

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

Type of Survey ..... Hydrographic .....  
Field No. .... AHP2-10-8-93 .....  
Office No..... H-10474 .....

### LOCALITY

State ..... Florida .....  
General Locality ..... Biscayne Bay .....  
Locality ..... Vicinity of Sand Key .....

19 93

### CHIEF OF PARTY

LCDR James E., Waddell, Jr., NOAA .....

### LIBRARY & ARCHIVES

DATE ..... AUG 7 1995 .....

H10474

**HYDROGRAPHIC TITLE SHEET**

H-10474

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 NO.

AHP2-10-8-93

State Florida

General locality Biscayne Bay

Locality Vicinity of Sand Key

Scale 1,10,000 Date of survey May 19 - August 12, 1993

Instructions dated April 6, 1993 Project No. S-H901-ANP

Vessel 0519, 21-Foot MonArk

Chief of party LCDR James E. Waddell, Jr., NOAA

Surveyed by Dave Elliott, Larry Martinez

Soundings taken by echo sounder, ~~hand held, etc.~~ Innerspace Model 448, LEADLINE

Graphic record scaled by Dave Elliott

Graphic record checked by Larry Martinez

Verification by: Gordon E. Kay Automated plot by PHS Xynetics Plotter

Evaluation by: Gordon E. Kay

Soundings in meters and decimeters at ~~MLLW~~ MLLW

REMARKS: Time in UTC. Revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.

SC 1-27-92  
8/7/95

AWOIS/SURF - 8/15/95 SJV

DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-10474  
FIELD NO. AHP2-10-8-93  
SCALE: 1:10,000  
1993  
ATLANTIC HYDROGRAPHIC PARTY TWO  
CHIEF OF PARTY: LCDR James E. Waddell, Jr., NOAA

A. PROJECT

This survey was conducted according to Hydrographic Project Instructions S-H901-AHP, Biscayne Bay, Florida, dated April 6, 1993 and Change No.1, dated July 13, 1993. ✓

The purpose of this project is to evaluate and ascertain any changes as a result of damages suffered by Hurricane Andrew during the fall of 1992. Prior surveys in this area were conducted in 1919, 1930, 1934, and 1946. ✓

The sheet letter is "C" as specified by the project instructions. ✓

B. AREA SURVEYED

The area surveyed for H-10474 is within Biscayne National Monument. The approximate survey limits are as follows: ✓

North: <sup>145"</sup>25°33.8'N  
South: 25°29.6'N 36"  
East: 080°07.9'W 58"  
West: 080°14.0'W 50"

This survey was conducted from May 19, 1993 (DN 139) to August 12, 1993 (DN 224). ✓

C. SURVEY VESSELS

Vessel 0519 (EDP No. 0519) a 21-foot MonArk was used to collect all survey data. No unusual problems were encountered with this launch during the survey. ✓

D. AUTOMATED DATA ACQUISITION AND PROCESSING

Version 4.03 of the PC-DAS programs was used for on-line data acquisition. A list of all HP-DPS programs and versions used for data processing can be found in Appendix VI.\*The NOS program VELOCITY (Ver. 2.0) and WordPerfect (Ver. 5.1) were also used during this survey. ✓

\* Filed with the hydrographic data

E. SONAR EQUIPMENT

No side scan sonar equipment was available for this survey. ✓

F. SOUNDING EQUIPMENT

An Innerspace model 448 depth sounder, S/N 186, was used to collect all echo soundings on this survey. A standard lead line calibrated in meters, S/N 0519, was used during this survey for comparison readings with the depth sounder. A 5-meter long, wooden sounding pole, constructed according to HSG No. 69, was used to obtain all pole soundings. No problems were encountered with any of the sounding equipment. ✓

G. CORRECTIONS TO ECHO SOUNDINGS

Corrections for the speed of sound through the water column were computed from data obtained with an Odom Hydrographic Systems Digibar (Model DB1100) speed of sound probe, S/N 155. This instrument was calibrated by the manufacturer on May 3, 1993 and data quality assurance tests were performed before each cast. Program VELOCITY was used for computing the speed of sound correctors. Speed of sound corrections were applied to the sounding plot using the HDAPS Reapply Depth Correctors function. Copies of the tables and support documentation are in the Survey Separates. \*\*The following speed of sound casts were taken on this survey. ✓

<u>Cast</u>	<u>Date (DN)</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Actual/Extended Depth m.</u>
01 *	06/02/93 (153)	25°34.0'N	080°13.0'W	4.0 / 5.2
02	06/09/93 (160)	25°35.0'N	080°12.0'W	4.0 / 5.2
03	06/16/93 (167)	25°35.5'N	080°13.0'W	4.0 / 5.2
04	06/23/93 (174)	25°35.7'N	080°13.2'W	4.0 / 5.2
05	07/07/93 (188)	25°35.0'N	080°12.0'W	4.0 / 5.2
06	07/15/93 (196)	25°34.1'N	080°05.8'W	12.0 / 15.6
07	07/27/93 (208)	25°30.6'N	080°07.8'W	8.0 / 10.4
08	08/09/93 (221)	25°30.0'N	080°07.5'W	10.0 / 13.0

The bracketing days for these casts are outlined in the table below. ✓

<u>Cast No.</u>	<u>Table No.</u>	<u>Used for Days</u>
1	1	153-155
2	2	158-160
3	3	166-172

\* only cast within limits of Survey H-10474

\*\* Filed with the hydrographic data.

4	4	174-181
5	5	187-190
6	6	194-204
7	7	211-217
8	8	221-223

Weather permitting, lead line comparisons were taken daily to determine echo sounder error. No echo sounder error was observed during these comparisons. The lead line was calibrated on May 14, 1993 with a steel tape. A copy of the leadline comparison log and the leadline calibration form can be found in the Survey Separates. A static draft of 0.3 meters was applied to on-line soundings through Offset Table No. 1 using the HDAPS Reapply Depth Correctors function. The draft was measured by subtracting the difference from a punch mark on the side of Launch 0519, 0.6 meters above the transducer, to the water surface.

Settlement and squat measurements for vessel 0519 were performed on May 14, 1993 (DN 134) at the Miami, Marine Stadium using the level method; data from this test are included in the Survey Separates. Settlement and squat correctors were applied to on-line soundings through Offset Table No. 1.

The sounding plot used predicted tides determined from Haulover Pier, Florida, with the time and height correctors designated in section 5.9 of the project instructions. Approved water levels were requested from the Product and Services Branch, Datums Section, N/OES231, in a letter dated August 13, 1993. A copy is included in Appendix V of this report.

#### H. CONTROL STATIONS

The horizontal control datum for this project is the North American Datum of 1983. Two horizontal control stations, Key Biscayne Towers Condominium (001), and Key Biscayne Yacht Club Light No.1 (002) were used on this survey. These stations were established to 3rd-order standards with GPS by AHP personnel in May. The Horizontal Control Report and the Horizontal Control Report Addendum for these positions were submitted to N/CG23322 on May 28, 1993. These positions served as our GPS base station sites and also our launch performance checkpoint during work on this survey. Positions for these stations are shown in the Control Station list in Appendix III of this report.

*is attached to*

#### I. HYDROGRAPHIC POSITION CONTROL

##### Survey Methods

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. Ashtech M-XII receiver (S/N 700157E1075) and antenna (S/N 700228C1572) were used for the reference station. An Ashtech Sensor (S/N 700417B1207) and antenna (S/N 700378A0232)

\* Filed with the hydrographic data.

were used as the remote station on Launch 0519. Maxon VHF radios were used as the datalink between the base station receiver and the launch sensor. The primary GPS base station site (001) was set at Key Biscayne Towers Condominium. Prior to using the Key Biscayne Towers Condominium base station, the Monitor test was run for this site to check its susceptibility to multi-path problems; this test indicated 99.9% availability at a 1:10,000 survey scale. Results of this test are included in the Survey Separates, *filed with the Survey Records.* ✓

Daily DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to our computed third-order position of Key Biscayne Yacht Club Light No.1. To obtain a performance check, the launch was brought alongside the checkpoint and the Easting, Northing, number of SVs, HDOP, and time of observation were noted on the echogram. These values were then entered into a Lotus spreadsheet table which would compute the acceptable error margin (based on the HDOP) and also our observed difference between our known and observed position. The table of these comparisons is included in the Survey Separates. \* All of our observed differences fell well within the allowable limit. ✓

#### J. SHORELINE

There was no final field sheet for H-10474, as this project was Team Processed with Pacific Hydrographic Section. The shoreline was transferred by hand from a chart enlargement in brown ink, ~~with changes shown in red ink.~~ Chart No. 11451 (1:40,000, 25th Ed., July 11, 1992) was enlarged to 1:10,000 due to no updated photography being available at the time of this survey. Shoreline verification was accomplished during inshore hydrographic data acquisition and by visual inspection. The reference number descriptions, field notes, explanations of new shoreline features, and photographs of various features are located in the daily log, on the graphic record, and on the boat sheet. Charted shoreline should be retained and superseded only by new photography when available. *Concur* ✓

#### K. CROSSLINES

A total of 50 linear nautical miles of crosslines were run, which represents approximately 11% of the main scheme hydrography. Crossline soundings agree with the mainscheme soundings within 0.2 meters inshore and within 0.5 meters offshore. The offshore discrepancy is believed due to the difference between predicted and actual tides. ✓

#### L. JUNCTIONS

This survey junctions with recently completed survey H-10473 to the north, a 1:10,000 scale survey from S-H901-AHP. Comparisons between survey H-10473 and H-10474 indicate good agreement between soundings and depth curves, with differences less than 0.2 meters. ✓

\* Filed with the hydrographic data.

M. COMPARISON WITH PRIOR SURVEYS

See Pacific Hydrographic Section's Evaluation Report for H-10474.

*Section 6*

N. ITEM INVESTIGATION REPORTS

Five AWOIS reports are ~~filed in the Descriptive Report Appendices, within Section VI, Supplemental Correspondence.~~ *attached*

O. COMPARISON WITH THE CHART *see Evaluation Report, section 7*

Comparison was made with the following charts:

<u>Chart No.</u>	<u>Edition</u>	<u>Edition Date</u>
11451	25th	July 11, 1992
11462	21st	August 1, 1992
11463	13th	November 14, 1992
11465	28th	July 11, 1992

Three dangers to navigation were identified on this survey. Danger to Navigation letters were submitted on May 28, 1993 ~~and copies have been included in Appendix I.~~ *are attached* ✓

Soundings from this survey are within 0.3 meters of those charted.

The following discrepancies were noted:

- AHP was informed by N/CG241 and verified, that the charted privately maintained daybeacon G"5", approximately 320 meters west of Ragged Keys (chart 11462) at 25°31'59"N, 080°10'27"W, was removed and was reported in Local Notice to Mariners 45-91--CGD7. ✓

**Recommendation:** The hydrographer recommends the daybeacon G"5" be removed from the chart. *CONCUR*

- The charted mud bottom, inshore of Ragged, Boca Chita, and Sands Key was found to be sand, turtle grass, and sponge. *Divers investigated these features and found that the charted rocks are sponges. Chart area with note "sand and grass".*

**Recommendation:** The hydrographer recommends that the chart be updated to reflect those *CONCUR* bottom characteristics found during this survey.

- An uncharted submerged wooden barge located at 25°31'34.4"N, 080°10'26.3"W (Pos. No. 3597) was found to have a least depth of 0.7<sup>3</sup> meters. Due to the proximity of the charted piles

next to this barge, and the shoal depths in the vicinity, this feature was not reported as a danger to navigation. ✓

**Recommendation:** The hydrographer recommends that this barge be <sup>CHARTED</sup> noted on future chart editions. *CONCUR*

The charted tower<sup>(landmark)</sup> located on the NW corner of "Boca Chita Key" at 25°31'29.0"N, 080°10'33.8"W, was found to be a non-active light house maintained by the "Biscayne National Park". A photograph of this item is included. *(filed with the survey records)* ✓

**Recommendation:** The hydrographer recommends that a note appear on the chart stating that this light house is not lit. *Chart "Lt-Ho" (Abandoned) Evaluation Report 7.d.* *CONCUR*

The east-west passage through a shoal charted at 25°32'36.3"N, 080°11'00.6"W appears on chart No. 11451, however does not appear on chart No. 11465. ✓

**Recommendation:** The hydrographer recommends that chart No. 11465 be updated showing this east-west passage. *CHART AREA As Shown on this Survey.*

There was notable shoreline recession along the seaward side of the "Ragged Keys". ✓

**Recommendation:** The hydrographer recommends that the chart be updated to reflect shoreline data from this survey. *do NOT CONCUR. There is <sup>verified</sup> No highwater line on this survey. SEE P.R. Sect J, page 4., last sentence. \**

Numerous uncharted coral heads were noted in the survey area. These features have not been individually addressed due to the metric contours changing when converted to feet. ✓

**Recommendation:** The hydrographer recommends that the chart be updated to reflect sounding data from this survey. *CONCUR*

#### P. ADEQUACY OF SURVEY

This survey is a complete basic hydrographic survey and is adequate to supersede all prior surveys within the common area. ✓

#### Q. AIDS TO NAVIGATION

The following aids to navigation are maintained by the U.S. Coast Guard, unless noted otherwise, and lie within the survey area. All of the aids serve their intended purpose. Aids to navigation were positioned by DGPS during hydrographic operations. Equipment and resources were not available for 3rd-order positions on these navigation aids. ✓

*\* The highwater line on the smooth sheet is from the chart, and is shown for orientation purposes only.*



Pos No.	USCGLL#	Charted Pos.	Survey Pos.	Distance/Bearing from Charted Pos.	<u>NAMES</u>
54	9760	25°31'01"N 080°08'16"W	25°31'01.0 <sup>9</sup> "N 080°08'16.0 <sup>8</sup> "W	On Station	RAGGED KEY DAYBEACON 7
55	9765	25°30'26"N 080°08'44"W	25°30'26.2 <sup>6</sup> "N 080°08'44.0 <sup>6</sup> "W	On Station	BOWLES BANK LIGHT 8
56	9770	25°29'47"N 080°08'38"W	25°29'47.3 <sup>9</sup> "N 080°08'38.0 <sup>10</sup> "W	On Station	BACHE SHOAL DAYBEACON 9
Danger Shallow Dbn	(None)	(None)	25°29'48.4 <sup>1</sup> "N 080°10'32.0 <sup>3</sup> "W	Not Charted	
Danger Shallow Dbn	(None)	(None)	25°29'36.6 <sup>3</sup> "N 080°10'31.8 <sup>4</sup> "W	Not Charted	
43	42855	25°32'18"N 080°12'49"W	25°32'18.5 <sup>5</sup> "N 080°12'49.3 <sup>7</sup> "W	On Station	FEATHERBED BANK EAST LIGHT 2
44	42850	25°32'20"N 080°12'30"W	25°32'21.8 <sup>1</sup> "N 080°12'30.3 <sup>6</sup> "W	On Station	FEATHERBED BANK EAST DAYBEACON 1
45	42860	25°31'18"N 080°11'36"W	25°31'18.5 <sup>D</sup> "N 080°11'36.4 <sup>5</sup> "W	On Station	SANDS KEY DAYBEACON 2
46	42865	25°31'15"N 080°11'34"W	25°31'14.5 <sup>1</sup> "N 080°11'34.4 <sup>4</sup> "W	On Station	SANDS KEY LIGHT 3
47	42870	25°31'12"N 080°11'36"W	25°31'12.3 <sup>9</sup> "N 080°11'36.7 <sup>4</sup> "W	On Station	SANDS KEY DAYBEACON 4
48	<del>42877</del> 43025	25°30'07"N 080°13'15"W	25°30'07.6 <sup>B</sup> "N 080°13'14.8 <sup>4</sup> "W	On Station	FEATHERBED BANK SHOAL DAYBEACON 5
49	42895	25°30'40"N 080°13'36"W	25°30'41.9 <sup>A</sup> "N 080°13'36.5 <sup>4</sup> "W	On Station	FEATHERBED BANK SHOAL DAYBEACON X
50	42885	25°31'00"N 080°14'20"W	25°31'00.7 <sup>1</sup> "N 080°14'19.9 <sup>W</sup> "W	On Station	FEATHERBED BANK DAYBEACON 5
51	42890	25°31'00"N 080°14'21"W	25°31'00.1 <sup>9</sup> "N 080°14'21.8 <sup>8</sup> "W	On Station	FEATHER BED BANK LIGHT 6

52	42875	25°31'17"N 080°14'20"W	25°31'17. <sup>60</sup> <sub>2</sub> "N 080°14'19.4 <sup>60</sup> <sub>2</sub> "W	On Station	FEATHER BED BANK LIGHT 3
53	42880	25°31'16"N 080°14'20"W	25°31'17.5 <sup>8</sup> <sub>2</sub> "N 080°14'21.7 <sup>8</sup> <sub>2</sub> "W	On Station	FEATHER BED BANK DAYBEACON 4

All navigation aid positions were submitted to the Seventh U.S. Coast Guard at the conclusion of S-H901-AHP. ✓

#### R. STATISTICS ✓

<u>Description</u>	<u>Quantity</u>
Total Number of Positions	49 <sup>18</sup> <del>64</del>
Total Lineal Nautical Miles of Hydrography	524
Total Lineal Nautical Miles of Cross Lines	50
Square Nautical Miles of Hydrography	23
Days of Production	28
Detached Positions	46
Bottom Samples	77
Tide Stations	2
Velocity Casts	8

#### S. MISCELLANEOUS ✓

Bottom samples were taken as directed in Section 6.7 of the project instructions. Bottom sample positions and descriptions are plotted on the overlay submitted with this survey, and are listed on the Oceanographic Log Sheet-M, NOAA Form 75-44, which is included in the Survey Separates, section II, *filed with the Survey Records*. ✓

Two to four knot tidal currents were noted between offshore keys.

The survey launch is limited by draft to waters deeper than 0.4 meters. Because of minimal tidal ranges, we were unable to approach the inshore shoal areas which exist throughout this survey area. ✓

#### T. RECOMMENDATIONS

Future chart editions should have printed on them a reordering address and telephone number so when our customers wish to order the same or adjoining charts, they will not need to obtain ✓

a chart catalog. This eliminates a step in getting our product to the market place.

U. REFERRAL TO REPORTS

<u>Titles</u>	<u>Transmittal Information</u>
Horizontal Control Report for S-H901-AHP	Field Photogrammetry Section N/CG23322, Norfolk, VA (5/28/93)
Descriptive Report to Accompany Survey H-10474	Pacific Hydrographic Section N/CG245, Seattle, WA (8/30/93)
Chart Sales Agent Report	Pacific Hydrographic Section N/CG245, Seattle, WA (8/17/93)
User Evaluation Report	Pacific Hydrographic Section N/CG245, Seattle, WA (8/17/93)
Chart Inspection Report	Atlantic Hydrographic Section N/CG244, Norfolk, VA (8/17/93)
Coast Pilot Report	Pacific Hydrographic Section N/CG245, Seattle, WA (8/23/93)

Submitted By: The Atlantic Hydrographic Party



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Office of Ocean and Earth Sciences  
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

ORIGINAL

DATE: October 18, 1993

MARINE CENTER: Pacific

HYDROGRAPHIC PROJECT: S-H901-AHP

HYDROGRAPHIC SHEET: H-10474

LOCALITY: Biscayne Bay, Florida, Vicinity Boca Chita Key

TIME PERIOD: May 19 - August 12, 1993

TIDE STATION USED: 872-3232 Key Biscayne Yacht Club, Fl.  
Lat.  $25^{\circ} 41.9'N$  Lon.  $80^{\circ} 10.2'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 3.91 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.2 ft.

TIDE STATION USED: 872-3423 Turkey Point, Fl.  
Lat.  $25^{\circ} 26.2'N$  Lon.  $80^{\circ} 19.7'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.89 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.7 ft.

TIDE STATION USED: 872-3962 Key Colony Beach, Fl.  
Lat.  $24^{\circ} 43.1'N$  Lon.  $81^{\circ} 1.1'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 3.22 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.9 ft.



H-10474 (continued)

REMARKS: RECOMMENDED ZONING

1. In Biscayne Bay, south of  $25^{\circ} 43.0'N$ , and north of  $25^{\circ} 32.5'N$ , times and heights are direct on Key Biscayne, Fl. (872-3232).
2. In Biscayne Bay south of  $25^{\circ} 32.5'N$ , apply a -45 minute time correction, and use heights direct on Turkey Point, Fl. (872-3423). When data is not available for 872-3423, apply a +1 hour 00 minute time correction and a X0.78 range ratio to all heights from Key Biscayne Yacht Club, Fl. (872-3232).
3. In the Atlantic Ocean south of  $25^{\circ} 38.0'N$  and north of  $25^{\circ} 29.0'N$ , apply a -45 minute time correction and a X1.38 range ratio to all heights on Key Colony Beach, Fl. (872-3962).

Note: Times are tabulated in Eastern Standard Time.

*William M. Huber*  
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ACTING CHIEF, DATUMS SECTION



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Office of Ocean and Earth Sciences  
Silver Spring, Maryland 20910

ORIGINAL

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: December 15, 1993

MARINE CENTER: Pacific

HYDROGRAPHIC PROJECT: S-H901-AHP

HYDROGRAPHIC SHEET: H-10474 (Amended)

LOCALITY: Biscayne Bay, Florida, Vicinity Boca Chita Key

TIME PERIOD: May 19 - August 12, 1993

TIDE STATION USED: 872-3232 Key Biscayne Yacht Club, Fl.  
Lat.  $25^{\circ} 41.9'N$  Lon.  $80^{\circ} 10.2'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 3.91 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.2 ft.

TIDE STATION USED: 872-3423 Turkey Point, Fl.  
Lat.  $25^{\circ} 26.2'N$  Lon.  $80^{\circ} 19.7'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.89 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.7 ft.

TIDE STATION USED: 872-3962 Key Colony Beach, Fl.  
Lat.  $24^{\circ} 43.1'N$  Lon.  $81^{\circ} 1.1'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 3.22 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.9 ft.



H-10474 (continued)

**REMARKS: RECOMMENDED ZONING**

1. In Biscayne Bay, west of a line between Soldier Key and the north point of Sands Key, south of  $25^{\circ} 43.0'N$ , and north of  $25^{\circ} 32.5'N$ , times and heights are direct on Key Biscayne, Fl. (872-3232).
2. In Biscayne Bay, west of a line between Soldier Key and the north point of Sands Key, south of  $25^{\circ} 32.5'N$ , apply a -45 minute time correction, and use heights direct on Turkey Point, Fl. (872-3423). When data is not available for 872-3423, apply a +1 hour 00 minute time correction and a X0.78 range ratio to all heights from Key Biscayne Yacht Club, Fl. (872-3232).
3. In the Atlantic Ocean east of a line between Soldier Key and the north point of Sands Key, south of  $25^{\circ} 38.0'N$  and north of  $25^{\circ} 29.0'N$ , apply a -45 minute time correction and a X1.38 range ratio to all heights on Key Colony Beach, Fl. (872-3962).

Note: Times are tabulated in Eastern Standard Time.

*William M. Gibson*  
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CHIEF, DATUMS SECTION

GEOGRAPHIC NAMES

H-10474

Name on Survey	<div style="display: flex; justify-content: space-between; font-size: small;"> <span>A ON CHART NO.</span> <span>B ON PREVIOUS SURVEY NO.</span> <span>C ON U.S. QUADRANGLE MAPS</span> <span>D FROM LOCAL INFORMATION</span> <span>E ON LOCAL MAPS</span> <span>F P.O. GUIDE OR MAP</span> <span>G RAND McNALLY ATLAS</span> <span>H U.S. LIGHT LIST</span> </div>											
	A	B	C	D	E	F	G	H	K			
BISCAYNE BAY	X		X									1
BOCA CHITA KEY	X		X									2
BOWLES BANK	X		X									3
ELLIOTT KEY	X		X									4
FLORIDA (title)	X		X									5
KEYHOLE, THE			X									6
LEWIS CUT	X		X									7
RAGGED KEYS	X		X									8
SANDS CUT	X		X									9
SANDS KEY	X		X									10
												11
												12
												13
												14
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												24
												25

Approved:

*Charles E. Hastings*  
Chief Geographer - N/Ca 2x5

FEB 14 1994



**AWOIS NO:499**

**Item Description:** Obstruction, 7 foot pinnacle

**Source:** CL488/85; LNM21/85; FE301/85

**AWOIS Position:** Lat - 25/31/20.98N Lon - 080/08/13.46W

**Required Investigation:** ES, DI -- 100m radius

**Charts Affected:** 11451, 11465

**INVESTIGATION**

**Date(s)/DN(s):** 5/26/93 (DN:146)

**Position Numbers:** 99

**Launch Number:** 0519

**Investigation Used:** VS, DI, ES

**Water Visibility:** >2m

**Position Determined By:** DGPS

**Investigation Summary:** A diver search was made of this item resulting in the positioning of the shallowest bottom feature in the reported search area. This was found to be at position number 99, 6.2 meters. This item is likewise associated with Awois item number 6926. No 7 foot pinnacle rock could be found within the required search area for Awois No.499, however a 12.4 ~~11.8~~ foot (mllw) Co head was found at position 101 (Awois No.6926). The reported position associated with the later Awois item above is felt to represent a more accurately reported position (ie, FE 301/85--S-H945-HFP-85).

**CHARTING RECOMMENDATION**

The hydrographer recommends that the charted 7 foot sounding at latitude 25°31'20.98"N and longitude 080°08'13.46"W be removed. *Concur*

See Awois report for No.6926 for charted feature.  
And chart the 11.8 foot feature above, and remove the note "Rep. 1985".

**Recommended Position:** Lat - 25/31/20.9N Lon - 080/08/13.2W

**Recommended Least Depth:** 6.2m (20.3 feet, mllw)  
*Chart used as shown on the Smeeth Sheet.*

\*\*\*\*\*

**COMPILATION NOTES**

Chart

Applied As

AWOIS NO:2477

Item Description: Shoaling report

Source: LNM32/76

AWOIS Position: Lat - 25/30/51.38N ✓ Lon - 080/13/29.18W ✓

Required Investigation: VS, ES -- m/s splits

Charts Affected: 11451, 11465

INVESTIGATION

Date(s)/DN(s): 6/07/93 & 6/28/93 (DN:158 &179)

Position Numbers:m/s on 158;2153-2196 on 179 Launch Number:0519

Investigation Used: VS, ES Water Visibility: 30m

Position Determined By: DGPS

Investigation Summary: Mainscheme hydrography and 50 meter splits were conducted throughout the reported area. The passage between "Featherbed Bank" and the daybeacon "X" (LL No.42895), was found to be presently controlled by a depth of 2.1 meters(w/predicted tides, mllw) at survey position No. 548. This point lies approximately 370 meters due north from daybeacon "X". The currently charted six foot contour safely depicts passage in the area, however should be superseded by this surveys (H-10474) data. There was No evidence of shoaling noted, conversely the opposite was found, with apparent scouring on a northeast, southwest axis between the southern shoal bank (Not currently named) and "Featherbed Bank", with a approximately 300 meter wide passage controlled by the above mentioned depth.

CHARTING RECOMMENDATION

The hydrographer recommends that the charted Shoaling be removed, and the currently surveyed contours and soundings be applied to the chart. *Concur*

Recommended Position: Lat - 25/30/53.6N Lon - 080/13/35.6W

Recommended Least Depth: 2.1 mllw

\*\*\*\*\*  
COMPILATION NOTES

Chart

Applied As

**AWOIS NO:6926**

**Item Description:** Obstruction, pinnacle rock to 7 foot mlw

**Source:** LNM21/85; LNM27/85; CL621/85; FE 301/85--S-H945-HFP

**AWOIS Position: Lat - 25/31/27.09N Lon - 080/08/26.11W**

**Required Investigation:** ES, DI -- 100m radius

**Charts Affected:** 11451, 11465

---

**INVESTIGATION**

**Date(s)/DN(s):** 5/26/93 (DN:146)

**Position Numbers:** 100, and 101

**Launch Number:** 0519

**Investigation Used:** VS, ES, DI

**Water Visibility:** >2m

**Position Determined By:** DGPS

**Investigation Summary:** A diver search was conducted for the shallowest bottom feature within the search limits, with the following results: A Co head with the least depth of ~~12.4~~<sup>1.8 feet at</sup> feet mllw, was located at position No.101. See Awois report for item No.499 for information related to this report. Additionally, there was evidence of smaller Co heads haven been disturbed and overturned, presumably by hurricane Andrew. *(3.6 meters)*

---

**CHARTING RECOMMENDATION**

The hydrographer recommends that the 12.4 foot sounding and "Co head" remark mentioned above be charted at position No. 101.

**Recommended Position:** Lat - 25/31/27.0<sup>7</sup>N Lon - 080/08/26.0<sup>6</sup>W

**Recommended Least Depth:** ~~12.4~~<sup>1.8 feet at</sup> mllw, *(3.6 meters)*

\*\*\*\*\*

**COMPILATION NOTES**

AWOIS NO:8496

Item Description: "Debbie L",Wrk visible

Source: LNM52/90

AWOIS Position: Lat - 25/31/43.40N Lon - 080/13/14.20W

Required Investigation: VS, DI -- 500m/ 200m radius

Charts Affected: 11451, 11465

---

**INVESTIGATION**

Date(s)/DN(s): 6/02/93 (DN:153)

Position Numbers: 115

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility:UNL m

Position Determined By: DGPS

Investigation Summary: A 200m dive circle search, and 500m vessel visual search, with unlimited visibility was conducted with **No** contacts encountered. This area lies due east of the "Featherbed Bank" in waters of 3 meters or less. Phone conversations were held with the USCG, Army COE, and Dade County officials for additional confirmation of removal.

---

**CHARTING RECOMMENDATION**

The hydrographer recommends that the charted visible wreck be removed from the charts. *CONCUR*

Recommended Position: Lat - 25/31/43.4<sup>b</sup>N Lon - 080/13/14.0<sup>b</sup>W

Recommended Least Depth: ~~0.9m MLLW~~ *Chart area as shown on Smooth Sheet.*

\*\*\*\*\*  
**COMPILATION NOTES**

AWOIS NO:6927, 8497

Item Description: Obstruction, 10 foot sounding

Source: CL1371/84--USCGD7

AWOIS Position: <sup># 6927</sup> Lat - 25/31/16.78N Lon - 080/08/28.16W  
<sup># 8497</sup> 25/31/16.38N 080/08/29.16W

Required Investigation: ES, DI -- 100m radius

Charts Affected: 11451, 11465

INVESTIGATION

Date(s)/DN(s): 5/26/93 (DN:146)

Position Numbers: 102 and 103

Launch Number: 0519

Investigation Used: VS, DI, ES

Water Visibility:>2m

Position Determined By: DGPS

Investigation Summary: A diver search was conducted for the shallowest bottom feature within the required search limits with the following results: A "Co head" with the least depth of <sup>2.588 feet</sup> 2.588 feet mllw, was located at position No. 103. This diver search <sup>(2.7 meters)</sup> conducted from the position No. 102, addressed both Awois No's. 8497, and 6927.

This item is associated with Awois item number 8497.

CHARTING RECOMMENDATION

The hydrographer recommends that <sup>CONCUR</sup> the charted 10 foot sounding at the reported position be removed. The hydrographer likewise recommends that a "Co head" with the least depth of <sup>8.8</sup> 8.8 foot mllw be charted at position No.103. <sup>CONCUR</sup>  
*Delete the Charted "Rep 1984" NOTE; CHART SHOWN AS SHOWN ON SMOOTH SHEET.*

Recommended Position: Lat - 25/31/17.4N Lon - 080/08/27.1W

Recommended Least Depth: <sup>8.8 feet at</sup> 8.8 mllw <sup>(2.7 meters)</sup>

\*\*\*\*\*  
COMPILATION NOTES

Chart

Applied As

AWOIS NO:None

**Item Description:** Charted piles extending from southern shore of South "Ragged Key".

**Source:** Charts No.11451, and 11465  
*Chart*

**AWOIS Position:** Lat - 25/32/28.61N Lon - 080/10/09.40W  
25/31/43.64N 080/10/28.42W  
25/31/39.67N 080/10/27.88W

**Required Investigation:** BD, DI, VS, ## -- 50m radius

**Charts Affected:** 11451, 11465

**INVESTIGATION**

**Date(s)/DN(s):** 5/27/93 (DN:147)

**Position Numbers:** 109 thru 114

**Launch Number:** 0519

**Investigation Used:** VS, DI

**Water Visibility:**>2m

**Position Determined By:** DGPS

**Investigation Summary:** Three diver searches were conducted to 50 meters of the charted position, as well as visual searches. No dives could locate any of the northern piles, although there were piles in a row visually identified in the vicinity, and there offshore points were positioned ( position no's. 112-114 ).

\* *Submerged wooden barge located in lat 35°31'34.46"N  
long. 80°10'26.35"W. Barge is 10x30 meters. Position*

*is offshore end of barge. Charted position is 3 meters.*

**CHARTING RECOMMENDATION**

\* SJV, 8/24/95 (N/CS31)

The hydrographer recommends that the charted piles at the three charted positions above be removed. The hydrographer recommends that piles be charted within and including positions 112,113, and 114. Position 112 NE corner, 113 NW, and 114 SW corner.

**Recommended Position:** Lat - 25/31/37.3N Lon - 080/10/26.9W  
25/31/37.1N 080/10/27.4W  
25/31/33.3N 080/10/25.0W

**Recommended Least Depth:** ~~Visible 2 meters~~ *Chart area as shown on Sights Sheet.*

\*\*\*\*\*

**COMPILATION NOTES**

AWOIS NO:None

Item Description:Charted Marker

Source: Chart 11451, and 11465

CHART

AWOIS Position: Lat - 25/31/13.62N Lon - 080/08/06.08W

Required Investigation: BD, DI, VS, ## -- 100m radius

Charts Affected: 11451, 11465

-----  
**INVESTIGATION**

Date(s)/DN(s): 5/26/93 (DN:146)

Position Numbers: 104, and 105 ✓

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility: 2m

Position Determined By: DGPS

**Investigation Summary:** A 150 meter radius diver circle search was conducted after no visual sightings could be made of this charted "Marker", with the following results: No contact could be found of the charted marker, however a Co head with a least depth of 10.4 feet mllw, was located( position No.105). This Co head likewise appeared on prior survey 5536, 1934 , a 1:20,000 scale survey, which did not depict the charted "Marker". There was likewise evidence of coral disturbance of Co heads as large as 6 foot in diameter, possibly related to hurricane Andrew.

-----  
**CHARTING RECOMMENDATION**

The hydrographer recommends that the charted "Marker" be removed. *Concur*  
The hydrographer recommends a Co head be charted at position No.105. *Concur. Chart area as shown on Smooth sheet.*

Recommended Position: Lat - 25/31/13.5<sup>9</sup>N Lon - 080/08/06.1<sup>6</sup>W

*Pos. No. # 105*  
Recommended Least Depth: 10.4 feet mllw *(4.7) meters*

\*\*\*\*\*

**COMPILATION NOTES**

AWOIS NO:None

Item Description: Charted "Marker, PA"

Source: Chart 11451, and 11465

*CHART*  
AWOIS Position: Lat - 25/31/09.51N Lon - 080/09/58.92W  
*Located at Pos. # 97 25/31/09.52 80/09/58.93*

Required Investigation: VS, SD -- 100m radius

Charts Affected: 11451, 11465

INVESTIGATION

Date(s)/DN(s): 5/26/93 (DN:146)

Position Numbers: 97

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility: 3m

Position Determined By: DGPS

Investigation Summary: Charted marker offshore of "Lewis Cut" not visible. A 100 meter radius diver circle search located an "I" beam submerged, and cut off approximately .7 meters off bottom, with a least depth of *1.9* 2.1m mllw.

CHARTING RECOMMENDATION

*CONCUR*

The hydrographer recommends that the charted marker PA be removed. The hydrographer recommends charting subm obstr at position No. 97.

Recommended Position: Lat - 25/31/09.1N Lon - 080/09/58.5W

Recommended Least Depth: *1.9* 2.1m mllw *Chart Obs 1? (pipe)*

\*\*\*\*\*

COMPILATION NOTES

Chart

Applied As



AWOIS NO:None

Item Description: Charted pipe

Source: Charts 11451, and 11465

*Chart*  
AWOIS Position: Lat - 25/32/59.00N Lon - 080/10/56.00W

Required Investigation: VS, SD, DI -- 100m radius

Charts Affected: 11451, 11465

-----  
INVESTIGATION

Date(s)/DN(s): 5/27/93 (DN:147)

Position Numbers: 106✓

Launch Number: 0519

Investigation Used: VS

Water Visibility: 2m

Position Determined By: DGPS

Investigation Summary: A visual search located the charted feature. A 50 meter diver search of the vicinity found this pipe to be marking a coral formation ( staghorn ) to within 5 meters of the pipe.

-----  
CHARTING RECOMMENDATION

The hydrographer recommends that the charted pipe be removed. *Concur*  
The hydrographer recommends that a pipe be charted at position No. 106, and the notation "~~Co head~~" be incorporated as well. *The term "Co" was added to the Smooth Sheet.*

Recommended Position: Lat - 25/32/58.<sup>8</sup>N Lon - 080/10/55.<sup>7</sup>W

Recommended Least Depth: <sup>1.1</sup> meters mllw

\*\*\*\*\*  
COMPILATION NOTES

AWOIS NO: None

Item Description: Charted pipe, north of two

Source: Charts 11451, and 11465

*Chart*  
AWOIS Position: Lat - 25/32/32.00N Lon - 080/10/12.00W

Required Investigation: VS, SD -- 100m radius

Charts Affected: 11451, 11465

INVESTIGATION

Date(s)/DN(s): 5/27/93 (DN:147)

Position Numbers: 107

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility: 2m

Position Determined By: DGPS

Investigation Summary: A visual identification was made of the charted feature. A 50 meter diver search was likewise conducted with no further contact except the offshore pier ruins position No.108.

CHARTING RECOMMENDATION

The hydrographer recommends that the charted pipe be removed. The hydrographer recommends that <sup>one</sup> pipe ~~be~~ <sup>and one pile</sup> ~~awash~~ be charted at position No. 107, *and 108.*

Recommended Position: <sup>9</sup>  
*#107* Lat - 25/32/31.8N Lon - 080/10/12.8W pipe (09)  
*#108* " <sup>25/32/32.24</sup> Lat - 25/32/32.24 Lon - 080/10/13.05 pile (1)  
Recommended Least Depth: ~~awash~~ *Chart used as shown on Smooth Sheet.*

\*\*\*\*\*  
COMPILATION NOTES

Chart Applied As

AWOIS NO:None

Item Description: Charted subm pipe

Source: Chart 11465

*Chart*  
AWOIS Position: Lat - 25/31/58.51N Lon - 080/13/17.71W

Required Investigation: VS, DI -- 100m radius

Charts Affected: 11451, 11465

INVESTIGATION

Date(s)/DN(s): 6/02/93 (DN:153)

Position Numbers: 116

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility: <sup>37</sup>30+m

Position Determined By: DGPS

Investigation Summary: A 100 meter dive circle search was conducted for the charted feature. A subm pipe, 4" diameter and 3' long with a LD= <sup>1.9</sup>1.7m MLLW (1.7m LL raw), was found to be laying on it's side of the bottom less than 0.1 meter. This item poses **No** danger, and was left in the water only because it was being used as a Lobster haven.

CHARTING RECOMMENDATION

The hydrographer recommends that the charted subm pipe be removed, <sup>A</sup> as it poses absolutely no danger, *To Navigation.*  
*CONCUR and the subm pipe (obstr) be charted at the position below.*

Recommended Position: Lat - 25/31/58.<sup>51</sup>51N Lon - 080/13/<sup>16.00</sup>17.71W

Recommended Least Depth: <sup>1.9</sup>1.7m MLLW *Chart used as shown on Squoth Sheet.*

\*\*\*\*\*

COMPILATION NOTES

Chart

Applied As

AWOIS NO:None

Item Description: Charted visible wreck

Source: Chart 11465

*Chart*  
AWOIS Position: Lat - 25/30/01.93N Lon - 080/11/57.98W

Required Investigation: VS, DI -- 500m / 200m radius

Charts Affected: 11451, 11465

---

**INVESTIGATION**

Date(s)/DN(s): 6/02/93 (DN:153)

Position Numbers: 118

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility: <sup>37</sup>304m

Position Determined By: DGPS

Investigation Summary: A 500 meter visual search was conducted as well as a 200m radius diver search, both resulting in **NO** contacts. Conversations were held with the USCG and Army COE as well, *with Negative results.*

---

**CHARTING RECOMMENDATION**

The hydrographer recommends that the charted visible wreck be removed from the charts. *CONCUR*

Recommended Position: Lat - 25/30/01.8N Lon - 080/11/57.8W

Recommended Least Depth: *Chart area as shown on Sqaath Sheet.*

\*\*\*\*\*

**COMPILATION NOTES**

AWOIS NO:None

Item Description: Charted "Marker,PA"

Source: Chart 11465

*Charted*  
AWOIS Position: Lat - 25/31/16.82N Lon - 080/14/15.35W

Required Investigation: DI, VS -- 100m radius

Charts Affected: 11451, 11465

---

INVESTIGATION

Date(s)/DN(s): 6/02/93 (DN:153)

Position Numbers: 117

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility: <sup>37</sup>304m

Position Determined By: DGPS

Investigation Summary: A 100 meter diver circle search was conducted from the charted position, with **No** contacts being made. An extended visual search covering passages and access approaches to the marked channel were made as well, with **No** contacts encountered.

---

CHARTING RECOMMENDATION

The hydrographer recommends that the charted Marker,PA be *concur* removed.

Recommended Position: Lat - 25/31/16.8N Lon - 080/14/15.3W

*Pos. No. #117*  
Recommended Least Depth: *Chart used as found on this survey.*

\*\*\*\*\*

COMPILATION NOTES

AWOIS NO:None

Item Description: Charted Marker

Source: Chart 11465

*Chart*

AWOIS Position: Lat - 25/31/12.39N Lon - 080/11/32.93W

Required Investigation: VS, DI -- 100m radius

Charts Affected: 11451, 11465

**INVESTIGATION**

Date(s)/DN(s): 6/02/93 (DN:153)

Position Numbers: 119 ✓

Launch Number: 0519

Investigation Used: VS, DI

Water Visibility: <sup>37</sup>30+m

Position Determined By: DGPS

Investigation Summary: A 100 meter dive search was conducted for the charted feature with **No** contacts except the NavAids (LT"3" & DB R"4"). An extended visual search covering passages and access approaches to the marked channel were made as well, with **No** contacts encountered.

-----  
**CHARTING RECOMMENDATION**

The hydrographer recommends that the charted Marker be removed.

Recommended Position: Lat - 25/31/12.<sup>7</sup>3N Lon - 080/11/32.<sup>7</sup>9W

*Tab. No. #119*

Recommended Least Depth: *Chart area as shown on Smooth Sheet.*

\*\*\*\*\*

**COMPILATION NOTES**

Chart

Applied As

CONTROL STATIONS as of 23 Aug 1993

No	Type	Latitude	Longitude	H	Cart	Freq	Vel Code	MM/DD/YY	Station Name
001	0	025:41:00.774	080:09:27.976	49	250	0.0	0.0	05/11/93	Key Biscayne Towers Condo,1993
002	0	025:41:59.448	080:10:46.331	4	139	0.0	0.0	05/11/93	KBYC*1",
003	0	025:39:20.340	080:11:10.428	4	139	0.0	0.0	05/11/93	BC LT*21"
		025:36:54.468	080:09:48.100	0	0	0.0	0.0	03/01/92	



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEANIC SERVICE  
Coast and Geodetic Survey  
Norfolk, Virginia 23510-1114

Atlantic Hydrographic Party  
439 West York Street  
Norfolk, Virginia 23510-1114

28 May 1993

Director  
DMAHTC  
Attn: MCNM  
6500 Brookes Lane  
Washington, D.C. 20315-0030

**ADVANCE  
INFORMATION**

Dear Sir:

While conducting hydrographic survey operations in Biscayne Bay, Florida, the Atlantic Hydrographic Party discovered 3 dangers to navigation. They have been reported to the Seventh Coast Guard District. A copy of the correspondence describing the dangers is enclosed.

Sincerely,

James E. Waddell, Jr.  
Lieutenant, NOAA  
Chief, Atlantic Hydrographic Party







UNITED STATES DEPARTMENT OF COMMERCE  
 National Oceanic and Atmospheric Administration  
 NATIONAL OCEAN SERVICE  
 Coast and Geodetic Survey  
 Norfolk, Virginia 23510-1114

Atlantic Hydrographic Party  
 439 West York Street  
 Norfolk, Virginia 23510-1114

28 May 1993

Commander  
 Seventh Coast Guard District  
 Brickwell Plaza Federal Building  
 909 SE 1st Avenue, Rm: 406  
 Miami, FL 33131-3050

**ADVANCE  
 INFORMATION**

Dear Sir:

Three dangers to navigation were found while conducting a basic hydrographic survey (Registry No. H-10474) in Biscayne Bay, Florida. The following information is provided for publication in Local Notice to Mariners:

Charts affected: 11451 25th Ed Jul. 11/92 1:80,000 NAD83  
 11465 28th Ed Jul. 11/92 1:40,000 NAD83

Heights are reduced to MLLW based on predicted tides.

- A. An uncharted white buoy with horizontal orange bands and the warning "Shallow" painted on its side, was positioned at 25/31/33.4N, 080/11/01.6W.
- B. An uncharted daybeacon was located in Sands Cut at 25/29/48.4N, 080/10/32.0W. This daybeacon has a white, diamond shaped backboard mounted on a steel "I" beam. The warning "Danger Shallow" appears on the backboard. This feature bares 2 meters.
- C. An uncharted daybeacon was located in Sands Cut at 25/29/36.6N, 080/10/31.8W. This daybeacon has a white, diamond shaped backboard mounted on a steel "I" beam. The warning "Danger Shallow" appears on the backboard. This feature bares 2 meters.

A copy of the chart showing the areas in which the dangers exist is attached.

This is advance information subject to office review. Questions concerning this message should be directed to myself at (904) 492-1050 or to the Chief, Pacific Hydrographic Section at (206) 526-6835.

Sincerely,

*(Signature)*  
 James E. Waddell, Jr.  
 Lieutenant, NOAA  
 Chief, Atlantic Hydrographic Party

Enclosures  
 cc: DMAHTC  
 N/CG245  
 N/CG221  
 AMC



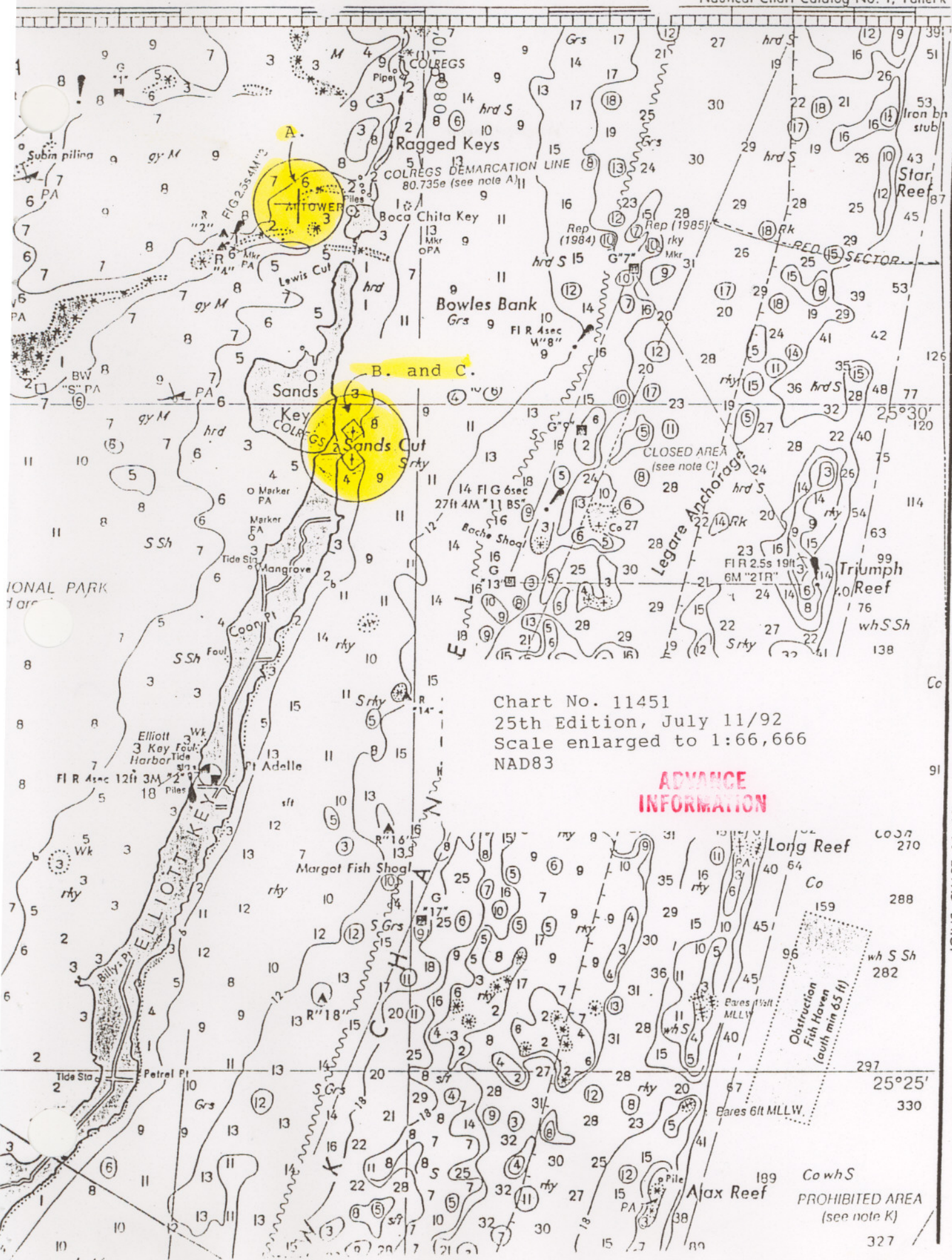


Chart No. 11451  
 25th Edition, July 11/92  
 Scale enlarged to 1:66,666  
 NAD83

**ADVANCE INFORMATION**

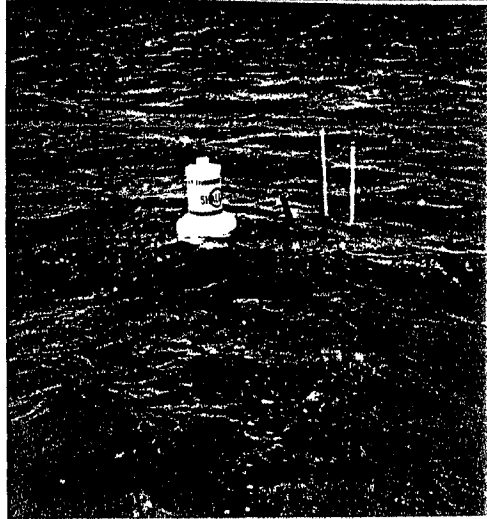
Long Reef  
 Co 270  
 288  
 wh S Sh 282  
 297  
 25°25'  
 330  
 Bares 6ft MLLW  
 Obstruction Fish Haven (auth min 65 ft)  
 Bares 1 1/2ft MLLW  
 Ajax Reef  
 199  
 Cowh S  
 PROHIBITED AREA (see note K)  
 327

JOINS CHART 11462

**ADVANCE  
INFORMATION**



Items B. and C.



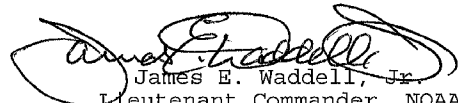
Item A.

APPROVAL SHEET

BASIC HYDROGRAPHIC SURVEY  
S-H901-AHP  
AHP2-10-08-93  
H-10474  
1993

This basic hydrographic survey was conducted in accordance with the project instructions for S-H901-AHP, the hydrographic manual, the hydrographic survey guidelines, and the field procedures manual. The survey data and reports were completed under frequent supervision. All sounding plots were reviewed in their entirety and all supporting records were also checked.

This survey is a complete basic hydrographic survey for the area described in Section B of this report.

  
James E. Waddell, Jr.  
Lieutenant Commander, NOAA  
Chief, Atlantic Hydrographic Party

NOAA FORM 77-27(H) (9-93)		U.S. DEPARTMENT OF COMMERCE			REGISTRY NUMBER	
<b>HYDROGRAPHIC SURVEY STATISTICS</b>				H-10474		
RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.						
RECORD DESCRIPTION		AMOUNT		RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1		SMOOTH OVERLAYS: POS., ARC, EXCESS		1
DESCRIPTIVE REPORT		1		FIELD SHEETS AND OTHER OVERLAYS		
DESCRIP- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	1					
ENVELOPES						
VOLUMES						
CARRIERS						
BOXES						
SHORELINE DATA						
SHORELINE MAPS (List): None						
PHOTOBATHYMETRIC MAPS (List): None						
NOTES TO THE HYDROGRAPHER (List): None						
SPECIAL REPORTS (List): None						
NAUTICAL CHARTS (List): 11465 29th Ed., 11451SC 26th Ed., 11462 21st Ed., 11463 14th Ed.						
OFFICE PROCESSING ACTIVITIES <i>The following statistics will be submitted with the cartographer's report on the survey</i>						
PROCESSING ACTIVITY				AMOUNTS		
				VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET						4918
POSITIONS REVISED						1
SOUNDINGS REVISED						316
CONTROL STATIONS REVISED						
				TIME-HOURS		
				VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION						
VERIFICATION OF CONTROL						
VERIFICATION OF POSITIONS				58		58
VERIFICATION OF SOUNDINGS				97		97
VERIFICATION OF JUNCTIONS						
APPLICATION OF PHOTOBATHYMETRY						
SHORELINE APPLICATION/VERIFICATION						
COMPILATION OF SMOOTH SHEET				29		29
COMPARISON WITH PRIOR SURVEYS AND CHARTS						
EVALUATION OF SIDE SCAN SONAR RECORDS						
EVALUATION OF WIRE DRAGS AND SWEEPS						
EVALUATION REPORT					17	17
GEOGRAPHIC NAMES						
OTHER: Digitization				4		4
*USE OTHER SIDE OF FORM FOR REMARKS				188	17	205
				TOTALS		
Pre-processing Examination by LT D. Haines				Beginning Date 11/9/93	Ending Date 12/6/93	
Verification of Field Data by G.E. Kay, D.Doles, R.Mayor, J.Stringham				Time (Hours) 155	Ending Date 6/9/94	
Verification Check by G.E. Kay				Time (Hours) 8	Ending Date 5/15/95	
Evaluation and Analysis by G.E. Kay				Time (Hours) 17	Ending Date 6/1/95	
Inspection by RUSS DAVIES				Time (Hours) 2.7	Ending Date 7/27/95	

## EVALUATION REPORT

### SURVEY H-10474

#### 1. INTRODUCTION

Survey H-10474 is a basic hydrographic survey accomplished by the Atlantic Hydrographic Party 2, under the following Project Instructions.

S-H901-AHP, dated April 6, 1993  
CHANGE NO. 1, dated July 13, 1993

This survey was conducted in Florida, and covers an area inside of the Biscayne National Park in Biscayne Bay. The surveyed area is bounded by latitude 25/33/45N to the north and latitude 25/29/36N to the south. The eastern limit is longitude 80/07/58W. The western limit is longitude 80/14/50W. The bottom consists of sand. Depths range from less than a meter along the shoreline to 8.9 meters east of Ragged Keys at the eastern survey limits.

Depth curves depicted on the smooth sheet were selected from those authorized through HSG 69. However, instead of drafting all authorized curves only those curves considered necessary for the reasonable portrayal of the bottom were drafted. The selected curves were the 0, 1, 2 and 5 meter. A note was added to the smooth sheet to identify these values. A few supplemental depth curves have been added to the smooth sheet in brown as warranted.

Predicted tides for Haulover Pier, Florida, were used for the reduction of soundings during field processing. Approved hourly heights are zoned from Key Biscayne Yacht Club, Florida, gage 872-3232 and Key Colony Beach, Florida, gage 872-3962 and Turkey Point, gage 872-3423 were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. NAD 83 is used as the horizontal datum for plotting and position computation. Offset values and sound velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey that includes categories of information required to comply with Hydrographic Survey Guideline No. 52, Standard Digital Data Exchange Format, April 15, 1986. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for a complete depiction of the survey data.

## 2. CONTROL AND SHORELINE

Sections H and I of the hydrographer's report contain adequate discussions of horizontal control and hydrographic positioning. Additional detailed information on horizontal control is found in the following:

Horizontal Control Report for OPR-S-H901-AHP, dated May 28, 1993.

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 3.75 was computed for survey operations. The quality of 197 positions exceeds limits in terms of horizontal dilution of precision (HDOP). These positions are isolated and occur randomly throughout the survey area. A review of the data, however, indicates that none of these fixes are used to position dangers to navigation. The features or soundings located by these fixes are consistent with the surrounding information. These fixes are considered acceptable.

Positions of horizontal control stations used during this survey are field values based on NAD 83.

Latitude: 1.388 seconds (42.703 meters)  
Longitude: -0.824 seconds (-22.994 meters)

The year of establishment of control stations shown on the smooth sheet originates with the previously referenced horizontal control report and the hydrographer's signal list.

There are no shoreline maps for this survey. Shoreline in brown is from chart 11465 and is for orientation purposes only.

## 3. HYDROGRAPHY

Except as noted below, and elsewhere in this report, hydrography is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the standard depth curves;
- b. reveals there are no significant discrepancies or anomalies requiring further investigation; and
- c. show the survey was properly controlled and soundings are correctly plotted.

Authorized depth curves were adequately drawn and developed except the zero curve. The inshore limit as defined by the Project Instructions (section 1.8) is the 0.7-meter (2.2 feet) depth curve.

#### 4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3, the Hydrographic Survey Guidelines, and the Field Procedures Manual, March 1993 Editions.

#### 5. JUNCTIONS

Survey H-10474 junctions with survey H-10473 (1993) scale 1:10,000 to the north. The junction with survey H-10473 is complete. Depth curves and soundings within the common area are in good agreement.

There are no contemporary surveys to the west, south or east. For a junction comparison to the chart see section 7.a.

#### 6. COMPARISON WITH PRIOR SURVEYS

Survey H-10474 junctions with the following surveys.

H-5058	1930	1:20,000
H-5536	1934	1:20,000
H-5540WD	1934	1:20,000
FE-58	1946	1:20,000

Survey H-5058 and H-5536 cover the entire area of the present survey. Generally, soundings agree within 0.6 meters (2 feet) between the prior survey and the present survey, the prior survey being shoaler. Differences are attributed to sounding unit conversions and internal rounding of the plotted smooth sheet data.

The following soundings were transferred (and converted to meters) from survey H-5536 in violet ink onto the smooth sheet.

<u>Depth (meters)</u>	<u>Latitude North</u>	<u>Longitude West</u>
4.1	25/31/49	80/08/25
4.7	25/31/28	80/08/11
4.4	25/31/16	80/08/17
3.0	25/31/13	80/08/06
2.7	25/31/02	80/07/58
3.0	25/30/59	80/08/16
3.6	25/30/51	80/08/45
3.0	25/30/47.5	80/08/21
2.2	25/30/47.5	80/08/17
3.6	25/30/24	80/08/03, continued...



subm dol	25/29/58	80/08/31
2.1	25/29/56.5	80/08/30.5
0.6	25/29/42	80/08/36

FE-58 consists of pole soundings that were used to verify the aero-compiled 6-foot curves that surround some of the coral areas. This field examination was plotted on chart 848 (old numbering system). This plotted survey was not available for comparison purposes.

Except for the soundings transferred from prior survey H-5536, survey H-10474 is adequate to supersede these prior surveys within the area of common coverage.

Prior wire drag survey H-5540WD covers the eastern one-fourth of the present survey area. The prior wire drag soundings compare well with the present survey.

There are no AWOIS items that originate with these prior surveys within the common area.

## 7. COMPARISON WITH CHART

Survey H-10474 was compared with the following charts.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
11465	28th	July 11, 1992	1:40,000	NAD 83
11465	29th	October 30, 1993	1:40,000	NAD 83
11451 SC	25th	July 11, 1992	1:80,000	NAD 83
11451 SC	26th	February 26, 1994	1:80,000	NAD 83
11462	21st	August 1, 1992	1:80,000	NAD 83
11463	12th	November 26, 1994	1:40,000	NAD 83

### a. Hydrography

The following pairs of charts contain identical data sets over their common areas. Chart pair 11463 and 11465; and chart pair 11451 and 11462 also contain identical data sets between their older and recent editions. The charted hydrography on the above charts originate with prior surveys H-5058, H-5536 and miscellaneous sources.

The following feature was not investigate during field operations. A spoil area at latitude 25/31/25N, longitude 80/14/36W should remain as charted.

Additional observations and analysis on charted features are attached at the end of the Descriptive Report for survey H-10474.

Except as noted above survey H-10474 is adequate to supersede charted hydrography within the common area.

b. AWOIS

There are six AWOIS items numbered 499, 2477, 6926, 6927, 8496, and 8497, originate with miscellaneous sources and were assigned for investigation. The deposition of all the AWOIS items may be found in the AWOIS item investigation write-ups attached to the descriptive report.

c. Controlling Depths

The Intracoastal Waterway traverses through the western portion of this survey in a north south orientation. The controlling depth for this portion of the Intracoastal Waterway is 7 feet (2.1 meters). Situated at latitude 25/31/15N, longitude 80/14/21W, is a dredged portion of the waterway. Present survey soundings did not find anything shoaler than the controlling depth.

d. Aids to Navigation

There are fourteen fixed aids to navigation located within the limits of this survey. These aids were not located to 3rd-order class I survey requirements as requested in the Project Instructions, section 4.2.1. However, hydrographic positions were obtained on all of them. All of these fixed aids agree with the charted position and serve their intended purposes.

There is one landmark a tower located on Boca Chita Key at latitude 25/31/29.0N, longitude 80/1033.8W. This item was specifically investigated by the field party and should remain as charted, however, the note should be changed to: "Lt Ho (abandoned)".

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

There were three dangers to navigation that were discovered during this survey. A copy of this danger to navigation has been forwarded to the United States Coast Guard and DMA\HTC. A copy of this report is attached. No additional dangers were found during office processing.

**8. COMPLIANCE WITH INSTRUCTIONS**

Survey H-10474 adequately complies with the Project Instructions.

**9. ADDITIONAL FIELD WORK**

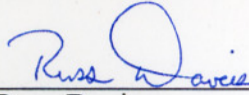
This is a good hydrographic survey. Additional field work on a low priority basis is recommended to investigate the soundings and feature listed in section 6 of this report.

*Gordon E. Kay*  
Gordon E. Kay  
Cartographer

APPROVAL SHEET  
H-10474

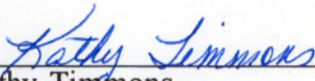
Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

  
\_\_\_\_\_  
Russ Davies  
Cartographer, Cartographic Section  
Pacific Hydrographic Branch

Date: 7/31/95

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.

  
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Kathy Timmons  
Commander, NOAA  
Chief, Pacific Hydrographic Branch

Date: 7/31/95

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Final Approval

Approved:

  
\_\_\_\_\_  
for Andrew A. Armstrong III  
Captain, NOAA  
Chief, Hydrographic Surveys Division

Date: 4/18/07

