "	081°48'03 .40 "	mischarted, chart
E 4 //22742*	See#22740	24°22142 1211	001°40101 (011	new position *
Event #22743*	corner	24°33'43 .12 "	081°48'01 .68 "	remain as charted *
Event #22744*	wall	24°33'43 .43 "	081°48'01 .08 "	remain as charted *
Event #22745	piles/finger	24°33'44 .54 "	081°48'02 .11 "	uncharted, chart
	piers			new position *
Event #22746	piles/finger	24°33'44 .97 "	081°48'02 .47 "	uncharted, chart
	piers			new position *
Event #22747	piles/finger	24°33'45 .50 "	081°48'02 .92 "	uncharted, chart
	piers piles/finger			new position * uncharted, chart
Event #22748		24°33'45 .99 "	081°48'03 .24 "	new position *
	piers			uncharted, chart
Event #22749	pier	24°33'46 .44 "	081°48'03 .68 "	new position *
				uncharted, chart
Event #22750	pier	24°33'47 .20 "	081°48'02 .91 "	new position *
Event #22751	bend in pier			mischarted, chart
See#22750	pier face	24°33'44 .86 "	081°48'00 .86 "	new position *
Event #22752	pier	24°33'44 .22 "	081°48'00 .51 "	remain as charted *
Event #22753	wall	24°33'43 .86 "	081°48'00 .24 "	remain as charted *
	corner			
Event #22754	wall/piles	24°33'44 .16 "	081°47'59 .<i>54</i>"	remain as charted *
E		24°22144 0011	001°40100 3311	uncharted, chart
Event #22755	pile	24°33'44 .98 "	081°48'00 .23 "	new position *
				mischarted, chart
Event #22756	pier	24°33'46 .36 "	081°48'01 .45 "	new position *
E				1
Event #22757	pier	24°33'47 .51 "	081°48'02 .28 "	mischarted, chart
See#22758				new position *
Event #22758	pier	24°33'48 .36 "	081°48'01 .20 "	mischarted, chart new position *
See#22757				
Event #22759	pile	24°33'48 .05 "	081°48'00 .41 "	uncharted, chart
				new position * uncharted, chart
Event #22760	pile	24°33'47 .73 "	081°48'00 .32 "	new position *
				uncharted, chart
Event #22761	corner pile	24°33'47 .35 "	081°48'00 .<i>04</i>"	new position *
Щ			<u> </u>	new position

Position	Item	Surveye	Dagamer and attack		
Number	Surveyed	Latitude	Longitude	Recommendations	
Event #22762	pile	24°33'45 .97 "	081°47'59 .35 "	uncharted, chart new position *	
Event #22763*	wall	24°33'44 .92 "	081°47'58 .73 "	remain as charted *	
Event #22764	pier	24°33'46 .50 "	081°47'59 .27 "	uncharted, chart new position *	
Event #22765	wall	24°33'45 .45 "	081°47'57 .41 "	remain as charted *	
Event #22766*	pier corner/seaw all	24°33'45 .71 "	081°47'57 .03 "	remain as charted *	
Event #22767	pier/ferry terminal	24°33'47 .04 "	081°47'57 .83 "	uncharted, chart new position *	
Event #22768	corner of pier	24°33'51 .26 "	081°47'55 .34 "	remain as charted *	
Event #22769	pier face D1	24°33'51 .93 "	081°47'57 .49 "	remain as charted	
Event #22770	sub stern	24°33'51 .98 "	081°47'59 .20 "		
Event #22771	sub bow	24°33'52 .29 "	081°48'02 .18 "		
Event #22772	corner	24°33'52 .58 "	081°48'02 .67 "	remain as charted *	
Event #22773	D1 finger pier	24°33'50 .54 "	081°48'03 .10 "	remain as charted *	
Event #22774	D1 finger pier	24°33'50 .62 "	081°48'05 .34 "	remain as charted *	
Event #22775	D1 finger pier	24°33'50 .70 "	081°48'07 .40 "	remain as charted *	
Event #22776	corner of pier D1	24°33'53 .13 "	081°48'07 .70 "	remain as charted *	
Event #22777	corner of pier D1	24°33'54 .47 "	081°48'07 .49 "	remain as charted *	
Event #22778	Coast Guard pier D1 face	24°33'53 .51 "	081°47'57 .38 "	remain as charted *	
Event #22779*	Coast Guard pier D1 corner	24°33'53 .26 "	081°47'54 .61 "	remain as charted *	
Event #22780	Coast Guard pier D2 corner	24°33'54 .38 "	081°47'54 .50 "	remain as charted *	
Event #22781	Coast Guard pier D2 wall	24°33'55 .17 "	081°47'56 .57 "	remain as charted *	
Event #22782	Coast Guard pier D2 corner	24°33'55 .58 "	081°48'01 .87 "	remain as charted *	
Event #22783	Coast Guard pier D2 dolphins	24°33'55 .85 "	081°48'02 .19 "	remain as charted *	

Position	Item	Surveye	Recommendations	
Number	Surveyed	Latitude	Longitude	Recommendations
Event #22784	Coast Guard pier D2 corner	24°33'58 .36 "	081°48'06 .89 "	remain as charted *
Event #22785	coast guard corner of D2	24°34'00 .25 "	081°48'06 .83 "	remain as charted *
Event #22786	corner of pier D3	24°34'03 .29 "	081°48'06 .57 "	remain as charted *
Event #22787	corner of D3	24°34'04 .54 "	081°48'06 .28 "	remain as charted *
Event #22788	pier face of D3	24°34'03 .89 "	081°48'01 .22 "	remain as charted *
Event #22789	pier face of D3	24°34'03 .35 "	081°47'58 .29 "	remain as charted *
Event #22797	pier corner	24°33'23 .69 "	081°48'32 .24 "	remain as charted *
Event #22798	corner of pier	24°33'23 .99 "	081°48'32 .58 "	remain as charted *
Event #22799	corner of pier	24°33'23 .08 "	081°48'30 .98 "	remain as charted *
Event #22801	corner of N Mole pier	24°33'19 .64 "	081°48'34 .85 "	remain as charted *
Event #22802	North Mole pier face	24°33'18 .27 "	081°48'35 .59 "	remain as charted *
Event #22803	bend on Center Mole pier	24°33'13 .10 "	081°48'38 .73 "	remain as charted *
Event #22804	bend on Center Mole pier	24°33'07 .13 "	081°48'39 .86 "	remain as charted *
Event #22805	bend at South Mole pier	24°33'04 .47 "	081°48'40. 47 "	remain as charted *
Event #22806	protrusion from S Mole pier	24°33'03 .74 "	081°48'40 .17 "	remain as charted *
Event #22807	South Mole pier sea wall	24°33'03 .36 "	081°48'40 .22 "	remain as charted *
Event #22808	inside corner s mole pier	24°32'59 .49 "	081°48'36 .72 "	remain as charted *
Event #22809	pier 8 corner	24°33'00 .92 "	081°48'33 .73 "	remain as charted *
Event #22810	dolphin at pier 8	24°33'04 .99 "	081°48'35 .05 "	remain as charted *
Event #22811	pier 8	24°33'04 .59 "	081°48'34 .42 "	remain as charted *
Event #22812	wall	24°33'02 .70 "	081°48'30 .99 "	remain as charted *

Position	Item	Surveye	d Position	December defices
Number	Surveyed	Latitude	Longitude	Recommendations
Event #22813	boat ramp corner	24°33'05 .22 "	081°48'27 .27 "	remain as charted *
Event #22814	boat ramp corner	24°33'05 .99 "	081°48'27 .53 "	remain as charted *
Event #22815	wall	24°33'09 .20 "	081°48'27 .74 "	remain as charted *
Event #22816	wall	24°33'14 .14 "	081°48'28 .03 "	remain as charted *
Event #22817*	corner of wall and sea wall	24°33'20 .88 "	081°48'28 .29 "	remain as charted *
Event #47683	pier	24°34'00 .24 "	081°48'04 .<i>30</i> "	remain as charted *
Event #47684	pier	24°33'59 .67 "	081°47'59 .09 "	remain as charted *
Event #47686	corner of pier	24°34'01 .43 "	081°4 8 7' 02 58. 84"	remain as charted *
Event #47687	corner of pier	24°34'0 21.95 "	081°48'02 .67 "	remain as charted *
Event #47688	outer corner of pier	24°34'02 .53 "	081°48'02 .69 "	remain as charted *

^{*} Concur

E. APPROVAL SHEET

OPR-H355-WH-01 **Key West Harbor and Vicinity** Florida

Survey Registry No. H10956

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.

Respectfully,

Compiled By:

Crescent H. Moegling Senior Survey Technician NOAA Ship WHITING

Orescent Hollage 10/20/01 Signed/Date

Submitted:

Richard T. Brennan Lieutenant, NOAA Field Operations Officer NOAA Ship WHITING

Signed/Date

Approved and Forwarded:

Gerd F. Glang

Lieutenant Commander, NOAA

Commanding Officer

NOAA Ship WHITING

G Hed 7 Hang SEPT 29,2007 Signed/Date

Awois /54RFV 12/9/03, 55V

Appendix I

DANGERS TO NAVIGATION

July 23, 2001

Survey Registry Number: H10956 State: Florida Locality: Key West

Sub-Locality: Key West Harbor and Vicinity

Project Number: OPR-H355-WH

Survey Dates: April 14-June 22, 2000 and June 11-16, 2001

Soundings are reduced to Mean Lower Low Water (MLLW) using Preliminary Water Levels. Horizontal datum is NAD 83.

Chart(s) Affected:

11441_1 38th Edition, October 4, 1997 **11445_2** 29th Edition, December 6, 1997 **11447** 1 34th Edition, April 18, 1998

DANGERS TO NAVIGATION

Fifteen dangers to navigation (see Attachment 1) were discovered during mainscheme hydrography on Sheet H10956, Key West Harbor.

The Obstruction (DTON #7) located at Latitude 24°33'47.16" N Longitude 081°48'18.76" W is an unidentified rectangular object approximately 120' x 15'. The SWMB least depth was 14ft.

The Obstruction (DTON #8) located at Latitude 24°33'44.69" N Longitude 081°48'26.16" W is a metal container. Its dimensions are 7' x 9' with a height of 5'. Divers established a least depth of 2625ft. Soundings were corrected with Preliminary Approved Water Levels.

All other dangers to navigation in this submission are soundings.

Attachment 1

DTON#	Depth(m)	Depth(ft)	Latitude	Longitude	Item
#1	7.70	25	24°34'03 .92 " N	081°48'08 .12 " W	Sounding Obstn
#2	7.70	25	24°34'01 .86 " N	081°48'05 .50 " W	Sounding Obstn
#3	7.20	23	24°33'56 .83 " N	081°48'04 .45 " W	Sounding
#4	7.90	26	24°33'55 .92 "N	081°48'10 .36 " W	Sounding Rk
#5	8.70	28	24°33'56 .24 " N	081°48'13 .30 " W	Sounding
#6	4.20	14 13	24°33'49 .35 " N	081°47'58 .60 " W	Sounding Obstn*
#7	4.40	14	24°33'47 .16 " N	081°48' 1818.76" W	Obstruction* See Page 41
#8	7.60	25	24°33'44 .69 " N	081°48'26 .16 " W	Obstruction See Page 42
#9	9.20	30	24°33'46 .15 " N	081°48'28 .72 " W	Sounding*
#10	9.30	30	24°33'38 .03 " N	081°48'32 .72 " W	Sounding*
#11	8.60	28	24°33'35 .97 " N	081°48'29 .49 " W	Sounding
#12	9.30	30	24°33'30 .87 " N	081°48'35 .26 " W	Sounding Obstn*
#13	9.50	31	24°33'19 .44 " N	081°48'41 .14 " W	Sounding*
#14	10.00	33	24°32'21 .11 " N	081°48'55 .90 " W	Sounding*
#15	6.30	20 21	24°32'43 .00 " N	081°49'55 .00 " W	Sounding*

^{*} See also the evaluation report

Questions concerning this report should be directed to the Chief, Atlantic Hydrographic Branch at (757)441-6746

	S. DEPARTMENT OF COMMERCE ATMOSPHERIC ADMINISTRATION	REFERENCE NO. N/CS33-37-03		
LETTER TRANSMITTING DA	ATA	DATA AS LISTED BELOW WERE FORWARDED TO YOU BY (Check)		
CHIEF, DATA CONTROL GROUP, N/CS3x1 NOAA / NATIONAL OCEAN SERVICE STATION 6815, SSMC3 1315 EAST-WEST HIGHWAY SILVER SPRING, MARYLAND 20910-3282 NOTE: A separate transmittal letter is to be used for each type of data include an executed copy of the transmittal letter in each package. In a The copy will be returned as a receipt. This form should not be used for	ddition the original and one cop	by of the letter should be sent under separate cover.		
ONE TUBE CONTAINING THE FOLLOWING: 1 (AHB) SMOOTH SHEET IN RECORD OF APPLICATION IN THE PROPERTY OF APPLICATION IN THE PROP	TION TO CHART FORM (R FOR NOS CHART 1144	NOAA FORM #75-96). 47		
Return receipted copy to:	4.	(Name, Division, Date)		
NOAA \ NATIONAL OCEAN SERVICE ATLANTIC HYDROGRAPHIC BRANCH N/CS33 439 WEST YORK STREET NORFOLK, VA. 23510-1114	0			
	0			

ATLANTIC HYDROGRAPHIC BRANCH EVALUATION REPORT FOR H10956 (2000-01)

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:

PYDRO, Release 2.5.3 NADCON, version 2.10 MicroStation 95, version 5.05 I/RAS B, version 5.01 CARIS HIPS/SIPS

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

JUNCTIONS

H10955 (2001) to the northwest
H10953 (2000) to the south and southwest

_____A standard junction has been effected between the present survey and H10955 and H10953.

There are no junctional surveys to the north, northeast, or east. Present survey depths are in harmony with the charted hydrography where there are no junctional surveys.

C. 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. The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27, move the projection lines 1.527 seconds (46.991 meters or 4.70 mm at the scale of the survey) north in latitude, and .774 seconds (21.775 meters or 2.16 mm at the scale of the survey) west in longitude.

Н10956

D. RESULTS AND RECOMMENDATIONS

COMPARISON WITH CHARTS	11441	(39 th	Edition,	Apr	28/01)
	11442	(33 rd	Edition,	Feb	10/01)
	11445	(30 th	Edition,	Mar	31/01)
		-	Edition,		

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. The following should be noted:

- 1) A charted notation, 31 ft rep 1999, in the vicinity of Latitude 24°33'11.04"N, Longitude 081°48'34.25"W was investigated by the hydrographer. It is recommended that the charted notation, 31 ft rep 1999, be deleted and that soundings from the present survey be charted. See also page 10 (Truman Annex) of the Descriptive Report.
- 2) A charted notation <u>Shl rep 1977</u> in the vicinity of Latitude 24°33'02.26"N, Longitude 081°48'37.72"W was investigated by the hydrographer. It is recommended that the charted notation <u>Shl rep 1977</u> be deleted and that soundings from the present survey be charted.
- 3) Three charted <u>Submerged piles</u>, in the vicinity of Latitude 24°33'46.50"N, Longitude 081°48'18.61"W are not considered disproved by the present survey. It is recommended that these <u>Submerged piles</u> be retained as charted. **See also page 47 of the Descriptive Report**.
- 4) Three charted <u>Dols</u>, in Latitude 24°33'40.76"N, Longitude 081°48'11.15"W, Latitude 24°33'40.86"N, Longitude 081°48'10.76"W, Latitude 24°33'41.12"N, Longitude 081°48'10.42"W are not considered disproved by the present survey. It is recommended that these <u>Dols</u> be revised to <u>Subm dols</u>. **See also page 47 of the Descriptive Report**.
- 5) Two charted <u>Dols</u>, in the vicinity of Latitude 24°33'40.42"N, Longitude 081°48'07.30"W and Latitude 24°33'40.65"N, Longitude 081°48'06.96"W are not considered disproved by the present survey. It is recommended that these Dols be revised to <u>Subm dols</u>. **See also page 47 of the Descriptive Report**.

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6) A charted <u>Rock awash (height unknown)</u>, in Latitude 24°33'40.87"N, 081°48'07.95"W, is not considered disproved by the present survey. It is recommended that this feature be retained as charted.

7) The following charted soundings fall within the limits of the present survey and are not considered disproved. It is recommended that these soundings be retained as charted:

Charted Der	oth Latitude	<u>Longitude</u>
7 FT	24°33'34.66"N	081°48'48.30"W
5 FT	24°33'34.16"N	081°48'52.13"W
11 FT	24°33'33.94"N	081°48'54.85"W
9 FT	24°33'40.00"N	081°48'41.89"W
3 FT	24°33'45.54"N	081°48'38.65"W
10 FT	24°33'51.00"N	081°48'37.87"W
5 FT	24°33'42.87"N	081°48'10.10"W
4 FT	24°33'41.44"N	081°48'10.80"W
10 FT	24°33'44.65"N	081°49'17.36"W
6 FT	24°33'50.66"N	081°47'55.26"W

8) The following additional features are considered disproved. It is recommended that these feature be deleted:

<u>Feature</u>	Latitude	<u>Longitude</u>
Pile	24°33'42.98"N	081°48'25.83"W
Pile	24°33'44.31"N	081°48'09.09"W

DANGERS TO NAVIGATION

- 1) Two dangers to navigation, item number nine (9) and item number ten (10) on page 57 of the descriptive report, were submitted by the hydrographer as 30ft soundings in Latitude 24°33'46.15"N, Longitude 081°48'28.72"W, and Latitude 24°33'38.03"N, Longitude 081°48'32.72"W. The tabulated controlling depths in this area of the channel range from 30.2ft to 31.3ft. Office review determined that these soundings do not represent dangers to navigation. It is recommended that this two danger to navigation not be charted.
- 2) A danger to navigation, item number fifteen(15)on page 57 of the Descriptive Report, was submitted by the hydrographer as a 20ft sounding in Latitude 24°32'43.00"N, Longitude 081°49'55.00"W. AHB office review of this danger to navigation found an irregular bottom consisting of coral features and soundings of 21ft or greater in its reported location. It is recommended that the reported 20ft sounding in

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Latitude 24°32'43.00"N, Longitude 081°49'55.00"W be removed from the chart and that soundings from the present survey be charted.

See also page 37 of the Descriptive Report.

Except as noted above, the present survey is adequate to supersede the charted hydrography within the common area.

D.2 ADDITIONAL RESULTS

SHORELINE

New shoreline located by the hydrographer is shown in red on the present survey. Dashed red lines, shown as approximate shoreline on the present survey were added during office processing. All approximate shoreline shown on the present survey was drawn by referencing aerial photos of Key West Harbor. These aerial photos were downloaded from the following web site: http://www.keywestcity.com/. Analog copies of these photos are attached to this report.

- 1) A new extension to <u>pier B</u> was located by the hydrographer in Latitude 24°33'28.76"N, 081°48'31.72"W. A dashed red line has been drawn on the present survey using aerial photos as reference to better reflect the true shape of the pier and to tie it into the existing charted shoreline. **See also photo#1 attached to this report**.
- 2) A new mooring platform was located by the hydrographer in Latitude 24°33'29.69"N, Longitude 081°48'31.39"W. The standard symbol for this feature is shown on the H-drawing. However, the true shape of this mooring platform is rectangular and not square as shown on the H-drawing. It is recommended that the MCD compiler reference photo#1, attached to this report, before charting this feature.
- 3) A charted <u>pier</u>, in the vicinity of Latitude 24°33'40.51"N, Longitude 081°48'09.59"W is not considered disproved by the present survey. It is recommended that this <u>pier</u> be revised to <u>Subm pier ruins</u>. **See also page 47 of the Descriptive Report**.
- 4) Charted <u>pier ruins</u>, in the vicinity of Latitude 24°33'41.25"N, Longitude 081°48'11.30"W are not considered disproved by the present survey. It is recommended that these <u>Subm pier ruins</u> be retained as charted. **See also page 47 of**

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the Descriptive Report.

- 5) A charted <u>pier</u>, in the vicinity of Latitude 24°33'43.11"N, Longitude 081°48'01.50"W is not considered disproved by the present survey. It is recommended that this <u>pier</u> be revised to <u>Subm pier ruins</u>. **See also page 47 of the Descriptive Report**.
- 6) A charted <u>pier</u>, in the vicinity of Latitude 24°33'43.53"N, Longitude 081°48'00.76"W is not considered disproved by the present survey. It is recommended that this <u>pier</u> be revised to <u>Subm pier ruins</u>. **See also page 47 of the Descriptive Report**.
- 7) Charted <u>Subm pier ruins</u>, in the vicinity of Latitude 24°33'43.98"N, Longitude 081°48'00.73"W are not considered disproved by the present survey. It is recommended that these <u>Subm pier ruins</u> be retained as charted. **See also page 47 of the Descriptive Report**.
- 8) A charted <u>pier</u>, in the vicinity of Latitude 24°33'45.27"N, Longitude 081°47'58.06"W is not considered disproved by the present survey. It is recommended that this <u>pier</u> be revised to <u>Subm pier ruins</u>. **See also page 47 of the Descriptive Report**.
- 9) A charted <u>pier</u>, in the vicinity of Latitude 24°33'47.69"N, Longitude 081°47'57.34"W is not considered disproved by the present survey. It is recommended that this <u>pier</u> be revised to <u>Subm pier ruins</u>. **See also page 47 of the Descriptive Report**.

CONTROLLING DEPTHS

Discrepancies between the charted controlling depths and the survey soundings are listed below. These discrepancies were brought to the attention of LT Lawrence Krepp, NOAA, Navigation Manager for the Southeast Region. On September 5, 2003, LT Krepp met with the Key West Bar Pilots Association in Key West. The pilots concurred that the identified depths and obstructions found to be in disagreement with the tabulated controlling depths should be charted, even though tabulated depths in the Key West Harbor Channels are from Corps of Engineers (ACOE) surveys of later vintage. The ACOE surveys were conducted using single beam echosounder only. Mr. Al Fletcher of the ACOE also concurred that these obstructions

should be charted. It is recommended that these depths and obstructions be charted unless other information indicates otherwise:

CUT B RANGE

Controlling	Survey		
<u>Depth (ft)</u>	Depth ft/m	<u>Latitude(N)</u>	Longitude(W)
347	32/9 ⁹	24°32'22.61"	081°48'56.51"
348	$33/10^2$	24°32'25.66"	081°48'56.16"
348	33/100	24°32'21.11"	081°48'55.90"

THENCE TO BUOY 23

Controlling	Survey		
Depth (ft)	Depth ft/m	<u>Latitude(N)</u>	Longitude(W)
33^{2}	$30/9^3$ Obstn	24°33'30.87"	081°48'35.26"
33^{2}	$31/9^{5}$	24°33'19.44"	081°48'41.14"

KEY WEST BIGHT CHANNEL

Controlling	Survey		
Depth (ft)	Depth ft/m	<u>Latitude(N)</u>	Longitude(W)
148	$14/4^4$ Obstn	24°33'47.16"	081 48 18.76"
148	$13/4^2$ Obstn	24°33'49.35"	081°47'58.60"

Except as noted above, 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.

The present survey is adequate to supersede the prior surveys in the common area.

ADEQUACY OF SURVEY

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

MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic

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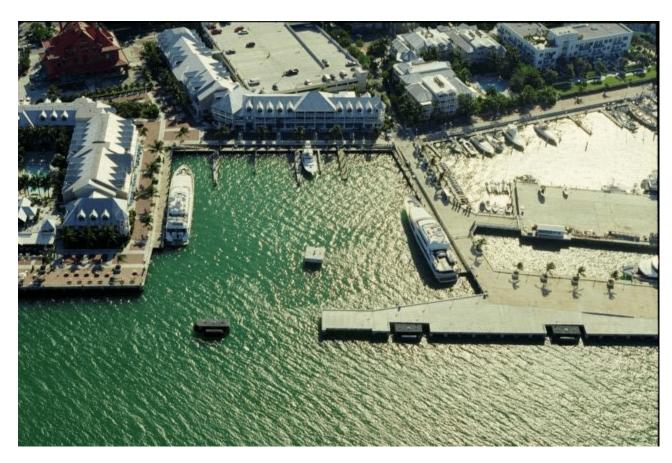
Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS chart was used for compilation of the present survey:

11447 (35th Edition, Jul./02) Corrected through NM Jul. 27/02 Corrected through LNM Jul. 16/02 Richard Bluris
Richard Blevins

Cartographer

Verification of Field Data

Evaluation and Analysis



Photo#1

Pier "B"
New Mooring Platform

Reference the web site below:

http://www.keywestcity.com/

APPROVAL SHEET H10956

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval 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 W. Blevins Date: July 2, 2003

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:

280 ate: 7/21/03
Emily B. Christman

Commander, NOAA

Chief, Atlantic Hydrographic Branch

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. _

INSTRUCTIONS

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

Letter all information.
 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
11447	07/24/03	Richard Blwin	Full-Part Before After Marine Center Approval Signed Via
01441	11/7/03	cporter	Drawing No.
11446	11/7/03	eporter	
		V.	Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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