

H10748A

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic / Side Scan Sonar

Field No. AHP-10-2-98

Registry No. H10748A

LOCALITY

State Florida

General Locality North Atlantic Ocean

Locality Approaches to Miami

1998

CHIEF OF PARTY
Brian A. Link

LIBRARY & ARCHIVES

DATE OCT 9 1999

HYDROGRAPHIC TITLE SHEET

H-10748A

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.

AHP-10-2-98

State Florida

General locality ^{NORTH} Atlantic Ocean

Locality Approaches to Miami

Scale 1:10,000

Date of survey January 20 to April 28, 1998

Instructions dated 1-21-98

Project No. OPR-H300-AHP

Vessel NOAA Launch 0517

Chief of party Brian A. Link

Surveyed by Mark J. McMann and John B. Gaskin

Soundings taken by echo sounder, hand lead, pole Echo sounder

Graphic record scaled by MJM, JBG

Graphic record checked by MJM

Protracted by Hydrographic Processing System

Automated plot by AHB ^{HEWLETT PACKARD} ~~DESIGN~~ JET 2500 CI

Verification by AHB ATLANTIC HYDROGRAPHIC BRANCH PERSONNEL

Soundings in fathoms Meters at MLW MLLW

REMARKS: HAND WRITTEN NOTES IN THE DESCRIPTIVE REPORT
WERE MADE DURING OFFICE PROCESSING.

AW012/SURF 9/20/99 MCR

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10748A
FIELD NO. AHP-10-2-98
SCALE: 1:10,000
1998
ATLANTIC HYDROGRAPHIC PARTY
CHIEF OF PARTY: Brian A. Link

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-H300-AHP, Approaches to Miami, Florida, dated January 21, 1998.

This project was conducted to provide 200% side scan sonar coverage for item investigations and echo sounder developments in the approaches to Miami. This project also supplements 1997 LIDAR hydrography completed in response to a request from the Biscayne Bay Pilots.

B. AREA SURVEYED

The area surveyed for H-10748A covers numerous areas near the approaches to Miami, Florida which fall within the following geographic limits:

North - 25°48'10"N
South - 25°44'00"N
East - 080°05'00"W
West - 080°10'50"W

In addition to the areas outlined in the Project Instructions, single beam hydrography was run in the ship channel inside the Port of Miami in response to a request from the Miami Pilots to CDR John Wilder, NOAA. *SEE ALSO THE EVALUATION REPORT, SECTION 0.2*

This survey was conducted from January 20 (DN 020) to April 24, 1998 (DN 118).

C. SURVEY VESSELS

NOAA launch 0517, a 21-foot MonArk, was the vessel used to collect all survey data. There were no unusual vessel configurations nor problems encountered.

D. AUTOMATED DATA ACQUISITION AND PROCESSING *SEE ALSO THE EVALUATION REPORT*

Coastal Oceanographic's HYPACK software package, version 6.4 was used to collect all hydrographic data for this survey. HPS version 4.03 was used for data processing. Other computer programs used were:

MapInfo	Ver. 4.5
VELOCITY	Ver. 3.1 (2/25/98)
Microsoft Word	Ver. 7.0a

E. SIDE SCAN SONAR EQUIPMENT

Side scan sonar (SSS) operations were conducted using an EG&G model 260 slant-range corrected SSS recorder and an EG&G 272-T dual-channel, single frequency towfish. The towfish was operated on the 100-kHz frequency and was configured with a 20° beam depression. The side scan sonar equipment used for the survey was towfish serial number 016835 and recorder serial number 016671.

Side scan sonar data was collected utilizing the 50-meter range scale. In order to acquire the required 200% coverage, main-scheme lines were run at 40-meter spacing. Adequate coverage was determined by producing two separate swath plots and ensuring 100% coverage on each plot.

The side scan sonar towfish was maintained at a height off the bottom of 8 to 20 percent of the range scale used. Confidence checks were performed on a routine basis, primarily by noting changes in bottom texture on the outer edges of the sonagram, and on buoys and other contacts in the survey area.

All significant contacts were measured off the sonagrams and entered into an HPS contact table. Field Party personnel determined contact heights, positions, and cross reference correlations using the HPS contact Utility program. Contacts were investigated using echo sounder development.

F. SOUNDING EQUIPMENT

An Innerspace model 448 depth sounder, serial number 187, was used to collect all soundings.

A standard lead line calibrated in meters, serial number 0517, was used during this survey for comparison readings with the echo sounder.

G. CORRECTIONS TO SOUNDINGS

Soundings were recorded using the Innerspace model 448 depth sounder. It was adjusted for an

assumed speed of sound through water of 1500 meters/second. Changes to the gain and/or chart speed were noted on the echogram. Digitized soundings agreed with the analog trace within 0.1 meter.

Corrections for the speed of sound through water were computed from data obtained with Sea-Bird Electronics Inc. SEACAT electronic profiler, serial number 192276-287. Data quality assurance tests were performed in accordance with Field Procedures Manual (FPM) 2.1.3.2. Program VELOCITY was used to compute speed of sound through water corrections. Copies of the velocity tables and cast data are in the "Survey Separates." ✗

Correctors for the velocity of sound through water were determined from the casts listed below:

<u>Velocity Table No.</u>	<u>Cast No.</u>	<u>Deepest Depth (m)</u>	<u>Applicable DN</u>	<u>Cast Position</u>	<u>Day</u>
1	1	14.6/18.9*	020-041	25°46'30"N 080°05'30"W	029
2	2	12.9/16.8*	043-064	25°45'48"N 080°05'42"W	052
3	3	17.3/22.5*	082-111	25°46'30"N 080°05'30"W	092
4	4	10.9/14.1*	112-114	25°45'50"N 080°05'20"W	112

* software extrapolated depth

Correctors were applied to the sounding data prior to plotting.

Weather permitting, lead line comparisons were conducted each day in accordance with FPM 2.1.3.1. No instrument error was detected from these comparisons. The lead line comparison form is in the "Survey Separates." ✗

A static draft of 0.3 meter was applied to the on-line data. The draft was measured by subtracting the difference from a punch mark on the side of launch 0517, 0.6 meter above the transducer, to the water surface. Settlement and squat measurements were performed on September 15, 1997 (DN 258), at Pasadena, Maryland, using Lietz level S/N 08754. Settlement and squat correctors and the static draft corrector were applied on-line through the offset table. Copies of the field data, the graphs of the settlement and squat correctors vs. speed in meters/second, and the offset table are included in the "Survey Separates."

The Virginia Key, Fl tide station (872-3214) served as control for datum determination.

✗ DATA FILED WITH ORIGINAL
FIELD RECORDS

Unverified actual water level heights from this gauge were downloaded from the NOAA web site and used for correcting the soundings on this survey. This station is also the reference station for the predicted tides. This survey required one tide zone. A time correction of -48 mins was necessary for the actual tides. The height correction was x1.22.

Approved tides were requested from the Ocean and Lake Levels Branch, N/OES231, in a letter dated May 21, 1998. A copy of the letter is appended to this report.

APPROVED TIDES AND ZONING HAVE BEEN APPLIED DURING OFFICE PROCESSING

H. CONTROL STATIONS *SEE ALSO THE EVALUATION REPORT*

The horizontal control datum for this project is the North American Datum of 1983. The USCG Differential GPS (DGPS) Beacon at Miami, FL was used to control this survey. The position for the reference station antenna is 25° 44' 00"N, 080° 09' 36.0"W.

I. HYDROGRAPHIC POSITION CONTROL

DGPS was used as the method of positioning for all hydrographic data on this survey. The USCG Differential GPS beacon at Miami, Florida was used as the reference station in conjunction with beacon receiver serial number X-1086 and antenna serial number MBA-M1039 on launch 0517. A Starlink sensor, serial number 700417A1065 was used as the remote station on vessel 0517. This equipment met the accuracy standards for this 1:10,000 scale survey.

Performance checks were conducted periodically during the project by resting the launch alongside "Crandon Marina Channel LT 14" and comparing the launch position with the third order position of the light (25°43'35.08350"N, 080°09'34.34963"W). Results of the performance checks are shown on the critical check form in the survey separates.

Occasionally a good position misplotted on the raw track plot. This problem was attributed to good DGPS data following a period of questionable DGPS data. These positions were reviewed, then edited or rejected as necessary.

J. SHORELINE *SEE ALSO THE EVALUATION REPORT*

Shoreline shown on the final sounding plot was from the raster image of chart 11468, 33rd Edition, May 4, 1996. The MapInfo program was used for plotting. There were no shoreline changes noted from the chart.

K. CROSSLINES

No crosslines were run because the configuration of the assigned small and/or narrow areas made

crosslines impractical and of little worth.

L. JUNCTIONS

This survey does not junction with any contemporary surveys.

M. COMPARISON WITH PRIOR SURVEYS *SEE ALSO THE EVALUATION REPORT*

The prior survey covering this project is H-10748, 1:10,000 scale, 1997.

Nine dangers to navigation were identified on the prior survey and letters to the U.S. Coast Guard were generated by the Atlantic Hydrographic Branch on January 8, 1998, and January 15, 1998. These letters detailed the positions and least depths of shoal soundings found. Subsequent investigations of these dangers during the course of this survey resulted in the following findings:

- ◆ A 32-foot sounding at 25°45'57.88" N, 80°05'25.41" W, was investigated with 200% side scan sonar coverage, 10-meter line spacing single beam echosounder coverage, and diver investigation. Least depths in the area were ~~40-41~~ feet. *CONCUR W/ CLARIFICATION 35-41 SEE EVALUATION REPORT SECTION M.*
- ◆ A ~~29~~³⁰-foot sounding at 25°45'48.61" N, 80°05'23.52" W, was developed with 200% side scan sonar coverage, 10-meter line spacing single beam echosounder coverage, and a diver investigation. Least depths in the area were 33 feet in the area of a buoy block. *CONCUR W/ CLARIFICATION SEE EVALUATION REPORT SECTION M.*
- ◆ A 26-foot sounding at 25°45'44.94" N, 80°05'24.51" W, was developed with 200% side scan sonar coverage, 10-meter line spacing single beam echosounder coverage, and a diver investigation. Least depths found were 31-~~32~~³¹ feet. *CONCUR W/ CLARIFICATION SEE EVALUATION REPORT SECTION M.*
- ◆ A ~~27~~²⁸-foot sounding at 25°45'40.03" N, 80°05'48.70" W, was investigated with 200% side scan sonar coverage and 20-meter line spacing echo sounder coverage. Least depth found on this survey was ~~29~~³⁰ feet. *DID NOT CONCUR SEE EVALUATION REPORT SECTION M.*
- ◆ A 23-foot sounding at 25°44'23.57" N, 80°05'43.31" W, was investigated with 200% side scan sonar coverage, 40-meter line spacing single beam echosounder coverage, and a diver investigation. Least depths found were ~~42-43~~⁴¹⁻⁴⁵ feet. *CONCUR CHART PRESENT SURVEY SOUNDINGS*

This survey agreed with the four remaining reported dangers, with soundings found to be within 1 foot of the reported depths. *SEE EVALUATION REPORT SECTION M*

A copy of the letters reporting the dangers is appended to this report.

Sounding comparison between the prior survey and the current survey is difficult to generalize.

Throughout the scattered areas of this survey, agreement with the LIDAR survey varies. Within any given area some soundings are shoaler and some are deeper, with no pattern detectable. There were no serious discrepancies, other than the shoal soundings from the LIDAR survey that were reported as Dangers to Navigation and disproved on this survey. The hydrographer recommends that data from the present survey be used to supersede that of H-10748 within their common areas. *Concur*

N. ITEM INVESTIGATION REPORTS

Four AWOIS items, numbers 9999-10002 were assigned to this survey. Item investigation reports follow in section N.1. - N.4.

N.1. - AWOIS 9999

Item Description: OBSTRUCTION

Source: LNM5/78-8th CGD

AWOIS Position: Lat - 25° 46' 43.35"N, Lon - 80°05' 23.15"W

Required Investigation: S2

Charts Affected: 11468

INVESTIGATION

Date(s)/DN(s): 1-20-98 / 020 (OPR-H300-AHP, H-10748A)

Position Numbers: 56-59,238-242,392-396,409-413,576-579

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage was performed in the area of the charted obstruction and no significant contacts were found. The area was covered in the process of surveying one of the main scheme areas for OPR-H300. A 1.4 meter high contact in 14.5 meters of water at position 578.4 was investigated on DN 112, pos. 5115-5120 and nothing was found.

CHARTING RECOMMENDATION

The hydrographer recommends removing the obstruction from the chart. *Concur*

DELETE !!; Obstrn PA

N.2. - AWOIS NO: 10000

Item Description: OBSTRUCTION

Source: LNM47/96-8th CGD

AWOIS Position: Lat - 25° 47' 09.00"N, Lon - 80° 05' 18.6"W

Required Investigation: S2

Charts Affected: 11468

INVESTIGATION

Date(s)/DN(s): 3-24-98 / 083 (OPR-H300-AHP, H-10748A)

Position Numbers: 4541-4591

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage was conducted in the area of the charted obstruction PA. Three contacts were identified, with scaled heights between 1.4 and 1.9 meters in approx. 14 meters of water. Contact investigations were performed on DN 114, from position 5241-5299. Single beam hydrography was performed to investigate the contacts. Nothing was found. The bottom in this area is very jagged, with numerous spikes over 1 meter in height.

CHARTING RECOMMENDATION

The hydrographer recommends removing the "Obstn PA" note and charting current survey soundings in the area.

CONCUR

DELETE : : OBSTN PA

N.3. - AWOIS NO: 10001

Item Description: OBSTRUCTION

Source: LNM37/96-8th CGD

AWOIS Position: Lat - 25° 47' 48.00"N, Lon - 80° 05' 24.00"W

Required Investigation: S2, ES

Charts Affected: 11468

INVESTIGATION

Date(s)/DN(s): 4-24-98 / 114 (OPR-H300-AHP, H-10748A)

Position Numbers: 5300-5351

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage in the area of the charted 31 ft depth revealed a contact at position 4673.8. Single beam hydrography investigation of the contact revealed a rise off the bottom of approx. 1.5 meters, with a least depth of 13.9 meters (45.6 ft) between positions 5328 and 5329. Line spacing was reduced to 5 meters over the shoal area.

CHARTING RECOMMENDATION

The hydrographer recommends charting the shoal with soundings from this survey. *CONCUR*

DELETE 5300-5351 PA

N.4. - AWOIS NO: 10002

Item Description: OBSTRUCTION

Source: LNM34/94-8th CGD

AWOIS Position: Lat - 25° 47' 54.00"N, Lon - 80° 05' 18.00"W

Required Investigation: S2, ES

Charts Affected: 11468

INVESTIGATION

Date(s)/DN(s): 1-29-98/029, 4-3-98/093 (OPR-H300-AHP, H-10748A)

Position Numbers: 1623-1684,4592-4671

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage as well as single beam hydrography at 10-meter line spacing was conducted over the area of this item. No indication of a shoal was found.

CHARTING RECOMMENDATION

The hydrographer recommends removing the "Shl rep" note from the chart and charting current survey soundings in the area. *CONCERN DELETE "SHL REP 1991 PA"*

O. COMPARISON WITH THE CHART *SEE ALSO THE EVALUATION REPORT*

Comparisons were made with chart 11468, 33rd Edition, May 4, 1996. The majority of the areas on the current survey agree very well with the chart, with differences of less than 2 feet. In some of the deeper areas, shoal soundings from the chart were not found, and current survey soundings are up to 10 feet deeper. On the west side of the Fox Point Reach between the State Pier and the Harbor Junction Wharf, an area of charted ruins, dolphins and piles was delineated with a foul-limit line on day 231, positions 3367-3376. This area should be charted as foul. Sounding agreement between the chart and the current survey in this area is good, within 1.5 ft (0.46m).

*DISREGARD
* THESE SENTENCES ARE NOT RELATIVE TO THE PRESENT SURVEY*

The following contacts were identified during the course of this survey:

<u>Position Number</u>	<u>Investigation Position</u>	<u>Least Depth</u>	<u>Contact Position</u>	<u>Recommendation</u>
17.6	5553-5581	13.6m	25°45'35.16" 80°05'18.59"	Chart current survey soundings
28.5	4943-4950	13. 6 ⁴ m	25°45'53.9" 80°05'18.62"	Chart current survey soundings
166.4	4961-4969	11. 9 ⁶ m	25°44'35.71" 80°05'26.29"	Chart current survey soundings
189.9	4972-4974		25°45'16.09" 80°05'24.38"	Nothing found
190.4	4972-4982	11. 2 ³ m	25°45'17.08" 80°05'24.38"	Chart current survey soundings
190.8	4983-4988		25°45'17.84 80°05'24.35"	Nothing found
191.8	4989-5006		25°45'19.30" 80°05'24.33"	Nothing found
210.5	5010-5018	12.9m	25°45'51.97" 80°05'26.73"	Chart current survey soundings
210.6	5019-5028	12.9m	25°45'52.16" 80°05'26.55"	Chart current survey soundings
233.3	5031-5045		25°46'31.03" 80°05'25.84"	Nothing found
236.7	5046-5055		25°46'37.23" 80°05'24.60"	Nothing found
257.2	5056-5067	12. 7 ⁹ m	25°45'52.06" 80°05'27.13"	Chart current survey soundings
260.5	5068-5079		25°45'46.27" 80°05'29.63"	Nothing found

281.0	5089-5097		25°45'10.47" 80°05'27.71"	Nothing found
365.6	5080-5085		25°45'52.10" 80°05'19.65"	Nothing found
578.4	5115-5123		25°46'44.92" 80°05'25.55"	Nothing found
1645.5	5124-5132		25°47'36.05" 80°05'19.54"	Nothing found
1661.4	5133-5138		25°47'36.59" 80°05'19.78"	Nothing found
1700.2	5544-5552		25°45'40.12" 80°05'48.67"	Nothing found
1704.2	5530-5541		25°45'40.56" 80°05'48.97"	Nothing found
3801.5	5139-5154		25°47'18.29" 80°06'05.21"	Nothing found
3835.6	5155-5161	6.0m	25°47'23.77" 80°06'14.98"	Chart current survey soundings
3835.9	5164-5175		25°47'23.58" 80°06'15.88"	Nothing found
3837.5	5176-5184		25°47'21.00" 80°06'16.64"	Nothing found
3838.5	5185-5194		25°47'19.77" 80°06'18.25"	Nothing found
3842.0	5195-5208		25°47'14.07" 80°06'19.68"	Nothing found
3755.1	5209-5223		25°47'12.54" 80°05'29.74"	Nothing found

3755.5	5224-5240		25°47'13.20" 80°05'29.85"	Nothing found
4173.8	5352-5363		25°45'10.37" 80°06'58.09"	Nothing found
4184.1	5364-5377		25°45'18.36" 80°07'14.82"	Nothing found
4192.7	5378-5401		25°45'17.74" 80°07'20.78"	Nothing Found
4206.4	5402-5415	6.5m	25°45'08.55" 80°06'57.76"	Chart current survey soundings
4216.8	5418-5426	6.7m	25°45'10.43" 80°07'10.78"	Chart current survey soundings
4224.7	5427-5435		25°45'16.42" 80°07'23.68"	Nothing Found
4241.8	5436-5447	6.3m	25°45'09.69" 80°06'58.50"	Chart current survey soundings
4246.1	5448-5459		25°45'06.76" 80°06'58.30"	Nothing found
4253.1	5462-5477		25°45'10.89" 80°07'10.18	Nothing Found
4258.4	5478-5490		25°45'14.96" 80°07'18.80"	Nothing Found
4303.4	⁵⁴⁹¹ 5491-5503	^{6.9} 5.2	25°45'12.95" 80°06'06.67"	Chart current survey soundings
4341.7	5505-5529	[→] 4.1	25°45'28.37" 80°05'59.91"	Chart current survey soundings
4549.8	5241-5259		25°47'07.53" 80°05'20.36"	Nothing found
4554.3	5260-5284		25°47'07.24" 80°05'20.17"	Nothing Found

4581.8

5285-5299

25°47'11.09"
80°05'17.62"

Nothing Found

Many of the contacts were not located during the single-beam echo sounder investigations. This may be due to the extremely rugged bottom configuration in the area. Especially in deeper areas, the bottom is very jagged. Local information indicates this is a hard, rocky bottom. This would explain the numerous contacts that were identified. The majority of these contacts were borderline insignificant according to the scaled heights from the sonargrams.

There were no additional dangers to navigation to those discussed in section M. of this report identified on this survey.

The hydrographer recommends that sounding data from this survey be used to update the chart.

CONFER

P. ADEQUACY OF SURVEY *SEE ALSO THE EVALUATION REPORT*

This survey is complete and adequate to supersede all prior surveys within the common areas.

Q. AIDS TO NAVIGATION

No aids to navigation were located during the course of this survey

There were no bridges, ferry routes, pipelines or overhead power cables within the survey area.

R. STATISTICS

<u>Description</u>	<u>Quantity</u>
Total Number of Positions	5629
Total Lineal Nautical Miles of Hydrography	16.5
Total Lineal Nautical Miles of Side Scan Sonar	99.2
Square Nautical Miles Surveyed	0.25
Days of Production	22
Detached Positions	10
Bottom Samples	0
Tide Stations	1
Velocity Casts	4

S. MISCELLANEOUS

No anomalous currents or tides were observed during this survey.

No bottom samples were taken.

A complete list of all detached positions by day is included in the accordion file. It lists the position of each feature and the AWOIS item number when applicable.

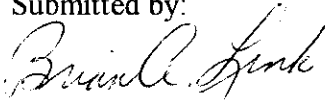
T. RECOMMENDATIONS

No additional field work was identified after field office processing was completed. Specific recommendations are made in sections *M*, N., O., and Q. of this report.

U. REFERRAL TO REPORTS

<u>Title</u>	<u>Transmittal Information</u>
Descriptive Report for H-10748	Atlantic Hydrographic Branch N/CS33, Norfolk, VA 23510 (1997)
Coast Pilot for OPR-H300-AHP	Atlantic Hydrographic Branch N/CS33, Norfolk, VA 23510 (1997)
User Evaluation for OPR-H300-AHP	Atlantic Hydrographic Branch N/CG244, Norfolk, VA 23510 (1997)

Submitted by:



for Mark J. McMann
Launch Hydrographer-In-Charge

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEANIC SERVICE Office of Coast Survey
Atlantic Hydrographic Branch
439 W. York Street
Norfolk, VA 23510-1114

January 8, 1998

Commander (can)
Seventh Coast Guard District
Brickell Plaza Building
909 SE 1st Avenue
Miami, Florida 33131 3050

Dear Sir,

During office processing of the hydrographic survey conducted for the approaches to Miami, Florida (project OPR-B300 KR 97, registry H-10748), the following shoal soundings were identified as hazards to navigation. I recommend that the items be included in the next Local Notice to Mariners. The positions are based on NAD83 datum and the soundings have been reduced to Mean Lower Low Water (MLLW) using smooth tides. All items were located using Differential GPS. All data is preliminary and subject to further field work and office review.

#	Depth	Geographic Position	
		Latitude	Longitude
1	32'	25°45'57.88"N	80°05'25.41"W
2	29'	25°45'48.61"N	80°05'23.52"W
3	26'	25°45'44.94"N	80°05'24.51"W
4	27'	25°45'40.03"N	80°05'48.70"W


Affected Nautical Charts:

Chart Number	Edition Number	Date	Horizontal Datum
11451	27th	2/3/96	NAD 83
11465	32nd	4/5/97	NAD 83
11466	32nd	11/16/96	NAD 83
11467	33rd	12/14/96	NAD 83
11468	34th	4/5/97	NAD 83

The attached chartlet depicts the depths to be added in red.

Questions concerning this report should be directed to the Atlantic Hydrographic Branch by calling 757-441-6746.

Sincerely,



Nicholas E. Perugini, CDR, NOAA
Chief, Atlantic Hydrographic Branch

Attachment

NIMA-RLS
H/CS26
H/CS27



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEANIC SERVICE Office of Coast Survey
Atlantic Hydrographic Branch
439 W. York Street
Norfolk, VA 23510-1114

January 15, 1998

Commander (oan)
Seventh Coast Guard District
Brickell Plaza Building
809 SE 1st Avenue
Miami, Florida 33131-3050

Dear Sir,

During office processing of the hydrographic survey completed for the approaches to Miami, Florida (project OPR-H300-KR-97, Log. No. H-10748), the following shoal soundings were identified as hazards to navigation. I recommend that the items be included in the next Local Notice to Mariners. The positions are based on NAD83 datum and the soundings have been reduced to Mean Lower Low Water (MLLW) using smooth tides. All items were located using Differential GPS. All data is preliminary and subject to further field work and office review.

#	Depth	Geographic Position	
		Latitude	Longitude
5	34'	25°48'00.60"N	80°05'19.27"W
6	31'	25°47'49.76"N	80°05'19.58"W
7	32'	25°47'33.71"N	80°05'20.08"W
8	27'	25°45'12.96"N	80°05'32.85"W
9	23'	25°44'23.57"N	80°05'43.31"W

Affected Nautical Charts:

Chart Number	Edition Number	Date	Horizontal Datum
11451	27th	2/3/96	NAD 83
11465	32nd	4/5/97	NAD 83
11466	32nd	11/16/96	NAD 83
11467	33rd	12/14/96	NAD 83
11468	34th	4/5/97	NAD 83

The attached chartlet depicts the depths to be added in red.

Questions concerning this report should be directed to the Atlantic Hydrographic Branch by calling 757-441-6746.

Sincerely,



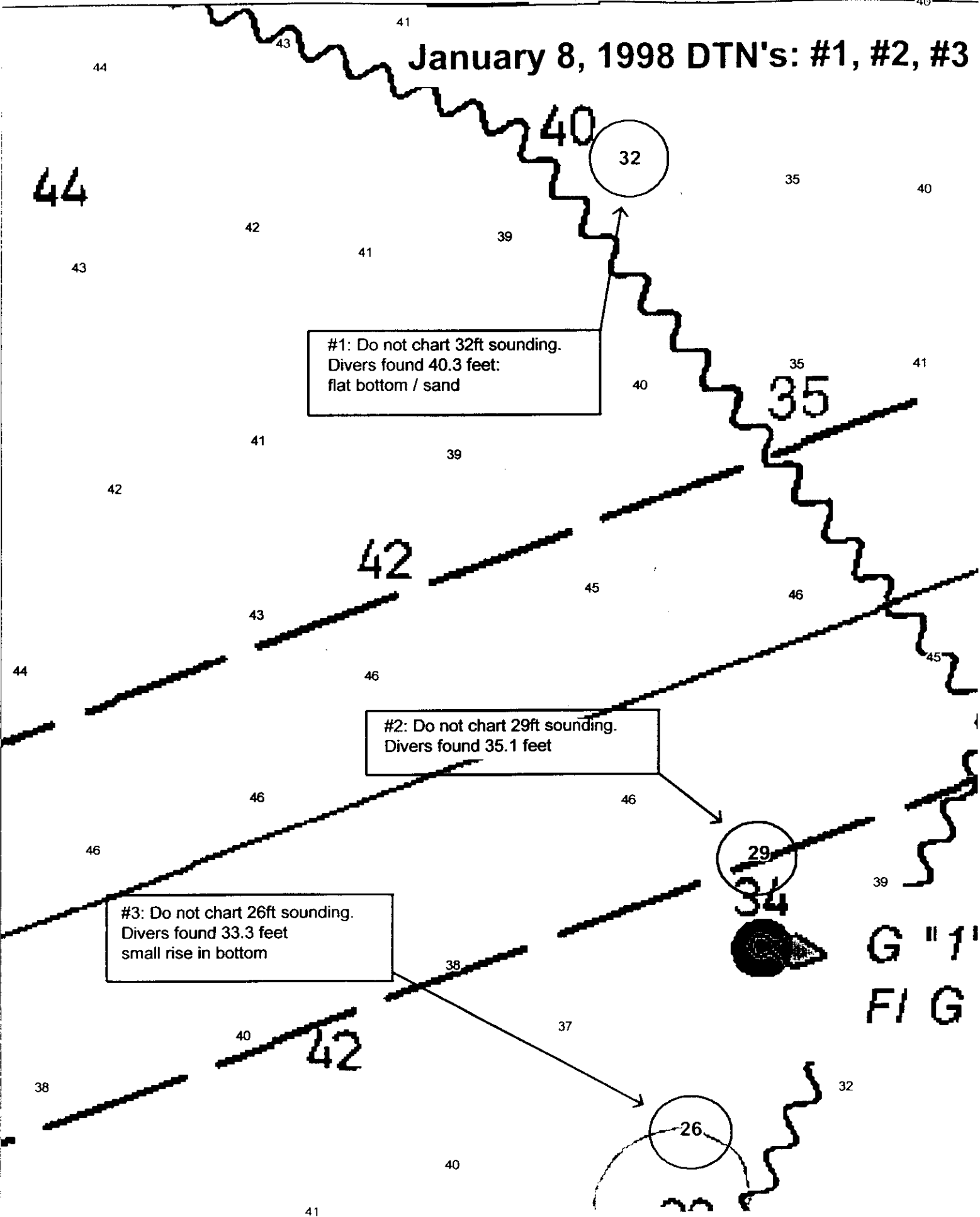
Nicholas E. Perugini, CDR, NOAA
Chief, Atlantic Hydrographic Branch

Attest:



January 8, 1998 DTN's: #1, #2, #3

44



#1: Do not chart 32ft sounding.
 Divers found 40.3 feet:
 flat bottom / sand

#2: Do not chart 29ft sounding.
 Divers found 35.1 feet

#3: Do not chart 26ft sounding.
 Divers found 33.3 feet
 small rise in bottom

G "1"
 FIG

R "2"

37

January 8, 1998 DTN #4

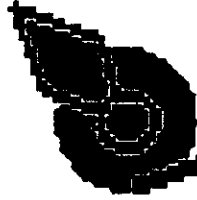
F/R 4s

36

27

33

27



46

46

45

#4: Do not chart 27ft sounding
Divers found 35.9 feet:

45



27

G "3"

41

36

F/G 4s

41

25

27

31

35

4

Soundings:
RED = LIDAR
BLUE = Singlebeam

#5: Retain depth as reported
in DTON dated 1/15/98

37
3534

Sh/rep 1994 PA

36³³₃₄

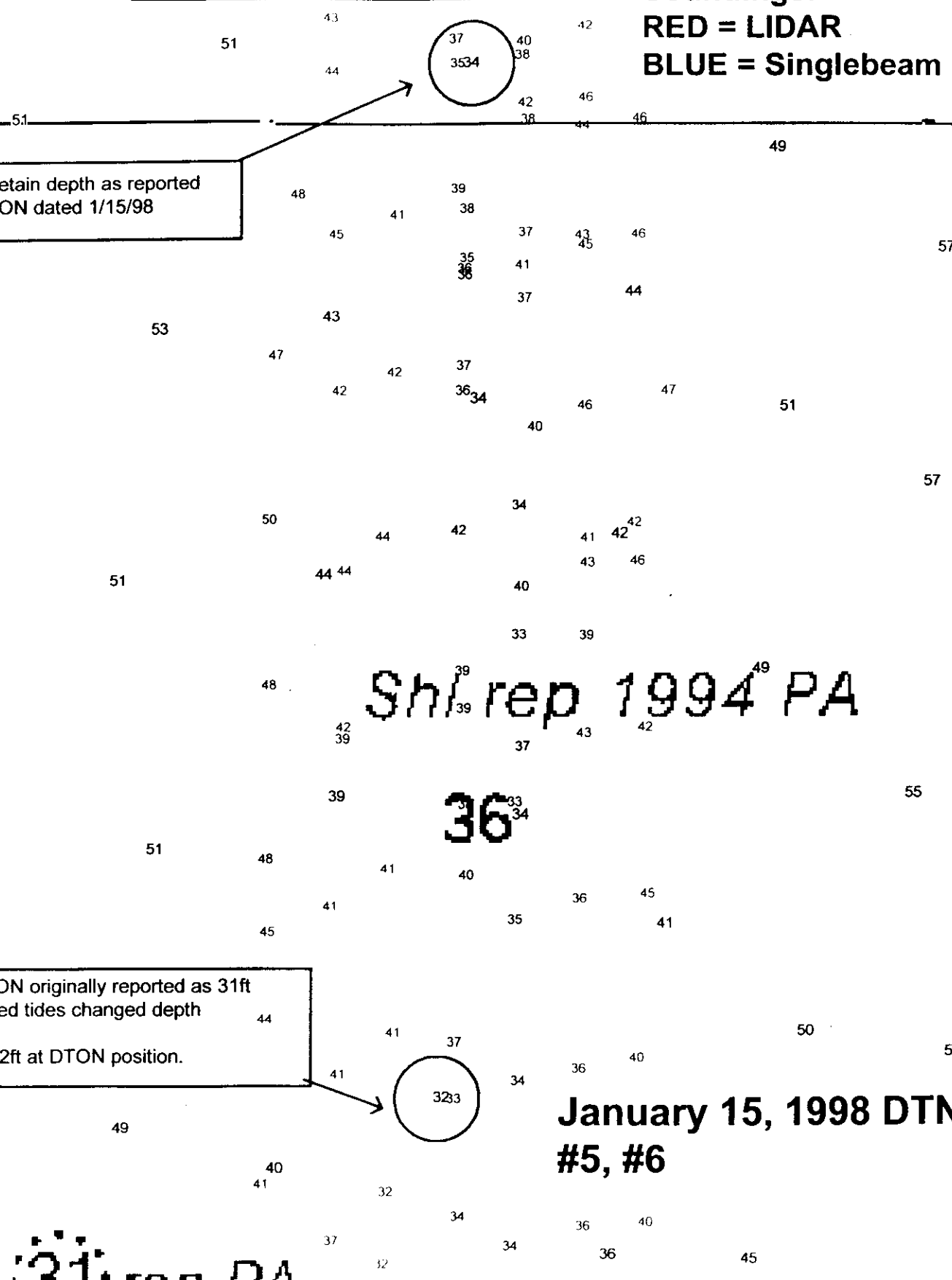
#6: DTON originally reported as 31ft
Approved tides changed depth
to 32ft.
Chart 32ft at DTON position.

37
3233

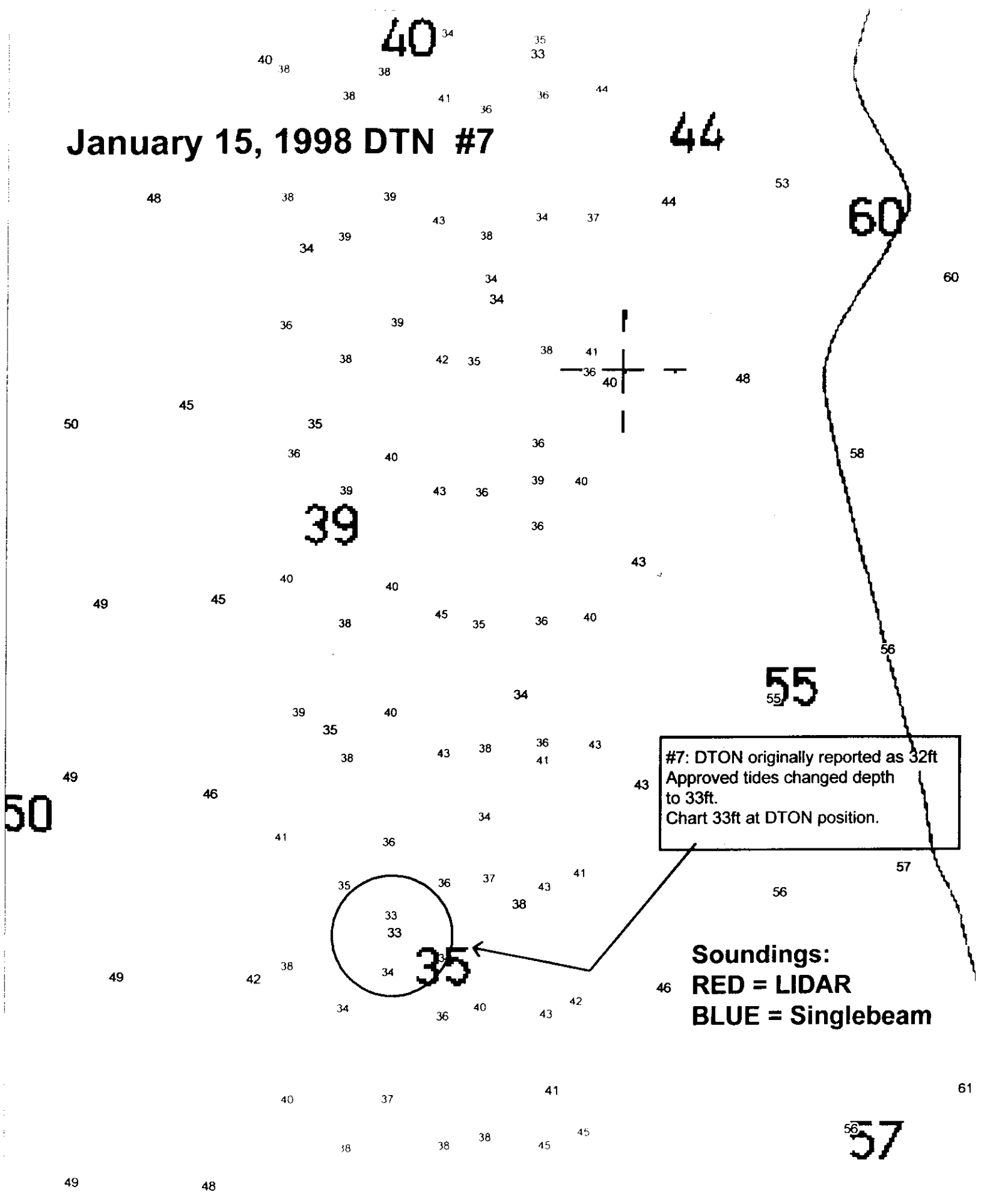
January 15, 1998 DTN's:
#5, #6

31:rep PA

3



January 15, 1998 DTN #7



#7: DTN originally reported as 32ft
Approved tides changed depth
to 33ft.
Chart 33ft at DTON position.

Soundings:
RED = LIDAR
BLUE = Singlebeam

38

January 15, 1998 DTN #9

38

40

39

42

41

42

41

40

42

43

42

39

42

41

42

43

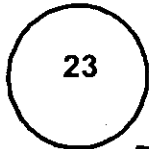
41

41

40

43

43



43

41

43

42

D AREA
te F)

40

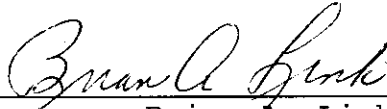
#9: Do not chart 23ft sounding.
Divers found 43.6 feet
flat bottom / sand

46

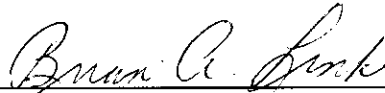
APPROVAL SHEET
Basic Hydrographic Survey
OPR-H300-AHP
AHP-10-2-98
H-10748A
1998

This basic hydrographic survey was completed in accordance with the Project Instructions for OPR-H300-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports, records, and survey sheets were reviewed by Mr. Mark J. McMann, Launch Hydrographer-in-charge of OPR-H300. The Descriptive Report was also reviewed by the Chief, AHP. The chief of party did not directly supervise any part of this survey.

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



Brian A. Link
Chief, Atlantic Hydrographic Party



for Mark J. McMann
Hydrographer-in-charge of daily operations



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: October 5, 1998 *

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-H300-AHP

HYDROGRAPHIC SHEET: H-10748A

LOCALITY: Approaches to Miami, FL

TIME PERIOD: January 20 - April 28, 1998

TIDE STATION USED: 872-3214 Virginia Key, FL
Lat. 25° 43.9'N Lon. 80° 9.7'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.667 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: EC201, BB1, BB2, BB3, BB7, BB8, BB9,
BB10, BB11 & BB12.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units
(meters), relative to MLLW and on Greenwich Mean Time.

* This Tide Note supersedes the previous one which was dated
September 21, 1998. It includes a portion of Hydrographic Sheet
H-10748A that was not submitted along with the initial request.

William M. Gibson

for CHIEF, REQUIREMENTS AND ENGINEERING BRANCH



GEOGRAPHIC NAMES

H-10748A

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">A ON CHART NO. 11468</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">B ON PREVIOUS SURVEY NO.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">C ON U.S. QUADRANGLE MAPS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">D FROM LOCAL INFORMATION</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">E ON LOCAL MAPS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">F P.O. GUIDE OR MAP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">G RAND McNALLY ATLAS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">H U.S. LIGHT LIST</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">K</div> </div>											
	BAR CUT	X										
BISCAYNE BAY	X		X									2
DODGE ISLAND	X		X									3
DODGE ISLAND CUT	X											4
FISHER ISLAND	X		X									5
FISHERMANS CHANNEL	X											6
FLORIDA (title)	X		X									7
GOVERNMENT CUT	X		X									8
LUMMUS ISLAND	X		X									9
LUMMUS ISLAND CUT	X											10
MIAMI (title)	X		X									11
NORTH ATLANTIC OCEAN	X											12
OUTER BAR CUT	X											13
PORT OF MIAMI	X											14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25

Approved:

Dennis J. Ramesh
Chief Geographer JUL 27 1998

N/CS 33-73-99

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY
(Check):

- ORDINARY MAIL AIR MAIL
- REGISTERED MAIL EXPRESS
- GBL (Give number) _____

TO:

NOAA / National Ocean Service
 Chief, Data Control Group, N/CS3x1
 SSMC3, Station 6815
 1315 East-West Hwy.
 Silver Spring, MD 20910-3282

DATE FORWARDED

9-15-99

NUMBER OF PACKAGES

ONE TUBE

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H10748A OPR-H300-AHP

Florida
Approaches to Miami

- 1 Descriptive Report
- 2 Drawing History forms 76-71 for NOS Charts 11466 & 11468
- 1 Smooth Sheet
- 2 Mylar H-Drawings NOS Charts 11466 & 11468
- 2 Paper Composite Plots NOS Chart 11466
- 2 Paper Composite Plots NOS Chart 11468

FROM: (Signature)



Maxine Fetterly

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Maxine Fetterly
 Atlantic Hydrographic Branch
 439 W. York St.
 Norfolk, VA 23510

09/15/99

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10748A

NUMBER OF CONTROL STATIONS 2

NUMBER OF POSITIONS 5395

NUMBER OF SOUNDINGS 5395

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	6.0	07/15/98
VERIFICATION OF FIELD DATA	137.5	09/01/99
QUALITY CONTROL CHECKS	12.5	
EVALUATION AND ANALYSIS	36.0	
FINAL INSPECTION	19.5	08/03/99
COMPILATION	116.0	09/10/99
TOTAL TIME	327.5	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		08/11/99

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10748A (1998)**

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.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System
NADCON, version 2.10
Siteworks, version 2.01
MicroStation 95, version 5.05
I/RAS B, version 5.01

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

H. CONTROL STATIONS

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 1.357 seconds (41.775 meters or 4.18 mm at the scale of the survey) north in latitude, and 0.836 seconds (23.297 meters or 2.33 mm at the scale of the survey) east in longitude.

J. SHORELINE

Brown shoreline originates with NOS chart 11468 (35th Ed., April 18/98) and is for orientation purposes only.

Shoreline changes are apparent from the limits of hydrography on chart 11466 in the vicinity of Latitude 25°45'58"N, Longitude 80°09'24"W to Latitude 25°46'10"N, Longitude 80°10'00"W. The shoreline in this area has been omitted from the smooth sheet.

M. COMPARISON WITH PRIOR SURVEYS

H10748 (1997) 1:10,000

The hydrographer makes an adequate comparison with LIDAR survey H10748 (1997), which uses a SHOALS Airborne Data Collection System, in section M. of the Descriptive Report. Attention is directed to the following:

1. The following depths originate with hydrographic survey H10748 (1997) and were recommended to be charted as obstructions in Danger to Navigation letters generated by the Atlantic Hydrographic Branch on January 8, 1998 and January 15, 1998:

<u>Depth ft/m</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
32/9 ⁷	25°45'57.88"	80°05'25.41"
30/9 ¹	25°45'48.61"	80°05'23.52"
26/7 ⁹	25°45'44.94"	80°05'24.51"
34/10 ³	25°48'00.60"	80°05'19.27"
32/9 ⁷	25°47'49.76"	80°05'19.58"
33/10 ⁵	25°47'33.71"	80°05'20.08"
28/8 ⁵	25°45'12.96"	80°05'32.85"

These areas were developed by the present survey utilizing echo sounder, side scan sonar and dive investigations. During office processing, with the review of side scan sonar records, it was determined that these features were not obstructions, but an irregular bottom configuration. The depths only, without the obstruction label, have been brought forward from prior survey H10748 (1997) to supplement the present survey. It is recommended that these depths be charted as shown on present survey.

2. An obstruction with a depth of 28 foot (8⁵ m) in Latitude 25°45'40.03"N, Longitude 80°05'48.7"W, originates with the prior survey as a Danger to Navigation, dated January 8, 1998. This area was developed by the present survey utilizing echo sounder, side scan sonar and a diver investigation. An old buoy anchor block was located. This obstruction has been brought forward to supplement the present survey. Chart feature as shown on the present survey.

3. An obstruction with a depth of 29 foot (8⁶ m) in Latitude 25°47'17.86"N, Longitude 80°05'49.93"W, originates with the prior survey. This area was developed by the present survey utilizing echo sounder and side scan sonar. A small natural rise in the bottom was noted. The depth without the

obstruction label, has been brought forward from the prior survey to supplement the present survey. Chart present survey soundings in this area.

4. An obstruction with a depth of 32 foot (9⁷ m), in Latitude 25°46'51.15"N, Longitude 80°05'23.81"W, originates with the prior survey. This area was developed by the present survey utilizing echo sounder and side scan sonar. Irregular bottom configuration was noted. The depth without the obstruction label, has been brought forward from the prior survey to supplement the present survey. Chart present survey soundings in this area.

5. An obstruction with a depth of 18 foot (5⁵ m), in Latitude 25°45'41.69"N, Longitude 80°06'11.27"W, originates with the prior survey. This area was developed by the present survey utilizing echo sounder and side scan sonar with negative results. Chart present survey soundings in this area.

6. Prior survey depths are generally 3 feet (0⁹ m) shoaler than present survey depths. The differences in depth most likely can be attributed to the different types of sounding equipment used during survey operations. Numerous soundings, not considered disproved by the present survey, have been brought forward from the prior survey to supplement the present survey. It is recommended that these soundings be retained and/or charted as shown on the present survey.

Soundings in orange have been carried forward from the prior survey and supplement the present hydrography. With these additions the present survey is adequate to supercede the prior survey in the common area.

O. COMPARISON WITH CHART 11468 (35th Edition, Apr 18/98)
11466 (34th Edition, Feb 6/99)

Hydrography

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in sections N. and O. of the Descriptive Report. Attention is directed to the following:

1. The following charted features originate with

miscellaneous sources and were neither verified nor disproved by the present survey:

<u>Feature</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
islet	25°46'18.0"	80°10'37.5"
dolphins (3)	25°46'09.0"	80°09'58.0"
visible Wreck PA	25°45'53.0"	80°09'21.6"

These features are located in the ship channel inside the Port of Miami. This area was surveyed in response to a request from the Miami Pilots during present survey operations. It is recommended that these features be retained as charted.

2. An uncharted obstruction with a depth of 19 feet (5⁸ m), in Latitude 25°47'23.83"N and Longitude 80°06'14.87"W, was located by the field unit using side scan sonar and an echo sounder. It is recommended that this feature be charted as shown on the present survey.

3. An uncharted shoal, extending from Latitude 25°48'21"N, Longitude 80°05'21"W to Latitude 25°44'24"N, Longitude 80°05'24"W, was noted during office processing. The supplemental 36 foot (11 m) curve was drawn to accentuate the feature. It is recommended that this feature be charted as shown on the present survey.

Controlling Depths

A conflict exists with the charted controlling depth in Dodge Island Cut in the vicinity of Latitude 25°46'26.7"N, Longitude 80°10'45.3"W. The present survey shows a depth of 21 feet while the charted controlling depth is 23 feet. It is recommended that the charted notation 23 Ft July 1988 be revised to 21 Ft April 1998.

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

P. ADEQUACY OF SURVEY

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

S. MISCELLANEOUS

H10748A

Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

The following NOS Charts were used for compilation of the present survey: 11468 (35th Edition, April 18/98)
11466 (34th Edition, February 6/99)

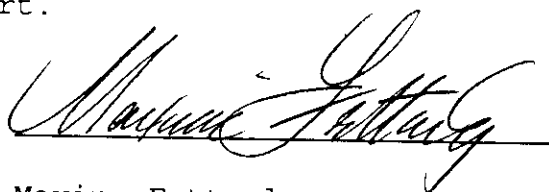
Robert Snow

Robert Snow
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H10748A

Initial Approvals:

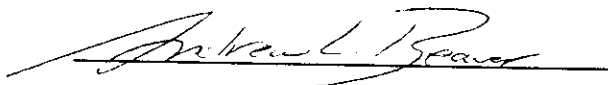
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet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



Date: 8/11/99

Maxine Fetterly
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.



Date: 8/15/99

Andrew L. Beaver
Lieutenant Commander
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: Samuel P. DeBow, Jr.

Date: October 8, 1999

Samuel P. DeBow, Jr.
Commander, NOAA
Chief, Hydrographic Surveys Division

