9400

Diag. Cht. No. 1001-3 & 1236-2.

FORM C&GS-504

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PE-20-5-73 *Office No.* H-9400

LOCALITY

State North Carolina

General locality Cape Fear

Locality Frying Pan Shoals

1973

CHIEF OF PARTY

Commander Ralph J. Land, NOAA

LIBRARY & ARCHIVES

DATE OCT 5 1974

USCOMM-DC 37022-P66

9400

Charts Partially Appd 1/21/75 AGT
1236
1110
1001
1007

1236 on 1536

FORM C&GS-537 (5-66)

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

REGISTER NO.

H-9400

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

PE-20-5-73

State North Carolina

General locality Cape Fear

Locality Frying Pan Shoals

Scale 1:20,000 Date of survey 11 Sep - 19 Oct 1973

Instructions dated 11 April 1973 Project No. OPR-437-PE-73

Vessel NOAA Ship PEIRCE, CSS-28

Chief of party Commander Ralph J. Land, NOAA

Surveyed by CDR R. J. Land, LCDR J. K. Callahan, LT M. R. Mulhern, LTJG M. J. Barnhill, LTJG R. W. Permenter, LTJG R. P. Floyd, ENS P. R. Harman, ENS K. M. Holden

Soundings taken by echo sounder, hand lead, pole DE 723, Ross 200-A

Graphic record scaled by Ship's personnel

Graphic record checked by Ship's officers

Protracted by ~~Ship's officers~~ AMC Automated plot by CALCOMP 618 ~~AMC Processing Div.~~

Soundings ~~xxxxxx~~ inked by ~~Ship's officers~~ Cal Com AMC

Soundings in ~~xxxxxx~~ feet at MLW ~~xxxx~~

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

applied to stds 1/10/75

USCOMM-DC 37009-P66

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY PE-20-5-73

REGISTRY NUMBER H-9400

OPR-437-PE-73

COAST OF NORTH CAROLINA

1973 FIELD SEASON

NOAA SHIP PEIRCE, CSS-28

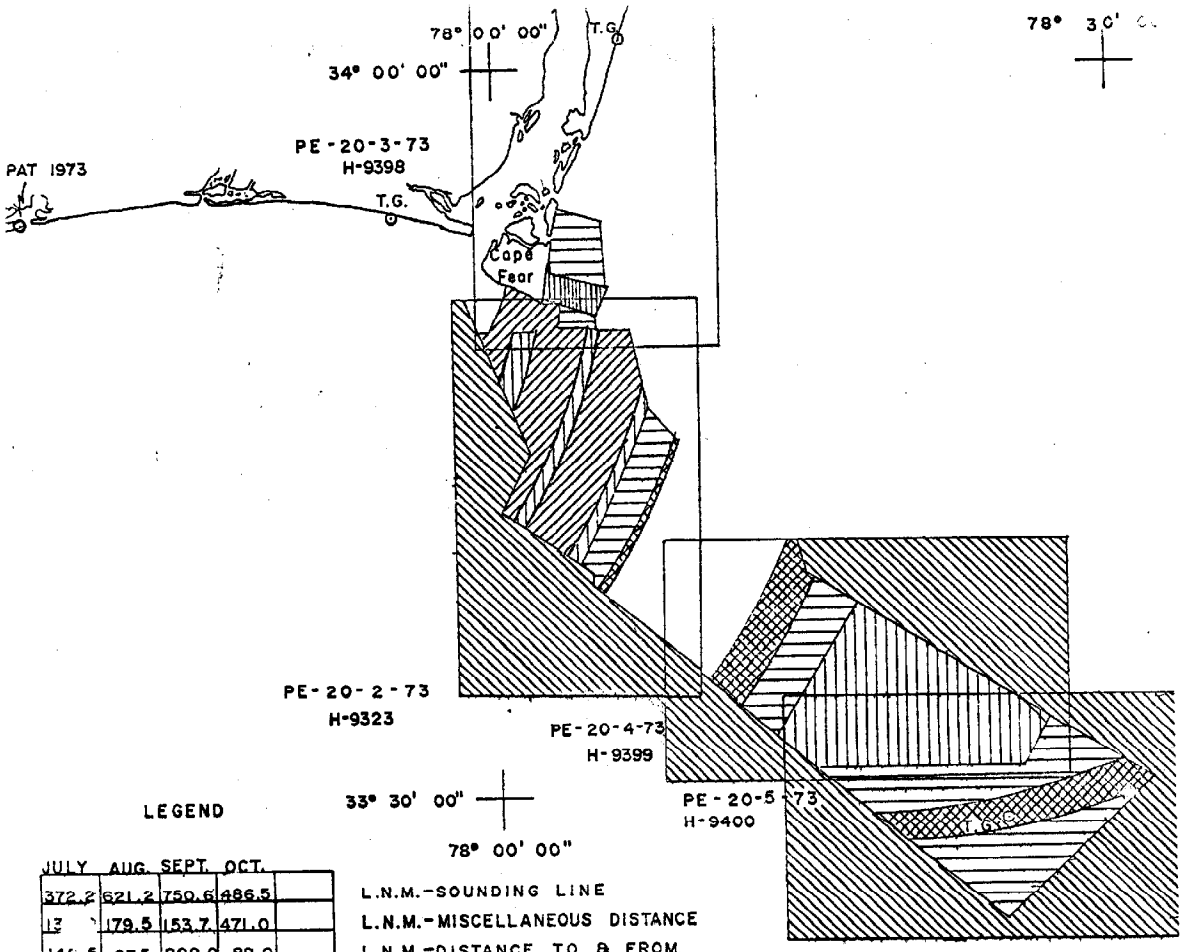
RALPH J. LAND

CDR, NOAA

CHIEF OF PARTY

TABLE OF CONTENTS

H-9400, PE-20-5-73



LEGEND

JULY	AUG.	SEPT.	OCT.	
372.2	621.2	750.6	486.5	
13	179.5	153.7	471.0	
146.5	97.5	209.0	89.0	
			170.5	
20	5	17	64	
1	2	2	2	
0	0	0	2	
0	0	0	13	
304.7	130.7	89.3	63.9	
67.5	27.5	113.5	0	
	463.0	211.5	198.1	
		336.3	224.5	

L.N.M.-SOUNDING LINE
L.N.M.-MISCELLANEOUS DISTANCE
L.N.M.-DISTANCE TO & FROM
SQ.N.M. - SOUNDINGS
BOTTOM SAMPLES
TDC CAST
NANSEN CAST
SALINITY SAMPLES
L.N.M.-SOUNDING LINE - PE-20-2-73 H-9323
L.N.M-SOUNDING LINE PE-20-3-73 H-9398
L.N.M-SOUNDING LINE PE-20-4-73 H-9399
L.N.M.-SOUNDING LINE PE-20-5-73 H-9400

JULY
AUGUST
SEPTEMBER
COMPLETED ON PREVIOUS SURVEYS
OCTOBER

PROGRESS SKETCH
OPR-437
NORTH CAROLINA COAST
NOAA SHIP PEIRCE
CDR. RALPH J. LAND COMDG.
1973 FIELD SEASON
SCALE OF CHART 1:10

A. PROJECT

This survey is part of Project OPR-437 and was conducted in accordance with Project Instructions OPR-437-PE-73, North Carolina Coast dated April 11, 1973; Change No. 1 to Project Instructions OPR-437-PE-73 dated 18 April 1973; and Change No. 2 to Project Instructions OPR-437-PE-73 dated 17 August 1973.

This survey was part of the Southern Coastal Plains Expedition (Project SCOPE).

B. AREA SURVEYED

This hydrographic survey covers an area of approximately 34 square miles off the coast of Cape Fear, North Carolina. The boundaries for this survey are: 33° 31.'4 N on the north, 77° 33.'0 W on the east, and on the southwest a line between 33° 31.'4 N, 77° 45.'8 W and 33° 25.'0 N, 77° 35.'3 W. This survey commenced on September 11, Day 254, and was concluded on October 19, Day 292.

This survey junctions with the following surveys:

Registry No.	Scale	Date	Boundary
H-9399	1:20,000	1973	North
H-9045	1:80,000	1969	East
H-6540	1:40,000	1939	Prior Survey

C. SOUNDING VESSEL

(H-9900)

All survey work done on Sheet PE-20-5-73 was accomplished by the NOAA Ship PEIRCE. The color purple was used for position numbering.

D. SOUNDING EQUIPMENT

Two different fathometers were used during this survey. The first was a Ross Fine Line Model 200-A, Serial Number 83898/201745. On October 2, Day Number 275, mechanical failure required a switch to the back-up fathometer, a Raytheon Survey Fathometer, Model DE-723-1, Serial Number 928. The remainder of the survey was completed using this fathometer. There were no problems encountered with either fathometer which would affect the accuracy of the soundings.

Phase checks on the Ross fathometer were performed using its own integral phase checker. This was done each time that the paper was changed. A phase check on the Raytheon fathometer was performed using a Digital Phase Checker on October 16, Day 289.

Results were good with no appreciable phase error noted.

E. SMOOTH SHEET

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

F. CONTROL

First party electronic Raydist was used for horizontal control. The system was range-range and operated on a frequency of 3294.400 KHz. This frequency was used for the entire project. The navigator and transmitter serial numbers are 110 and 85 respectively.

Two portable Raydist shore stations were utilized. Pattern I (red) was designated PAT 1973. This shore station was located at Lat. 33°53'57".478 N, Long. 78°23'11".792 W, on Ocean Isle Beach, North Carolina. Pattern II (green) was designated Register II 1973. This shore station was located at Lat. 34°15'42".760 N, Long. 77°46'27".623 W, near Wilmington, North Carolina.

Calibration was accomplished by taking three point sextant fixes with check angles to shore signals with known positions. The actual Raydist lane position of the ship was computed by the PDP/8 computer aboard ship.

The shore signals used were:

SIGNALS USED FOR RAYDIST CALIBRATION
PE-20-5-73, H-9400

106	33° 58' 4861" N	077° 55' 0317" W	Ft. Fisher USAF Radar Twr. W.
107	33 58 4903	077 54 5923	Ft. Fisher USAF Radar Twr. E.
111	33 52 2406	078 00 0234	Bald Head Lighthouse 1851
113	33 53 3354	078 02 0677	Oak Island Lighthouse 1962
115	33 55 1666	078 01 1292	Southport Mun. Water Tank 1962
116	33 57 2356	078 00 3400	Stack, Atomic Plant
117	33 54 3353	078 04 4734	Yaupon Beach Municipal Water Tank 1973
304	33 51 1700	077 59 4931	12' Orange Banner
307	33 51 0273	077 59 0148	32' Orange Tripod
312	33 50 2844	077 57 4407	12' Orange Banner
313	33 50 3810	077 57 4230	32' Orange Tripod

314	33° 50' 5268"N	077° 57' 4093"W	12'	Orange Banner
328	33 53 3041	077 57 1472	32'	Orange/Lime Tripod
336	33 54 2619	077 56 5407	32'	Orange Tripod

Signals 106 through 115 are published triangulation stations.

Stations 116 and 117 are triangulation intersection stations located by Photo Party 62.

Signals 304 through 336 were located by Photo Party 62 using third-order traverse.

G. SHORELINE

There is no shoreline to be considered on this survey.

H. CROSSLINES

Crosslines constitute 6% of the total number of hydrographic miles run. The soundings on the crosslines are in excellent agreement with those on the regular sounding lines. Differences are usually one foot.

I. JUNCTIONS

Satisfactory junctions were made with H-9399 and H-9045. Sheet H-9399 was completed just prior to H-9400. Both sheets are part of OPR-437. The soundings transferred from H-9399 to H-9400 for comparison are blue. The soundings are in excellent agreement.

Survey H-9045 is a 1:80,000 survey completed in 1969. The soundings are in good agreement with differences usually two feet or less. The color brown was used to transfer comparison soundings from Sheet H-9045. Velocity correctors have not been applied to the soundings of H-9400 or the comparison soundings from H-9399 and H-9045.

J. COMPARISON WITH PRIOR SURVEYS

A comparison with H-6540, a 1:40,000 survey completed in 1939, often shows differences of four feet; the soundings of H-6540 always being greater than those of H-9400. This can be attributed to the fact that the comparison soundings which appear in the color red, were transferred from a smooth sheet which has had velocity correctors applied to the soundings. After correctors are applied to the soundings of H-9400, it is expected that agreement will be greatly improved.

One pre-survey review item was located within the bounds of H-9400. The item was a 19-foot depth reported in Hydrographic Office Notice to Mariners, 1947, Page 1605. A copy of this page and a copy of a vessel interview which makes reference to this item were obtained from C3222, Chief, Nautical Data Section. These items accompany this report in the miscellaneous section.

An extensive development was conducted in this area; the basic sounding lines were spaced 50 meters apart with crosslines spaced at 100 meters. The shoalest depths recorded in this area were approximately 60 feet. It is recommended that this item be removed from future charts.

K. COMPARISON WITH CHART

A comparison was made with Chart 1236, Approaches to the Cape Fear River, Ed. 7, April 1972. The soundings are in general agreement with the charted depths except for the pre-survey review item discussed in J. It is recommended that this 19-foot sounding charted at Lat. 33°28.98 N, Long. 77°40.0 W be removed for future charting purposes. Removed 1236 DC.

L. ADEQUACY OF THE SURVEY

This survey is complete and adequate to supersede prior surveys for charting.

M. NAVIGATIONAL AIDS

Frying Pan Shoals Light is the only navigational aid located within the boundaries of the survey. An adequate physical description and position is contained in United States Coast Pilot 4, Atlantic Coast, Cape Henry to Key West, Tenth Edition, 1972.

N. STATISTICS

Total Number of Positions	1824
Total Hydro Miles	560
Total Crossline Miles	34
Total Square Miles Surveyed	34
Number of Tide Gages	1
TDC Casts	2
Nansen Casts	1
Bottom Samples	18

O. MISCELLANEOUS

At approximately 33° 28.0' N, 77° 34.6' W, between positions 258 and 259, a relatively strong trace on the fathogram indicated a depth of 30 feet. The shoalest surrounding depth is 46 feet. An extensive development in this area failed to confirm this sounding. This sounding has been removed from the boat sheet and a notation has been made on the smooth raw data print out. A copy of the fathogram is included in this report. The position numbers for the development in this area are 1444-1475 and 1674-1679. Not plotted on Smooth Sheet

Between Positions 681 and 682 in the area 33° 29.9' N, 77° 37.1' , a faint trace on the fathogram indicated a depth of 28 feet. The subsequent development conducted in this area failed to confirm this sounding. This sounding has been removed from the boat sheet. A copy of the fathogram is included in this section. Position numbers for this development are 1604-1617. not plotted on S.S

Frying Pan Shoals Light was located by the intersection of bearings taken from the bridge wing gyro compass repeaters. Position numbers at which the bearings were taken are 515 through 517, 525 through 527, 1639, 1640, and 1645. The bearings are recorded in the Sounding Volume, Vol. 1, PE-20-5-73, H-9400.

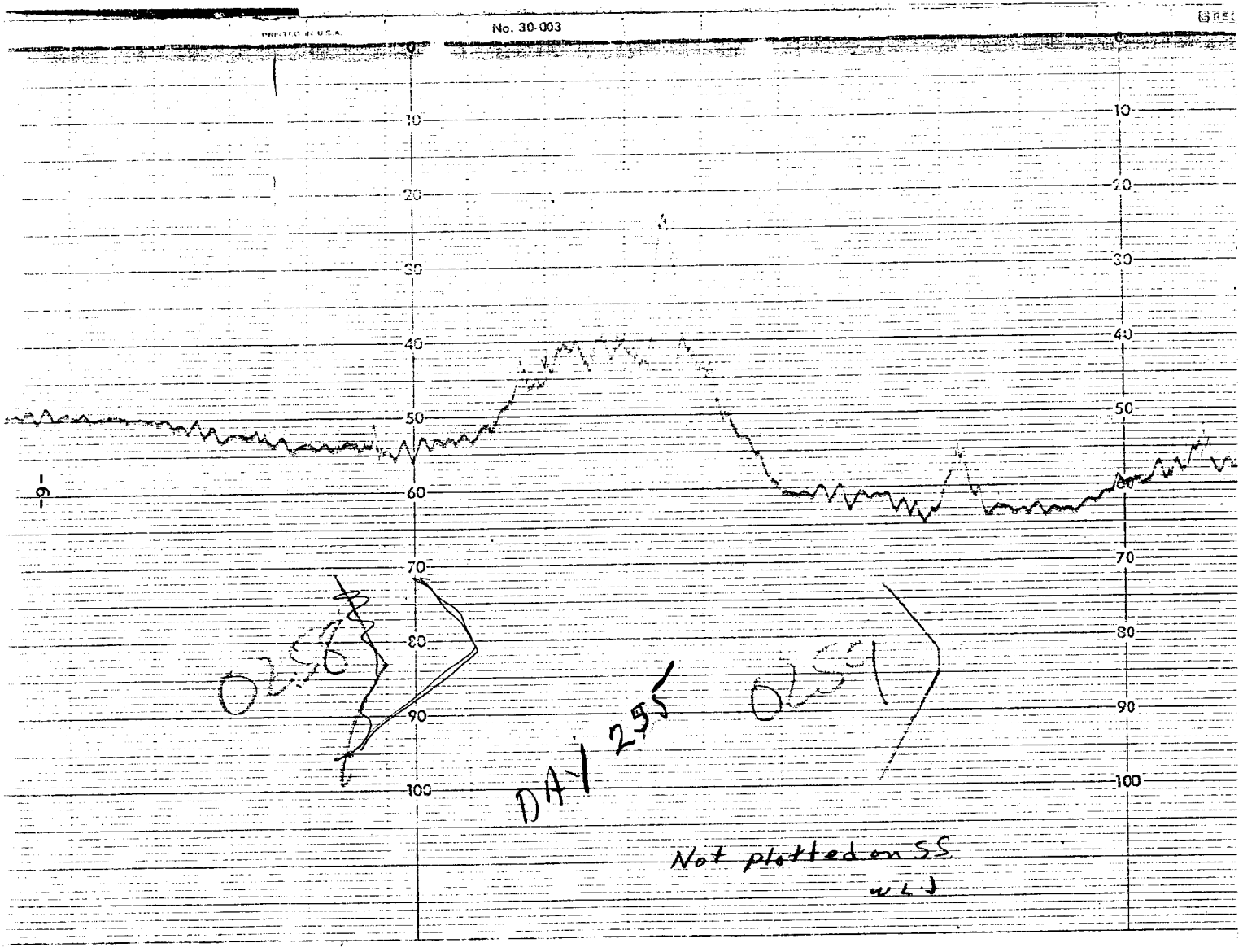
Three other developments were conducted in order to better delineate the contour of the bottom. Their approximate positions and the position numbers associated with each are listed below:

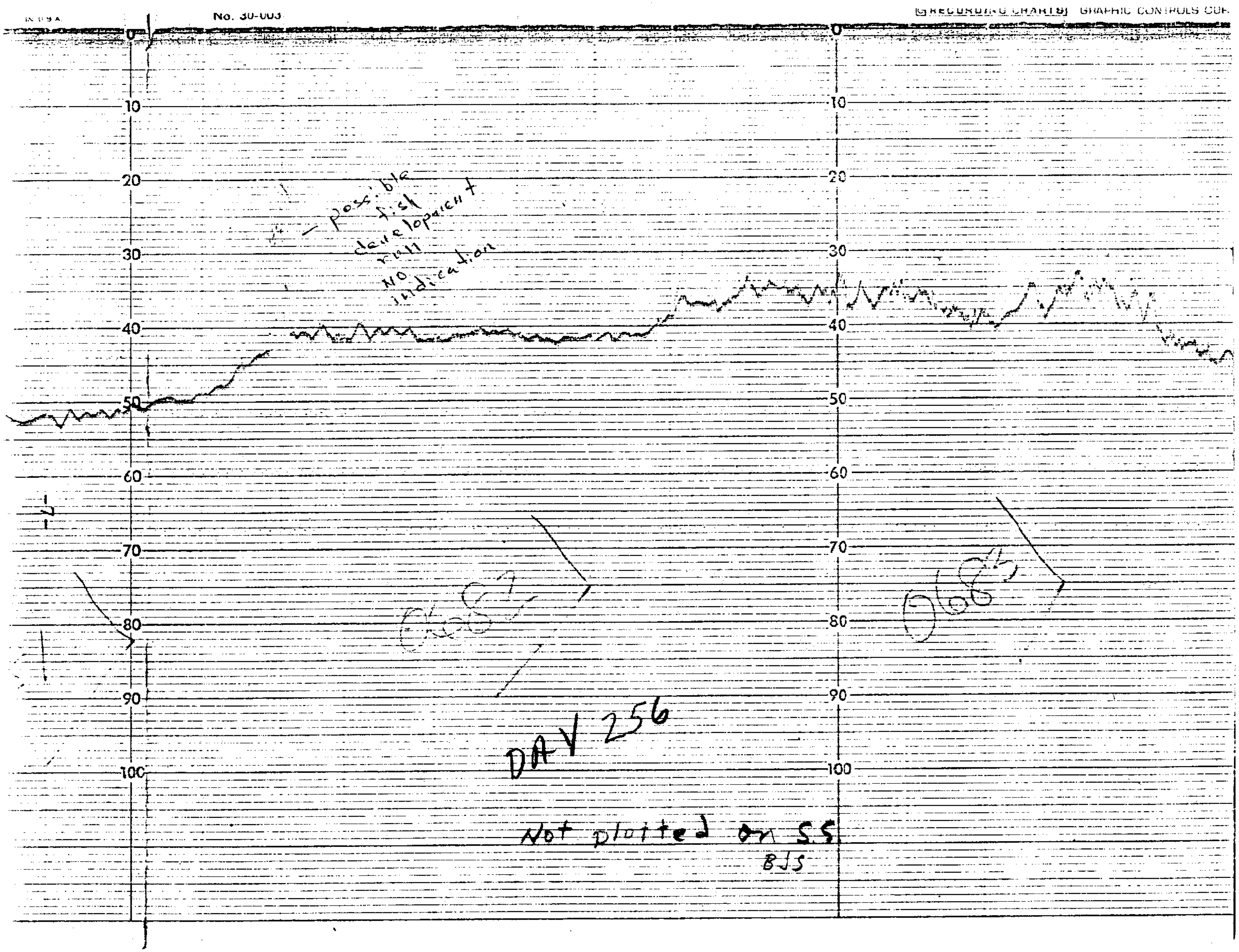
33° 27.5'	77° 36.7'	1789-1804
33° 27.7'	77° 34.2'	1809-1816
33° 27.4'	77° 34.2'	1817-1824

On Julian Day 256, the following changes occurred in Raydist Pattern I (red):

a. Between Positions 665 and 666, gain of one lane
b. Position 672, after "LBks," gain of one lane
c. After Position 686, loss of one lane
d. After Position 856, loss of one lane

These changes were not detected until after the positions and soundings had been plotted. Positions and soundings from 666 through 686 were replotted on the boat sheet. Positions and soundings from 687 through 855 were not


No. 30-003
0
10
20
30
40
50
60
70
80
90
100
DAY 255
Not plotted on SS



No. 30-003
RECORDING CHARTS GRAPHIC CONTROLS COR.
- possible fish development full
NO indication
0685
DAY 256
Not plotted on SS
BJS

(5206) **NORTH CAROLINA—Intracoastal Waterway—New River to Cape Fear River—Daybeacon destroyed.**—Long Point Daybeacon 105 has been destroyed. It will be rebuilt as soon as practicable.

Approx. position: 34°19'24" N., 77°42'57" W.

(N. M. 40, Oct. 4, 1947.)

(N. M. 178, C. G., Norfolk, Sept. 19, 1947.)
U. S. Coast Survey Chart 834.
U. S. Light List, Intracoastal Waterway, 1947, page 41.
U. S. Coast Pilot, Section D, 1936, page 125.

(5207) **NORTH CAROLINA—Intracoastal Waterway—Cape Fear River to Little River—Aids destroyed.**—The following aids between Cape Fear River and Little River have been destroyed:

(*a*) Cape Fear—Little River Light 71 A.
Approx. position: 33°54'32" N., 78°21'48" W.
(*b*) Cape Fear—Little River Daybeacon 75.
Note.—They will be rebuilt as soon as practicable.

(N. M. 40, Oct. 4, 1947.)

(N. M. 180, C. G., Norfolk, Sept. 23, 1947.)
U. S. Coast Survey Chart 835.
U. S. Light List, Intracoastal Waterway, 1947, page 46.
U. S. Coast Pilot, Section D, 1936, page 139.

(5208) **NORTH CAROLINA—Little River Inlet—Light moved.**—Bird Island Light has been moved and reestablished 30 yards 45° from its charted position.

Approx. position: 33°51'21" N., 78°32'31" W.

(N. M. 40, Oct. 4, 1947.)

(N. M. 49, C. G., Miami, Sept. 15, 1947.)
H. O. Chart 0943.
U. S. Coast Survey Charts 835, 1237.
U. S. Light List, Atlantic Coast, 1947, No. 2820.
U. S. Coast Pilot, Section D, 1936, page 140.

(5209) **NORTH CAROLINA—Frying Pan Shoals—Obstruction reported southeastward.**—An obstruction with a maximum depth of 19 feet of water over it has been reported southeastward of Frying Pan Shoals in latitude 33°29' N., longitude 77°40' W.

(N. M. 40, Oct. 4, 1947.)

(N. M. 179, C. G., Norfolk, Sept. 22, 1947.)
H. O. Charts 0943, 1411.
U. S. Coast Survey Charts 1236, 1110, 1001, 1007.
U. S. Coast Pilot, Section D, 1936, page 126.

1148 C-2 of 4

254

(1964)

Norfolk — 18 Feb. 64

American Chief — U.S.

✓ Cargo ☐ Passenger ☐ Tanker ☐ Other — 16

U.S. Lines — E Coast – Europe

11

Master: Ernest R. Koran — Officer interviewed: Master & L.J. Decker

Raytheon

THIS SPACE TO BE USED FOR RECORDING COLLECTED DATA

Vessel interviewed 17 Sept. 63

Latest NM on board was 5.

Capt. Koran [illegible] CS 1111 cannot be extended [illegible] being an essential part of [illegible] [illegible] to be [illegible] [illegible] Bu[illegible] [illegible] [illegible] CG 44 [illegible] 1313 and 1314 respectively [illegible] in the [illegible] at Charleston [illegible] is not printed.

He also requests that CS 1240 be [illegible] 5 to 31°56' [illegible] and have no [illegible] from the N edge of the [illegible] to the S. [illegible] additions [illegible]

See next page for Capt. Koran's comments on the 19 ft obstruction (underlined in red)

Consider Extend lights 9 1.00

C-8347 C-832

up for printing Mar. 1964 - will take [illegible] next print

Chts 1236 1240

RETURN TO [illegible] — MAR 2 1964

1111 ✓ S.HE 9/11/64 CHART [illegible] FILES 11 March 2, 1964

Letter mailed – put appd on history – no consideration will again be given – [illegible] extending [illegible] next print – no time now – RHD

[illegible] shoals, reefs, rocks, and other dangers. Additional [illegible] of known dangers. Wrecks—stranded or sunken. [illegible] growth.

[illegible] FEATURES

[illegible] of coast.
Conspicuous landmarks or objects.
New construction or developments.
Changes in old structures.
Changes in terrain, vegetation, or wooded areas.
Peculiar natural features.
Deltas, reclaimed areas, rain catchments, salt pans.
Beaches and landing places.

CLIMATOLOGY

(As pertaining to ship navigation and port operations)
Local winds, particularly such as bora, northers, williwaws, [illegible].
[illegible] conditions.
Visibility (Morning fogs, sea smoke, haze, burning fires, etc.)
[illegible]
Temperatures.

[illegible]

Tides.
Tidal currents.
Ocean currents.
Sea and swell.
Breakers and surf.
Ice data.

PORTS AND HARBORS

Pilot station.
Port and weather signals.
Channel information (Dredged, controlling depth, etc.)
Anchorages (Holding ground, shelter.)
Restricted areas.
Regulations and formalities.
Directions for entering.
Berth information (Depths, dimensions, utility, and construction.)
Cargo-handling gear.
Supplies, repairs, and drydocks.
[illegible] and communication.
New harbor developments.
Local knowledge obtained from pilot or local port [illegible].
[illegible] plans, brochures, photos, views sketches, [illegible] ports.

[illegible]

[illegible] characteristics.
River currents.
[illegible] the water level.
[illegible]
Transit regulations and formalities.
[illegible]
Canal dimensions, depths, and lock data.
Bridges.
Local knowledge obtained.

NAVIGATIONAL AIDS

Radar operation (Good targets.)
Loran operation.
Shore-based radar control.
Buoys, beacons, lights, and light vessels.
Radio aids—aeronautical beacons.
Navigation hints.
Cautions and advice with respect to [illegible].

[illegible] AND COASTAL NAVIGATION

[illegible] and give reason.)
(Ocean routing; [illegible], recommend, and give reason.)

[illegible]

[illegible] magnetic [illegible].
Electrostatic disturbances.
[illegible]
[illegible]
[illegible] areas.
[illegible]
[illegible] lakes.
[illegible]
[illegible]
Salvage operations.
[illegible]
[illegible] cables.
[illegible] cable areas.
Danger areas.
[illegible] surveys.
[illegible] crossings.
Pipelines.

* Copy sent to Operations 2-28-64
(Pre-survey review item 7)
OPR-427 recommends W.D.)
JRS

THIS SPACE TO BE USED FOR RECORDING COLLECTED DATA

[illegible]

* Capt. Koran points out that the obstruction reported in 33° 29' N, 77° 40' W (CS 1110 and 1236) if actually existing, is a considerable danger since it is close to a normal track. He therefore suggests that the area be dragged and a buoy

C-8314 Have we notified operations on this? Send them a copy. SHK

L-254/64

(D) March 2 - 19[illegible]

planted if an obstruction is found. He adds that the pilots doubt the existence of the reported obstruction.

M W Chamberlin

Mar. 2, 1964
L-254 (1964)

replotted. A detailed explanation is contained in Report on Raydist Electronic Position Control, OPR-437.

All times are GMT.

P. RECOMMENDATIONS

It is recommended that this survey be considered adequate for charting purposes.

Q. REFERENCE TO REPORTS

A detailed explanation of velocity correctors and Raydist lane correctors is contained in the following reports:

1. Report on Corrections to Echo Soundings, OPR-437, Coast of North Carolina, 1973 Field Season, NOAA Ship PEIRCE

2. Report on Raydist Electronic Control, OPR-437, Coast of North Carolina, 1973 Field Season, NOAA Ship PEIRCE

Respectfully submitted,

Kenneth M. Holden

Kenneth M. Holden
Ensign, NOAA

APPROVAL SHEET

PE-20-5-73 H-9400

The field work on this survey was under my immediate daily supervision. The boat sheet and all records have been reviewed and approved by me.

Ralph J. Land
Cdr., NOAA
Commanding Officer
NOAA Ship PEIRCE

Tide Note, Project SCOPE, OPR-437, H-9323, H-9398, H-9399, H-9400

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 Cape Fear, North Carolina.

The tide gauges operating in the area are as follows:

1. Wilmington Beach, North Carolina
   lat. 34° 01!9, long. 77° 53!6

2. Frying Pan Shoals Light, North Carolina
   lat. 33° 29!1, long. 77° 35!4

3. Yaupon Fishing Pier, Yaupon Beach, North Carolina
   lat. 33.9°', long. 78.07°'

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.

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

Date : 8 November 1973 Reply to Attn. of:

To : Chief, Tides Section C331

From : Commanding Officer, NOAA Ship PEIRCE

Subject: Verified Hourly Heights of Tide,
Project SCOPE, OPR-437, PE 20-2-73, H-9323,
PE 20-3-73, H-9398, PE 20-4-73, H-9399,
PE 20-5-73, H-9400

Please provide verified hourly heights and value of MLW on the tide staff for the following gauges:

1.) Wilmington Beach, North Carolina
lat. 34° 01!9, long. 77° 53!6

2.) Frying Pan Shoals Light, North Carolina
lat. 33° 29!1, long. 77° 35!4

3.) Yaupon Fishing Pier, Yaopon Beach, North Carolina
lat. 33.9°, long. 78.07°

The survey operations began on 14 July 1973 and ended on 19 October 1973, inclusive. Actual times of hydrographic operations are enclosed.

Please forward the requested information directly to Atlantic Marine Center, ATTN: CAM22 and an informational copy to the ship.

Ralph D. Land
Cdr., NOAA

1/17/74

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
Frying Pan Shoals, Lt. House
Yaupon Beach

Period: 14 July - 19 Oct 1973

HYDROGRAPHIC SHEET: H-9323, H-9398, H-9399 and H-9400

OPR: 437

Locality: Coast of North Carolina

Plane of reference (mean ~~lower~~ low water):

Height of Mean High Water above Plane of Reference is

Remarks:

Station	Greenwich Intervals HWI	LWI (hrs)	Mean Range (ft)	MLW Datum (ft)
Wilmington Beach	12.30	6.11	4.2	3.4
Yaupon Beach	12.24	5.82	4.9	7.5
Frying Pan Shoal	12.25	5.97	3.8	7.5

Note: Add 0.3 ft. to hourly heights at Wilmington Beach for the month of August 1973.

The difference between intervals represents the approximate time difference between the occurrence of high water or low water at the tide station.

Zoning: Use automated zoning for the above Hydro Sheets.

C. L. Thurlow
Chief, Tides Division

Times of Hydrographic Operations, OPR-437, H-9323, H-9398, H-9399, H-9400, 1973

Date	Julian Day	From(GMT)	To(GMT)
14 Jul 73	195	1200	1820
24 Jul 73	205	1522	1746
25 Jul 73	206	1246	1905
26 Jul 73	207	1100	2345
27 Jul 73	208	1204	2140
28 Jul 73	209	1100	2040
29 Jul 73	210	1100	2310
30 Jul 73	211	1100	1945
31 Jul 73	212	1224	1935
06 Aug 73	218	1605	2010
07 Aug 73	219	1200	2030
08 Aug 73	220	1200	2030
09 Aug 73	221	1200	2030
10 Aug 73	222	1332	1905
12 Aug 73	224	1757	2400
13 Aug 73	225	0000	2400
14 Aug 73	226	0000	2400
15 Aug 73	227	0000	0810
07 Sep 73	250	1320	1926
08 Sep 73	251	1426	2400
09 Sep 73	252	0000	1836
11 Sep 73	254	1426	2400
12 Sep 73	255	0000	2400
13 Sep 73	256	0000	1656
18 Sep 73	261	1622	1919
20 Sep 73	263	1205	2215
21 Sep 73	264	1210	2015
22 Sep 73	265	1238	2020
23 Sep 73	266	1200	2000
24 Sep 73	267	1349	1440
01 Oct 73	274	1849	2400
02 Oct 73	275	0000	2400
03 Oct 73	276	0000	1856
04 Oct 73	277	1201	2020
05 Oct 73	278	1323	1428
10 Oct 73	283	0415	2400
11 Oct 73	284	0000	0323
15 Oct 73	288	2211	2400
16 Oct 73	289	0000	2400
17 Oct 73	290	0000	0332
18 Oct 73	291	1408	2400
19 Oct 73	292	0217	0908

```
142640 0 0112 0001 254 283000 009400
000000 0 0111 0001 255 283000 009400
021840 0 0110 0001 256 283000 009400
184900 0 0112 0001 274 283000 009400
000000 0 0112 0001 275 283000 009400
213330 0 0107
220800 0 0106
000300 0 0103 0001 276 283000 009400
015020 0 0111
025230 0 0103
041520 0 0113 0001 283 283000 009400
121000 0 0108
133800 0 0113
141200 0 0108
143840 0 0113
151430 0 0108
160150 0 0107
000200 0 0113 0001 284 283000 009400
021700 0 0111 0001 292 283000 009400
```

VELOCITY TABLE1OPR 437 H-9400

PE 20-5-73

```
000058 0 0002 0001 000 283000 940000
000092 0 0004
000128 0 0006
000165 0 0008
000200 0 0010
000242 0 0012
000274 0 0014
000312 0 0016
000348 0 0018
000382 0 0020
000420 0 0022
000458 0 0024
000490 0 0026
000530 0 0028
000568 0 0030
000598 0 0032
000638 0 0034
000675 0 0036
000712 0 0038
000746 0 0040
000780 0 0042
000818 0 0044
000860 0 0046
000890 0 0048
000928 0 0050
000964 0 0052
001000 0 0054
999999 0 0056
```

ELECTRONIC CORRECTOR TAPE
OPR 437 PE 20-5-73 H-9400 SHIP PEIRCE

142620 0 0000 2830 254 100009 100005
000000 0 0000 2830 255 100009 100005
000720 0 0000 2830 256 100009 100005
001700 0 0000 2830 256 100109 100005
010240 0 0000 2830 256 100209 100005
013900 0 0000 2830 256 100109 100005
090240 0 0000 2830 256 100009 100005
184900 0 0000 2830 274 000033 000036
000000 0 0000 2830 275 000033 000036
213330 0 0000 2830 275 100038 000039
000300 0 0000 2830 276 100038 000039
041520 0 0000 2830 283 000003 000076
000200 0 0000 2830 284 000003 000076
021700 0 0000 2830 292 100006 100003

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2830 SHEET : H-9400

TIME	DAY	PATTERN 1	PATTERN 2
142620	254	-00009	-00005
000000	255	-00009	-00005
000720	256	-00009	-00005
001700		-00109	-00005
010240		-00209	-00005
013900		-00109	-00005
090240		-00009	-00005
184900	274	+00033	+00036
000000	275	+00033	+00036
213330		-00038	+00039
000300	276	-00038	+00039
041520	283	+00003	+00076
000200	284	+00003	+00076
021700	292	-00006	-00003

ASCII SIGNAL TAPE PRINTOUT
OPR-437-PE-73, COAST OF NORTH CAROLINA, NOAA SHIP PEIRCE
H-9323, H-9398, H-9399, H-9400

101	33°50'2641"N	077°57'4644"W	CAPE FEAR 1962
102	33 50 4725	077 57 5825	CAPE FEAR LIGHTHOUSE 1905
103	33 52 4637	077 57 2611	BUZZARD 1962
104	33 57 3662	077 56 2984	FEDERAL POINT
105	33 58 1516	077 55 0193	FORT FISHER UNUSED STEEL TOWER 1962
106	33 58 4861	077 55 0317	FORT FISHER USAF WEST RADAR TOWER 1962
107	33 58 4903	077 54 5923	FORT FISHER USAF EAST RADAR TOWER 1962
108	33 39 5608	077 54 2604	KURE BEACH WATER TANK 1962
109	34 02 0392	077 53 4786	CAROLINA BEACH MUNI WATER TANK 1962
110	33 51 4614	078 00 3345	BALD HEAD 1962
111	33 52 2406	078 00 0234	BALD HEAD LIGHTHOUSE 1851
112	33 53 3338	078 00 5564	FORT CASWELL 1962
113	33 53 3354	078 02 0677	OAK ISLAND LIGHTHOUSE 1962
114	33 53 3573	078 01 0989	FORT CASWELL, STEEL WATER TANK
115	33 55 1666	078 01 1292	SOUTHPORT MUNICIPAL WATER TANK 1962
116	33 57 2356	078 00 3400	* STACK, ATOMIC PLANT
117	33 54 3353	078 04 4734	* YAUPON BEACH MUNICIPAL WATER TANK 1973
301	33 51 3511	078 00 2889	* B01
302	33 51 2870	078 00 1839	* B02
303	33 51 2220	078 00 0221	* B03
304	33 51 1700	077 59 4931	* B04
305	33 51 1259	077 59 3287	* B05
306	33 51 0736	077 59 1769	* B06
307	33 51 0273	077 59 0148	* B07
308	33 50 5664	077 58 4530	* B08
309	33 50 4910	077 58 2995	* B09
310	33 50 4435	077 58 1837	* B10
311	33 50 3421	077 58 0179	* B11
312	33 50 2844	077 57 4407	* 312
313	33 50 3810	077 57 4230	* B12
314	33 50 5268	077 57 4093	* 314
315	33 51 0992	077 57 4015	* 315
316	33 51 2323	077 57 3913	* MARK 316
317	33 51 3605	077 57 3657	* 317
318	33 51 4887	077 57 3464	* SIG 318
319	33 52 0092	077 57 3307	* 319
320	33 52 1500	077 57 3092	* 320
321	33 52 3328	077 57 2812	* 321
324	33 52 5663	077 57 2272	* OL 4 324
325	33 53 0654	077 57 1944	* RAT 325
326	33 53 1942	077 57 1689	* OL 3 326
328	33 53 3041	077 57 1472	* VUB 328
330	33 53 4113	077 57 1327	* PRI 330
332	33 53 5611	077 57 0851	* POL 332
334	33 54 1105	077 57 0134	* OL 2 334
336	33 54 2619	077 56 5407	* DUN 336
338	33 54 4284	077 56 4852	* OL 1 338
340	33 54 5502	077 56 4447	* RED 340
342	33 55 0980	077 56 4625	* ACE 342
344	33 55 2365	077 56 4110	* BAT 344
346	33 55 3747	077 56 3616	* COW 346

*Stations established by Photogrammetric Party 62, National Ocean Survey, 1973

ORM C&GS-733M
6-66)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
OAA Ship PEIRCE	OPR-437	1973	PE-20-5-73 H-9400		

ERIAL NO.	DATE	SAMPLE POSITION LATITUDE	SAMPLE POSITION LONGITUDE	DEPTH (Fathoms) Feet	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
680	10 Oct.	33°27.8'	77°34.7	55					crs br S, brk Sh, Wd		RF
681	10 Oct.	29.3	34.7	55					crs br S, brk Sh		RF
682	10 Oct.	30.7	33.6	52					crs br S, brk Sh		RF
683	10 Oct.	32.1	33.3	55					crs br S, brk Sh		RF
704	10 Oct.	26.6	35.3	72					crs br S, brk Sh		RF
705	10 Oct.	26.3	33.7	64					br S		RF
706	10 Oct.	25.2	35.5	76					crs br S		RF
707	10 Oct.	26.5	36.8	70.5					br S		RF
708	10 Oct.	27.9	36.1	61.5					br S		RF
709	10 Oct.	29.3	36.3	53.5					crs br S		RF
710	10 Oct.	29.3	38.0	63					br S		RF
711	10 Oct.	27.9	37.8	67					br S, brk Sh		RF
712	10 Oct.	27.9	39.5	74					br S		RF
713	10 Oct.	29.3	39.5	62					gy S, brk Sh		JB
714	11 Oct.	29.2	41.2	66					fne gy S		JB
718	11 Oct.	33°30.6	77°43.5	63					gy S		JB

se more than one line per sample if necessary.

USCOMM-DC 37019-P66

ORM C&GS-733M
6-66)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

SSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
OAA Ship PEIRCE	OPR-437	1973	PE-20-5-73 H-9400		

ERIAL NO.	DATE	SAMPLE POSITION LATITUDE	SAMPLE POSITION LONGITUDE	DEPTH (Fathoms) feet	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
1725	11 Oct.	33° 31.1'	77° 44.5'	64					gy S		JB
1726	11 Oct.	30.7	41.8	60					gy S		JB
1727	11 Oct.	30.7	40.1	58.5					gy S, brk Sh		JB
1728	11 Oct.	30.6	38.5	52					gy S		JB
1729	11 Oct.	30.6	36.9	37					Wd, gy S		JB
1730	11 Oct.	33° 30.7	77°35.2	47					br S, brk Sh		JB

Use more than one line per sample if necessary.

USCOMM-DC 37019-P68

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H- 9400

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: August 28,1974

Signed: William L. Jonns

William L. Jonns
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: August 28,1974

Signed: C Dale North

C.Dale North,Jr. LCDR.,NOAA
Title: Chief, Processing Division

VERIFICATION NOTE
SURVEY H-9400

GENERAL

This appears to be an excellent basic survey. The few minor problems experienced during verification are listed in the enclosed "Plotter Notes".

Discriptive Report Par.O,Miscellaneous

Instructions SP-AMC-RH-74 instructed the wire drag vessels Rude-Heck to investigate these two items.It is believed that both of these items were disproved.

William L Johns

William L.Johns
Chief,Verification Branch,AMC.

Norfolk,Va.
August 28,1974

ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-437 2. Reg. # H-9400 3. Field # PE-20-5-73

4. Type of Control: Raydist (Hi-Fix, Raydist, EPI, etc.)

5. Frequency 3294.400' / 3294.520 (for conversion of electronic lanes to meters)

6. Mode of Operation (check one):

Range-Range [x] Range-Visual [ ]

Range One (R_1) Station I.D.	PAT 1973	Lat.	33°	53'	57.478"
		Long.	78°	23'	11.792"
Range Two (R_2) Station I.D.	REGISTER 11, 1973	Lat.	34°	15'	42.760"
		Long.	77°	46'	27.623"

Hyperbolic (3-station) [ ] Hyper-Visual [ ]

Slave One Station I.D.		Lat.	°	'	"
		Long.	°	'	"
Master Station I.D.		Lat.	°	'	"
		Long.	°	'	"
Slave Two Station I.D.		Lat.	°	'	"
		Long.	°	'	"

7. Location of Survey:

Range-Range [x] Imagine an observer is standing at R_1 Station and looking directly at R_2 (check one):

Survey area is to observer's Right [ ] A=Ø

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. [x] This form is submitted as an aid in preparing a boat sheet.

[x] 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:

CAM3-1
2-18-71

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

1. Project No. OPR 437
2. Reg. No. H 9400
3. Field No. PE-20-5-73
4. Requested By AMC
5. Ship or Office Verification
6. Date Required 22 May 74

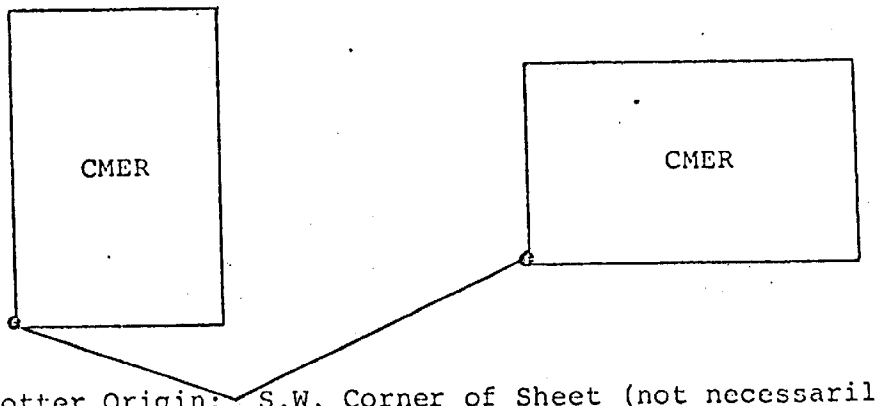
7. Polyconic [x] Modified Transverse Mercator [ ]
8. Central Meridian of Projection 77 ° 36 ' 30 "
9. Survey Scale: 1: 20,000
10. Size of Sheet (check one):

36 x 54 [ ] 36 x 60 [ ] Other [x] Specify 36 x 48

11. Sheet Orientation (check one):

NYX = 1 [ ] NYX = Ø [x]

N



N

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

Latitude 33 ° 24 ' 00 "

Longitude 77 ° 46 ' 15 "

13. G.P.'s of triangulation and/or signals attached [ ]
14. Material Desired: Tracing Paper [ ] Mylar [x]

Smooth Sheet [ ] Other [ ] Specify _____

15. Remarks: _____

ATLANTIC MARINE CENTER
VERIFICATION OF SMOOTH TIDES

SURVEY H-9400

PLANE OF REFERENCE: MLW OR MLLW
TIME MERIDIAN: 000
HEIGHT DATUM ON STAFFS: 1. 3.4 2. 7.5 3. 7.5 4. _____

TIDE STATIONS	POSITION	TYPE GAGE	TIME CORR. H.W.	TIME CORR. L.W.	HEIGHT CORR.* H.W.	HEIGHT CORR.* L.W.
1. Yaupon Beach, N.C.	φ 33°54.0' λ078°07.0'	bubbler	12.24	5.82		
2. Wilmington Beach	φ 34°01.9' λ 77°53.6'	bubbler	12.30	6.11		
3. Frying Pan Shoals	φ 33°29.1' λ07735.4'		12.25	5.97		
4.	φ λ					

HOURLY HEIGHTS: [x] FROM ROCKVILLE OFFICE
[ ] FROM FIELD MARIGRAMS VERIFIED BY: Rockville

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

LIMITS AND DESCRIPTION OF ZONING METHODS:

Tides were applied to survey H-9400 by an automatic multiple gage, non-discrete-zoning method called GRGAG.

TIDE CORRECTIONS COMPILED: [x] BY COMPUTER VERIFIED BY: RGC
[ ] MANUALLY VERIFIED BY: _____

HEIGHT OF MHW ABOVE PLANE OF REFERENCE: _____

TIDE CORRECTIONS VERIFIED ON SOUNDING PRINTOUT BY: RGC

DATE OF VERIFICATION: 20 March 1973

*OR RATIO

EXAMINED AND APPROVED

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9406

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ATLANTIC OCEAN										1
FRYING PAN SHOALS										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
					Approved					19
					Chas. E. Harrington					20
					Staff Geographer					21
					10 Feb 1975					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

NOAA FORM 77-27
(9-72)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94.7-13)

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

June 15, 1955

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9400

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1	BOAT SHEETS	2
DESCRIPTIVE REPORT	1	OVERLAYS	4

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
Expanding ENVELOPES	XX					
CAHIERS	1					
VOLUMES	1					
BOXES			2 & Misc. Data			

T-SHEET PRINTS *(List)*: NA

SPECIAL REPORTS *(List)*: None

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				1824
POSITIONS CHECKED		185		
POSITIONS REVISED		27		
DEPTH SOUNDINGS REVISED		200		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		2		
JUNCTIONS		2		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		10		
SPECIAL ADJUSTMENTS		--		
ALL OTHER WORK		58		
TOTALS		72		

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY: D.C. Calland, R.G. Cram	3/6/74	5/24/74
VERIFICATION BY: Billy J. Stephenson	8/19/74	8/20/74
REVIEW BY:	BEGINNING DATE	ENDING DATE

Verifier; Dorothy Calland March 7,1974

VERIFICATION BRANCH
PLOTTER NOTE TO EDP (AMC)
SURVEY H-9400 (PE-20-5-73) OPR 437

This branch has completed the verification of the preliminary position printout and overlay. There are 27 pattern changes to be made and 58 position numbers to be excessed by the negative plot program.

Cards havebeen keypunched for all changes and accompany this note.

After these corrections have been applied, please furnish this branch with a preliminary sounding printout.

W. L. Jonns,
Chief, Verification

Verifier: R. Cram 20 March 1974

VERIFICATION NOTE TO EDP (AMC)

Survey H-9400 (PE-20-5-74) OPR-436

This branch has completed the verification of the sounding corrector printout and the needed change is shown in red pencil. It invoves position number 1782 the pattern corrector was wrong. The GP column has 0's which makes the tide wrong for that time.

William L. Jonns
William L Jonns
Chief, Verification Branch

Verifier: R. Cram 22 May 1974

VERIFICATION NOTE TO EDP (AMC)

Survey H-9400 (PE-20-5-73) OPR-436

This office has completed the verification of the preliminary sounding overlay. All needed changes are shown in red pencil on the preliminary sounding printout. There are about 200 changes; 100 in depth and 100 changes in excess. One position was added to the survey for the hydro location of Frying Pan Shoals Light.

Cards were key-punched for all changes and accompany this note.

The distortion point is to be plotted at Lat. 33/24/30 Long. 077/45/30.

Please furnish this office with a smooth sheet plotted on .0075 arkwrite film with sounding plotted normal.

Please change the sheet size to 36X48, the point of origin will remain the same.

William L. Jonns
William L. Jonns
Chief, Verification Branch

NOAA FORM 76-97
(2-72)
(PRES. BY HYDROGRAPHIC MANUAL, 6-94)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.

VERIFIER'S REPORT

HYDROGRAPHIC SURVEY, H9400

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

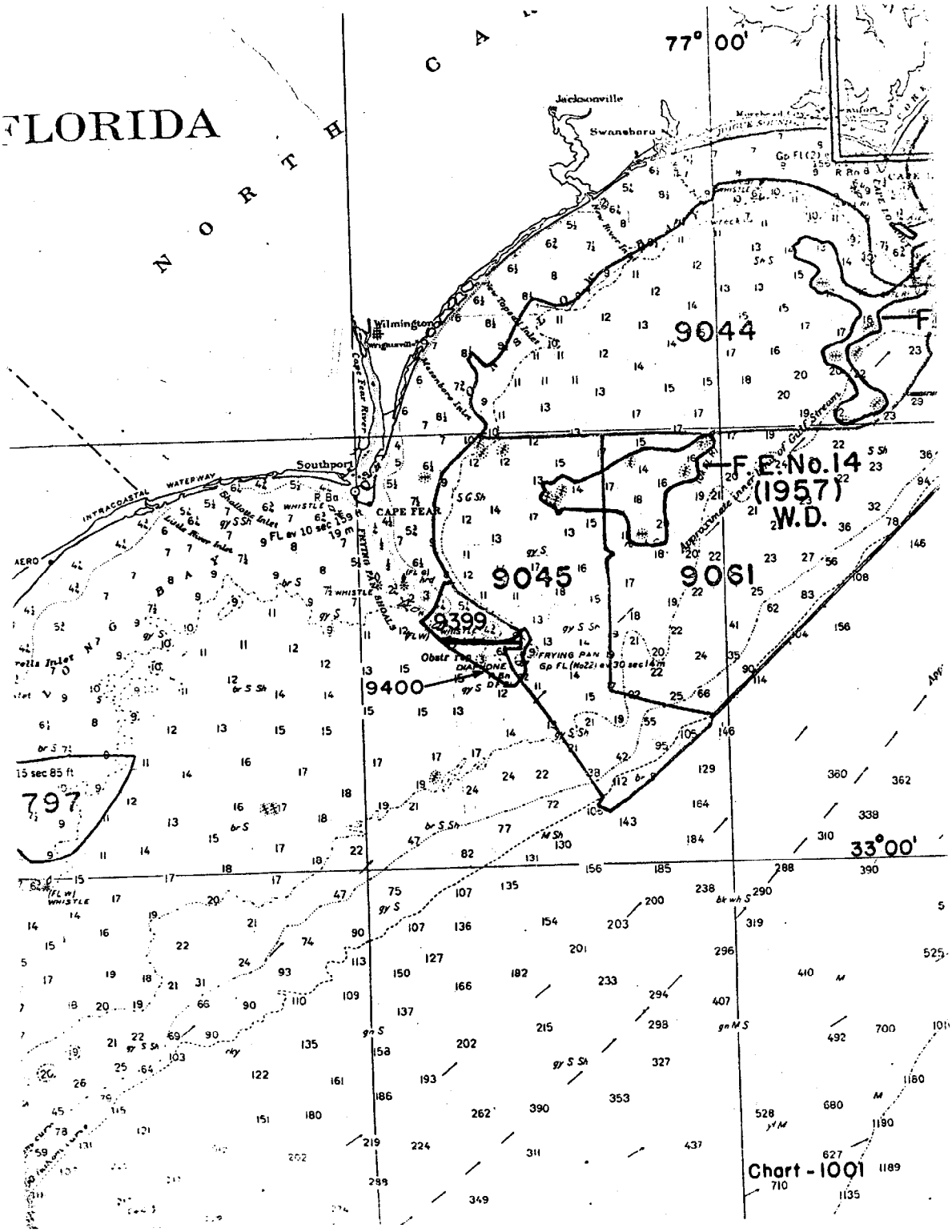
Part I - DESCRIPTIVE REPORT	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems.		
1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None	X	
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black encil, including latitude and longitude, ogether with position identification. Remarks Required: --None	X	
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None	X	
Part II - SHORELINE AND SIGNALS		
4. Source of shoreline signals Remarks Required: -- List all surveys	NA	
a. Give earliest and latest dates of photographs		
b. Field inspection date		
c. Field Edit date		
d. Reviewed-Unreviewed		
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.	X	
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None	NA	
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.	NA	
Part III - JUNCTIONS		
Note: Make a cursory comparison preliminary to inking soundings in area of overlap.	X	
8. All junctions of contemporary or overlapping sheets were compared and overlapping curves were made identical. Remarks Required: -- None		
9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None	X	

Part III - JUNCTIONS (Continued)	CL	R
10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of **Butt** junctions and areas which are **SUPERSEDED.**	X	
Part IV - VOLUMES		
11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None	NA	
12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:	X	
(a) rocks		
(b) line turns		
(c) position values of beginning and ending of lines		
(d) bar check or velocity correctors		
(e) time recording		
(f) notes or markings on fathograms		
(g) was reduction of soundings accurately done?		
(h) was scanning accurate?		
(i) were peaks at uneven intervals missed?		
(j) were stamps completed?		
(k) references to adjacent features		
Part V - MACHINE PLOTTING		
13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None	NA	
14. The plotting of all unsatisfactory crossings was verified. Remarks Required: -- None	NA	
15. All detached positions locating **critical** soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None	X	

Part V - PROTRACTING (Continued)	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	NA	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	NA	
Part VI - SOUNDINGS		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	X	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	X	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	X	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	X	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	X	
Part VII - CURVES		
23. The depth curves have been inspected **before** inking. Remarks Required: -- By whom was the penciled curves inspected. GFT	X	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area **not sounded** in black dashed Remarks Required: -- None	NA	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	X	

Part VIII - AIDS TO NAVIGATION	CL	R
26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	X	
27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	NA	
Part IX - BOATSHEET		
28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	X	
29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	NA	
Part X - GENERAL		
30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	X	
31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	X	
32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	X	
33. The bottom characteristics are adequately shown. Remarks Required: -- None	X	
Part XI - NOTES TO THE REVIEWER 34. Unresolved discrepancies and questionable soundings.	X	
35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	X	
36. Supplemental information.	X	

Verified by	Date
Billy J. Stephenson	8/20/74


FLORIDA
NORTH CA
77° 00'
Jacksonville
Swansboro
Wilmington
Southport
CAPE FEAR
INTRACOASTAL WATERWAY
9044
9045
9061
9399
9400
797
F.E. No. 14
(1957)
W.D.
33°00'
Chart - 1001

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9400

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
1236	1/21/75	[illegible]	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
	3/24/75	D R Conlon	Drawing No. ~~—~~ Crit corrs.
1110	3/24/75	D R Conlon	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Crit corrs.
1001	3/24/75	D R Conlon	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. Crit corrs.
1007			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Adequate.
11536	2 May 79	Alex. Pavlichevich	~~Full~~ Part ~~Before~~ After Verification Review ~~Inspection Signed~~ Via
			Drawing No.
			Adequate
11520	10/12/82	Mark Fraser	~~Full Part~~ Before After Verification Review ~~Inspection Signed Via~~
			Drawing No.
			Adequate
11009	10/13/82	B Fernandez	~~Full Part~~ Before After Verification Review Inspection Signed Via
			Drawing No.
			Adequate.
4VI	9/21/90	D. Flack	~~Full Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. 62 Ex Approval THRU 11009.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975

USCOMM-DC 8558-P63