9502

Diag. Cht. 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. ..... AHP -10-3-75

Office No. H-9502

LOCALITY

State ..... North Carolina

General Locality ..... Cape Fear River

Locality ..... Mallory Creek to Snows Cut

1975

CHIEF OF PARTY
F. T. Smith

LIBRARY & ARCHIVES

DATE 4/28/77

9502

Area 3

Chts
426 - 11537
8355C Applied 10/24/77 TUA
(11534)

☆ U.S. GOV. PRINTING OFFICE: 1975—668-353

INDEX

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-9502

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

FIELD NO.

AHP-10-3-75

State North Carolina

General locality ~~Wilmington~~ CAPE FEAR RIVER
MALLORY CREEK TO SNOWS CUT

Locality ~~Cape Fear River, Wilmington to Intracoastal Waterway~~

Scale 1:10,000 Date of survey 7 Feb. - ~~March~~ 75 (038) 16 Apr 75 (105)

Instructions dated 10 July 1974 Project No. OPR-437-AHP-74

Vessel AHP-Launch 1260

Chief of party Lt. Cdr. F. T. Smith

Surveyed by Lt.(jg) W. E. George, L. Gilden, R. Snow, W. Sprye, S. Weisner

Soundings taken by echo sounder, ~~hand lead~~, pole ~~R. Snow, S. Weisner, W. Sprye~~

Graphic record scaled by R. Snow, S. Weisner

Graphic record checked by W. E. George, L. Gilden, R. Snow Verification AMC

Protracted by W. E. George, L. Gilden CALCOMP 618 AMC Automated plot by AMC CALCOMP 618 AMC

Verification by L. G. Gran

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ ~~reduced by predicted tides~~

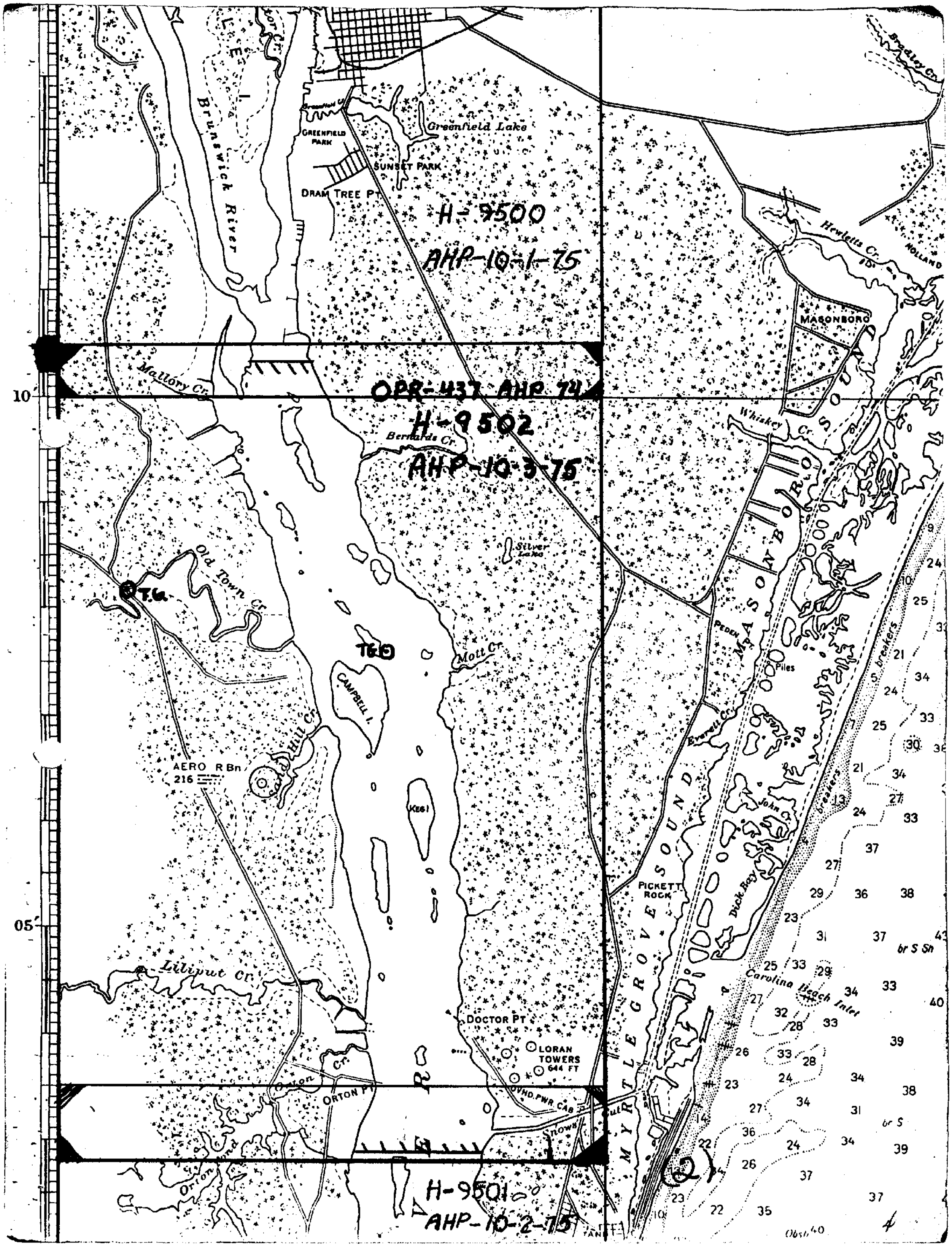
REMARKS: All times are in GMT.

Misc. items were removed from the D.R and are filed in the cahier.

Applied to stds 9/8/77
CAB

(1)

☆ U.S. G.P.O. 1972-769-565/519 REG. NO. 6


H-9500
AHP-10-1-75
OPR-437 AHP 74
H-9502
AHP-10-3-75
H-9501
AHP-10-2-75
Brunswick River
Greenfield Lake
GREENFIELD PARK
SUNSET PARK
DRAM TREE PT
Mallory Cr.
Bernards Cr.
Old Town Cr.
T.G.
TG
CAMPBELL I.
Mott Cr.
Silver Lake
AERO R Bn
216
Lilliput Cr.
Orton Cr.
ORTON PT
DOCTOR PT
LORAN TOWERS
644 FT
OVHD. PWR CAB
Snows Cut
Hewletts Cr.
Bradley Cr.
HOLLAND
MASONBORO
Whiskey Cr.
MASONBORO SOUND
PEDEN PT.
Everett Cr.
Piles
MYRTLE GROVE SOUND
PICKETT ROCK
Dick Bay
John
breakers
Carolina Beach Inlet
br S Sh
br S
10
05

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9502 (AHP-10-3-75)

SCALE: 1:10,000 1975
VESSEL: ATLANTIC HYDROGRAPHIC PARTY CHIEF OF PARTY JOHN O. ROLLAND

A. Project

The project number for this survey is OPR-437-AHP-74. The date of the original instructions is 10 July 1974. No supplemental instructions were issued.

B. Area Surveyed

The area covered by this survey is part of the Cape Fear River from Latitude 34° 10.5', south to Latitude 34° 03.0'.

The general locality of the area is 3 miles south of Wilmington, N.C. The survey was started on 7 February 1975 and completed on 15 April 1975.

C. Sounding Vessel

The following survey vessels were used to obtain soundings:

Vessel	Color to Identify Work
Launch 1260 (28' Monark, Tunnel drive)	Blue
Skiff 570 (16' Fiberglass Outboard)	Red

D. Sounding Equipment and Corrections to Echo Soundings

Raytheon Fathometer No. 535, DE 723, was used on Launch 1260 for all depths greater than three feet.

A sounding pole was used on Skiff 570 to obtain some soundings. All other soundings were obtained on Raytheon Fathometer No. 1888, DE 723.

The general depth range of this survey was from 2 to 48 feet.

Echo sounder corrections were determined from daily bar checks; no trouble was encountered with the sounding equipment.

The bar check gear and the sounding poles were measured before and after the completion of this survey with a steel tape measure. No change in length was observed in any of the equipment.

All fathograms were checked by the hydrographer and found to be adequate.

All fathograms were check scanned by trained personnel for peaks, deeps, strays, and initial error on the trace.

Digital phase checks were also performed as frequently as possible. Frequent F-scale checks were made routinely as the hydrography progressed.

An abstract of bar checks, corrections to depth curves, and velocity tables will accompany this report.

Settlement and squat corrections for both Launch 1260 and Skiff 570 were determined 31 May 1973. These values are assumed to be unchanged because no modifications or changes in weight distribution have been made to either vessel since these tests were run.

E. Hydrographic Sheet

The smooth sheet will be prepared by Atlantic Marine Center's, Processing Division from punched tapes logged by party personnel.

The boatsheet projection was ruled by AMC computer-plotter.

F. Control Stations

Horizontal control stations were located by Photo Party 61. Methods used to locate these stations will be discussed in the Horizontal Control Report to be submitted by Party 61.

Copies of geodetic abstracts and computations are included with the field records of this survey. Inverse distances computed by Party 61 for calibration of Del Norte equipment are included in this report.

1 340949.970 0775654.690 L(USE) 1917-1933 Quad 340773 Sta 1147

G. Hydrographic Position Control

All electronic control was provided by Del Norte distance measuring equipment. Two methods of control ~~were~~ was utilized on this survey:

Range-Azimuth (Del Norte distance - T2 cut) "See-~~Boat~~-Sheet"

when "See-~~Boat~~-Sheet" method was used to position the boat, visual fixes were scaled from the boatsheet to facilitate electronic data processing.

The calibration of electronic control is discussed in a special report as specified by the Project Instructions. A copy of this Electronic Control Report accompanies this Descriptive Report.

H. Shoreline

Shoreline details for this survey were obtained from the following shoreline manuscripts:

TP-00674
TP-00675
TP-00672
TP-00673
TP-00676
TP-00677 & TP-00677 ENLARGEMENT

All field edit was done by Photo Party 61. The high and low waterline were not defined or verified by hydrography in some areas due to foul shoreline and marshy banks. Field edit sheets should be obtained before inking shoreline on the Smooth Sheet. Some minor corrections and changes were not transferred to the boatsheet.

A new small boat basin at Carolina Beach State Park, Lat. 34° 03', Long. 77° 55' 10", is shown on the boatsheet as an inset. This is an approximate engineering drawing as it appears on the boatsheet. Exact location of shoreline detail in this basin is shown on a plane table survey by Photo Party 61. The plane table survey does not accompany the hydrographic survey.

I. Crosslines

Crosslines were run in excess of 10% of the regular system of hydrography. The crosslines were found to be in good agreement with the regular system of hydrography. Any differences between the echo soundings and pole soundings should be resolved when settlement and squat, actual tides, and velocity corrections are applied to echo soundings.

J. Junctions

This survey junctions on the north with contemporary survey H-9500, scale 1:10,000 dated 1975; and on the south with contemporary survey H-9501, scale 1:10,000 dated 1975 accomplished by Launch 1277. Soundings of these junctions are in good agreement and no adjustments to depth contours or soundings are necessary.

K. Comparisons with Prior Survey

The following are the pre survey review items which fall within the limits of this survey:

PSD #12

Described as: The obstruction reported, PA, charted in Lat. 34° 07'.76, Long. 77° 55.52'. The obstruction lies near the edge of a spoil area. Source is U.S. power squadron. outside limits of sht 835 SC. TWA

Instruction: The present existence of this obstruction should be vefified or disproved, and if found, its position and least depth determined.

Results of Investigation: From the position as drawn on the PSR sheet, the Latitude listed above should be changed to Lat. 34° 04.76'. The longitude is correct. Concur. concurred TWA

The item is the ruins of an old concrete light. The position of the item is Lat. 34° 04.77, Long. 77° 55.61. This item should be ~~retained on the chart~~ as shown on the present survey. No need Add (ruins) to platform.

PSR #13 concur with TP-00675 coverage in vicinity cht 8355C. TWA & 426

Described as: The ruins, PA charted in Latitude 34° 07.30', Long. 77° 57.0'. Earlier surveys of the area show a jetty in the area of these ruins.

Instructions: The ruins should be located on the present survey and their condition ascertained.

Results of Investigation: Vefified. The wooden jetties cover 1ft. at MHW. For the location of these jetties, see the hydrographic survey sheet 1 (Ref:L Pos # 1218 and 1225 on Julian Day 072 for detached positions on the jetties.) The jetties should ~~remain as charted~~ be charted as shown on the present survey. out side limits of cht 8355C TWA

PSR #14

Described as: The pile, PA charted in Lat. 34° 07.87', Long. 77° 57.08'. The pile reportedly uncovered 4 feet at the time of observation.

Instructions: This pile should be verified or disproved, and if found, its condition ascertained and position determined.

Results of Investigation: As hydrography progressed past this area, no piling as described was found. In addition, no pile PA was on the chart in the position given. Comparison was made with Chart 426 (13th Ed Apr. 20/74). After a brief examination, the Latitude agreed as displayed on the PSI sheet but not the longitude.

A more specifieclocation is necessary to give an adequate answer to this pre survey review item. The "specific location" is designated as circled item #14 on the PSR (chart 426). The charted position was not investigated. The pile, PA should be retained on the chart. outside limits of cht 8355C. TWA

PSR #15 NC 426

Described as: The obstruction reported, PA charted in Lat. 34° 08.07', Long. 77° 56.65'.

Instructions: The present existence of this obstruction should be verified or disproved, and if the obstruction is found, its position and least depth should be determined.

Results of Investigation: The obstruction was located and identified as the remains of an old aid to navigation. The structure was wooden and bares 43 ft. at MLW. The new position of this obstruction is:

Lat. 34° 08.04'
Long. 77° 56.67'

Chgd to Ruins [] on 426 JLL

This item should be ~~retained on the chart.~~ charted as shown on the present survey.
Outside limits of cht 835 S.C. TWA

PSR #26

Described as: The submerged jetties charted at several locations in the area north of Campbell Island originate from 1945 photography.

Instructions: The areas should be carefully investigated to locate these jetties and determine their present condition.

See Q.C. Report - item

Results of Investigation: All of the jetties in question were located by Photo Party 61 and verified by the hydrographic party. These jetties are composed of wooden pilings which cover at high water by one foot. The hydrographic party was able to navigate between the pilings which make up the jetties and prove they are not solid. It is therefore recommended that these jetties be charted as a row of pilings which cover at high water. The exact locations of these jetties were placed on the boatsheet from the Field Edit Sheets provided by Photo Party 61. Outside limits of cht 835 S.C. TWA

Dashed - Circled, Unnumbered Items

Described as: Submerged pilings Lat. 34° 03.4', Long. 77° 56.45'

Instructions: Investigation should be adequate to prove or disprove their existence.

Results of Investigation: An adequate investigation was made as hydrography progressed. An inspection was made at low water. No submerged piles were located.

Delete these piles from the chart. ~~Disagree. The piles are not considered disproved by the present survey and should be retained on the chart.~~ piles not found at positions indicated TWA cht 835 S.C.

No prior surveys were provided for this project; no comparison with prior surveys were made.

Deleted (4) Subm piles 426 JLL

L. Comparison with the Chart

A comparison of this survey was made with Chart 426, 13th Ed. April 20, 1974.

The results of this comparison are as follows:

(1) Dols located on the Intracoastal Waterway in Lat. 34° 03' 10", Long. 77° 54' 36" do not exist.

The charted Dols should be ~~deleted from~~ retained on the chart. (The charted dols are not verified or disproved by the present survey.) retained dols on cht 835 sc. & 426 TWA

(2) A new small boat basin has recently been constructed at Lat. 34° 03', Long. 77° 55'. A small craft facilities report will accompany this report. The shoreline changes have been supplied for the boat sheet by Photo Party 61. This new facility should be added to the chart as soon as possible. Facility in full agreement with survey cht 835 SC TWA & 426

(3) Rabbit Island in Lat. 34° 07' 42", Long. 77° 56' 23", has been homesteaded by Mr. Ingraham and his wife. They have built a permanent frame wooden house, which is painted international orange on the side facing the river. Since the location of the house is not charted, confusion could occur due to lights visible across the water from the house at night. Added

A special note should be placed on the chart stating that people do inhabit this island, and lights could be visible across the water at night. The house is due west of aid to navigation No. 43A. outside limits of cht 835 SC. TWA

M. Adequacy of Survey

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

N. Aids to Navigation

All charted aids to navigation on this survey were checked and found to serve the purpose for which they were established except as specified below:

(1) Day Beacon #45, (Lat. 34° 08.17, Long. 77° 56.58), is 100 meters west of where it should be to adequately serve its purpose. outside limits of 835 sc TWA

(2) An additional day beacon or buoy should be established at Lat. 34° 03.53' Long. 77° 55.68'. This aid is needed to define the present channel. At this present time, if a navigator followed from red beacon to red beacon, he would run out of the channel and over a 3 ft. shoal.

No soon TWA

Construction of overhead power lines is in progress at Lat. 34° 09'.0. These suspended power lines are to cross the Cape Fear River. At this date, the concrete platforms for the towers are under construction. A special effort should be made to obtain minimum clearance under the wires at MHW.

The location of the concrete platforms are shown on the boatsheet as follows:

Lat. 34° 08.98'
Long. 77° 56.95'

Lat. 34° 08.83'
Long. 77° 57.33'

NC; TRS CURRENTLY ACHT'D

This information should be placed on the chart.

O. Statistics

Launch 1260	Total
N.M. of Sounding Lines	192.5
Number of Positions	1917
Skiff 570	
N.M. of Sounding Lines	3.8
Number of Positions	187
Total lineal N.M. of Sounding Lines	196.3
Total Tide Gauges	1
Total Bottom Samples	24
Total Square N.M. surveyed	8.5

P. Miscellaneous

It is the hydrographer's firm belief that Mr. Ingraham, mentioned as a homesteader of Rabbit Island in section "L" of this report, could be a valuable collector of tidal, current, and weather data.

He has as his resources a permanent home in a remote area, as well as a variety of small craft. He also appears to have a strong interest in this type of work.

Contact can be made with Mr. Ingraham by visiting him by boat or leaving a message for him at Stackhouse Marina, which is located just south of Wilmington.

Q. Recommendations

A recommendation was submitted to the hydrographer by the Captain of an Army Corps of Engineers survey boat which operates on the Cape Fear River.

He suggests, as do other boatmen of the area, that a red buoy or lighted mark be placed at the following position:

Lat. 34° 01' 27"
Long. 77° 56' 23"

This would be approximately 1/6 NM northeast of buoy "29".

The need of this new mark would be to aid in entering or exiting Upper Midnight Channel when proceeding from or to the Intracoastal Waterway.

R. Automated Data Processing

This survey was logged manually utilizing a new logger format devised by AMC Processing Division. This format enables the hydrographer to change methods of control without the necessity of separating tapes according to control types or having to prepare numerous Electronic Parameters whenever control stations changed.

S. Reference to Reports

The following reports or records are necessary for a complete report:

Report on Electronic Control by AHP,Launch 1260.

Report on Horizontal Control by Photo Party 61.

APPENDIX

8/..., 16

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Wilmington, N.C.

Period: February 7 - March 4, 1975

HYDROGRAPHIC SHEET: H-9502

OPR: 437

Locality: Cape Fear River

Plane of reference (mean lower low water): 2.37 ft.

Height of Mean High Water above Plane of Reference:
4.3 ft.

Remarks: Recommended zoning:

Time Corrections		Range Ratio
HW	LW	
- 20 min.	-40 min.	x1.02

Note: Tide gage at Rabbit Island was not installed until March 10, 1975.

James D. Hubbard
for Chief, Tides Branch

(12)

14

August 13, 1975

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): Rabbit Island, Town Creek

Period: ~~February 7~~ March 11-April 15, 1975

HYDROGRAPHIC SHEET: H-9502

OPR: 437

Locality: Cape Fear River

Plane of reference (mean ~~lower~~ low water): 2.6 ft.- Rabbit Island
2.1 ft.- Town Creek

Height of Mean High Water above Plane of Reference is 4.3 ft.

Remarks: Recommended zoning:
(1) In the Cape Fear River zone direct on Rabbit Island
(2) In Town Creek east of 77°58.4' use Town Creek applying -15 min. time correction and range ratio x1.15.
(3) In Town Creek west of 77°58.4' zone direct on Town Creek.

James R Hubbard
for Chief, Tides Branch

(12a)

15

LOWER

ABSTRACTS OF DAILY BAR CHECKS

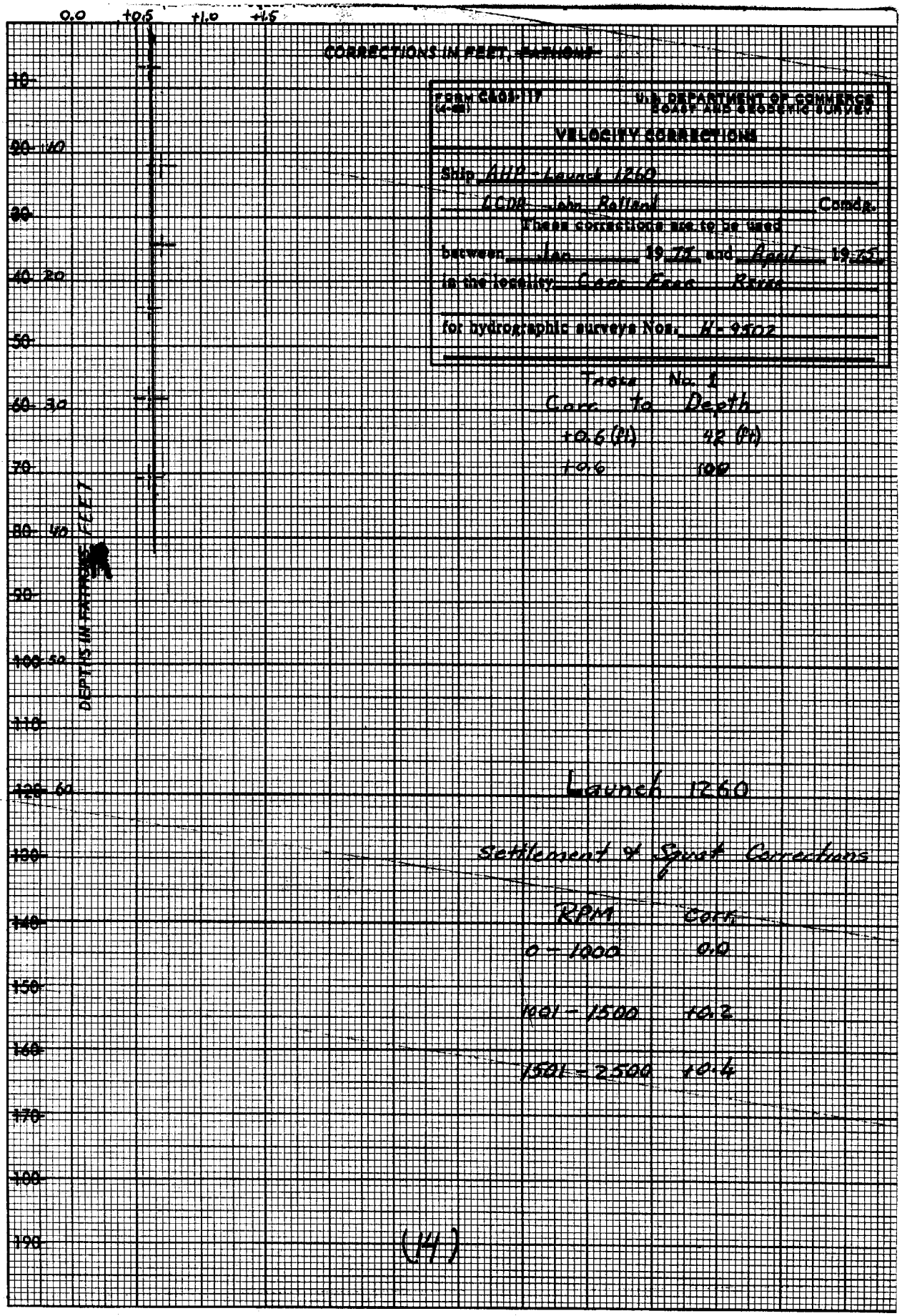
LCH 1260

J.D.	3'	4"	6'	12'	18'	24'	30'	36'	R 42'
038		3.7	5.6	11.6	17.7	23.7	29.7	35.7	41.8
044		3.2	5.2	11.2	17.4	23.5	29.5	35.7	41.8
045		3.6	5.6	11.5	17.6	23.7	29.8	35.8	41.9
051		3.5	5.4	11.2	17.2	23.2	29.0	—	—
057		3.5	5.5	11.6	17.5	23.7	29.7	35.6	—
058		3.2	5.2	11.2	17.4	23.5	29.5	35.5	41.8
059		3.6	5.4	11.4	17.6	23.6	29.5	35.2	—
063		3.4	5.2	11.1	17.0	23.1	29.0	35.0	—
070		3.2	5.0	11.0	17.0	23.0	29.0	35.0	—
079		3.5	5.2	11.2	17.1	23.2	29.2	35.2	—
0		3.3	5.3	11.2	17.2	23.2	29.3	35.4	—
MEAN		3.4	5.3	11.3	17.3	23.4	29.4	35.4	41.8
TRUE DEPTH - MEAN (CORR. TO DEPTH)		+0.6	+0.7	+0.7	+0.7	+0.6	+0.6	+0.6	+0.2

R

J.D.	48"	54"	60"

(13)


0.0 +0.5 +1.0 +1.5
CORRECTIONS IN FEET
10
20 10
30
40 20
50
60 30
70
80 40
90
100 50
110
120 60
130
140
150
160
170
180
190
DEPTHS IN FATHOMS
FEET
(For deep water add a 0 to these figures
FORM C&GS 117 (4-48)
U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
VELOCITY CORRECTIONS
Ship AHB - Launch 1260
LCDR John Rollsal Comdg.
These corrections are to be used
between Dec 19 52 and April 19 53
in the locality Coos Bay Area
for hydrographic surveys Nos. H-9502
Tacks No. 1
Corr. to Depth
+0.6 (ft) 92 (ft)
+0.6 100
Launch 1260
Settlement & Squat Corrections
RPM Corr.
0 - 1000 0.0
1001 - 1500 +0.2
1501 - 2500 +0.4
(4)
KE 20 X 20 TO THE INCH
KEUFFEL & ESSER CO.
58-10½
MADE IN U.S.A.

-6 -4 -2 0 2 4 6

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

DEPTHS IN Feet

(For deep water add a 0 to these figures)

2 4 6 8 10 12 14 16 18 20 120 140 160 170 180 190

NOAA FORM 75-21 (1.0-72) U.S. DEPARTMENT OF COMMERCE NOAA NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship AHP- SKIFF 570

LCDR. John E. Rolland Comdg.

These corrections are to be used

between January 19 75 and April 19 75

in the locality Cape Fear River

for hydrographic surveys Nos. H-9500 & H-9502

Vel. Table No. 2

Fath. Depth	Corr.
12.0	-0.4
23.0	-0.2
deeper	0.0

Settlement & Squat Corr.

SKIFF 570

RPM	Corr.
All Speeds	+0.3

(15)

18

240 U.S.A.

20 X 20 TO 7 X 10 IN. KEUFFEL

ABSTRACTS OF DAILY BAR CHECKS

SKIFF 570

[redacted]

J.D.	3'	3'	6'	12'	18'	24'	30'	36
042								
043		R	R	12.3	18.2			
085	3.5	8.0	6.1					
Mean	3.5	8.0	6.2	12.3	18.2			
True	3.0	8.0	6.0	12.0	18.0			
Mean-True	-0.5	0.0	-0.2	-0.3	-0.2			
		R	R					

J.D.	48'	54'	60'

(16)

Signal List

H-9502 (AHP-10-3-75)

	°	'	"	°	'	"	
061	34	09	5826	077	57	5234	(Del Norte) Lower Brunswick Range Rear Light
063	34	09	4385	077	57	3482	Fourth Eastern Jetty Range Rear Light
068	34	07	5229	077	56	0608	Keg Island Range ~~Rear~~ Front Light
070	34	07	3688	077	55	4250	Big Island Upper Range Rear Light (Del Norte)
076	34	05	1191	077	55	4961	Lower Liliput Channel Range Front Light (Del Norte
096	34	05	4440	077	55	4094	Lower Liliput Channel Range Rear Light
800	34	04	0000	077	55	3000	Grid Intersection
801	34	04	0000	077	54	3000	Grid Intersection
802	34	04	0000	077	53	3000	Grid Intersection
803	34	04	0000	077	53	0000	Grid Intersection
804	34	03	0000	077	53	0000	Grid Intersection
903	34	07	0000	077	59	3000	Grid Intersection
904	34	08	0000	077	59	3000	Grid Intersection
905	34	09	0000	077	59	3000	Grid Intersection
906	34	06	3000	077	57	3000	Grid Intersection
907	34	07	0000	077	57	3000	Grid Intersection
908	34	07	3000	077	57	3000	Grid Intersection
909	34	03	3000	077	57	0000	Grid Intersection
910	34	04	0000	077	57	0000	Grid Intersection
911	34	04	3000	077	57	0000	Grid Intersection
912	34	05	0000	077	57	0000	Grid Intersection
001	34	09	4997	077	56	5489	L(USE) 1917-1933 Quad 340773 Sta 1147.

20

Electronic Control Report

Electronic control of hydrography for Project OPR-437, Cape Fear River,1975 was by the Del Norte System. This report discusses the calibration of the system during the project.

The Del Norte model 202A transponder system consists of the following units:

(a) Distance Measuring Units #202-R01
Serial #122 and Serial #123.

(b) Base Units, (Master Transmitter - Receiver), #202 - TR02B
Serial #162 and Serial #163.

(c) Remote Units, (Shore Stations) #202, TR02R, Serial #163(Channel A), Serial #164(Channel B), Serial #165(Channel C), Serial #165(Channel D).

Launch personnel calibrated the Del Norte equipment twice daily in the field. The method of calibration was to place the launch, (base station) as close as possible to a "known point", the position of which was determined by Photo Party 61.

An abstract of inverse distances that Photo Party 61 supplied to the hydrographic party is included in the appendix to this report.

All calibrations were recorded in the sounding volumes during the survey. An abstract of daily calibration corrections taken from the sounding volumes are included in the appendix of this report.

From the abstract of daily calibrations, the electronic corrector tapes were logged.

In addition to the daily in-the-field calibrations, the Del Norte equipment was calibrated and set to zero on a known base line provided by Photo Party 61 before, during, and after the survey was completed. No discrepancies were found with the system during the survey.

Approval Sheet

Survey H-9502 (AHP-10-75)

The hydrographic records transmitted with this report are complete and adequate.

Lt. Cdr. John O. Rolland
Chief, Atlantic Hydrographic Party

CONTROL REPORT

JOB CM-7218

Lower Cape Fear River, N.C.

Prepared by

Photo Party 61

January 1976

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Photo Party 61

1. AUTHORITY

Hydrographic support was performed in accordance with project instructions for job CM-7218, Lower Cape Fear River, North Carolina.

2. PURPOSE

The purpose of the hydrographic support by Photo Party 61 was to provide horizontal control for Del Norte electronic control, range-range, range-azimuth, and range-visual modes in the Cape Fear River, North Carolina.

3. LOCALITY OF CONTROL

Horizontal control was established along the Cape Fear River from approximately one mile north of Wilmington to the mouth of the Cape Fear River near Southport.

4. CONTROL

Horizontal control provided by Photo Party 61 consisted of the stations which are listed on the attachments. The method of locating the control is stated on the attached list of stations.

5. DISPOSITION OF DATA

All field records for all field positions will be forwarded to Coastal Mapping Division, Attn. CAM 51.

6. ATTACHED

A complete signal list for hydrographic control provided by Photo Party 61 to the two hydrographic field parties working on the project is attached.

Respectfully submitted,

George W. Jamerson

George W. Jamerson
Lt. NOAA, Chief Photo Party 61

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

The following stations were located by traverse.

Station Name	No	Date	Latitude	Longitude
WATERFRONT	01	1974	34° 11' 30.4375"N	77° 57' 21.8241"W
U-1917	02	1974	34 11 36.7769	77 57 29.2425
U-1	03	1974	34 11 49.5196	77 57 20.6451
U-2	04	1974	34 12 08.8189	77 57 38.5137
U-3	05	1974	34 12 27.3090	77 57 20.6070
U-4	06	1974	34 12 45.7587	77 57 34.2797
U-5	07	1974	34 13 19.7252	77 57 08.4250
COAST GUARD	08	1974	34 14 09.8793	77 57 02.1576
PETERS POINT	09	1974	34 14 27.4744	77 57 19.1361
BRIDGE	10	1974	34 15 30.2626	77 56 53.8457
HOUSE SPUR	11	1974	34 12 56.0615	77 57 13.8944
W. ABUTMENT	12	1974	34 13 38.4042	77 57 09.6235
E. ABUTMENT	13	1974	34 13 37.6367	77 57 04.4167
SHED	14	1974	34 13 54.8140	77 56 59.2992
BOATRAMP	15	1974	34 13 47.9073	77 57 07.7400
TUG	16	1974	34 13 55.7088	77 57 06.7793
BATTLESHIP FLAGPOLE	17	1974	34 14 07.6098	77 57 10.4811
ROCKPILE	18	1974	34 15 20.9874	77 56 52.5943
WAREHOUSE	19	1974	34 15 07.1161	77 56 59.1159
ABUTMENT	20	1974	34 15 06.5663	77 57 04.8977
DOLPHIN NORTH	21	1974	34 15 23.3655	77 56 58.2660
CREEK BANK	22	1974	34 15 29.1729	77 56 59.6897

RAILROAD	23	1974	34 15 31.5938	77 56 59.8654
ENGINE	24	1974	34 15 59.9143	77 57 07.4574
MUDHOLE	25	1974	34 16 22.1980	77 56 52.6975
DAYBEACON	26	1974	34 15 42.5535	77 56 53.3358
DEBRA	27	1974	34 15 31.4197	77 56 56.7515
FERTILIZER	28	1974	34 16 15.6832	77 57 07.2420
DREDGE	29	1974	34 16 03.9143	77 56 52.6840
PILING	30	1974	34 15 52.2388	77 56 54.0059
AMMONIA	31	1974	34 16 33.7818	77 57 07.1254
CYPRESS	32	1974	34 16 52.9332	77 57 07.3199
TRUNK	33	1974	34 16 41.2500	77 56 56.2768
STOB	34	1974	34 14 39.4732	77 57 20.2815
TECH	35	1974	34 14 22.5166	77 57 09.0220
ABUTMENT 1	36	1974	34 15 04.0791	77 57 04.1705
SEABOARD	37	1974	34 14 35.2247	77 57 11.8567
LIGHT A	38	1974	34 14 25.7806	77 57 18.2532
MARSH 1	39	1974	34 14 37.2344	77 57 34.3442
MARSH 2	40	1974	34 14 28.3037	77 58 02.6029
MARSH 3	41	1974	34 14 48.1052	77 58 27.8039
YUCH	42	1974	34 15 39.9798	77 58 45.5857
PLANT	43	1974	34 15 29.3669	77 59 07.2620
SHACK	44	1975	34 15 16.0333	77 59 08.2927
STURGEON	45	1975	34 14 49.8481	77 59 27.9680
CURRENT	46	1975	34 14 25.3109	77 59 15.5907

BULKHEAD	47	1975	34 14 09.6374	77 59 23.3431
BRUNSWICK	48	1975	34 13 57.8382	77 59 06.5674
HALFWAY	49	1975	34 12 34.2803	77 58 25.8866
END	50	1975	34 10 59.9235	77 58 10.5674
SHOAL	51	1975	34 10 45.7504	77 57 16.7042
U-S-1	52	1974	34 11 14.4714	77 57 22.9891
JUNK	53	1974	34 14 32.9284	77 57 41.8411
STEAM	54	1974	34 15 31.2507	77 59 14.5187
POLES	55	1975	34 13 59.4609	77 59 08.3373
MOORING	56	1975	34 13 27.0645	77 58 43.9732
WEST	57	1975	34 13 06.2202	77 58 47.7390
Q AUX 1973	58	1975	34 11 10.6770	77 57 34.8933
EAGLE	59	1975	34 10 55.7500	77 57 38.9950
GULL	60	1975	34 10 52.6040	77 57 22.7210
LBRRL	61	1975	34 09 58.2590	77 57 52.3360
BEACH	62	1975	34 09 56.0120	77 57 23.4300
FEJRRL	63	1975	34 09 43.8520	77 57 34.8230
CRANE	64	1975	34 09 00.8490	77 57 32.0130
MARL	65	1975	34 09 00.5220	77 57 01.2400
FOSSIL	66	1975	34 08 02.5630	77 56 49.1980
OTIS	67	1975	34 08 13.5740	77 56 22.9830
BIURFL	68	1975	34 07 52.2940	77 56 06.0850
RETREAT	69	1975	34 07 32.2190	77 56 23.5710
BIURRL	70	1975	34 07 36.8820	77 55 42.5010
CAMPBELL	71	1975	34 06 40.7920	77 56 25.8960
SPOOL	72	1975	34 06 33.8560	77 55 55.8270
SANDY	73	1975	34 05 51.4650	77 56 25.5110

KEG	74	1975	34 05 42.9610	77 55 55.3910
LLRFL	76	1975	34 05 11.9100	77 55 49.6070
A (USE) 1917	79	1975	34 04 11.4390	77 55 31.1510
ALMOST	80	1975	34 03 51.0970	77 55 57.3450
SMOKE	81	1974	34 15 41.5504	77 59 24.3318
UNSTEADY	82	1975	34 16 11.1872	77 59 14.5428
BALD	83	1975	34 16 10.5328	77 59 16.1072
LANDING	84	1975	34 16 15.5000	78 00 03.5503
BUT	85	1975	34 15 35.9925	77 59 17.3706
STEADY	86	1975	34 15 35.9432	77 59 17.3087

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

The following triangulation stations were recovered and furnished for hydrography.

Station Name	No.	Date	Latitude	Longitude
FIRST BAPTIST CHURCH SPIRE	505	1908	34 14 08.763	77 56 37.944
NAVASSA, VA- CAROLINA CHEM CO. TANK	507	1942	34 15 33.481	77 59 27.078

The following stations were located by intersection.

Station Name	No.	Date	Latitude	Longitude
NEWER TANK	501	1974	34 12 11.3803	77 57 11.5335
OLDER TANK	502	1974	34 11 57.4826	77 57 05.5305
CAROLINA POWER & LIGHT CO. STRIPED STACK	503	1974	34 16 56.6020	77 59 11.9976
TALL TV TOWER	504	1974	34 13 34.8900	77 59 20.8906

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9502

GEOGRAPHIC NAMES

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	
BARNARDS CREEK										1
CAMPBELL ISLAND										2
CAPE FEAR RIVER										3
DOCTOR POINT										4
KEG ISLAND										5
LILIPUT CREEK										6
LORDS CREEK										7
MALLORY CREEK										8
MOTT CREEK										9
ORTON CREEK										10
ORTON POINT										11
SAND HILL CREEK										12
SNOWS CUT										13
TOWN CREEK										14
										15
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										24
										25

APPROVED

Chas. E. Harrington

STAFF GEOGRAPHER - C51x2

22 June 1977

REGISTRY 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 REQUIRED_____ INITIALS_____

REMARKS:

REGISTRY NO. H-9502

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

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

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS: In addition to general revisions indicated in the sounding printout, the following items should be accomplished during update.

1. Digitize hydrography in inset B. ?

2. Selected soundings between positions 3121 and 3151 in Town Creek should be digitized during update. See overlay attached to the page on which position 3121 is found in the sounting printout.

d

H-9502

Information for Future Presurvey Reviews

Numerous charted items at variance with the present survey were not addressed in the Descriptive Report or the Verifier's Report. Disposition of many of these was made during quality control inspection. Future surveys should provide for a critical inspection at minus tides for piling ruins and range markers.

Position Index		Bottom Change	Use	Resurvey
Lat.	Long.	Index	Index	Cycle
340	0780	4	2	25 years
341	0780	3	2	50 years

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9502

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET Plus PNO & Excess Overlay	1	BOAT SHEETS (2parts-mylar)	1 XX
DESCRIPTIVE REPORT	1	OVERLAYS Preliminary Overlays	2 XX

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	X					X
CAHIERS	Fathograms, Printout, Tides, & Misc. Data		XX			
VOLUMES	10					
BOXES			1-Smooth			

T-SHEET PRINTS (List) TP-00672 through TP-00677 Not received

SPECIAL REPORTS (List)
Chart Markup (#11537)
Report on Horizontal Control

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				2104
POSITIONS CHECKED		210	5	
POSITIONS REVISED		75		
DEPTH SOUNDINGS REVISED		225		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		---		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		---		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		40	4	
JUNCTIONS		7	10	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		20	8	
SPECIAL ADJUSTMENTS		--		
ALL OTHER WORK		280		
TOTALS		347	22	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY W. Tyndall, J. Bradford, D. Mason	07/29/75	01/27/77
VERIFICATION BY L. Cram	02/10/77	02/28/77
REVIEW BY L.Cram	03/01/77	03/08/77

Q.C. INSPECTION BY K. W. Wellman Cowley 30 81 hrs 2/22/77 Hall 12 hrs U[illegible].O. 6-13-77

1972-769-562/439 REG.#6

34

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H-9502

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: April 6, 1977

Signed: William L. James

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: 4-11-77

Signed: Robert A. Ziek

Title: Chief, Processing Division

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9502 FIELD NO. AHP-10-3-75

Cape Fear River, North Carolina

SURVEYED: February through March, 1975

SCALE: 1:10,000 PROJECT NO.: OPR-437

SOUNDINGS: DE-723 Fathometer, Sounding Pole CONTROL: Del-Norte

Chief of Party ..... LCDR F. Smith
Surveyed by ..... LTJG W. George
..... L. Gilden
..... R. Snow
..... W. Sprye
..... S. Weisner
Automated Plot by ..... Calcomp Plotter #618 (AMC)
Verified and Inked by ..... L. G. Cram

1. Introduction

a. No unusual problems were encountered with this survey.

b. The projection parameters were revised during verification.

2. Control and Shoreline

a. The control for this survey is adequately described under Section G, page 4 and Appendix, page 16 of the Descriptive Report.

b. The shoreline came from final reviewed Photogrammetric Manuscripts: TP-00672, TP-00673, TP-00674, TP-00675, TP-00676, and TP-00677 of 1973-75.

A special copy of TP-00677 was forwarded from headquarters with the small boat basin at Carolina Beach State Park. The T-sheet had a plain-table survey of the shoreline for the boat basin done by Photo Party 61. The scale of this boat basin is one inch = 50 feet and was shown, at this scale, as an inset on the smooth sheet. (See O.C. Report-Item 2.)

The field unit took detached positions on most of the lighted structures. Some of these positions were not

plotted at the time of verification, as they differed from the photo location. These positions were noted in red ink in the Descriptive Report on pages 20 - 23.

The shoreline on TP-00677 was extended by the Photogrammetric Branch, AMC, in the area of the intracoastal waterway known as "Snow's Cut". This extension was done at the time of the smooth sheet verification. (See O.C. Report-item 1)

3. Hydrography

a. Soundings are in good agreement at the crossings on this survey. Some disagreement (one to two feet) was noted in the area along the dredged channels.

b. The depth curves generally could be drawn in their entirety. There were some areas where the "0" curve was not developed by either the field or the photogrammetric surveys. Along the intracoastal waterway there was insufficient hydrography to complete any curves with consistency.

c. There were no developments on this survey. The channel area of the Cape Fear River had three closely spaced lines.

4. Condition of Survey

The smooth sheet and accompanying overlays, hydrographic records, and reports are adequate ~~to~~ 2nd conform to the requirements of the Provisional Hydrographic Manual.

5. Junctions

Adequate junctions were effected with the following surveys:

H-9501 (1975) to the south
H-9500 (1975) to the north

Both junctions were made with good agreement. (See O.C. Report - items 3 and 4)

6. Comparison with Prior Surveys

H-1191a (1873) 1:10,000
H-1190~~B~~b (1873) 1:10,000

The present survey is considered adequate to supersede the prior surveys within the common area.

37

No datum adjustment ticks were on the prior surveys, nor were there any triangulation stations to provide adjustment data. The river has changed to such a degree that a comparison, except for historical purposes, is meaningless. The changes can be attributed to both natural and cultural changes. The natural changes can be attributed to the easily transportable nature of the bottom sediments. The cultural changes took place when dredging was done to allow large ships access to the port of Wilmington. (See Q.C. Report-item 7)

By shifting the prior survey to the north and ~~east~~ west by approximately one-fourth mile the shoreline and the natural channel of the river come in close proximity to the shoreline on the present survey in some areas. An example is that the present survey shows a controlling depth of 37 feet in most of the channels; the prior survey's deepest continuous curve which could be drawn is a 12 foot curve. Any resemblance between depths on the present survey and the prior surveys is purely coincidental. (See Q.C. Report-item 7)

7. Comparison with Charts #11537 (C&GS 426), 14th Edition, March 8, 1975 and #11534 (835-SC), 13th Edition, February 21, 1976 (See Q.C. Report-item 9&10)

a. Hydrography

It was impossible at the time of verification to determine the source of the charted information. It would appear that for a little over 100 years the source of the charted information for this chart came from some organization other than National Ocean Survey, i.e. the Corps of Engineers. The latest and only prior survey information available at the time of verification was the two prior surveys, H-1190b and H-1191a of 1873. It was impossible to verify any charted soundings from these prior surveys because of the extreme scale variation and the lack of any datum adjustment data.

One item was not proven or disproven by the present survey, a pile, PA at latitude 34° 07.87', longitude 77° 56.08'; recommend this be retained, as charted. (Descriptive Rpt — see item #14 in Pre-Survey Report)

The present survey is considered adequate to supersede the charted information, except as noted above. (See Q.C. Report-item 10)

b. Controlling Depths

The controlling depths, as listed on the charts by the Corps of Engineers, appear adequate and conform to the present survey in the channel areas. (See Q.C. Report-item 11)

c. Aids to Navigation (See Q.C. Report-item 12)

The aids to navigation appear adequate to mark the intended features. The field unit received a recommendation for an additional aid by the Corps of Engineers and other boatmen using the river. See Section Q, "Recommendations", page 9 of the Descriptive Report. A comparison with the 15th Edition, April 3, 1976 does not reflect any change in the aids to navigation in the area.

The field unit took detached positions on some aids that did not agree with T-sheet locations; these D.P.'s were not plotted and the T-sheet location was used.

The T-sheet TP-00672 shows a light at approximately 34° 09' 05", 77° 57' 32". It is believed that this is a private marker which is lighted rather than an aid to navigation.

8. Compliance with Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

This is a good basic survey. Additional field work is not recommended. (... See Q.C. Report-item 18)

H-9502 (1974)

Examined and Approved:
Hydrographic Inspection Team
Date: April 8,1977

CDR Robert A. Trauschke, NOAA
Chief, Processing Division

CDR Jeffrey G. Carlen, NOAA*
Chief, Coastal Mapping Division

C. Douglas Mason, LT, NOAA
Chief, EDP Branch

William L. Jonns
Chief, Verification Branch

Guy F. Trefethen
Verification Branch

* on TDY

Approved/ Forwarded

Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center

40

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

C352

June 13, 1977

TO: for R H Carstens
A. J. Patrick
Chief, Marine Surveys Division

THRU: Chief, Quality Control Branch

FROM: K. W. Wellman K. W. Wellman
Quality Evaluator

SUBJECT: Quality Control Report for H-9502 (1975), North Carolina, Cape Fear River, Mallory Creek to Snows Cut

A quality control inspection of H-9502 has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, junctions, shoreline transfer, decisions and actions by the verifier, and cartographic presentation of data.

The junction with H-9500 (1975) on the north will be inspected during the quality evaluation of that survey.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as follows:

1. The shoreline along the extended Intracoastal Waterway, Snows Cut, shown in an inset on the present smooth sheet, is shown in black ink, indicating as the source a Class I topographic manuscript. This extended shoreline is from an unregistered miscellaneous plot and, as such, should have been inked in red ink on the smooth sheet.

2. Reference section 2-b of the Verifier's Report:

a. The soundings, within the boat basin in inset B on the present survey, are shown in relative positions taken from the boat sheet and are apparently based on dead reckoning navigation inasmuch as no formal positions are provided in the volumes. The soundings were hand plotted on the smooth sheet during verification and are not included in the automated data bank of the present survey. Pseudo fixes for the hydrography in inset B should have been scaled and added to the data bank during verification (see provisional manual--section 6.3.3).

41

b. The relative orientation of the enlarged scale (1 inch = 50 feet) inset of the boat basin, vis-a-vis the graticule on the present survey, was at variance with that shown on the smaller scale (1:10,000) source document (TP-00677, 1973-75) and the present survey. During verification, an effort should have been made to assure the most accurate orientation of the information in inset B (see provisional manual--section 7.2.4).

During quality control inspection, a graticule intersection was established by utilizing TP-00677 and a reduction of inset B. The intersecting lines of latitude and longitude are shown in red inasmuch as there may be some inherent error due to the extreme scale differences between the inset and TP-00677.

c. The general shoreline, piers, and piles, shown in inset B, originate with an enlarged scale drawing of the boat basin shown on the Field Edit Ozalid copy of TP-00677 (filed in the Federal Records Center) of less than Class I status. This information is improperly shown on the smooth sheet in a combination of solid red lines (implying origin with a hydrographic determination) and solid black lines (implying transfer from a Class I photogrammetric manuscript). Inasmuch as the source of topographic information for the inset is less than Class I, it would have been more appropriate to ink all the associated topography in red ink during verification (see provisional manual--section 7.3.4). It was not considered necessary, however, to effect suitable revisions during quality control inspection.

3. Soundings transferred from junctional surveys should be inked in the same color as the junctional note to provide ready identification of the source of the soundings. Two soundings were transferred to the present survey, from adjoining survey H-9501, in a color (red) other than the color of the junctional note (violet). These were inked in their proper color at Headquarters (see section 7.3.12.5 of the provisional manual).

4. Revisions to the junction with H-9501 were made during quality control inspection. The depth curves were not in coincidence in the junctional area (see provisional manual--sections 6.3.4.7 and 7.3.12.5 and the memorandum from the Office of Marine Surveys and Maps of August 6, 1976, entitled "Depth Contour Agreement in Overlap Areas").

During quality control inspection, it was necessary to rescan and revise or excess selected soundings on both surveys to effect agreement of the depth curves. In addition, the 12-foot depth curve, approximately centered in the vicinity of latitude 34°02.99', longitude 77°55.44', delineating maximum depths in the channel approaching the Intracoastal Waterway (Snows Cut), was not transferred to the present survey from H-9501. This transfer was accomplished during quality control inspection of the present survey.

5. The landmark TOWER in the vicinity of latitude 34°06.43', longitude 77°57.73', on TP-00674, was erroneously included within the limits of inset B on the present survey, thereby implying a position in the vicinity of latitude 34°03.06', longitude 77°55.14'. During quality control inspection, the northeast limits of inset B were revised to exclude the tower and show it in its true position.

6. Several electronic control stations were improperly identified with slanted lettering on the smooth sheet. Control station names should be shown with vertical red lettering (see provisional manual--sections 7.2.5.2 and 7.3.3.2). In cases where aids to navigation are used as control stations, and not obviously identified by the control station name, the published light list name can be added in slanted red lettering below the station name (see provisional manual--section 7.3.11.1).

7. Section 6 of the Verifier's Report is supplemented by the following:

A comparison between the present and prior surveys reveals a variable pattern of depth differences of ± 10 feet over most of the area and present depths as much as 26 feet deeper than prior depths in the vicinity of the dredged channel.

Several islands appear on the present survey in former depths of 1 to 10 feet and are considered to be composed of spoil dredged from the channel. Several jetties, shown on prior survey H-1191a, are also shown in the same general areas on the present survey. Two exceptions, however, are noted in the vicinities of latitude 34°08.40', longitude 77°57.10' and latitude 34°07.65', longitude 77°57.05' where jetties shown on the prior survey are not shown on the present survey. In addition, a pier, shown on H-1190b in the vicinity of latitude 34°04.12', longitude 77°56.50', is not shown on the present survey. Inasmuch as there may be submerged remnants of the jetties and pier, they were brought forward as submerged ruins (in the most likely relative positions) to supplement the present survey.

8. Section K (Presurvey Review Item No. 26) of the Descriptive Report is supplemented by the following:

All of the jetties were not located and/or shown on the present survey. The submerged jetties charted in the vicinities of latitude 34°08.40', longitude 77°57.10' and latitude 34°07.65', longitude 77°57.05' were not located during field work on the present survey and were brought forward to the present survey as submerged jetty ruins from H-1191a (1873). They should be retained on the chart.

9. The editions of the chart current at the date of the survey were not used in the Comparison with Charts (section 7 of the Verifier's Report)

(see provisional manual--section 6.3.10). In addition, the comparison with chart 11534 (835-SC) is considered unnecessary inasmuch as chart 426 is the same scale as chart 835-SC and covers the entire area of the present survey. During quality control inspection, the present survey was compared with chart 426, 13th edition, dated April 20, 1974.

10. The requirements of the chart comparison to be made with the present survey were not fully met. Unresolved discrepancies between the present survey and charted data require specific recommendations for the disposition of charted items not verified or disproved by the present survey (see provisional manual--sections 5.3.4(L), 6.3.10, and 6.6(12) and section 7 of the memorandum, dated March 21, 1977, from the Office of Marine Surveys and Maps entitled "Verifier's Report Format"). In addition, the recommendations by the hydrographer regarding charted items should be examined. A note indicating concurrence or necessary revisions to the recommendations should be added to the Descriptive Report.

Section 7 of the Verifier's Report specifies "One item . . ." comprising a noted discrepancy between the chart and present survey. This is considered misleading inasmuch as it implies that there are no other discrepancies, whereas, in fact, there are numerous such discrepancies requiring specific recommendations in the Verifier's Report.

Section 7-a of the Verifier's Report is supplemented by the following:

(1) The pile charted in latitude 34°09.87', longitude 77°57.60' originates with a not readily ascertainable source. It falls in depths greater than 30 feet in a dredged channel and is considered nonexistent. outside limit of cht 835 SC TWA Deleted 426

(2) The pile (cross range marker) charted in latitude 34°07.85', longitude 77°56.59' originates with Corps of Engineers Bp-81995-96 (1958-60). Not appearing on infrared photographs taken at MLW, the marker is considered to be nonexistent and should be deleted from the chart. outside limits of cht 835 SC TWA Deleted 426

(3) The four submerged piles (dredging markers) charted in the vicinity of latitude 34°06.98', longitude 77°55.75' originated with Bp-45089-96 Corps of Engineers ranges and were revised to submerged piles on the authority of CL 1444 (1973). These dredging markers were replaced by those charted about 100 meters to the southeast and should be deleted from the chart. outside limit of cht 835 SC TWA Deleted piles 426

(4) The pile (cross range marker) charted in latitude 34°04.63', longitude 77°56.25' originates with Corps of Engineers Bp-81995-96 (1958-60). It has been replaced by the pile 160 meters to the eastward and should be deleted from the chart. Deleted pile and type at position indicated cht 835 S.C. TWA & 426 concur with TP-00675

(5) The two piles charted in the vicinity of latitude 34°04.08', longitude 77°56.40' originate with a not readily ascertainable source. They are not verified or disproved by the present survey and should be revised to submerged piles on the chart. Added notation Subm piles in vicinity cht 835 SC TWA 4426

(6) The charted positions of numerous piles (range markers), originating with Corps of Engineers Bp-81995-96 of 1958-60, are at variance with the present survey positions. They are as follows:

Item(s)	Latitude	Longitude	Approximate Charted Displacement
2 piles	34°10.03'	77°57.52'	100 meters north
4 piles	34°09.27'	77°57.80'	80 meters north
2 piles	34°09.32'	77°57.63'	80 meters south
4 piles	34°09.56'	77°57.74'	60 meters north
2 piles	34°09.87'	77°57.77'	50 meters northwest
1 pile	34°08.25'	77°56.43'	80 meters northwest
2 piles	34°07.35'	77°56.04'	60 meters northwest
4 piles	34°07.80'	77°55.97'	60 meters southeast
1 pile	34°07.35'	77°55.85'	60 meters northeast
1 pile	34°06.54'	77°56.41'	60 meters south
1 pile	34°06.56'	77°56.47'	70 meters southeast
1 pile	34°06.25'	77°56.06'	60 meters southeast
1 pile	34°06.07'	77°56.05'	35 meters south
1 pile	34°06.90'	77°55.88'	50 meters south
4 piles	34°05.67'	77°55.70' agree with survey	50 meters north cht 835 S.C. TWA
3 piles	34°05.04'	77°55.81' agree with survey	50 meters northeast cht 835 S.C. TWA
6 piles	34°03.31'	77°55.77' agree with survey	50 meters north cht - 835 S.C. TWA
4 piles	34°03.73'	77°56.38' agree with survey	100 meters southeast cht 835 SC TWA
6 piles	34°03.90'	77°56.40' agree	200 meters south cht 835 SC TWA

The charted positions of the above piles should be revised to agree with the present survey.

(7) The seven piles charted in the vicinity of latitude 34°04.03', longitude 77°56.40' originate with Corps of Engineers Bp-81995-96 (1958-60). The present survey shows six piles and, further, the charted piles extend approximately 55 meters farther to the east than on the present survey. The chart should be revised to agree with the present survey. 426 cht 835 SC in full agreement with JP-00644 TWA

(8) The two pier ruins charted in the vicinity of latitude 34°04.06', longitude 77°56.50' and latitude 34°04.12', longitude 77°56.50' originate as ruins with Corps of Engineers Bp-31282 (1938). They are not verified or disproved by the present survey and should be revised to submerged pier ruins on the chart. No conf TWA cht 835 SC 4426

(9) The pier ruins charted in the vicinity of latitude 34°04.20', longitude 77°55.57' extend approximately 80 meters beyond the ruins shown in the vicinity on the present survey. The charted ruins originate with Corps of Engineers Bp-31282 (1937). That portion of the charted pier ruins extending beyond the ruins shown on the present survey should be revised to submerged pier ruins on the chart. No corr's TWA CH 835 SC ¢ 426

(10) The pile charted in latitude 34°03.68', longitude 77°56.38' originates with a not readily ascertainable source. It is not verified or disproved by the present survey and should be revised to a submerged pile on the chart. Added type Subm pile in vicinity CH 835 SC TWA 426

(11) The line of piling charted as extending from latitude 34°03.82', longitude 77°56.50' south to latitude 34°03.56', longitude 77°56.41' originates with Corps of Engineers Bp-31282 (1937). The south end of the line of piles on the chart extends approximately 240 meters beyond the end of a similar line of piles on the present survey. That portion of the charted line of piles extending beyond the row of piling on the present survey should be revised to submerged piling on the chart. CH 835 SC TWA ¢ 426 Added Subm piles in vicinity indicated

(12) The pier ruins charted in the vicinity of latitude 34°03.55', longitude 77°56.40' and latitude 34°03.87', longitude 77°55.45' originate with Bp-31282 (1937). The ruins are not verified or disproved by the present survey and should be revised to submerged pier ruins on the chart. NO corr's TWA CH 835 SC ¢ 426

(13) The two piles (cross range markers) charted in the vicinity of latitude 34°02.99', longitude 77°56.15' and latitude 34°02.99', longitude 77°56.20' originate with Corps of Engineers Bp-81995-96 (1958-60). They were probably established 100 meters to the south where the present survey shows one pile and should be disregarded. No corr's TWA CH-835 SC ¢ 426

11. Section 7-b of the Verifier's Report is supplemented by the following:

The present survey reveals scattered depths of 1 to 3 feet less than tabulated depths along the outside limits of the various channel ranges.

12. Section 7-c of the Verifier's Report is supplemented by the following:

(1) The following daybeacons are not shown on the present survey:

Number	Color	Latitude	Longitude
Unnumbered	Black	34°10.40'	77°57.27'
Unnumbered	Red	34°10.37'	77°57.29'
5	Black	34°10.35'	77°57.21'

(2) Cape Fear River Channel Light "46," charted in latitude 34°08.20', longitude 77°56.51', is charted approximately 130 meters to

46

to the northwest of its position on the present survey. The chart should be revised as considered appropriate.

(3) Cape Fear River Channel Light "43A" charted in latitude 34°07.61', longitude 77°56.24' is charted approximately 45 meters to the southeast of its position on the present survey. The chart should be revised as considered appropriate.

13. The investigation and disposition of a number of charted ruins, piles, and dredge markers, which should have been done during photogrammetric field edit, was not accomplished.

14. The Verifier's Report is not accompanied by a Hydrographic Inspection Team Report as required by section 8.1 of the provisional manual.

15. Several jetties charted as submerged are shown on the topographic surveys as uncovering at the sounding datum. The chart should be revised accordingly.

16. The danger spot charted in latitude 34°07.80', longitude 77°56.20' originates with NM 10/March 5, 1949, and is reported to be a shoal scheduled to be dredged within 60 days of the date of the source document. Inasmuch as there is no indication of the shoal on the present survey and in consideration of its scheduled removal in 1949, this shoal is considered no longer extant and should be deleted from the chart. Deleted 4/26

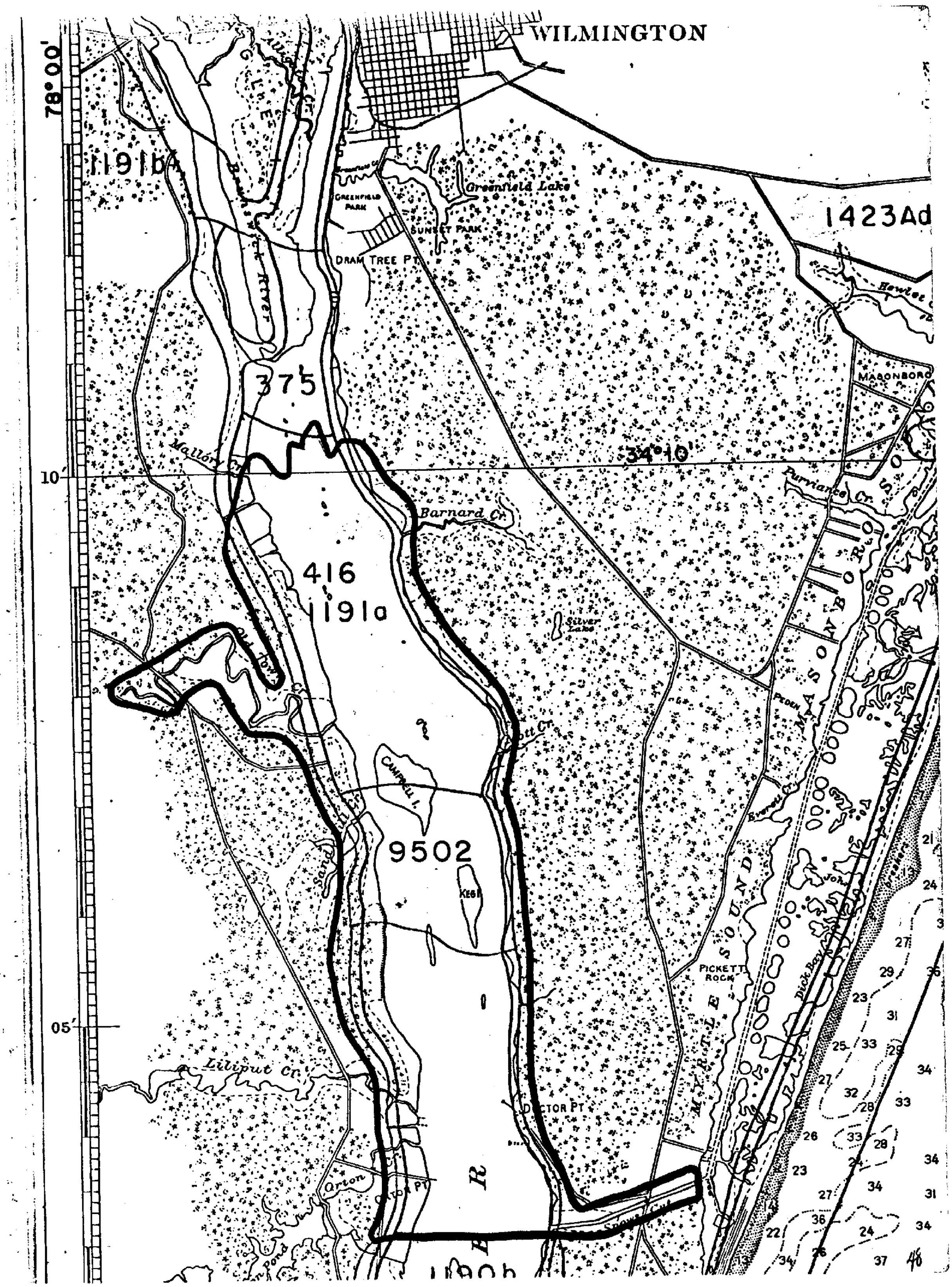
17. The pile charted in latitude 34°03.68', longitude 77°56.4' is the prior position of a navigational light charted in 1958. As additional information is not furnished in the present survey, the pile should be retained on the chart as submerged. SAME AS ITEM 10 on preceding page

18. Section 9 of the Verifier's Report is supplemented by the following:

. . . recommended; however, during future work in the area, the items enumerated in items 8 and 10 (subsections (5), (8), (9), (10), (11), and (12)) of the Quality Control Report and sections K (Presurvey Review item 14) and L-(1) of the Descriptive Report should be investigated and verified or disproved.

cc:
C351

49



WILMINGTON
78°00'
1191b
1423Ad
Greenfield Lake
GREENFIELD PARK
SUNSET PARK
DRAM TREE PT.
375
Mallory Cr.
10'
34°10'
Barnard Cr.
416
1191a
Silver Lake
CAMPBELL I.
9502
KEG I.
PICKETT ROCK
MASONBORO
05'
Liliput Cr.
DOCTOR PT.
Orton
ORTON PT.
R
1190b

48

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9502

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
11534	10/26/77	[illegible signature]	Full ~~Part Before~~ After Verification Review Inspection Signed Via
835sc			Drawing No. Quality Control, Fully applied survey
			to coverage on cht.
			Full ~~Part Before~~ After Verification Review Inspection Signed Via
11537	1/13/78	JAY SHERMAN	Drawing No. QC, Fully appld thru 835
			& DIRECT
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
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