

9863

Diagrams 1231-2 & 1232-2

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. HSB-20-1-80.....
Office No..... H-9863.....

LOCALITY

State North Carolina.....
General Locality Pamlico Sound.....
Locality Northwest of Hatteras Inlet....

1980

CHIEF OF PARTY
LCDR G.W. Jamerson.....

LIBRARY & ARCHIVES

DATE October 28, 1981.....

☆U.S. GOV. PRINTING OFFICE: 1980-668-537

ARIA-2

CHARTS

11548

11555

HYDROGRAPHIC TITLE SHEET

H-9863

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.

HSB-20-1-80

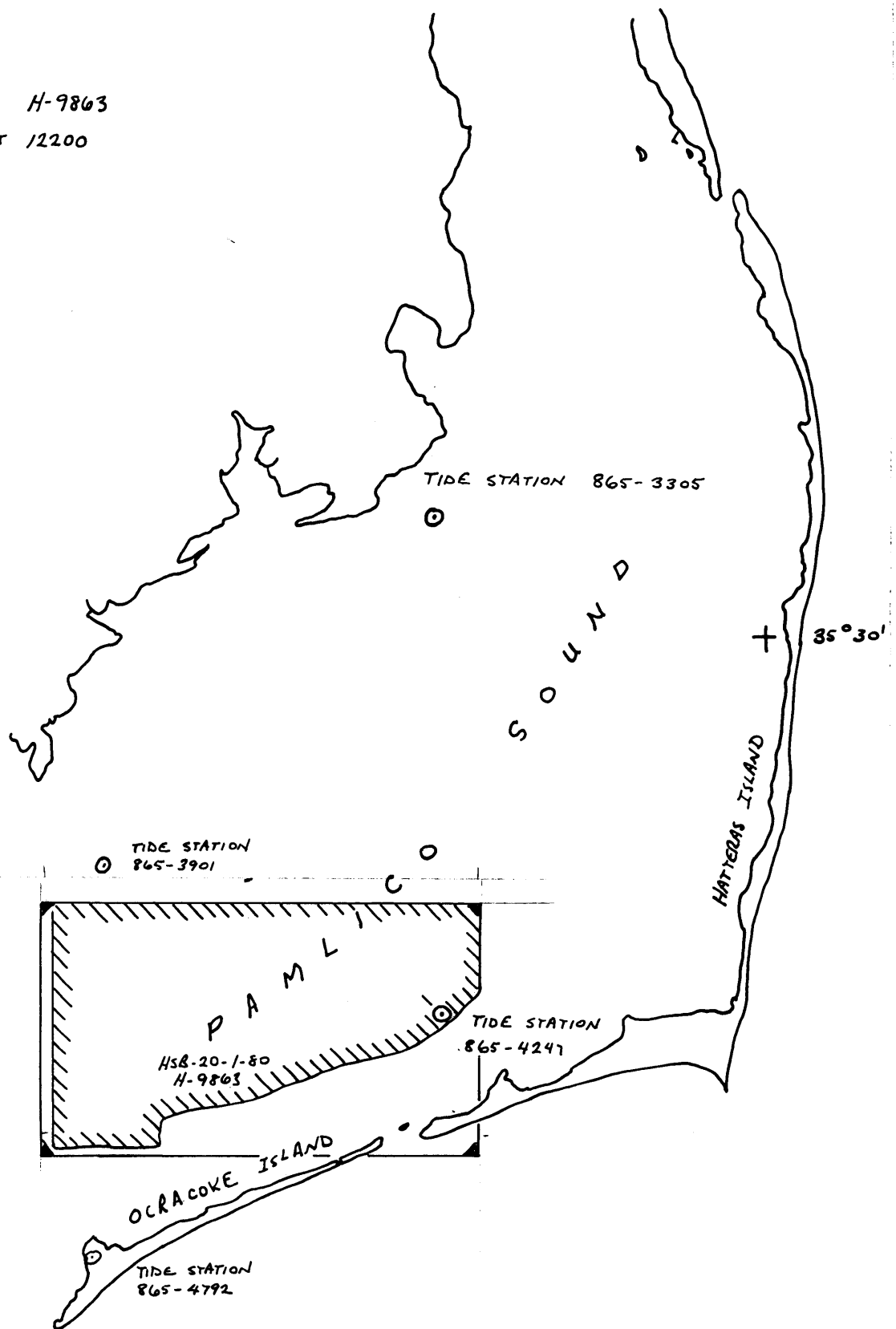
State North CarolinaGeneral locality Pamlico SoundLocality Northwest of Hatteras Inlet
~~Bluff Shoal to Oliver Reef~~Scale 1:20,000Date of survey Jan. 17 - April 29, 1980Instructions dated August 3, 1979*Project No. OPR-F201-HSB-⁷⁹80Vessel NOAA Launch 1255Chief of party LCDR George W. Jamerson, NOAASurveyed by LT David A. Waltz, NOAASoundings taken by echo sounder, ~~XXXXXX~~ Raytheon DE 723-D Depth RecorderGraphic record scaled by SW, RFT, RLK, JW, DAWGraphic record checked by SW, RFT, RLK, JW, DAW, Verification Branch (AMC)

Field - Hydroplot

Protracted by _____ Automated plot by AMC-Xynetics 1200Verification by Verification Branch - AMCSoundings in ~~XXXXX~~ feet at Low Water Datum
~~MLW MEW~~REMARKS: *Change No. 1 - September 11, 1979Change No. 2 - September 26, 1979Changes in red made during verificationSW - Steve WeisnerRFT - Randy TrefethenRLK - Reginald KeeneJW - Jim WilsonDAW - David WaltzSTANDARDS CHECKED10-19-82. C. LongAll times recorded on this survey are GMT.

SURVEY AREA H-9863

SCALE OF CHART 1/2200



75°30'
+ 35°00'

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9863
HSB-20-1-80

Scale: 1:20,000

Chief of Party: Lt. Cdr. George W. Jamerson, NOAA

Officer-in-Charge: Lt. David A. Waltz, NOAA

Hydrographic Surveys Branch, Hydrographic Field Party 4

Launch 1255

A. PROJECT

This survey was accomplished under project instructions OPR-F201-HSB-79, dated August 3, 1979, and amended by change No. 1, September 11, 1979, and change No. 2, dated September 26, 1979.

B. AREA SURVEYED

The area surveyed was part of Pamlico Sound, N.C., between Bluff Shoal and Oliver Reef. The survey was bounded by the following points:

LAT. $35^{\circ}17.3'N$	LONG. $075^{\circ}44.3'W$
LAT. $35^{\circ}11.7'N$	LONG. $075^{\circ}53.0'W$
LAT. $35^{\circ}10.0'N$	LONG. $076^{\circ}01.8'W$
LAT. $35^{\circ}18.5'N$	LONG. $076^{\circ}01.8'W$

This survey was conducted from January 17, 1980, to April 29, 1980 (JD 017 to 120 inclusive).

C. SOUNDING VESSEL

All soundings obtained on this survey were obtained from NOAA Launch 1255 (Vesno 1255).

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following Raytheon equipment was in use during this survey:

Recorder	Model 723-D Serial 37018
ECU	Model 723-D Serial 37011
Digitizer	Model DDM Serial 1907

No unusual problems were encountered with this equipment. The fathometer was monitored continuously while sounding and was under constant adjustment to insure that no initial corrections were necessary.

Settlement and squat tests on Launch 1255 were run on March 24 and April 2, 1980, in the vicinity of Oliver Reef Light in Pamlico Sound. Settlement and squat correctors will be applied via the TC/TI tape during smooth sheet plotting at the Atlantic Marine Center. Settlement and squat was not applied on the field sheet.

Velocity corrections were determined solely by means of bar checks, which were taken as frequently as possible. Bar checks were taken only when sea conditions were calm enough to accurately read the markings. Chain was used for bar check line, resulting in a zero line correction. The chain was measured against a steel tape on May 4, 1979, and on March 11, 1980. See section 4.1. of the Verification Report

The velocity and instrument corrections were determined by averaging the digital depth (both up and down) for the various bar check depths. These were added to the transducer draft to obtain the measured water depth above the bar, this value was then compared with the true depth, which is the bar depth plus a zero line correction. No velocity correctors were applied on the field sheet.

The draft (water line to the bottom of transducer) of Launch 1255 was measured in April 1977, when the vessel was drydocked. It was determined to be 2.6 feet and used for the entire survey.

Since the periodic tide in Pamlico Sound is less than one-half foot, no predicted tides were used for the on-line plot. Non-periodic changes dominate the water level in the Sound, primarily due to wind. Daily observations of the tide staff at Oliver Reef Light were made and recorded in the sounding volume. The field sheets were corrected for "rough" tides from these observations by reducing them to a mean low water value of 1.7 feet on the Oliver Reef Light tide staff. This 1.7 feet value was supplied by Rockville Tides Branch from data obtained prior to this survey.

E. HYDROGRAPHIC SHEETS

The field sheets were prepared in the field using a PDP8/e computer and a DP-3 complot plotter. Work sheets, semi-smooth sheets, smooth field sheets, and overlay sheets are included with this survey. Mainscheme hydrography is plotted on the smooth field sheets while developments, splits, bottom samples, prior survey soundings, junction soundings, charted soundings, presurvey review items, and aids to navigation are shown on various overlay sheets. Projection and electronic control parameters for the field sheets are included in the Appendix of this report. The final smooth sheet and verification of this survey will be accomplished at the Atlantic Marine Center on the Harris/7 computer and the Xynetics 1201 plotter. *Sheet size exceeds 36" width / Telecom AMC & Dale Eastbrook use 42 inch sheet width. Dec. 17, 1980 Westbrook*

F. CONTROL STATIONS

Control stations used during this survey were either existing geodetic control stations published by NGS or were established by Horizontal Control

Section, HSB, to third order or better standards. All stations are referred to the North American 1927 datum. A list of all control stations used during this survey is included in the Appendix of this report.

G. HYDROGRAPHIC POSITION CONTROL

The method used to control this survey was the Argo DM-54 System operating in the range-range mode. The following equipment was used:

<u>Mobile Station</u>	<u>Serial</u>	<u>Dates</u>
RPU	R047844	017-120
CDU	CO47821	017-120
ALU	A0379106	017-120
PWR. SUP.	V0379112	017-120

Argo Nags Head (Hydroplot Sta. No. 113)

RPU	R0379119	017-120
ALU	A047851	017-120
PWR. SUP.	V0379131	017-050

H-50-NC-79 (Hydroplot Sta. No. 114)

RPU	R047840	017-120
ALU	A0379116	
PWR. SUP.	V0478103	

Calibration of the Argo System was done by comparing the digitized lane count values with calculated values for Oliver Reef Light (Station No. 006). Position information for this Light was provided by Hydrographic Surveys Branch Support Section. The offset distance from the Argo antenna to the center of the Light was accounted for by averaging pairs of observed readings taken on opposite sides of the structure. Four values (two pairs) were observed for each calibration. Calibrations were made before and after hydrography each day, and were recorded on the master printouts.

* On a few days, the Argo equipment failed to function during hydrography. If no ending calibration could be made for the day, the single morning calibration was used to determine partial lane correctors. At no time was hydrography continued after problems were encountered without first recalibrating the system. *One day (029) 1 hr. of hydro was run during this day

Since the relatively large steel structure of Oliver Reef Light could be expected to affect antenna tuning and possibly change partial correctors, a sextant angle calibration was made on JD 84. Partial correctors obtained by this method differed from the average JD 84 correctors by 0.045 lane (4.01m) for pattern 1 and 0.035 lane (3.18m) for pattern 2. Records for these calibrations are filed with survey H-9821.

The Argo was operated using time slots one and five. Smoothing code zero was used in the 1979 field season and code two was used for the 1980 season.

H. SHORELINE

There was no shoreline within the limits of this survey. ✓

I. CROSSLINES

Crosslines constitute ^{9.7%} 12% of the mainscheme hydrography. 75% of the crosslines agree exactly and 95% agree within one foot. No crossline sounding differed by more than two feet. The reasons for these disagreements are believed to be due to the approximate tide corrections applied on the field sheet. ✓

J. JUNCTIONS

This survey junctions with the contemporary surveys H-9802 and H-9821 to the Northeast and Northwest, respectively. Field sheet soundings from the present survey junction with these surveys within one foot. It should be noted that this survey and H-9821 used a different settlement and squat value from H-9802. Original records for the settlement and squat determination are included with this survey. See section 5 of the verification Report. ✓

K. COMPARISON WITH PRIOR SURVEYS

This survey was compared with the following prior surveys:

H-3922 (1916), 1:20,000 scale. 97% of all soundings agreed within one foot, and no sounding disagreed by more than ~~two~~ ^{three} feet.

H-672 (1858) 1:40,000 scale. 91% of all soundings surveyed agreed within one foot, and 98% agreed within two feet. ~~Two soundings disagreed by three feet: one at Lat. 35°14.3'N and Long. 75°51.4'W and another at Lat. 35°15.2'N and Long. 75°52.5'W. Both these soundings occurred in a relatively rough bottom area and were developed by lines spaced 100m apart. (Another area of disagreement occurred at Lat. 35°15.5'N and Long. 75°53.3'W. A 12-foot prior sounding is plotted in 17 feet.)~~ ^{The} ~~was~~ ^(SAND RIDGES) ~~This sounding is from H-661 (1880)~~

H-661 (1880) 1:20,000 scale. 90% of all soundings agreed within ^{correct} one foot and 99% within two feet. Three soundings at Lat. 35°15.4'N and Long. 75°53.3'W were shoaler than the present survey by five feet. A 16-foot prior sounding at Lat. 35°15.0'N and Long. 75°54.1'W was surveyed to be in 20 feet.

H-1254 (1875) 1:20,000 scale. 94% of all soundings compared agreed ^{correct} within one foot, and 99% within two feet. Only one sounding disagreed by more than two feet: a 24-foot prior sounding in 21 feet, at Lat. 35°17.4'N and Long. 75°55.8'W. See Section 6. of the verification Report

L. COMPARISON WITH THE CHART

Comparison with charted features was made from an enlargement of chart 11555, 24th edition (1977), and from an unenlarged copy of chart 11555, 25th edition (1978). The charted soundings and curves are shown on the field

overlay sheets in brown. Agreement with this survey is excellent, with most soundings in agreement within one foot. Most disagreement occurs in a shoal area of relatively rough bottom centered on Lat. 35° 15.0'N and Long. 75° 52.0'W. Surveyed soundings are approximately two feet deeper than charted or prior survey soundings show. The reason for disagreement is believed to be the shifting of the bottom, since this area is fairly near Hatteras Inlet, and at least one hurricane has occurred in this area since the time of the prior surveys.

In all cases, it is recommended that soundings from this survey supersede the charted soundings. See section 6. of the Verification Report

PRESURVEY REVIEW ITEMS

logged Item 19. Reported to be the wreck of the 50-foot fishing vessel Mildred. A limited fathometer search consisting of east-west lines spaced 50m apart was run in a one-mile square centered over the wreck. No evidence of the wreck was found. Recommendation: Retain as charted. *concur* ~~long is 100m~~ *concur*

logged Item 20. Reported to be the wreck of a 23-foot boat, charted in Pos. 35° 15.1'N and 75° 46.6'W. A limited fathometer search was run over the charted position, consisting of east-west lines 100m apart in a one-mile square centered over the wreck. No evidence of the wreck was found. A wire sweep would be very difficult to use in this area because of many fishing nets nearby. *concur*
Recommendation: Retain as charted. See Verification Report section 4.d. and section 7.a.2.

M. ADEQUACY OF SURVEY

This survey, H-9863, HSB-20-1-80, is complete and adequate to supersede prior surveys for charting in the common areas. See section 6. of the Verification Report *concur*

N. AIDS TO NAVIGATION

There were no floating aids to navigation within the survey area. Fixed aids were located with the Argo Positioning System and positions are tabulated on NOAA Form 76-40 in the appendices. These aids adequately serve the purpose for which they were intended and are adequately described in the Light List. It should be noted that the abandoned fishing platform charted at Lat. 35° 14.0'N and Long. 75° 46.6'W no longer carries two lights as charted. The platform carries one white flashing light as shown in the photo in Section "P" of this report. See section 4.c. of the Verification Report.

O. STATISTICS

Total Positions	3587
Total Nautical Miles of Hydrography	1105
Square Nautical Miles of Hydrography	98
Bottom Samples	76
Nautical Miles of Crossline	108
Nautical Miles of Development	61

P. MISCELLANEOUS

Big Foot Slough Channel Light "13" - Position #2318 and wreck of dredge "Lehigh". These objects are outside the survey area but are listed on NOAA Form 76-40 in the Appendix. *See section 4. of the Verification Report.*
(-13" only on 76-40)

logged



Platform Position #1777 and 1778

Q. RECOMMENDATIONS

(1) Fish Net Areas. There are several pound net stake lines in the area of this survey. Net stakes have been located by detached positions at each end of the line, and by running buffer lines along the row of stakes. Their positions are in the survey records. These stakes are definitely permanent structures and should be charted. *Concur*

The net stake system consists of small logs 3 to 6 inches in diameter driven into the bottom, and a net hung vertically on these stakes. If a net stake is abandoned, it will often break off at or just below the water surface, producing an extreme hazard for small craft. A photograph of a typical pound net is included below. Recommendation: Chart the net stake positions as located by this unit. *Concur*



(2) Hatteras Inlet Area

Although outside the survey area, this unit made an evaluation of the channel marking system in the channels just inside Hatteras Inlet. Positions of fixed aids in the Inlet Area were observed with two Argo lines of position and one check angle.

The following recommendations are made with consultation and concurrence with CWO Styron, USCG, Deputy Commander, Coast Guard Group Cape Hatteras.

Recommendation: Chart fixed aids as located by this unit and recorded on NOAA Form 76-40 included with this report. Delete all other fixed aids charted in this area, as they no longer exist.

Recommendation: Delete all white/orange privately maintained buoys in the area as they no longer exist.

Recommendation: Delete all channel buoys from the chart as they are shifted frequently, in a similar manner to the buoys on Hatteras Inlet bar.

Recommendation: Chart inset for Hatteras Inlet.

An enlarged inset of the Hatteras Inlet area is needed, including the area of the State Ferry Docks on Ocracoke Island, the channels leading to the town of Hatteras, and the end of Rollinson Channel around day mark "17". At the scale of chart 11555, this area is extremely difficult to read. Its heavy use and proximity to shoal water make an inset desirable. **concur**

R. AUTOMATED DATA PROCESSING


Programs used during field data acquisition and field processing of this survey are as follows:

<u>PROGRAM</u>	<u>DESCRIPTION</u>	<u>VERSION DATE</u>
RK111	Range-Range Real Time Hydroplot	1/30/76
RK201	Grid, Signal, and Lattice Plot	4/18/75
RK211	Range-Range Non-Real Time Plot	1/15/76
RK300	Utility Computations	2/05/76
RK330	Reformat and Data Check	5/04/76
PM360	Electronic Corrector Abstract	2/02/76
RK407	Geodetic Inverse/Direct Computation	9/25/78
RK561	H/R Geodetic Calibration	2/19/75
AM602	Elinore-Line Oriented Editor	5/20/75

S. REFERENCE TO REPORTS

Control Report for OPR-F201, which is included with this report.

Respectfully submitted,


Lt. D. A. Waltz, NOAA
OIC, HFP-4

FIELD TIDE NOTE

H-9863

Predicted tides were not applied to the sounding data on the field sheet since Pamlico Sound has a periodic tide of less than one-half foot. Non-periodic changes dominate the water level, due to wind setup and rainfall. Water level corrections were applied to the data by reducing the daily soundings to a preliminary low water datum supplied by the Rockville Tides Branch. This datum corresponded to 1.7 feet on the Oliver Reef Lt. (857-4247) Tide staff. Morning and afternoon staff observations were made of the Oliver Reef Staff, and the daily average was reduced to low water datum by means of a "rough" tide tape on the off-line field plot.

ADR water level gages were installed at the following locations:

<u>Site and Number</u>	<u>Location</u>	<u>Period</u>
Cedar Island Ferry 865-5151	35°01.2'N 76°18.6'W	10 NOV 1977 End of Survey
Long Shoal Lt. 865-3305	35°33.8'N 75°44.1'W	15 NOV 1979 End of Survey
Oliver Reef Lt. 865-4247	35°15.8'N 75°45.6'W	15 NOV 1979 End of Survey
Gull Shoal Lt. 865-3901	35°22.0'N 75°57.5'W	28 NOV 1979 End of Survey
Oregon Inlet 865-2587	35°47.8'N 75°33.0'W	24 AUG 1978 End of Survey

Contract observers monitored the Cedar Island Ferry and Oregon Inlet gages. Launch personnel were observers of the other gages. A direct line of communication was maintained with contract observers.

The Cedar Island Ferry and Oregon Inlet gages were leveled at the time of installation. All other gages were not leveled since they are located on offshore platforms. All gages operated satisfactorily except as noted on the weekly records and on NOAA Form 77-79, Preliminary Evaluation of Tide Record.

SIGNAL TAPE PRINTOUT HSB20-1-30 H-9363

FOR VERIFICATION OF THESE POSITIONS SEE HSB HORIZONTAL CONTROL
SECTION.....BOB DECROIX

006	2	35	15	47664	075	45	33576	139	0000	000000	/ OLIVER REEF LIGHT (1978)
015	2	35	13	00797	075	40	41434	139	0000	000000	/ HATTERAS WATER TANK (1978)
019	2	35	11	50393	075	43	57443	139	0000	000000	/ HATTERAS INLET LOOKOUT TOWER (1978)
113	2	35	50	42432	075	33	49054	254	0000	164360	/ ARGO NAGS HEAD (1979)
114	2	35	12	25409	075	42	16990	250	0000	164360	/ H-50-NC-79 (1979)

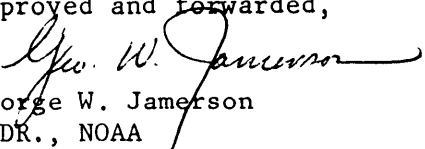
/ DAW

APPROVAL SHEET
HYDROGRAPHIC SURVEY H-9863
HSB-20-1-80

The hydrographic records transmitted with this report are complete and adequate to supersede prior surveys for charting with no additional hydrography recommended.

Daily supervision was not made by me during field work on this survey.

Approved and forwarded,


George W. Jamerson
LCDR., NOAA
Chief, Hydrographic Surveys Branch

CONTROL REPORT

OPR-F201-HFP-80

PAMLICO SOUND, NORTH CAROLINA

Prepared by:
Atlantic Marine Center
Hydrographic Surveys Branch
March 1980

CAPE HATTERAS SUPPLEMENTAL CONTROL

1 Authority

Horizontal control was performed in support of HFP-4 in accordance with Project Instructions OPR-F201-HFP-~~80~~ dated August 3, 1979.

79

2. Purpose

The purpose of the horizontal support by the Hydrographic Surveys Branch was for an ARGO Positioning system, to augment and check the credibility of existing control as it now exists.

3. Locality of Control

Horizontal control was recovered and/or established in the area of the Outer Banks of North Carolina between Cape Hatteras and the town of Nags Head.

4. Horizontal Control

Horizontal control, as provided, consists of 10 NGS stations, 24 new H.S.B. stations. All control can be considered 3rd order or better.

5. Disposition of Data

All field records and computations are retained at Atlantic Marine Center, Hydrographic Surveys Branch. Pertinent data will be forwarded to Operations Division, Atlantic Marine Center at the conclusion of the project. A copy of this report will be forwarded to the field party.

Submitted by:

Robert De Croix
Robert De Croix

ANC -- UNADJUSTED FIELD COMPUTATIONS
ATLANTIC MARINE CENTER

DATE TIME = 720917.1130

LIST OF GEOGRAPHIC POSITION STATION NAMES
LISTING DATE = 790917

TSN NoR	STATION NAME	LATITUDE			LONGITUDE		
		K	DEC	MIN SEC	DEC	MIN	SEC
500	BILLY 1962	9	35	13 42.04203	75	37	12.37570
501	RY 01	8	35	13 30.03992	75	38	15.78040
502	RY 02	8	35	12 59.34700	75	40	4.95044
503	RY 07A	8	35	12 33.20323	75	41	23.48444
504	RY 03	8	35	12 20.05456	75	42	5.56316
505	NP 545 NPS 1962	9	35	12 21.66799	75	42	11.08217
506	H 1 PTA	8	35	12 27.68941	75	42	22.93748
507	H 1 NC 72	8	35	12 22.20652	75	42	22.73587
508	OLIVER REEF LIGHT	8	35	15 47.64203	75	45	38.57216
509	UNIDENTIFIED LOOKOUT TOWER 1	1	35	11 50.89308	75	43	57.44811
510	CAPE HATTERAS LH 1933	9	35	15 17.02550	75	31	15.98005
511	UNIDENTIFIED B WIT TANK 1	4	35	13 48.84203	75	37	12.37570
512	HATTERAS W TANK	8	35	13 0.79643	75	40	41.43297
513	HATTERAS STORM FLAG TWR	8	35	13 12.97945	75	41	26.66087
514	UNIDENTIFIED TOWER 1	0	0	0 0.0	0	0	0.0
515	UNIDENTIFIED BEACON 1	0	0	0 0.0	0	0	0.0
516	KINNA 1962	9	35	19 8.63263	75	30	42.51279
517	H 1 NC 78	8	35	19 5.59965	75	30	32.86587
518	H 2 NC 78	8	35	17 16.77619	75	30	54.62936
519	H 3 NC 73	8	35	16 46.65799	75	30	59.20479
520	OTAKOND SHOAL LIGHT	8	35	9 4.34757	75	17	56.76330
521	H 2 NC 72	8	35	19 30.76108	75	30	26.85536
522	H 3 NC 79	8	35	21 12.23176	75	30	2.66053
523	AVON 1962	9	35	21 29.18800	75	30	8.55528
524	AVON WATER TANK	8	35	21 3.16886	75	30	16.76202
525	CAPE HATTERAS L H ECC 2	8	35	15 17.10592	75	31	16.07556
526	CAPE HATTERAS LORAIN MAST 1949	9	35	14 25.92610	75	31	37.80026
527	UNIDENTIFIED TANK 1	0	0	0 0.0	0	0	0.0
528	KINNA AZ MK	0	0	0 0.0	0	0	0.0

HATTERAS, COAST GUARD
ATLANTIC MARINE CENTER

DATE, TIME= 800104.1045

LIST OF GEOGRAPHIC POSITION STATION NAMES
LISTING DATE= 800104

```
*****
TSN   STATION NAME      LATITUDE      LONGITUDE
NBR                                K DEG MN SEC  DEG MN SEC
*****
700 MP 545 NPS 1962      9  35 12 21.66729  75 42 11.09217
701 H 50 NC              8  35 12 25.40936  75 42 16.99029
702 H 1 NC 79            9  35 12 28.20652  75 42 22.73587
703 HATTERAS STORM FLAG TWR 9  35 13 12.97945  75 41 26.66087
*****
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HATTERAS, COAST GUARD
ATLANTIC MARINE CENTER

DATE, TIME= 800104.1045

LIST OF GEOGRAPHIC POSITION STATION NAMES
LISTING DATE= 800104

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*****
TSN   STATION NAME      ELEVATION    GEOD HT    SOURCE
NBR                                K      (M)      (M)
*****
700 MP 545 NPS 1962      4      3.3530    0.0    SCALED USGS
701 H 50 NC              4      0.4590    0.0    SCALED USGS
702 H 1 NC 79            4      1.2570    0.0    SCALED USGS
703 HATTERAS STORM FLAG TWR 4      16.8000    0.0    PUBLISHED NGS
*****
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HATTERAS, COAST GUARD
ATLANTIC MARINE CENTER

DATE, TIME= 800104.1045

LIST OF GEOGRAPHIC POSITION STATION NAMES
LISTING DATE= 800104

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*****
TSN   STATION NAME      STORAGE LOC
NBR                                FOR DESC  HZT  VRT
*****
700 MP 545 NPS 1962      589      R
701 H 50 NC              591      D
702 H 1 NC 79            592      R
703 HATTERAS STORM FLAG TWR 590      R
*****
```

BODIE ISLAND ARGO
ATLANTIC MARINE CENTER

DATE.TIME= 800104.1000

LIST OF GEOGRAPHIC POSITION STATION NAMES
LISTING DATE= 800104

TSN NBR	STATION NAME	LATITUDE			LONGITUDE			
		K	DEG	MN	SEC	DEG	MN	SEC
704	OCEAN COLONY	9	35	51	27.80380	75	34	14.38849
705	BODIE ISLAND LIGHTHOUSE	9	35	49	6.17854	75	33	49.29767
706	NASA 2	9	35	50	45.71350	75	33	54.91030
707	H 51 NC	8	35	50	45.94474	75	33	49.76380
708	ARGO NAGS HEAD	8	35	50	42.48195	75	33	49.05384
709	CERC 46	8	35	50	42.75277	75	33	48.57622
710	H 52 NC	8	35	50	42.43049	75	33	48.99621
711	H 53 NC	8	35	50	40.65719	75	33	52.57075
712	BODIE IS NAT PARK SER WT	9	35	50	9.66502	75	34	29.08232

BODIE ISLAND ARGO
ATLANTIC MARINE CENTER

DATE.TIME= 800104.1000

LIST OF GEOGRAPHIC POSITION STATION NAMES
LISTING DATE= 800104

TSN NBR	STATION NAME	ELEVATION (M)	GEOID HT (M)	SOURCE
704	OCEAN COLONY	4	2.0000	0.0
705	BODIE ISLAND LIGHTHOUSE	4	47.5500	0.0
706	NASA 2	8	1.3960	0.0
707	H 51 NC	4	7.0280	0.0
708	ARGO NAGS HEAD	0	0.0	0.0
709	CERC 46	9	2.1680	0.0
710	H 52 NC	8	2.1680	0.0
711	H 53 NC	8	1.7740	0.0
712	BODIE IS NAT PARK SER WT	4	0.0	0.0

SCALED USGS
SCALED USGS
LRFS CERC 46
SCALED USGS
Co E Bench Mark
BENCH MARK FIXED
LRFS CERC 46
LRFS CERC 46
SCALED USGS

[illegible]

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	Lt. David A. Waltz, OIC, HFP-4
POSITIONS DETERMINED AND/OR VERIFIED	Lt. David A. Waltz, OIC, HFP-4
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<div> <input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify) </div> <div>FIELD ACTIVITY REPRESENTATIVE</div> <div>OFFICE ACTIVITY REPRESENTATIVE</div> <div> <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE </div>
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64,	
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field Identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75 *FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

NONFLOATING AIDS OR

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OFFICE OF MARINE RESEARCH

ORIGINATING ACTIVITY

NONFLOATING AIDS OR CHARTS						NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				
REPORTING UNIT (Field Party, Ship or Office)		STATE	LOCALITY	DATE						
<input checked="" type="checkbox"/> TO BE CHARTED	<input type="checkbox"/> TO BE REVISED	<input type="checkbox"/> TO BE DELETED	HSB-HFP-4	North Carolina	Pamlico Sound	8/22/80				
The following objects HAVE <input checked="" type="checkbox"/> HAD NOT <input type="checkbox"/>						been inspected from seaward to determine their value as landmarks.				
OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM	POSITION		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED		
CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	LATITUDE		LONGITUDE		OFFICE	FIELD			
		° /	' D.M. Meters	° /	' D.P. Meters					
F201-HSB-79	H-9863									
LIGHT "1"	Green daymark with FL W 4SEC light on group of three pilings LL#4285.50 Pos. 3581	35 16	50.801	75 44	19.465		F-L-ARGO April 1980	11555		
DAYBEACON "2"	Red daymark on single piling. Not lighted. Pos. No. 3580 L.L. Vol. I P. 452 4285.50	35 16	49.540	75 44	23.352		F-L-ARGO April 1980	11555		
DAYBEACON "4"	Red daymark on single piling. Not lighted. Pos. No. 3582 L.L. Vol. I P. 453 (4285.50) (See Verifier's Report, sec. 4c)	35 16	19.219	75 43	59.388		F-L-ARGO April 1980	11555		
	HATTERAS INLET AREA									
LIGHT "13"	Green daymark with FL G light on piling. LL #4005 Vol. I, page 433 Pos. No. 3584	35 11	53.086	75 44	38.864		F-L-ARGO April 1980	11555		
LIGHT "6"	Red daymark with FL R light on piling. LL #4004.95 Vol. I, p. 433 Pos. No. 3585	35 11	56.767	75 46	11.979		F-L-ARGO April 1980	11555		
LIGHT "8"	Red daymark with FL R light on piling. LL #4004.97 Vol. I, p. 433 Pos. No. 3586	35 11	40.397	75 46	35.859		F-L-ARGO April 1980	11555		
LIGHT "11"	Green daymark with FL G light on piling. LL #4004.96 Vol. I, p. 433, Pos. No. 3587	35 11	37.155	75 46	50.775		F-L-ARGO April 1980	11555		
LIGHT	Oliver Reef Light - FL W light on steel skeleton structure. Red and white daymark on light structure. LL#4289.50	35 15	47.664	75 45	38.576		F-2-6-L 1978	11555		

Ref L-1171 (82)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	Lt. David A. Waltz, OIC, HFP-4	<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETTIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	Lt. David A. Waltz, OIC, HFP-4	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		<input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64,		
<div> <div> OFFICE 1. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75 </div> <div> FIELD 1. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75 *FIELD POSITIONS are determined by field observations based entirely upon ground survey methods. </div> </div> <div> <div> FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982 </div> <div> II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods. </div> </div>		

[illegible]

RESPONSIBLE PERSONNEL		ORIGINATOR
TYPE OF ACTION	NAME	
OBJECTS INSPECTED FROM SEAWARD	Lt. David A. Waltz, OIC, HFP-4	<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	Lt. David A. Waltz, OIC, HFP-4	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		<input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64.)		
<div> <div> OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75 </div> <div> FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75 *FIELD POSITIONS are determined by field observations based entirely upon ground survey methods. </div> </div>		
<div> <div> FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982 </div> <div> II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 </div> <div> III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods. </div> </div>		

H-9863

HSB-20-1-80

Vel. Table

000050	0	0001	0001	000	125500	009863
000100	0	0002				
000150	0	0002				
000200	0	0002				
000250	0	0003				
999999	0	0000				

NOAA LAUNCH 1255

SETTLEMENT & SQUAT

DETERMINED IN PAMLICO SOUND, NC
BY THE LEVEL METHOD (MARCH 24, 1980)
AND THE FATHOMETER METHOD (APRIL 2, 1980)

COMPUTED BY-DAW
CHECKED BY-JW

ORIGINAL DATA LOCATED IN H-9821 (HSB-20-1-8) SURVEY RECORDS

LEVEL METHOD

RPM	Level Readings	Mean	Corrector	
0	11.25	11.34	11.30	0
700	11.50	11.46	11.48	+0.2
1000	11.89	11.82	11.86	+0.6
1200	12.09	12.08	12.08	+0.8
1400	12.22	12.20	12.21	+0.9
1600	11.00	10.95	10.93	-0.4
1850	11.08	11.08	11.08	-0.2
2000	11.15	11.10	11.12	-0.2

FATHOMETER METHOD

RPM	Scaled Soundings	Mean	Corrector
0	18.3	18.3	0
700	18.2	18.1	+0.1
1000	17.9	17.9	+0.4
1200	17.7	17.7	+0.6
1400	17.7	17.7	+0.6
1600	18.6 17.7	18.6 17.9	+0.5
1850	18.6	18.6	-0.3
2000	18.6	18.4	-0.2

NOTE:

BOTH DETERMINATIONS WERE MADE IN CALM WEATHER AND WITH NEGLIGIBLE TIDAL EFFECTS. THE DIFFERENCE IN THE TWO CURVES IS ATTRIBUTED TO THE LIMITS OF ACCURACY OF THE METHODS. THE LEVEL DETERMINATION WAS MADE WITH A FULL FUEL TANK WHILE THE OTHER METHOD CARRIED APPROX. 100 GALLONS LESS FUEL.

RPM →

GALLONS LESS FUEL.

CORRECTOR IN FEET →

FATHOMETER METHOD

LEVEL METHOD

1850 RPM IS NORMAL SURVEY SPEED

APPROVAL SHEET
FOR
SURVEY H-9863

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the HYDROGRAPHIC MANUAL. Exceptions are listed in the Verification Report.

Date: 9/25/81


Chief, Verification Branch

REGISTRY NO. 4.9863

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

U.S. DEPARTMENT OF COMMERCE
November 24, 1980 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 865-4247 Oliver Reef, North Carolina

Period: February 4, 1980 - April 23, 1980

HYDROGRAPHIC SHEET: H-9863

OPR: F201

Locality: Pamlico Sound, North Carolina


(Low Water Datum): 2.60 ft. - Oliver Reef
Plane of reference ~~mean lower low water~~

Height of Mean High Water above Plane of Reference is

REMARKS: Recommended zoning:

Zone direct on Oliver Reef, North Carolina from February 4 - April 23, 1980.

No smooth tide correctors will be available for April 29, 1980, due to all tide gages in area being removed on April 25, 1980.

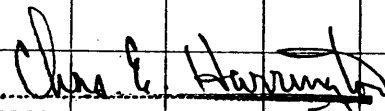

Chief, Datums and Information Branch

GEOGRAPHIC NAMES ~~()~~ . Hm S.3.50

H-9863

Name on Survey	A	B	C	D	E	F	G	H	K
Green Island	11555								1
Hatteras Inlet	11555								2
Legged Lump	11555								3
Oliver Reef	11555								4
Outer Green Island	11555								5
Pamlico Sound	11555								6
Shark Shoal	11555								7
									8
									9
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25

Approved:


Chief Geographer - C3x5

27 Aug. 1982

H-9863

HYDROGRAPHIC SURVEY STATISTICS

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION			AMOUNT
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS 1 roll pre. overlays			4
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS			3
DESCRIP- TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS			1 Raw PLO & Misc Data			
VOLUMES						
BOXES			12 PLO / Envel. / Sound. Vol			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS		
	PRE- VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			3587
POSITIONS CHECKED		25	
POSITIONS REVISED		5	
SOUNDINGS REVISED		50	
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			
TIME - HOURS			
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	29		
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS		103	
VERIFICATION OF SOUNDINGS		126	
COMPILATION OF SMOOTH SHEET		111	
APPLICATION OF TOPOGRAPHY			
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		32	
COMPARISON WITH PRIOR SURVEYS & CHARTS		20	
VERIFIER'S REPORT		10	
OTHER			
TOTALS	29	402	433
Pre-Verification by LGC, RHW	Beginning Date Dec. 18, 1980	Ending Date Dec. 19, 1980	
Verification by MJS, RLK, FLS, LGC	Beginning Date Jan. 15, 1981	Ending Date Sept. 22, 1981	
Verification Check by HRS	Time (Hours) 6	Date July 30, 1981	
Marine Center Inspection by HIT	Time (Hours) 4	Date Sep. 23, 1981	
Quality Control Inspection by L. Quinlan	Time (Hours) 43	Date MAR 15, 1982	
Requirements Evaluation by D. Hill	Time (Hours) 2	Date Sept. 21, 1982	

G. M. Jones 7/22/82 4 hrs.

ATLANTIC MARINE CENTER
VERIFICATION REPORT

REGISTRY NO.: H-9863

FIELD NO.: HSB-20-1-80

North Carolina, Pamlico Sound, ~~Bluff Shoal~~
~~to Oliver Reef~~ *Northwest of Hatteras Inlet*

SURVEYED: January 17 thru April 29, 1980

SCALE: 1:20,000

PROJECT NO. OPR-F201

SOUNDINGS: DE-723 D Fathometer

CONTROL: Argo DM-54 (range-range)

Chief of Party	G. W. Jamerson
Surveyed by	D. A. Waltz
Automated Plot by	Xynetics 1201 Plotter (AMC)

1. INTRODUCTION

a. Two unusual problems were encountered; the sheet size exceeds the maximum size allowed under Hydrographic Survey Guideline No. 6 dated May 23, 1980. Rockville was notified via telecom on December 17, 1980 (Dale Westbrook) and a 42 inch sheet was authorized. The sounding datum in this area is a Low Water Datum. Tidal conditions are such that Mean Low Water is not definable. Elevations of features such as stakes, etc., are referenced to Low Water. Features a foot or more above Low Water are exposed during high water conditions.

b. Notes and changes were made in red ink in the Descriptive Report during verification.

2. CONTROL AND SHORELINE:

a. The control was adequately described in sections F. and G. of the Descriptive Report and in the Control Report, OPR-F201-HSB-80, Pamlico Sound, North Carolina, dated March, 1980.

b. There is no shoreline available for this ^{*offshore*} survey.

3. HYDROGRAPHY

a. The agreement at crossings on this survey is adequate; depths agree within the limits prescribed by the Hydrographic Manual.

b. The standard depth curves were drawn in their entirety with the exception of the 12 foot curve at the edge of the limits of hydrography. Some dashed curves were added for further delineation of the bottom configuration.

c. This survey is considered adequate to delineate the basic bottom configuration and least depths in the area prescribed by the Project Instructions with the following exceptions.

- 1) ^{Two} A 12 foot shoal in Latitude ^{35°} 16'56", Longitude 75°46'05", and Lat 35°15'2"N
~~Long 75°47'28"W.~~
- 2) A ~~12~~ foot shoal with adjacent 13-ft. depths in the vicinity of Latitude 35°17'00", Longitude 75°49'13".

These areas should have been split and some lines run in a north-south direction for better development of the bottom configuration to insure least depth. *While this is not considered significant it may have been beneficial.*

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports comply with the requirements of the Hydrographic Manual with the following exceptions:

- a. The bar checks were not taken as prescribed by section 4.9.5.1.1. of the Hydrographic Manual. Only four (4) bar checks were taken and the actual survey data acquisition took place on 19 days. No TDC observations or other means of determining velocity corrections were used. *Sea conditions prevented normal acquisition of bar checks*
- b. The electronic correctors, for three (3) days work, as listed in the Descriptive Report did not agree with the electronic corrector tape printout. The amount would *accepted* not have caused any significant change in the final positions, these differences were *as fact* resolved prior to the verification process and the changes have been so noted in the *during Q.C.* Descriptive Report.
- c. The fixed aids to navigation in the survey area were not located by the *Concur* methods described in section 1.6.5 of the Hydrographic Manual. The fixed aid "Rollinson Channel Light "4" was described as not lighted. Both the chart and light list show this aid as lighted. The United States Coast Guard was contacted at the time of verification of this survey and none of their records show this aid to have ever been anything but a light.
- d. A dangerous submerged wreck, Presurvey Review Item #20 was not investigated as prescribed by the Presurvey Review Instructions OPR-F201-HFP-77. *Concur*
- e. A detached position would have been desirable on wreck of dredge "LEHIGH" relative to Big Foot Shoal Channel Light "13" verifying its charted position. *Concur*

5. JUNCTIONS

Adequate junctions were made with the following survey:

- H-9821 (1979⁻⁸⁰) to the northwest
 H-9802 (1978⁻⁷⁹) to the northeast (See Q.C. Report for H-9802)

The junction with H-9802 (1978) to the northeast is complete with some soundings brought forward to the present survey for clarification of the junctional curves.

There is a small holiday in the junctional area with H-9821 (1979) in the vicinity of Latitude 35°18'42", Longitude 75°55'12". This small holiday is approximately 180 meters wide and extends in an east-west direction for approximately 1/2 mile.

Because of bottom configuration present development is adequate for charting

6. COMPARISON WITH PRIOR SURVEYS

H-661	(1857-58)	1:20,000
H-672	(1858)	1:40,000
H-1254	(1875)	1:20,000
H-3921	(1910)	1:20,000

These are the most recent prior surveys that provide complete coverage of the survey area.

In general, the present survey is in fair agreement with these prior surveys. The present survey is deeper by 0 to 1 feet in about 50% of the comparisons, the other 50% is from 2 to 3 feet deeper. The bottom configuration and general depths appear to have remained fairly stable within the survey area. The differences can be attributed to natural change and to improved survey methods.

There were two soundings added to the present survey from prior survey H-3921 (1916); an 11-ft. charted sounding in Latitude $35^{\circ}15'45''$, Longitude $75^{\circ}51'45''$ where the present survey has 14-ft and a 10 ft. uncharted depth in Latitude $35^{\circ}16'59''$, Longitude $75^{\circ}49'11''$ where the present survey has 12-ft. The hydrographer failed to run developments in these areas and there is indications of shoaling here on the present survey. *These soundings considered discredited by present depths during 9c.*
~~With the addition of the soundings described above, which were brought forward,~~
 The present survey is adequate to supersede the prior surveys in the common area.

7. COMPARISON WITH CHART NO. 11555 (26th Edition, November 24, 1979)

This is not the edition of the chart that the field used for their comparison. They failed to use the most current edition of the chart at the time of hydrography as their comparison was made with the 25th edition, November 4/78.

a. Hydrography

Close to all of the charted hydrography (99.8%) originates with the previously discussed prior surveys, which requires no further consideration. The remaining .2% (4 of 5 soundings) are in good agreement with the present survey.

It should be noted that the chart mark-up was done on the 27th edition, December 6, 1980. This was done to expedite the processing of this survey, and a comparison was made with the two editions and there is no difference.

The present survey is adequate to supersede the charted information when attention is given to the following items:

1) Presurvey Review Item #19, dangerous submerged wreck, 17 feet reported, in Latitude $35^{\circ}15'37''$, Longitude $75^{\circ}57'26''$ originates with Local Notice to Mariners No. 15 of 1974 and verified to exist by L.N.M. number 44 of 1975. The search by the field did not find this item nor was it adequate to disprove the existence of the wreck. *retain as charted*

2) Presurvey Review Item #20, dangerous submerged wreck, PA in Latitude $35^{\circ}15'02''$, Longitude $75^{\circ}46'36''$ originates with Local Notice to Mariners #53 of 1971 and the position was revised through L. N.M. number 4 of 1972. The search conducted by the field was not in accordance with the instructions of the Presurvey Review for this item. *This item should be retained as charted.*

3) The charted 11-ft. sounding in Latitude $35^{\circ}15'45''$, Longitude $75^{\circ}51'45''$ is discussed under Section 6 of this report. *Sounding no longer valid; present survey supersedes this sounding.*

~~These~~ ^{Some} items are all recommended for retention as charted as the investigations were not adequate to disprove them. Consideration of the wrecks should be given to determine the desirability of additional work being conducted to determine their location, least depth, and/or existence.

b. Aids to Navigation

The aids to navigation appear to adequately mark the intended features on this survey. Additional information can be found under section N of the Descriptive Report and under section 4. C. of this report.

8. COMPLIANCE WITH INSTRUCTION

This survey adequately complies with the Project Instructions with the exceptions listed in section 4 of this report.

9. ADDITIONAL FIELD WORK

This is a good basic survey. Additional work is recommended as per section Q, paragraph 2 of the Descriptive Report and 7. a. of this report. *Two rows of stakes were only partially delineated. Positions at the ends of these rows of stakes falling east and south of Lat. 35° 18.05' N and Long 75° 48.3' W and Lat 35° 12.9' N, Long 75° 49.6' W, respectively, should be determined in the future.*

absent
Franklin L. Saunders
Cartographic Technician
Verification of Data

Leroy G. Cram
Leroy G. Cram
Cartographer
Evaluation and
Analysis

Harry R. Smith
Harry R. Smith
Senior Cartographic Technician
Verification Check

INSPECTION REPORT
H-9863

The completed survey has been inspected by the Hydrographic Inspection Team with regard to survey coverage, delineation of depth contours, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The Verification Report has presented the facts accurately and properly, the procedures used were appropriate, and the recommendations are logical and justifiable. The survey complies with National Ocean Survey requirements except as noted in the Verification Report. The survey records comply with NOS requirements except where noted in the Verification Report. The Hydrographic Inspection Team concurs with the verifier's findings, actions, and recommendations.

Examined and Approved
Hydrographic Inspection Team



Karl Wm. Kieninger, CDR, NOAA
Chief, Processing Division

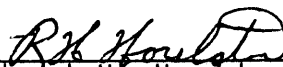


R. D. Sanocki
Chief, Verification Branch
Processing Division



Guy F. Trefethen
Senior Cartographic Technician
Verification Branch
Processing Division

Approved/Forwarded
25 September 1981



Richard H. Houlder, RADM, NOAA
Director, Atlantic Marine Center



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C352:CQ

March 8, 1982

TO: Glen R. Schaefer *JS*
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch *QW*

FROM: Lisa Quinlan *Lisa Quinlan*
Quality Evaluator

SUBJECT: Quality Control Report for H-9863 (1980), North Carolina, Pamlico Sound, Northwest of Hatteras Inlet

A quality control inspection of H-9863 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a full scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report.

cc:
C351





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

SEP 24 1982

C351:DJH

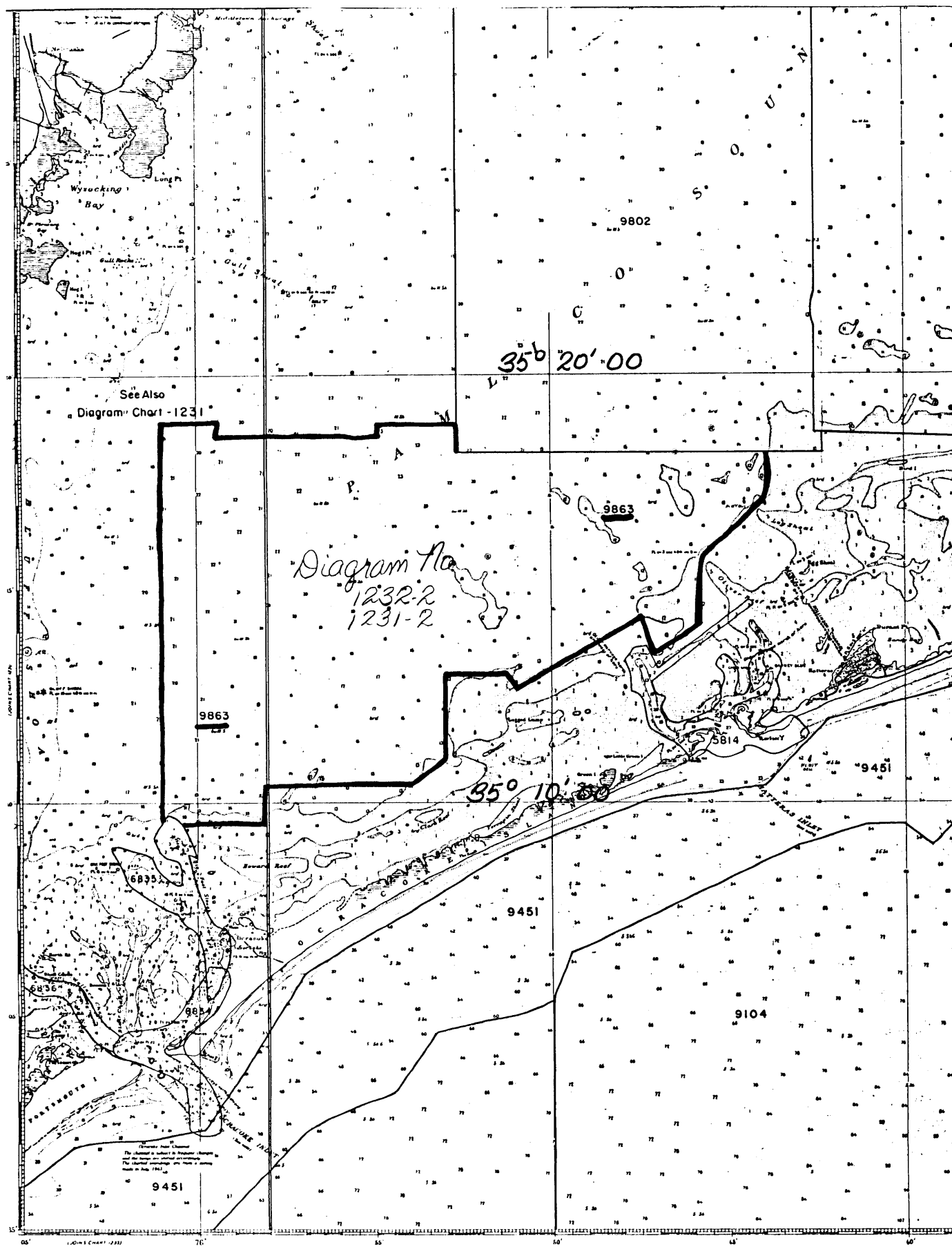
TO: CAM - Richard H. Houlder
FROM: C3 - C. William Hayes *C. William Hayes*
SUBJECT: H-9863 (1980), OPR-F201, North Carolina, Pamlico Sound, Northwest of Hatteras Inlet, Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated March 8, 1982 (copy attached), and the Hydrographic Survey Inspection Team Report, dated September 25, 1981, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-F201-HSB-79, dated August 3, 1979.

Attachment

cc:
C352 w/o att.





RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO.

H-9863

INSTRUCTIONS

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

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

[illegible]