

9396

Diag. Cht. No. 1235.

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC
Field No. ~~PE-10-2-74~~ PE-10-1-74 (insat)
Office No. H-9396

LOCALITY

State NORTH CAROLINA
General Locality ONSLOW BAY
Locality OFF KURE BEACH TO MASON INLET

19 74

CHIEF OF PARTY
CDR. J. W. DROPP, CDR. R. J. LAND

LIBRARY & ARCHIVES

DATE 6/25/75

9396

HYDROGRAPHIC TITLE SHEET

H-9396

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.

PE-40-2-74

State North Carolina

General locality Onslow Bay

Locality Off Kure Beach to ~~Rich~~ ^{Mason} Inlet

Also see title sheet for 1:10,000 plot

Scale 1:40,000

Date of survey 22 April-9 May, 1974

19-25 Aug. 1974

Instructions dated 13 November 1973

Project No. OPR-437-PE-74

Vessel NOAA Ship PEIRCE, GSS-28

Commander Joseph W. Dropp

Chief of party Commander Ralph J. Land

CDR. R.J. Land, LCDR. J.K. Callahan, LT. D.L. Suloff, LTJG J.M. Barnhart

Surveyed by LTJG P.D. Harman, ENS K.M. Holden, ENS C.D. Mason, ENS B.B. Johnson

Soundings taken by echo sounder, hand lead, pole Ross Fathometer 200-A SN C537-1039-5

Graphic record scaled by Hydroplot System and Ship's Personnel

Graphic record checked by Ship's Officers and Ship's Survey Personnel

Protracted by Hydroplot System

Calcom plotter

Automated plot by

AMC-

Calcom plotter 618

Soundings ~~plotted~~ ^{inked} by Hydroplot System

calcom plotter

Soundings in ~~fathoms~~ feet at MLW ~~XXXXX~~

REMARKS: All times are Greenwich Mean Time, 000° W.

Addendum follows this report

See also title sheet for work of PE-10-1-74 (Aug. 19-25)

Descriptive Report

To Accompany

Hydrographic Survey PE-40-2-74

Registry Number H-9396

OPR-437-PE-74

Coast of North Carolina

1974 Field Season

NOAA Ship PEIRCE, CSS-28

Ralph J. Land

CDR, NOAA

Chief of Party

TABLE OF CONTENTS

PE-40-2-74

H-9396

	Page
Hydrographic Title Sheet	
Progress Sketch	
Report Text	
A. Project	1
B. Area Surveyed	2
C. Sounding Vessel	2
D. Sounding Equipment	2
E. Smooth Sheet	3
F. Control	3
G. Shoreline	5
H. Crosslines	6
I. Junctions	6
J. Comparison With Prior Surveys	7
K. Comparison With The Chart	8
L. Adequacy of The Survey	9
M. Aids To Navigation	9
N. Statistics	10
O. Miscellaneous	10
P. Recommendations	11
Q. Reference To Reports	11

TABLE OF CONTENTS (cont.)

	Page
Tide Correspondence	12
Fathometer Report	14
Velocity Tables	16
Abstract of Reduced Speed	18
Abstract of Draft	20
TC/TI Tape Printout	21
TRA Correction Abstract	22
Leadline Comparison	25
Electronic Control Report	26
Electronic Control Parameters	28
Calibration Signal List	29
Visual Control Signal List	30
Complete Signal Tape Printout	31
Electronic Corrector Abstract	33
Diving Officers Report	36
Assignment of Registry Number	38
Projection Parameters	39
Bottom Sample Data	40
Position Data Sheets	44
Approval Sheet	48
Addendum	49

D. SOUNDING EQUIPMENT (Cont'd)

Corrections to echo soundings are of two general types:

1) velocity corrections and 2) TRA corrections. These corrections are discussed in greater detail in the Fathometer Report, a separate following text to this report. The fathometer initial was maintained at 0.0 ft. for the entire survey. All soundings are in feet and tenths. However, a -0.62 instrument correction was not used in the TRA corrector for the 1:40,000 scale portion of this survey.

No problems were encountered with the Ross Fathometer which would effect the accruacy of the soundings.

E. SMOOTH SHEET

All field records were transmitted to the Atlantic Marine Center for smooth plotting.

F. CONTROL

Both Visual and Electronic Control were used during this survey. The majority of the survey was done by Raydist Control operating in a hyperbolic mode at a frequency of 3296.400 KC. For further details see the Electronic Control Report included with this report.

It was necessary to use visual control in the vicinity of station NICKEL, slave one, due to the loss of a trackable signal from pattern two. Visual control was utilized on day 128 and 129 fix numbers 3379 to 3455, inclusive. The area surveyed with

F. CONTROL (cont.)

visual control was located in the Southwest corner of the boat sheet between Latitude $34^{\circ} 00.0' N.$ and Latitude $34^{\circ} 01.0' N.$, and West of Longitude $77^{\circ} 50.0' W.$ to the inshore limit of the sheet.

Processing of the visual data was done in the following manner.

On line: The Hydroplot ~~system~~ was utilized to keep time and record depths. Visual control data was recorded in the sounding volume. A visual plot was maintained on the base sheet during the survey using a three arm protractor.

Off line: All visual fixes were converted to electronic lane count using AM-560- the H/R calibration program. An Electronic Corrector Tape was cut using the proper correctors to change the punched Raydist lane values of the fixes to the correct values as determined from the visual fixes. All in between soundings were changed by indicator "3" in the short words so that these soundings would be plotted on time and course. A smooth plot was made at a scale of 1:10,000. This method keeps all data tapes in the same ~~electronic~~ format and should facilitate smooth plotting.

B. AREA SURVEYED

This hydrographic survey is located off the coast of North Carolina in the vicinity of Masonboro Inlet. The area surveyed can generally be described as East of the 30 ft. curve and West of the 60 ft. curve, South of Latitude 34° 16. '0 and North of Latitude 34° 00. '0. This ^{portion of the} survey was conducted from April 22, 1974 to May 9, 1974.

This survey junctions with H-9395, 1:40,000, 1974 to the South and H-9044, 1:80,000, 1969 to the East, and prior survey H-4676, 1:40,000, 1926-27.

C. SOUNDING VESSEL

All soundings were obtained by the NOAA Ship PEIRCE without aid of launches or skiffs for the 1:40,000 scale portion of this survey.

Equipment
D. SOUNDING REQUIREMENT

All soundings taken during this survey were obtained with a Ross Fathometer Model 200-A, Serial #C-537-1039-5.

Depths ranged from twenty-^{four} ~~three~~ ²⁴ (23) feet to sixty-^{SIX} ~~five~~ ⁶⁶ (65) feet.

DESCRIPTIVE REPORT

OPR-437-PE-74

PE-40-2-74

H-9396

A. PROJECT

This survey is an integral part of project SCOPE. The survey was accomplished in accordance with project SCOPE instructions, and with project instructions OPR-437-PE-74 dated 13 November 1974, North Carolina Coast. This project is a continuation of surveys conducted South and East of this area at various times during the past nine (9) years. There was one change to the project instructions:

Change NO. 1 to PROJECT INSTRUCTIONS OPR-437-PE-74, North Carolina Coast, CHANGE NO. 1 is dated 10 December 1973,

F. CONTROL (cont.)

The following corrections could not be made on the Electronic Corrector Tape, and the Master Tape was not edited.

Assign fix # 3397 to two out of fix # 3396 at time
204436 day 128.

Assign fix # 3402 to two out of fix # 3401 at time
210243 day 128.

Change fix # 3430 from time 132128 day 129 to time
132208 day 129.

The signals used for visual control were:

100 Nickel 1971
105 Ft. Fisher unused steel tower 1962
108 Kure Beach Water Tank 1962
109 Carolina Beach Water Tank 1962

All are published third-order triangulation stations, with the exception of Nickel 1971 which is a third-order traverse station. G.P.s are listed with the Electronic Control Report.

G. SHORELINE

There is no shoreline on ^{the 1:40,000 scale portion of} this survey.

H. CROSSLINES

Crosslines constitute approximately 5.9% of all hydrography exclusive of developments. Crossline depths were in good agreement with those on regular sounding lines, the agreement being within two (2) feet.

I JUNCTIONS

This survey junctions with the following surveys:

H-9044	1:80,000	1969	to the East
H-9395	1:40,000	1974	to the South
H-9426	1:10,000	1974	to the North
Masonboro Inlet	1:10,000	1974	to the West

Comparison at the junctions are excellent except for the following sounding

PE-40-2-74			
H-9396	H-9044	Lat.	Long.
57 ft.	68 ft.	34°01.8'	77°38.8'

J. COMPARISON WITH PRIOR SURVEYS

Comparison of this survey with prior survey H-4676 shows excellent agreement within 1-⁴/₂ feet in all cases compared.

Eight (8) presurvey review items are within the limits of this survey. Each is discussed below.

PSR 1) Obstruction-fish haven at latitude $34^{\circ} 02' 0$ and longitude $77^{\circ} 52' 0$.
#26

No indication found after 100 meter development. It originates with CL-826/70. This feature was not verified or disproved. Recommend retaining as charted.

PSR 2) Obstruction-fish haven at latitude $34^{\circ} 10.5$ and longitude $77^{\circ} 44.5$.
#27

This item was confirmed, and divers from the PEIRCE located a barge 10 feet off the bottom. Mr. Jeff Van Buren of the North Carolina Bureau of Commercial and Sports Fisheries, Artificial Reef Division, telephone 919-726-7201, reports that this reef consist of two (2) barges, a tug, and a tank from a tank truck. A separate report by the diving officer is attached to this report and gives greater details. Correspondence concerning this artificial reef will be forwarded for inclusion with this report when received from

Mr. Van Buren. This fish haven originates with CL-826/70. It was proven to exist and should be retained as charted.

A final
3) 383 foot sounding, Lat. $34^{\circ} 00.5$ Long. $77^{\circ} 51.7$, confirmed. concur

A final
4) ✓ 36 foot soundings, Lat. 34°00.'9, Long. 77°51.'1, confirmed. ~~concur~~ ✓

A final
5) ✓ 41 foot sounding, Lat. 34°01.'9, Long. 77°47.'9, ^{was} found ~~200 meters~~ ✓

~~to the South~~ CONCUR

A final
6) ✓ 34 foot sounding, Lat. 34°03.'7, Long. 77°49.'7, confirmed. ~~concur~~ ✓

A final
7) ✓ ~~36~~ 41 foot sounding, Lat. 34°11.'0, Long. 77°46.'1, confirmed ~~200 meters to the N.W.~~ ✓

8) Obstruction-fish haven item #19 on presurvey review, no (Lat. 34°06.'0 Long 77°41.'0)
PSR # 19
indication found after 100 meter development. It originates with CL-69/61,
This feature was not verified or disproved. Recommend retaining as charted.

K. COMPARISON WITH THE CHART

A comparison was made with the largest scale chart of the area;
C&GS 1235 10th Edition, 3/3/73. Charted depths are in excellent
agreement with this survey.

A sunken wreck charted at Lat. 34°08.'2, Long. 77°43.'8 with an 18 ft.
reported depth was developed with a 50 meter interval which failed
to confirm this feature. It is recommended that this wreck be area
wire dragged to proved or disprove it's existence. Originates with CL-1514/71
Recommend retaining this feature as charted.

A new fish-haven has been established at Lat. 34°14.'8, Long. 77°42.'9
The PEIRCE's divers confirmed it's existence. It consist of three
strings of automobile tires 1000 ft, in length rising about 1 ft. off ✓
the bottom. Mr. Jeff Van Buren of the North Carolina Bureau of
Commercial and Sports Fisheries, Artificial Reef Division; further
confirmed it's existence. See attached diving officers report
The charted source originates with CL-514/74. Recommend feature be retained as charted.

K. COMPARISON WITH THE CHART (cont.)

for further details. Correspondence concerning this artificial reef will be forwarded for inclusion with this report when received from Mr. Van Buren.

L. ADEQUACY OF THE SURVEY

This survey is adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

There was one (1) aid to navigation and three (3) privately maintained fish-haven markers in the area surveyed. The buoy was ~~BW MO "A"~~ at Lat. $34^{\circ}10.1'$ and Long. $77^{\circ}48.0'$. This position was found to be 300 meters East of the charted position for this buoy. The privately maintained markers follow:

- 1) Figure Eight Island "Fish Haven" buoy Lat. $34^{\circ}15.2'$
Long. $77^{\circ}42.7'$
- 2) Wrightsville Beach "Fish Haven" buoy Lat. $34^{\circ}10.7'$
Long. $77^{\circ}45.0'$ and the "Danger" buoy at Lat. $34^{\circ}10.3'$
Long. $77^{\circ}44.6'$

N. STATISTICS

Total Number of Positions	3448
Total Hydro Miles	1980
Total Crossline Miles	77
Total Square Miles	180 sq. miles
TDC Observations	1
Nansen Casts	1
Bottom Samples	26
Lead Line Comparisons	1

O. MISCELLANEOUS

All times are in Greenwich Mean Time.

Bottom samples were logged using consecutive position numbers as would have been used while running regular hydro lines. Each bottom sample depth logged as a missed depth, and properly entered on form 733-M.

All rejected data is on the master data tape. Soundings have been changed to missed depths on the corrector tape and fix data is ignored by using a "3" in the indicator of the short word on the corrector tape.

Two developments have been plotted at 1:10,000 scale.

- 1) All visual hydro done on days 128 and 129.
- 2) Fish-Haven at Lat. $34^{\circ}10.'5$, Long. $77^{\circ}44.'5$

P. RECOMMENDATIONS

It is recommended that this survey be considered adequate for charting purposes, and that it supersede prior surveys. See section K., comparison with the chart, for wire drag recommendation. It is also recommended that the shoal at Lat. $34^{\circ}00.5'$ and Long. $77^{\circ}53.0'$ be further developed when the inshore launch work is accomplished at a latter date. ~~concur~~

Q. REFERENCE TO REPORTS

Reference can be made to the following reports:

- 1) Fathometer Report, OPR-437
Coast of North Carolina
NOAA Ship PEIRCE, 1974
- 2) Electronic Control Report, OPR-437
Coast of North Carolina
NOAA Ship PEIRCE, 1974

The following forms are included with the data for this survey.


Nansen Cast & TDC Cast data

Bottom sample Log M sheet

Raydist calibrations and daily lane count abstract

Position data abstract

Respectfully submitted for approval by


Patrick D. Harman
LTJG, NOAA

TIMES OF HYDROGRAPHIC OPERATIONS

<u>Date</u>	<u>JD</u>	<u>Time (FROM)</u>	<u>Time (TO)</u>
22 April 1974	112	184228	2400
23 April 1974	113	000001	2400
24 April 1974	114	000001	2400
25 April 1974	115	000001	141856
29 April 1974	119	173327	2400
30 April 1974	120	000001	2400
1 May 1974	121	000001	2400
2 May 1974	122	000001	2400
3 May 1974	123	000001	2400
4 May 1974	124	000001	2400
5 May 1974	125	000001	062450
6 May 1974	126	010415	2400
7 May 1974	127	000001	230946
8 May 1974	128	134024	203756
9 May 1974	129	124104	145955
28 May 1974	148	163602	222736

LEADLINE COMPARISON
 ABSTRACT

SHEET# PE-40-2-74

PROJECT# OPR-437

DAY	TIME	LEAD LINE	FATHO	REMARKS
May 1, 1974	1600	PORT		
		at Rail	at WL	Rail to Water
			40.0	29.0
			40.0	29.0
	52.2		40.4	29.2
	54.0		41.0	29.2
	52.6		41.6	29.6
		AVE		
	52.9		40.6	29.2
		STBD		
		at Rail	at WL	Rail to Water
	52.0		40.1	30.2
	53.0		41.0	30.8
	52.5		41.0	31.0
	54.3		41.2	31.2
	51.5		42.8	32.4
		AVE		
	52.7		41.2	31.4
		AVE of Port & Stbd		
	52.8		40.9	30.1
			10.18	Draft Corr
			1.24	Vel Corr
	10.25			Rail to Water
	42.55		40.9	41.52
				True Depth
	0.97		-0.62	Difference
				<i>instrument corr. - was not used</i>
				<i>in TRA corrector</i>
				<i>for this portion of</i>
				<i>the survey.</i>
				<i>MJE 12/75</i>

ELECTRONIC CONTROL PARAMETERS

- 1. Project # OPR- 437 2. Reg. # H-9396 3. Field # PE 40-²74
- 4. Type of Control: Raydist (Hi-Fix, Raydist, EPI, etc.)
- 5. Frequency 3294.4 (for conversion of electronic lanes to meters)
- 6. Mode of Operation (check one):

Range-Range

Range One (R₁)
 Station I.D. _____
 Range Two (R₂)
 Station I.D. _____

Range-Visual

Lat. _____ ° _____ ' _____ "
 Long. _____ ° _____ ' _____ "
 Lat. _____ ° _____ ' _____ "
 Long. _____ ° _____ ' _____ "

Hyperbolic (3-station)

Slave One
 Station I.D. Nickel 1971
 Master
 Station I.D. Howard
 Slave Two
 Station I.D. Ashe (Ref. #1)

Hyper-Visual

Lat. 34 ° 00 ' 13.771 "
 Long. 77 ° 54 ' 14.476 "
 Lat. 34 ° 21 ' 19.007 "
 Long. 77 ° 41 ' 10.598 "
 Lat. 34 ° 30 ' 06.290 "
 Long. 77 ° 24 ' 00.331 "

7. Location of Survey:

Range-Range

Imagine an observer is standing at R₁ Station and looking directly at R₂ (check one):

Survey area is to observer's Right A=0

Survey area is to observer's Left A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8. This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From		To		Position Numbers (inclusive)
	Time	Day	Time	Day	
_____	_____	_____	_____	_____	_____ to _____
_____	_____	_____	_____	_____	_____ to _____
_____	_____	_____	_____	_____	_____ to _____

9. Remarks: _____

CAM3-1
1/31/74

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

1. Project No. OPR-437 4. Requested By Verification Branch
2. Reg. No. H-9396 5. Ship or Office AMC *msj*
3. Field No. PE-40-2-74 6. Date Required ASAP

7. Polyconic Modified Transverse Mercator

8. Central Meridian of Projection 77 ° 44 ' 00 "

9. Survey Scale: 1: 40,000

10. Size of Sheet (check one):

36 x 54 36 x 60 Other Specify _____

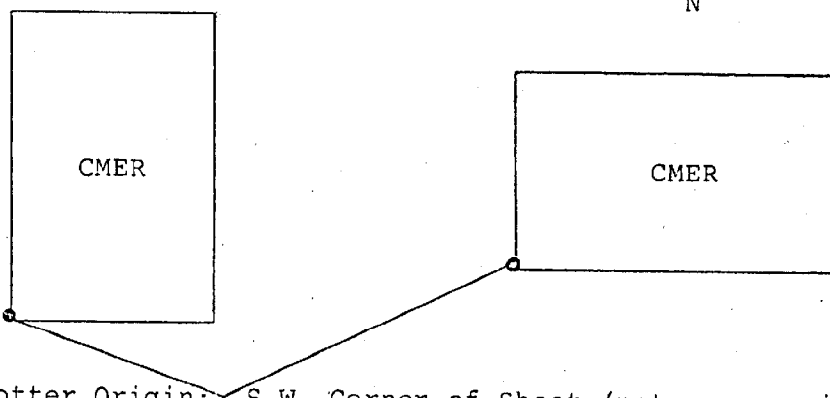
11. Sheet Orientation (check one):

NYX = 1

NYX = 0

N

N



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)

Latitude 33 ° 57 ' 50 "

Longitude 78 ° 03 ' 10 "

13. G.P.'s of triangulation and/or signals attached

14. Material Desired: Tracing Paper Mylar

Smooth Sheet Other Specify _____

15. Remarks: _____

VISUAL CONTROL SIGNALS

100/	34 00 1377	077 54 1444		RAYDIST TOWER AT STA. NICKEL
105/	33 58 1516	077 55 0193	△	FT. FISHER UNUSED STEEL TOWER 1962
108/	33 59 5608	077 54 2604	△	KURE BEACH WATER TANK 1962-68
109/	34 02 0392	077 53 4786	△	CAROLINA BEACH WATER TANK 1962-68

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2830

SHEET : PE-40-2-74 ^{H 9396}

TIME	DAY	PATTERN 1	PATTERN 2
184228	112	+00063	+00045
225438		+00063	+00045
000058	113	+00063	+00045
050647		+00063	+00045
190107		+00063	+00045
000013	114	+00063	+00045
000416	115	+00063	+00045
173327	119	-00015	+00046
000027	120	-00015	+00046
074001		-00023	+00046
204857	120	-00023	+00046
212301		-00031	+00046
000526	121	-00023	+00046
043338		-00023	+00046
001707	122	-00031	+00046
031501		-00023	+00046
163001		-00014	+00046
000014	123	-00014	+00046
200001		-00020	+00041
234945	123	-00020	+00041
000025	124	-00020	+00041
005701		-00025	+00036
053501		-00031	+00031
094701	124 1	+0036 0	+0026
135701	124	-00042	+00021
190454	124	-00048	+00016
000000	125	-00048	+00016
010415	126	-00048	+00016
092053		-00048	+00016
220001	126 1	+0044 0	+0026
000019	127	-00044	+00026
213759		-00044	+00026
134024	128	+00038	+00032
193157		+00044	+00007
193657		+00034	+00006
194157		+00024	+00005
194337		+00024	-00001
194557		-00182	+00013
195057		-00244	+00029

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2830

SHEET : PE-40-2-74

H-9396

TIME	DAY	PATTERN 1	PATTERN 2
195557	128	-00159	+00013
200057		-00156	+00012
200507		-00145	+00014
200842		-00142	+00012
201342		-00158	+00009
201842		-00160	+00010
202342		-00177	+00003
202522		-00108	+00001
202756		-00103	+00012
203256		-00175	+00007
203756		-00165	+00010
204256		-00136	+00012
204436		-00144	+00012
204923		-00149	+00011
205323		-00151	+00003
205723		-00162	+00006
210123		-00171	+00008
210243		-00061	-00001
211436		-00464	+00017
211836		-00672	+00010
212236		-00661	+00007
212636		-00653	+00010
213036		-00652	+00013
213502		-00643	+00011
213902		-00643	+00010
214302		-00661	+00001
214702		-00674	+00006
215102		-00561	+00018
215303		-00568	+00013
215703		-00683	+00017
220103		-00680	+00006
220503		-00676	+00010
220903		-00659	+00010
124104	129	-00059	-00096
124344		-00067	-00095
124624		-00071	-00095
124704		-00065	-00095
124904		-00182	+00001
125144		-00180	-00097
125424		-00175	-00094
131048		-00157	-00095
131328		-00157	-00094
131608		-00166	-00099
131848		+01217	-00309
132208		+02853	-00568
132408		+03893	-00728

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2830

SHEET : PE-40-2-74

TIME	DAY	PATTERN 1	PATTERN 2
132602	129	+04268	-00716
132842		+02955	-00525
133122		+01603	-00320
133246		+01680	-00295
133526		+02995	-00506
133806		+04373	-00711
133846		+04720	-00761
134200		+05438	-00712
134440		+04037	-00546
134720		+02709	-00361
135000		+01395	-00157
135240		+00125	+00053
135520		-01160	+00279
135800		-02406	+00504
140957		+02575	-00240
141237		+03971	-00451
141517		+05386	-00657
141557		+05732	-00706
143256		+03957	-00507
143536		+05277	-00708
145355		+00645	-00305
145635		+01949	-00525
145915		+03213	-00734
145955		+03520	-00786



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

Date : 7 May 1974

Reply to Attn. of:

To : Donald L. Suloff LT., NOAA
Field Operations Officer, NOAA Ship PEIRCE

From : Jon M. Barnhill
Ship PEIRCE Diving Officer
LTJG NOAA

Subject: Results of Dives conducted on Fish Havens Located on
PE 40-2-74, Sheet 2 of 2

NORTHERN MOST FISH HAVEN:

Consists of tires bound together by bands and laying in rows with a longitudinal axis of 020° (200°). There were five (5) rows found with approximately ten (10) yards between rows. Each row was approximately 150 yards long. The maximum height of the tires above the bottom was no more than two (2) feet. The concrete block to which the buoy denoting the reef was anchored was a three (3) foot cube that stood flat on the bottom and was no more than three (3) feet above the bottom. The buoy is centered over the western edge of the longitudinal axis.

SOUTHERN MOST FISH HAVEN

There are two buoys denoting this area. The northern most of the two buoys had nothing located beneath it except the concrete block to which it was anchored. The anchor block being a three (3) foot cube and standing three (3) feet off the bottom.

The southern most of the two buoys was anchored to a barge approximately 120 feet long by 30 feet wide, and 8 feet high.

SOUTHERN MOST FISH HAVEN (cont.)

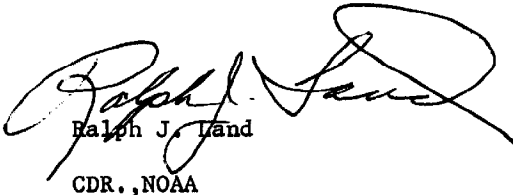
The barge is laying upside down and is flat on the sandy bottom. The buoy denoting the sunken barge is anchored in the center of the longitudinal axis of the barge. The longitudinal axis of the barge is aligned on a heading of 090° (270°). The buoy is centered over the southern edge of the barge.

APPROVAL SHEET

Field Number PE-40-2-74

Registry Number H-9396

All field work and processing of data from this Hydrographic survey was under my immediate daily supervision. The boat sheets and all records have been reviewed and are approved by me. This survey is complete and adequate to supersede all prior surveys of the area.



Ralph J. Land
CDR., NOAA

Comdg., NOAA Ship PEIRCE

ADDENDUM TO DESCRIPTIVE REPORT

*Pos #'s 3456 thru 3520 were plotted on
Smooth Sheet.*
AMC

On 28 May 1974 the PEIRCE ran additional development lines on PE-40-2-74 off Masonboro Inlet, N.C. to further delineate an offshore channel. The positions applicable are 3456 - 3520, from 163602 JD 148 to 222736 JD 148. These positions added nothing to the survey and are not to be smooth plotted. However, if AMC deems this work to be desirable, the following information is applicable:

Positions: 3456 - 3520
Hours of Operation: 163602 JD 148 - 222736 JD 148
Master Data Tape Submitted
Edited Corrector Tape Submitted
Request for Smooth Tides Submitted
Velocity Table II to be used
TRA Corrector of +0.2 feet applicable to entire period
Lineal Miles of Development Run: 21.7
Miles of Miscellaneous Running: 6.6
Miles of To/From Running: 75.8

ATLANTIC MARINE CENTER
VERIFICATION OF SMOOTH TIDES

SURVEY H- 9396 (PE-40-2-74)

PLANE OF REFERENCE: MLW OR MLLW
TIME MERIDIAN: 000 GMT
HEIGHT DATUM ON STAFFS: 1. 3.5 2. _____ 3. _____ 4. _____

<u>TIDE STATIONS</u>	<u>POSITION</u>	<u>TYPE GAGE</u>	<u>TIME CORR.</u>		<u>HEIGHT CORR.*</u>	
			<u>H.W.</u>	<u>L.W.</u>	<u>H.W.</u>	<u>L.W.</u>
1. Wilmington Beach	ϕ 34° 01.05N λ	Bubbler				
2.	ϕ λ					
3.	ϕ λ					
4.	ϕ λ					

HOURLY HEIGHTS: FROM ROCKVILLE OFFICE
 FROM FIELD MARIGRAMS VERIFIED BY: _____

TIDE ZONING: NOT APPLICABLE
 BY COMPUTER
 FROM TWO OR MORE GAGES

LIMITS AND DESCRIPTION OF ZONING METHODS:

Zoned direct.

TIDE CORRECTIONS COMPILED: BY COMPUTER VERIFIED BY: RGC
 MANUALLY VERIFIED BY: _____

HEIGHT OF MHW ABOVE PLANE OF REFERENCE: 4.1

TIDE CORRECTIONS VERIFIED ON SOUNDING PRINTOUT BY: RGC

DATE OF VERIFICATION: 31 July 1974

*OR RATIO

EXAMINED AND APPROVED
[Signature]

7/10/74

Logged Form 9396

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Wilmington Beach

Period: April 22 to May 28, 1974

HYDROGRAPHIC SHEET: H9396 (PE 40-2-74)

OPR: 437

Locality: Coast of North Carolina

Plane of reference (mean ~~lower~~ low water): 3.5 ft.

Height of Mean High Water above Plane of Reference is 4.1 ft.

Remarks: Recommended zoning. Zone direct.

James R. Hubbard

for Chief, Tides Branch

HYDROGRAPHIC TITLE SHEET

~~H-9463~~ H-9396

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.

PE-10-1-74

State North Carolina

General locality Wrightsville Beach

Locality Masonboro Inlet

Scale 1:10,000 inset Date of survey 19-25 August 1974

Instructions dated 13 November 1973 Project No. OPR-437-PE-74

Vessel NOAA Ship PEIRCE (CSS-28), Launch PE-1 & PE-2 & Skiff PE-3

Chief of party Commander Joseph W. Dropp, NOAA

CDR J.W. Dropp, LT D.L. Suloff, LTJG J.M. Barnhill,

Surveyed by ENS C.D. Mason, ENS B.B. Johnson, ENS D.A. Dreves

Soundings taken by echo sounder, ~~hand lead, pole~~ Raytheon Model 723D, S/N 242 and 246

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Officers and Survey Personnel

Protracted by AMC-Calcom plotter Automated plot by AMC-Calcom plotter
~~Hydroplot System~~ NOAA Ship PEIRCE

inked
Soundings plotted by Hydroplot System AMC-calcom plotter

Soundings in ~~fathoms~~ feet at MLW ~~XXXXXX~~

REMARKS: All times are in Greenwich Mean Time, 000 W

This survey is combined with H-9396 (1974)

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic
This survey is to be combined with H-9396
Field No. PE-10-1-74 Office No. H-9463 H9396

LOCALITY

State North Carolina
General locality Wrightsville Beach
Locality Masonboro Inlet

19 74

CHIEF OF PARTY

Joseph W. Dropp, Commander, NOAA

LIBRARY & ARCHIVES

DATE

CM 7219 Part 2
TP CO 701

699/700/
701
class
1

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY PE-10-1-74

~~H-9463~~ H-9396

1,10,00 inset on H-9396

OPR-437-PE-74

COAST OF NORTH CAROLINA

1974 FIELD SEASON

NOAA SHIP PEIRCE (CSS-28)

JOSEPH W. DROPP

COMMANDER, NOAA

CHIEF OF PARTY

TABLE OF CONTENTS

PE-10-1-74

~~H-9463~~ H-9396

	PAGE
Hydrographic Title Sheet	
Progress Sketch	
Report Text	
A. Project	1
B. Area Surveyed	1-2
C. Sounding Vessel	2
D. Sounding Equipment	2
E. Smooth Sheet	2
F. Control	2
G. Shoreline	3
H. Crosslines	3
I. Junctions	3
J. Comparison with Prior Surveys	3-4
K. Comparison with Charts	4
L. Adequacy of the Survey	4
M. Aids to Navigation	4
N. Statistics	5
O. Miscellaneous	5-6
P. Recommendations	6
Q. References to Reports	6
Corrections to Echo Soundings Report	7-8
TC/TI Tape Printout	9
Velocity Table Printout	10
Abstract of Reduced Speed	11
TRA Correction Abstract	12-13
Electronic Control Report	14-15
Electronic Control Parameters	16
Calibration Signal List	17
Electronic Corrector Abstract	18

Assignment of Registry Numbers	19
Projection Parameters	19 a
Tide Correspondence	20-22
Bottom Sample Data	23
Position Data Sheet	24-26
Approval Sheet	27

Descriptive Report

OPR-437-PE-74

PE-10-1-74

~~H-9463~~ H-9396

A. Project

This survey is an integral part of Project SCOPE conducted in accordance with Project Scope Instructions OPR-437-PE-74, Coast of North Carolina, dated 13 November 1973. There are four changes to Project Scope Instructions:

1. Change No. 1 to Project Instructions OPR-437-PE-74, Coast of North Carolina, dated 29 November 1973.
2. Change No. 2 to Project Instructions OPR-437-PE-74, Coast of North Carolina, dated 10 December 1973.
3. Change No. 3 to Project Instructions OPR-437-PE-74, Coast of North Carolina, dated 8 July 1974.
4. Change No. 4 to Project Instructions OPR-437-PE-74, Coast of North Carolina, dated 24 July 1974.

B. Area Surveyed

H-9396 PE-10-1-74 encompasses the area that covers the approaches to Masonboro Inlet, North Carolina and can be defined by straight lines connecting the following points:

From Lat 34°11'50"N	To Lat 34°11'16"N
To Long 77°48'10"W	Long 77°47'08"W
To Lat 34°10'16"N	To Lat 34°09'33"N
Long 77°47'45"W	Long 77°48'00"W
To Lat 34°10'08"N	To Lat 34°11'50"N
Long 77°49'31"W	Long 77°48'10"W

inset (PE-10-1-74) junctions with H-9396, 1:40,000, 1974, which are combined surveys

Hydrographic operations commenced on 21 August 1974 and terminated on 26 August 1974.

C. Sounding Vessel

The soundings were taken by NOAA Ship PEIRCE launch PE-1 and all detached positions and bottom samples were obtained by launch PE-2. PE-3 (skiff) was utilized in obtaining the shore line.

D. Sounding Equipment

PE-1 utilized two Raytheon Model 723D fathometers, S/N 242 and 246. Fathometer S/N 242 was used on all days except 26 August 1974 on which fathometer S/N 246 was used. Both fathometers were maintained at zero initial and routine phase checks were performed upon them. Depths ranged from minus two feet on the shoal to forty feet at the survey limits.

E. Smooth Sheet

The smooth sheet will be computer plotted by the Atlantic Marine Center from raw data provided on punch tape by the NOAA Ship PEIRCE.

F. Control

The horizontal positioning was accomplished by a Del Norte unit operating in a range mode at a frequency of 1498.35 KHz.

Two portable stations were established:

Holland Lat 34°11'18.034"N
 Long 77°49'52.084"W

Beach Lat 34°12'00.312"N
 Long 77°48'01.622"W

Calibration was accomplished by setting up the Del Norte equipment at known calibration locations a known distance apart and adjusting the equipment accordingly. For further details, consult the Electronic Control Report.

G. Shoreline

The shoreline was transferred to the boat sheet from Chart 833 SC, 1:40,000, March 1974, 11th Ed. The shoreline, jetty, and Crystal Fishing Pier were walked and subsequent three-point sextant fixes were taken at regular intervals (Positions ~~2061~~-7001-7065 ~~2065~~). PE-1 obtained detached positions on the end pilings of Crystal Fishing Pier and a three-point sextant fix located the shore end of the pier. (Shore end: Lat 34°11'35.11"N, Long 77°48'17.03"W; piling or water end: Lat 34°11'32"N, Long 77°48'11"W). *The shoreline for the smooth sheet originates with Class I manuscript TP-00701(1972-73/74).*

The jetty was walked and three-point sextant fixes were converted to longitude and latitude and plotted. The jetty can be described by a line connecting the following points:

From Lat 34°10'46.27"N	To Lat 34°10'57.54"N
Long 77°48'15.03"W	Long 77°48'21.34"W
To Lat 34°11'03.64"N	To Lat 34°11'01.87"N
Long 77°48'26.54"W	Long 77°48'24.55"W
To Lat 34°11'06.69"N	To Lat 34°11'11.25"N
Long 77°48'29.51"W	Long 77°48'33.82"W

H. Crosslines

Crosslines constituted approximately eight per cent of the hydrography and the associated soundings were in excellent agreement with those of the regular hydro lines; generally within one foot.

I. Junctions

The survey junctions with H-9396, 1:40,000, 1974. Depths at the junction differed by up to three feet. This difference can be eradicated when the smooth sheet is plotted since no velocity corrections (amounting to three feet in thirty-five feet of water) have been applied. During the hydrographic operation, there was also an unusually high tide which would explain part of the difference.

J. Comparison with Prior Surveys

There were two Pre-Survey Review Items:

- Has been removed from charts*
- PSR#16 1. Obstruction Reported Removed Lat $34^{\circ}11'05''N$, Long $77^{\circ}48'30''W$ Obstr. charted from CL-846/58
 This feature was reported removed 1957-1958 (CL-1534/65)
2. Twenty-seven foot sounding Lat $34^{\circ}11'22''N$, Long $77^{\circ}47'27''W$ Charted from H-4676(1926-27) *Disregard - discredited by present development*

The obstruction was ~~not found~~ and the sounding was not located. -
reported removed

The prior surveys were unavailable for comparison.
 Prior survey H-4676(1926-27) 1:40,000 partially covers this area.

K. Comparison with Charts

The soundings were compared with representative soundings from charts 833 SC, 1:40,000, March 1974, 11th Ed, and 1235, 1:80,000, March 1973, 10th Ed. The comparison was excellent being generally within two feet. The most notable exception being the shoal area on the south side of the channel where the limits of the shoal have extended south and east. This is probably due to its changeable nature coupled with the swift tidal currents that submerge the channel buoys and consequently deposit its load on the shoal edges.

L. Adequacy of the Survey

This survey is adequate to supersede prior surveys for charting. -

M. Aids to Navigation

The following aids to navigation were located by three-point sextant fixes:

1. ~~X~~ "2" Lighted Whistle, Lat $34^{\circ}10'40.38''N$, Long $77^{\circ}48'11.93''W$ -
2. MoA Whistle Ra Ref Lat $34^{\circ}10'12.91''N$, Long $77^{\circ}47'58.87''W$ -
3. Black Can "1", Lat $34^{\circ}10'39.41''N$, Long $77^{\circ}48'16.05''W$ -
4. Black Can "3", Lat $34^{\circ}10'53.79''N$, Long $77^{\circ}48'23.38''W$ -
5. Black Can "5", Lat $34^{\circ}11'00.44''N$, Long $77^{\circ}48'29.06''W$ -
6. Red Nun "4", Lat $34^{\circ}11'05.70''N$, Long $77^{\circ}48'29.92''W$ -

N. Statistics

No. of Positions	778
No. of Hydro Miles	55.0
No. of Crossline Miles	4.5
No. of Square Miles	2.2
Bottom Samples	8

O. Miscellaneous

All times are in Greenwich Mean Time.

Bottom samples were logged using consecutive position numbers from the same series of position numbers as would have been used while running a regular hydro line. Each bottom sample is listed on Form 733M.

Fathogram scanning was accurate throughout the survey. The fathograms were scanned on line by the fathometer operator and again by the ship's Survey Department. All errors were then corrected and inserts made and finally a corrector tape was cut.

Boat sheets and soundings were plotted by a Hydroplot System with the aid of a Complot Roll Plotter, Model DP-3.

Developments, shoreline, Crystal Fishing Pier, the Jetty, bottom samples, and the detached positions were plotted on a 1:10,000 sheet and all hydrography was plotted on a similar 1:10,000 sheet; constituting one master plotting sheet and one overlay.

The shoreline features were transferred to the boat sheet from Chart 833 SC, 1:40,000, March 1974, 11th Ed. and the only pier now in existence is Crystal Fishing Pier, Lat $34^{\circ}11'35''N$, Long $77^{\circ}48'17''W$, and the Jetty. However, the shoreline was applied to the smooth sheet from Class I manuscript TP-00701 (1972/74).

The shoal area on the south side of the channel uncovers at low water and the channel buoys are nearly submerged during maximum tidal currents.

The shoreline and shoal area were traversed on foot and regularly spaced three-point fixes were taken to delineate these areas.

^{5001 - 5696}
Positions ~~1-696~~ were taken by PE-1. PE-2 took bottom samples and detached positions using three-point sextant fixes. (positions ~~1000-1016~~) Positions ~~2001-2065~~ were three-point sextant fixes taken along the jetty, shoreline, and Crystal Fishing Pier. ^{6000 - 6916} ^{7001 - 7065}

P. Recommendations

It is recommended that this survey be considered accurate and adequate for charting purposes and that it supersede prior surveys.

Q. References to Reports

References were made to the following reports:

1. Corrections to Echo Soundings, PE-10-1-74
2. Electronics Control Report, PE-10-1-74.

Respectfully submitted for approval

Bruce B. Johnson
Ensign, NOAA

CAM3-1
1/31/74

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

1. Project No. OPR-437 4. Requested By Verification Branch
2. Reg. No. H-9396 5. Ship or Office AMC
3. Field No. PE-10-1-74 6. Date Required ASAP

7. Polyconic Modified Transverse Mercator

8. Central Meridian of Projection 77 ° 48 ' 00 "

9. Survey Scale: 1: 10,000

10. Size of Sheet (check one):

36 x 54 36 x 60 Other Specify 16" x 19"

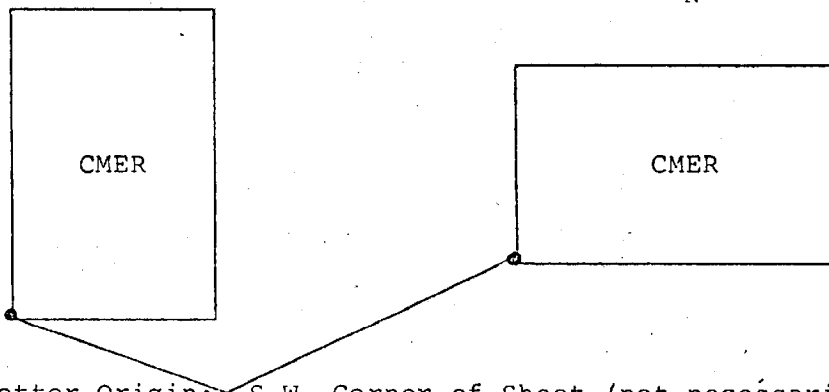
11. Sheet Orientation (check one):

NYX = 1

NYX = 0

N

N



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)

Latitude 34 ° 09 ' 25 "

Longitude 77 ° 49 ' 35 "

13. G.P.'s of triangulation and/or signals attached

14. Material Desired: Tracing Paper Mylar

Smooth Sheet Other Specify _____

15. Remarks: Inset on smooth sheet H-9396

H-9463 combined with H-9396

Tide Note, Project SCOPE, OPR-437, PE 10-1-74, H-9396

Predicted tides for this survey were computed by the ship with the onboard PDP-8 computer using the standard gauge at Charleston, South Carolina, corrected to Masonboro Inlet, North Carolina.

The tide gauges operating in the area are as follows:

1. Frying Pan Shoals Light, North Carolina
Lat. $33^{\circ} 29.1N$, Long. $77^{\circ} 35.4W$
2. Wilmington Beach, North Carolina
Lat. $34^{\circ} 01.9N$, Long. $77^{\circ} 53.6W$
3. Ocean City Beach, North Carolina
Lat. $34^{\circ} 27.1N$, Long. $77^{\circ} 29.7W$

The gauges were installed and maintained by the Tides Section, Atlantic Marine Center.

Zoning between gauges will be done by Atlantic Marine Center Processing Division, CAM22, in accordance with automatic computer zoning techniques.

1. Project # OPR-437 2. Reg. # H-9463 3. Field # PE-10-1-74
 4. Type of Control Del Norte (Hi-Fix, Raydist, EPI, etc.)
 5. Frequency 1498.35 (for conversion of electronic lanes to meters)
 6. Mode of Operation (check one):

Range-Range Range-Visual

Range One (R ₁)		Lat.	<u>34</u> °	<u>11</u>	<u>18.034</u>
Station I.D.	<u>Holland</u>	Long.	<u>77</u> °	<u>49</u>	<u>52.084</u>
Range Two (R ₂)		Lat.	<u>34</u> °	<u>12</u>	<u>00.312</u>
Station I.D.	<u>Beach</u>	Long.	<u>77</u> °	<u>48</u>	<u>01.622</u>

Hyperbolic (3-station) Hyper-Visual

Slave One		Lat.	_____°	_____	_____
Station I.D.	_____	Long.	_____°	_____	_____
Master		Lat.	_____°	_____	_____
Station I.D.	_____	Long.	_____°	_____	_____
Slave Two		Lat.	_____°	_____	_____
Station I.D.	_____	Long.	_____°	_____	_____

7. Location of Survey:

Range-Range Imagine an observer is standing at R₁ Station and looking directly at R₂ (check one):

Survey area is to observer's Right A=0
 Survey area is to observer's Left A=1

Hyperbolic Looking from survey area toward Master Stations:
 Slave One must be to observer's Left.
 Slave Two must be to observer's Right.

8. This form is submitted as an aid in preparing a boat sheet.
 This form applies to all data on this survey.
 This form applies to part of the data on this survey.

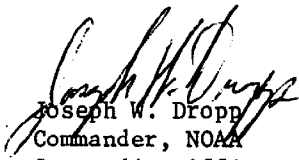
Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____

9. Remarks: _____

APPROVAL SHEET

PE-10-1-74

All field work and processing of data from this hydrographic survey was under my immediate, daily supervision. The boat sheets and all records have been reviewed and are approved by me. This survey is complete and adequate to supersede prior surveys of this area.



Joseph W. Dropp
Commander, NOAA
Commanding Officer
NOAA Ship PEIRCE (CSS-28)

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H- 9396

- 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.

Date: June 17, 1975

Signed: William J. Jones

Title: Chief, Verification Branch

- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: 19 June 75

Signed: Jeffrey L. Carver, CDR, USN

Title: Chief, Processing Division

ATLANTIC MARINE CENTER
VERIFICATION OF SMOOTH TIDES

SURVEY H- 9396 (PE-10-1-74)

PLANE OF REFERENCE: MLW OR MLLW
TIME MERIDIAN: 0
HEIGHT DATUM ON STAFFS: 1. 3.4 2. _____ 3. _____ 4. _____

TIDE STATIONS	POSITION	TYPE GAGE	TIME CORR.		HEIGHT CORR.*	
			H.W.	L.W.	H.W.	L.W.
1. Wilmington Beach	ϕ 34° 01.9'N λ 77° 53.6'W	Bubbler				
2.	ϕ λ					
3.	ϕ λ					
4.	ϕ λ					

HOURLY HEIGHTS: FROM ROCKVILLE OFFICE
 FROM FIELD MARIGRAMS VERIFIED BY: Rockville

TIDE ZONING: NOT APPLICABLE
 BY COMPUTER
 FROM TWO OR MORE GAGES

LIMITS AND DESCRIPTION OF ZONING METHODS:

Direct on Wilmington Beach, N. C.

TIDE CORRECTIONS COMPILED: BY COMPUTER VERIFIED BY: R. Cram
 MANUALLY VERIFIED BY: _____

HEIGHT OF MHW ABOVE PLANE OF REFERENCE: -4.2

TIDE CORRECTIONS VERIFIED ON SOUNDING PRINTOUT BY: R. Cram

DATE OF VERIFICATION: 30 December 1974

*OR RATIO

EXAMINED AND APPROVED

W. J. Damm

12/20/74

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Wilmington Beach

Period: August 19 - 25, 1974

HYDROGRAPHIC SHEET: ~~H-9463~~ ^{H-9396} (PE 10-1-74)

OPR: 437

Locality: Coast of North Carolina

Plane of reference (mean ~~lower~~ low water): 3.4 ft.

Height of Mean High Water above Plane of Reference is -4.2 ft.

Remarks: Zone direct.

James R. Hubbard
for Chief, Tides Branch

GEOGRAPHIC NAMES

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO.	ON PREVIOUS SURVEY NO.	CON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST			
ATLANTIC OCEAN											1
CAROLINA BEACH ✓											2
CAROLINA BEACH INLET ✓											3
KURE BEACH											4
MASONBORO INLET ✓											5
MASON INLET ✓											6
ONSLow BAY											7
WILMINGTON BEACH ✓											8
WRIGHTSVILLE BEACH ✓											9
Masonboro Island											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25

Approved
 Chas. E. Harrington
 Staff Geographer
 10 Sept. 1975

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9396 (PE-10-1-74)
(PE-40-2-74)

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & 2-Overlays		1	BOAT SHEETS		4 5	
DESCRIPTIVE REPORT		1 (2 parts)	OVERLAYS		10 5	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
Accordies	3		3			
CAHIERS	1		2 & Abstracts			
VOLUMES	4					
BOXES			1	1-Package		
T-SHEET PRINTS (List)						
TR-00701001-0000						
SPECIAL REPORTS (List)						
Vidiotape Correspondence						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				4226
POSITIONS CHECKED		420		
POSITIONS REVISED		10		
DEPTH SOUNDINGS REVISED		100		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		-		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		-		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		4	4	
JUNCTIONS		2	18	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		8	24	
SPECIAL ADJUSTMENTS		-	0	
ALL OTHER WORK		211	49	
TOTALS		225	95	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
F.L. Saunders, M.W. Johnson, W.H. Guy	6/20/74		2/3/75	
VERIFICATION BY	BEGINNING DATE		ENDING DATE	
B.J. Stephenson	3/14/75		3/25/75	
REVIEW BY	BEGINNING DATE		ENDING DATE	
<i>Mark J. Friese</i>	12/22/75		1/16/76	

Insp. *R.W. Derkazarian* 2 1/2 hrs 1/22/76 * U.S. G.P.O. 1972-769-562/439 REG.#6

Reg. No. _____

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS:

Reg. No. _____

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 REQ'D _____ INITIALS _____

REMARKS:

H-9396

Items for Future Presurvey Reviews

The sunken wreck charted at latitude 34°08.2', longitude 77°43.8' was reported by the U.S. Power Squadrons (CL-1514/71) in 3 fathoms. It was not verified or disproved by the present survey and should be noted for future hydrographic surveying in this area.

Any future inshore survey should consider fully developing and obtaining the least depth on the 26-foot shoal at latitude 34°00.5', longitude 77°53.0'.

<u>Position</u>	<u>Index</u>	<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle (Years)</u>
340	0774	3	2	50
340	0775	3	2	50
340	0780	3	2	50
341	0774	3	2	50
341	0775	4	2	25

OFFICE OF MARINE SURVEYS AND MAPS
MARINE CHART DIVISION
MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9396

FIELD NO. PE-40-2-74
PE-10-1-74

North Carolina, Onslow Bay, off Kure Beach to Mason Inlet

SURVEYED: April 22 - May 9, August 19 - 25, 1974

SCALE: 1:40,000
1:10,000 inset

PROJECT NO.: OPR-437

SOUNDINGS: Ross 200-A Depth Recorder, CONTROL: Raydist (Hyperbolic Mode), Del Norte (Range-Range), Sextant Fixes on Shore Signals
Raytheon 723D Depth Recorder

Chiefs of Party R. J. Land
..... J. W. Dropp
Surveyed by J. K. Callahan
..... D. L. Suloff
..... J. M. Barnhill
..... P. D. Harman
..... C. D. Mason
..... K. M. Holden
..... B. B. Johnson
..... D. A. Dreves
Automated Plot by Calcomp 618 (AMC)
Verified by B. J. Stephenson
Reviewed by M. J. Friese
..... Date: January 16, 1976
Cursory inspection made--survey R. W. DerKazarian
processing considered complete Date: January 22, 1976

1. Control and Shoreline

The source of control is adequately stated in part F of the Descriptive Report and the Electronic Control Report for both portions of the field work.

The shoreline for the Masonboro Inlet area originates with Class I (unreviewed) photogrammetric manuscript TP-00701 (1972-74). No shoreline is shown on the 1:40,000 portion of the survey.

2. Hydrography

- A. Depths at sounding-line crossings are in good agreement.
- B. The standard depth curves are adequately delineated. The 3-foot supplemental curve was added to define the bottom configuration more distinctly. The development of the bottom configuration and investigation of least depths are adequate.

3. Condition of the Survey

The field work, sounding records, smooth plotting, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual - Automated Hydrographic Surveys. However, the following exceptions are noted:

A. A tide station and an electronic control station used for the control of this survey plus two landmarks were not shown on the smooth sheet.

B. A -0.62-foot instrument correction was not applied to the TRA corrector used for the 1:40,000 scale portion of this survey.

4. Junctions

An adequate junction was effected with H-9395 (1974) on the south, with H-9426 (1974) on the north, with H-9044 (1969) on the east, and with the 1:10,000 development of Masonboro Inlet (inset) on the west.

5. Comparison with Prior Surveys

- A. H-1423 (1879) 1:40,000
H-1456 (1880) 1:40,000

The sparse soundings on these early reconnaissance surveys do not provide a satisfactory basis for comparison with the present survey.

- B. H-4676 (1926-27) 1:40,000
 H-4689 (1927) 1:60,000
H-4696 (1926-27) 1:40,000

These prior surveys, taken together, cover the entire area of the present survey. In general, a comparison between prior

and present depths reveals very little change, though some isolated bottom features show variable differences of 1-4 feet. These differences are attributed to the shifting of sand due to current and tidal activity and differences in survey methods, leadline on the prior work versus depth recorder sounding on the present survey.

The present survey portrays the bottom configuration in much greater detail and is adequate to supersede the prior surveys in the common area.

6. Comparison with Charts 11539 (1235) (latest print date January 18, 1975)
11541 (833-SC) (latest print date February 8, 1975)
-

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys supplemented by the application of Bp 89341 (1974) Corps of Engineers survey and three soundings from the smooth sheet of the present survey, which requires no further consideration. With the exceptions noted in paragraphs J and K in both portions of the Descriptive Report, the present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The charted aids to navigation adequately serve the purpose and mark the features intended within the common area of the present survey.


7. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions.

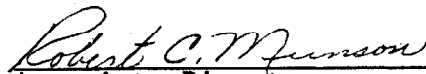
8. Additional Field Work

This is a very good basic survey and no additional field work is recommended.

Examined and Approved:

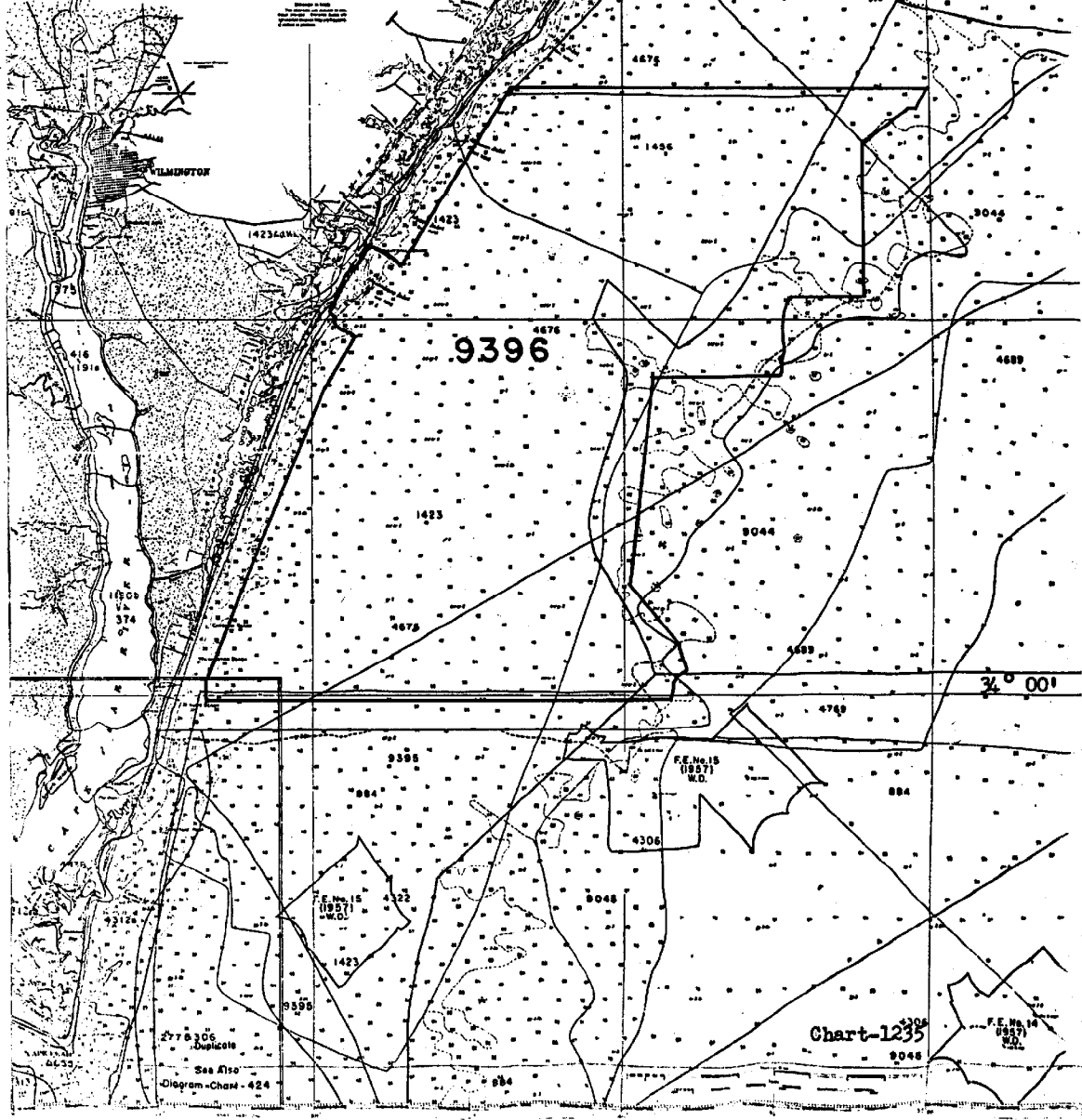


Chief
Marine Chart Division



Associate Director
Office of Marine Surveys
and Maps

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2778 306 Duplicate
See Also Diagram-Chart-424

Chart-1235
F.E. No. 14 (1957) W.D.

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. M-9396

INSTRUCTIONS

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

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

CHART	DATE	CARTOGRAPHER	REMARKS
833-SC	8-25-75	W. Chandler	Full Part Before After Verification ^{Review} Inspection Signed Via Drawing No. <i>Applied crit corr only.</i>
1235	8-26-75	Joseph Pirrone	Full Part Before After Verification ^{Review} Inspection Signed Via Drawing No. <i>Applied critical corrections only thru Chart 833 SC.</i>
1110	9-5-75	GERALD KOEHL	Full Part Before After Verification ^{Review} Inspection Signed Via Drawing No. <i>Applied critical corrections only thru Chrt # 1235.</i>
835 SC	9-5-75	GERALD KOEHL	Full Part Before After Verification ^{Review} Inspection Signed Via Drawing No. <i>Exam for critical corrections only.</i>
835 SC	5/4/78	<i>Dick Kille</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>#16A</i>
833 SC	5/5/78	<i>Dick Kille</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>16 B</i>
1235 (11539)	5/9/78	<i>Dick Kille</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>#31 APPD PARTLY THRU 833 SC AND 835 SC</i>
11520	10/26/82	<i>Mark J. Freese</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>41 Fully appd thru Chart 11539</i>
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.