

FE247

Diagram No. 1234-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey .. Hydrographic ..
Field No. RH-20-7-83 ..
Office No..... FE-247 ..

LOCALITY

State North Carolina ..
General Locality Atlantic Ocean ..
Locality South of Money Island Beach ..

1983

CHIEF OF PARTY
LCDR R.C. Arnold

LIBRARY & ARCHIVES

DATE October 27, 1983 ..

☆U.S. GOV. PRINTING OFFICE: 1980-766-230

Area 243
Ref L-582(83)

- 11547 RPK
- 11545 RPK
- 11543 RPK
- 11541A RPK
- 11520 T/Curr

FE247

HYDROGRAPHIC TITLE SHEET

FE-247

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.

RH-20-07-83

State NORTH CAROLINA

General locality ~~NORTH CAROLINA COAST~~ ATLANTIC OCEAN

Locality ~~ATLANTIC BEACH~~ SOUTH OF MONEY ISLAND BEACH

Scale 1:20,000 Date of survey 31 MAY 1983 - 1 JUNE 1983

Instructions dated MAY 20, 1983 Project No. S-F605-RU/HE-83

Vessel NOAA SHIPS RUDE (9040) and HECK(9140)

Chief of party LCDR RUSSELL C. ARNOLD

Surveyed by LCDR R. ARNOLD, LCDR D. WINTER, LT N. MILLETT, ENS T. CALLAHAN

Soundings taken by ~~echo sounder, hand lead, pole~~ PNEUMATIC DEPTH GAUGE

Graphic record scaled by N/A

Graphic record checked by N/A

Protracted by _____ Automated plot by XYNETICS 1201 (AMC)

Verification by See Evaluation Report

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ SOUNDINGS REDUCED FOR ATLANTIC BEACH
PREDICTED TIDES

REMARKS: ALL TIMES RECORDED FOR THIS SURVEY ARE G.M.T.

STANDARDS CK'D 10-31-83

C. Lay

AWO'S CHECKED 11-3-83 SJV

CONTENTS

- A. AUTHORITY
- B. CHARACTER AND LIMITS OF WORK
- C. CONTROL
- D. DATES OF SURVEY
- E. INCOMPLETE ITEMS
- F. EQUIPMENT AND TECHNIQUES
- G. CHARTING RECOMMENDATION

DESCRIPTIVE REPORT
To Accompany
HYDROGRAPHIC FIELD EXAMINATION SIDE SCAN SONAR SURVEY ~~FE~~-247
Field Number RH-20-07-83

A. AUTHORITY

This survey was accomplished in accordance with project instructions for S-F605-RU/HE-83, Atlantic Beach, dated May 20, 1983.

B. CHARACTER AND LIMITS OF WORK

The purpose of this project was to investigate the wreck of the trawler PARKINS (AWOIS #00607). A side scan sonar search was conducted ~~within~~^{to cover} a 200-meter radius circle about the position of the wreck.

C. CONTROL

Vessel positioning for all work was accomplished with the Del Norte 520 system. A baseline calibration of all equipment was accomplished on 30 May 1983. Daily calibration was accomplished by three-point sextant fix with check fix. A complete listing of signals used is contained in Appendix B.

D. DATES OF SURVEY

This survey was begun on 31 May 1983 and completed on 1 June 1983.

E. INCOMPLETE ITEMS

The one item assigned for this project was completed.

F. EQUIPMENT AND TECHNIQUES

This item was investigated using Klein Side Scan Sonar. A 100 KHz fish was towed behind the HECK to locate the wreckage. The ship's Raytheon DE-719B fathometer was run continuously during side scan operations. A solid contact was obtained at the charted position of the wreck. Divers subsequently investigated the contact and obtained a least depth with a pneumatic depth gauge. See Appendix A for the divers report and description of the item.

G. CHARTING RECOMMENDATION See Evaluation Report, section 6

NOS Chart 11547 indicates "~~wreckage~~^{wreck}" cleared to 18 feet. The RUDE and HECK diving operations obtained a slightly shoaler least depth of 17.4 feet. A Notice to Mariners was issued to warn of a potentially shoaler depth, pending office review. (See Appendix D).

The position of the wreck, Latitude $34^{\circ}41'08.61''$ N, Longitude $76^{\circ}43'18.95''$ W, is incorrectly charted, and the least depth charted is ~~within 1/2~~¹⁻ foot ^{greater than} of the actual least depth.

APPROVAL SHEET

RH-20-07-83

Field operations contributing to the accomplishment of this survey were conducted under my supervision with frequent personal checks of progress and adequacy. This report and field sheets have been closely reviewed. See Section G. for charting recommendations.

Russell C. Arnold

Russell C. Arnold

LCDR, NOAA

Commanding Officer

NOAA Ships RUDE & HECK

APPENDIX A

DIVING OPERATIONS

Date: JUNE 1, 1983 Unit: 1105 - NOAA Ships Rude & Heck
 Supervisor: Johnny R. CARRAWAY Diver-in-charge: Johnny R. CARRAWAY
 Purpose of dive: Investigate side scan sonar contact offshore
of Atlantic Beach, North Carolina

Equipment: standard scuba, pop floats, pneumo-gauge
 Planned depth: 30-40 feet Planned duration: 30-60 min.

Dive	Divers	IN Pressure	Out Pressure	Δ Pressure	In Time <small>(Local)</small>	Out Time <small>(Local)</small>	Δ Time	Depth	Comments
1st Dive	CARRAWAY	2750 psi	1150 psi	1500 psi	13:44	14:12	38 min.	32 ft.	
	WILKINSON	3000 psi	0800 psi	2200 psi	13:44	14:12	38 min.	32 ft.	
	WILKINSON	3000 psi	1000 psi	2000 psi	13:44	14:12	38 min.	32 ft.	
2nd Dive	CARRAWAY	2900 psi	1400 psi	1500 psi	14:35	15:20	25 min.	32 ft.	
	WILKINSON	2200 psi	0600 psi	1600 psi	14:55	15:20	25 min.	32 ft.	
	WILKINSON	3000 psi	1600 psi	1400 psi	14:55	15:20	25 min.	32 ft.	
3rd Dive	CARRAWAY	1400 psi	200 psi	1200 psi	15:49	16:12	23 min.	32 ft.	
	WILKINSON	1900 psi	300 psi	1600 psi	15:49	16:12	23 min.	32 ft.	

Post dive comments: Divers did circle searches from 1st marker
and located a wood and metal wreck 65 feet (app.) from marker.
The highest point appeared to be the mast; made of metal about
10 inches across. The wreck was highly deteriorated, tho
the metal mast seemed to be firmly imbedded in the sand on
bottom. The mast rose from 32 ft. on the bottom to 19 ft. at
east depth. Giving the item a 13 ft. spile.

See Evaluation Report

ITEM INVESTIGATION

DATE: 6/1/83

SHIP/LAUNCH 20

LOCATION: ALANIC BEACH, NORTH CAROLINA

DIVE MASTER CARDAWAY

DIVERS: CARDAWAY

SMITH

CALLAWAY

TIMER

IN WATER SEE ATTACHED

UNDER WATER COPY!

ON SURFACE _____

IN BOAT _____

MAXIMUM DEPTH 32 ft.

DIVE DURATION 86 min. Total Dives

PALMOMETER NO. _____

ITEM # 1
POSITION _____
LEAST DEPTH _____

GMT TIME DEPTH

- 1. 1911 / 19 ft.
- 2. _____
- 3. _____

BOTTOM

GMT TIME DEPTH

- 1. 1912 / 32 ft.
- 2. _____
- 3. _____

ITEM _____
POSITION _____
LEAST DEPTH _____

TIME DEPTH

- 1. _____
- 2. _____
- 3. _____

BOTTOM

TIME DEPTH

- 1. _____
- 2. _____
- 3. _____

ITEM _____
POSITION _____
LEAST DEPTH _____

TIME DEPTH

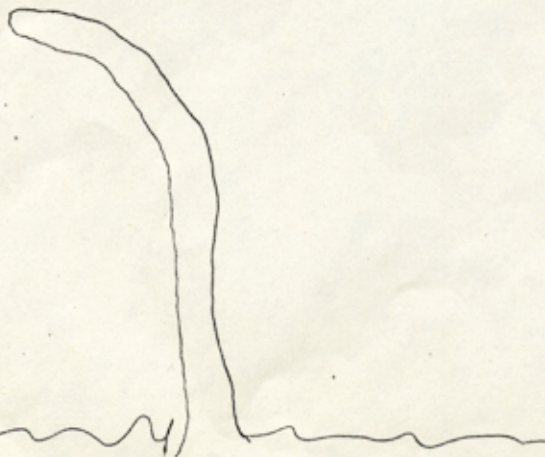
- 1. _____
- 2. _____
- 3. _____

BOTTOM

TIME DEPTH

- 1. _____
- 2. _____
- 3. _____

DRAWING OF ITEM



DESCRIPTION OF ITEM

Wood and metal wreck, located on flat, sandy/silty bottom. Highest point appeared to be remains of mast. It was metal 8-10 inches across and rose 13 ft. off a 32 foot bottom, giving it a least depth of 19 ft. The wreck was in a highly deteriorated state, but the mast seemed firmly imbedded in the bottom.

R₁ 2620
R₂ 1500

1181

5181

PROJECT:

S-F605-RU/HE-83
SIGNALS/STATIONS

APPENDIX B

1983 (Field Pos)

Sta. 01 PEPPERTREE (72) S/N 2897, 180° Antenna Control Station

ID NBR 1
LAT 344152.791
LON 764449.639
ELEV'N 4.00 M

FILE 1

1976

Sta. 02 PIER (76) S/N 3004, 180° Antenna Control Station

ID NBR 2
LAT 344144.714
LON 764239.370
ELEV'N 2.00 M

FILE 2

MOREHEAD CITY CAROLINA TT TWR, 1962 Calib. Sta.
~~CAROLINA TT MICROWAVE TWR~~

ID NBR 3
LAT 344314.731
LON 764253.406

FILE 3

MOREHEAD CITY ST PORT TERM TK, 1967 Calib. Sta.
~~STATE PORT TERMINAL TK~~

ID NBR 4
LAT 344310.513
LON 764159.618

FILE 4

BEAUFORT
ME CHURCH SPIRE Not Used

ID NBR 5
LAT 344304.115
LON 763950.278

FILE 5

BEAUFORT COURTHOUSE CUPOLA, 1913 Calib. Sta.
~~COURT HOUSE CUPOLA~~

ID NBR 6
LAT 344310.582
LON 763946.846

FILE 6

APPENDIX C

NOAA FORM 77-15 (3-71)										DEAD RECKONING ABSTRACT										U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION		Sheet 1 of 1 sheets	
NOAA Ship RUDE 5590					Commanding LCDR Russell C. Arnold					Date 1 June 1983													
Sheet No. or track line			Day letter WTET			Locality Atlantic Beach, N.C.																	
Time meridian LMT			Gyro corr'n ()			Mag. variation LORAN C			Log factor Comparisons			Rev./mile											
Pos. No.	Time	Elapsed time	Course				Distance		Loran				Wind		Visual, Radar, Astro Fixes or Remarks								
			PSC PGC	Dev. corr'n	Var'n	True	Log Rev. counter	Diff. Distance	Rate	Reading	Ts or Tg	Time + or -	GFP	Dir.	Vel.	Object	Angles	Bearing	Distance				
	hrs. min. sec.	min. sec.																					
1	1847		⊕	34° 42'	21.3° N	3"		9960															
				34° 41'	12.2° N				W														
			λ	76° 43'	08.3° W			X	27124.5														
				76° 43'	15.2° W				Y	39675.3													
								Z	57902.4														
2	2028		⊕	34° 42'	31.9° N			W															
				34° 40'	56.4° N				X	27122.2													
			λ	76° 42'	26.4° W			Y	39675.8														
				76° 42'	35.1° W				Z	57904.3													
3	2036		⊕	34° 42'	30.1° N			X	27119.9														
				34° 40'	37.4° N				Y	39674.9													
			λ	76° 41'	46.0° W			Z	57906.1														
				76° 41'	58.8° W																		

APPENDIX D



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA SHIPS RUDE & HECK
439 West York St.
Norfolk, VA 23510

June 26, 1983

To: Commander, 5th Coast Guard District
Federal Building
431 Crawford St.
Portsmouth, VA 23705

From: *Russell C. Arnold*
LCDR Russell C. Arnold
Commanding Officer

Subj: Notice to Mariners

Recent survey operations by the NOAA Ships RUDE and HECK in the vicinity of Atlantic Beach, North Carolina, confirmed the existence of wreckage at Latitude $34^{\circ}41'07.8''N$, Longitude $76^{\circ}43'19.2''W$. Least depth over the wreckage, reduced for predicted tides was 17.4 feet in lieu of the 18 feet presently charted. LORAN C comparisons taken in the vicinity of the wreck indicate that LORAN C fixes, using X and Y rates, plot 0.12 to 0.15 nautical mile due west of true positions.

*See smooth plot of FG-247
for position and depth.*

cc: AMC/MOAl
N/CG241

ref L-582(83)



APPENDIX E

PNEUMOFATHOMETER CALIBRATION

June 14, 1983

Seas: Calm
Swell: 2-3'

<u>LEADLINE (FT.)</u>	<u>FATHOMETER (FT.)</u>	<u>CORRECTION (FT.)</u>
2.0	2.0	-
4.0	4.0	-
6.0	6.0	-
8.0	8.0	-
10.0	10.0	-
12.0	11.5	+0.5
14.0	14.0	-
16.0	16.0	-
18.0	18.0	-
20.0	20.0	-
22.0	21.8	+0.2
24.0	24.0	-
26.0	26.0	-
28.0	27.8	+0.2
30.0	30.0	-
32.0	32.0	-
34.0	33.8	+0.2
36.0	36.0	-
38.0	38.0	-
40.0	39.5	+0.5
42.0	41.0	+1.0
44.0	43.0	+1.0
46.0	45.5	+0.5
48.0	46.5	+1.5
50.0	49.5	+0.5
52.0	52.0	-
54.0	53.0	+1.0
56.0	55.5	+0.5
58.0	56.0	+2.0
60.0	59.0	+1.0
62.0	62.0	-
64.0	63.0	+1.0
68.0	65.0	+3.0
70.0	69.0	+1.0
72.0	71.5	+0.5
74.0	73.0	+1.0
76.0	75.0	+1.0
78.0	77.0	+1.0
80.0	79.0	+1.0
82.0	81.0	+1.0
84.0	83.0	+1.0
86.0	85.0	+1.0
88.0	86.0	+2.0

9/9/83

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

Tide Station Used (NOAA Form 77-12): 865-6483 Duke Marine Lab, Beaufort, NC

Period: June 1, 1983

Wire Drag

~~HYDROGRAPHIC SHEET~~: OPR-5-F605 RU/HE 83

OPR: F605

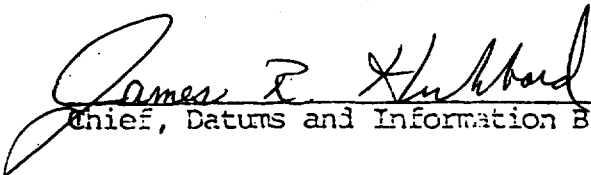
Locality: Offshore Atlantic Beach, North Carolina

Plane of reference (mean ~~high~~ low water): 1.84 feet

Height of Mean High Water above Plane of Reference is 2.9 feet

REMARKS: Recommended Zoning:

Apply - 40 minute time correction and x 1.30 Range Ratio


Chief, Datums and Information Branch

GEOGRAPHIC NAMES

Name on Survey	Source of Information										
	A	B	C	D	E	F	G	H	K		
ATLANTIC BEACH											1
ATLANTIC OCEAN (title)											2
BOGUE BANKS											3
MONEY ISLAND BEACH											4
NORTH CAROLINA (title)											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25

Approved:

Charles B. Harrington
Chief Geographer - N/CG 2x5

9 SEPT 1983

HYDROGRAPHIC SURVEY STATISTICS

FE-247

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1 (Included in D.R.)	SMOOTH OVERLAYS: POS., ARC, EXCESS		0
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		2
DESCRIP-TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDIAN FILES					
ENVELOPES					
VOLUMES					
CAHIERS					
BOXES				Smooth Plots 1-Sonograms Misc data	

SHORELINE DATA

SHORELINE MAPS(List):	None
PHOTOBATHYMETRIC MAPS(List):	None
NOTES TO THE HYDROGRAPHER(List):	None
SPECIAL REPORTS(List):	Dive Reports - included in Descriptive Report
NAUTICAL CHARTS(List):	11547 23rd Ed.

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			1
POSITIONS REVISED	0	1	1
SOUNDINGS REVISED	0	0	0
CONTROL STATIONS REVISED	0	0	0
	TIME - HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION	0	3	3
VERIFICATION OF CONTROL	0	1	1
VERIFICATION OF POSITIONS	0	1	1
VERIFICATION OF SOUNDINGS	0	2	2
VERIFICATION OF JUNCTIONS	0	0	0
APPLICATION OF PHOTOBATHYMETRY	0	0	0
SHORELINE APPLICATION/VERIFICATION	0	2	2
COMPILATION OF SMOOTH SHEET	0	0	0
COMPARISON WITH PRIOR SURVEYS AND CHARTS	0	2	2
EVALUATION OF SIDESCAN SONAR RECORDS	0	1	1
EVALUATION OF WIRE DRAGS AND SWEEPS	0	0	0
EVALUATION REPORT	0	3	3
OTHER	0	0	0
TOTALS	0	15	15

Pre-processing Examination by
C. D. MeadorBeginning Date
8/29/83Ending Date
8/30/83Verification of Field Data by
C. D. MeadorTime(Hours)
See E&A BelowEnding Date
9/8/83Verification Check by
R. D. SanockiTime(Hours)
1Ending Date
9/14/83Evaluation and Analysis by
C. D. MeadorTime(Hours)
15Ending Date
9/9/83Inspection by
K. Wm. Kieninger and R. D. SanockiTime(Hours)
2Ending Date
9/14/83

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: FE-247

FIELD NO.: R/H-20-7-83

North Carolina, Atlantic Ocean, South of Money Island Beach

SURVEYED: May 31 through June 1, 1983

SCALE: 1:20,000

PROJECT NO.: S-F605-RU/HE-83

SOUNDING: Pneumatic Depth Gauge

CONTROL: DEL NORTE 520
(Range/Range)

Chief of Party R.C. Arnold

Surveyed by D.D. Winter
..... N.G. Millett
..... T.G. Callahan

Automated Plot by Xynetics 1201 Plotter (AMC)

1. INTRODUCTION

- a. No unusual problems were encountered during verification.
- b. Notes in the Descriptive Report were made in red during verification.

2. CONTROL AND SHORELINE

a. See section 4.a of this Evaluation Report for a discussion of the control information in the Descriptive Report.

b. Shoreline in brown was added to the present survey from Chart 11547, 23rd Edition, February 20, 1982 and is for orientation purposes only.

3. HYDROGRAPHY

The only hydrography on this survey is a single Pneumatic Depth Gauge least depth taken on the wreck of the trawler PARKINS.

4. CONDITION OF SURVEY

The smooth sheet, hydrographic records and reports comply with the Hydrographic Manual and the Wire Drag Manual except as follows:

- a. The discussion of control in section C of the Descriptive Report did not state the datum of the control stations, identify all electronic control equipment by manufacturer, model and component serial numbers for each vessel and shore station or give an evaluation of the adequacy of the calibration data as required by section 5.3.4 F and G of the Hydrographic Manual.
- b. No abstract of corrections to Electronic Position Control was appended to the Descriptive Report as required by section 5.3.4.G of the Hydrographic Manual.
- c. None of the paper tapes required to plot the survey information were submitted by the field.
- d. A plot of the vessel's positions during side-scan sonar work was not submitted by the field as required by section 7.12.3.1 of the Project Instructions.
- e. An investigation of charted or uncharted landmarks was not done as required by section 7.14.2 of the Project Instructions.
- f. The buoy marking the wreck of the trawler PARKINS was not located as required by section 7.14.3 of the Project Instructions.
- g. A comparison with the prior surveys was not made as required by section 5.3.4K of the Hydrographic Manual and page 79 of the Wire Drag Manual.
- h. No abstract of positions was appended to the Descriptive Report as required by section 5.3.5G of the Hydrographic Manual and section 7.12.3.1 of the Project Instructions.
- i. No Field Tide Note was appended to the Descriptive Report as required by section 5.3.5B of the Hydrographic Manual and page 78 of the Wire Drag Manual.
- j. A report on currents was not included in the Descriptive Report as required by section 8.2.2 of the Project Instructions.

5. JUNCTIONS

This is an item investigation with no junctional requirements.

6. COMPARISON WITH PRIOR SURVEYS

H-8247WD (1:20,000) 1955

H-9421 (1:10,000) 1974

H-9434 (1:5,000) 1974

The wire drag work plotted on survey H-8247WD is the source of the charted location and wire drag clearance depth for the wreck of the trawler PARKINS.

Survey H-8247WD (1955) hung the wreck at 19 feet, obtained a clearance depth of 18 feet, and an actual depth of 18 feet on the wreck. The present survey obtained a least depth of 17 feet, measured by divers. The positional difference of approximately 50 meters may be attributable to a combination of natural processes and position methods used. The difference in depths on the wreck may have been caused by movement of the wreck subsequent to the prior survey and/or possibly sounding methods of the prior survey.

On both surveys H-9421 and H-9434 the location of the wreck falls between sounding lines which do not show any indication of its existence. The location and wire drag clearance depth for the wreck were brought forward from survey H-8247WD to both these surveys.

The present field examination is adequate to supersede these prior surveys for the location and least depth of the wreck of the PARKINS. The charted wreck cleared to 18 feet should be revised to a 17 foot wreck with a danger curve.

7. COMPARISON WITH CHART NO. 11547 (23rd Edition, February 20, 1982)

a. Hydrography

The location and wire drag clearance depth for the wreck PARKINS originated with the previously discussed prior survey H-8247WD and is adequately discussed under that comparison.

The present field examination is adequate to supersede the charted information for this wreck.

b. Aids to Navigation

There is one floating and no fixed aids to navigation within the limits of the present field examination. (See section 4.f of this report).

8. COMPLIANCE WITH INSTRUCTIONS

Except as listed elsewhere in this report, this field examination adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a good field examination and no additional field work is recommended.

Charles D. Meador
Charles D. Meador
Cartographer
Verification of Field Data
Evaluation and Analysis

INSPECTION REPORT
FE-247

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts of the survey have been made. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

Inspected

R. D. Sanocki

R. D. Sanocki
Chief, Verification Section
Hydrographic Surveys Branch

Karl Wm. Kieninger

Karl Wm. Kieninger, CDR, NOAA
Chief, Hydrographic Surveys Branch

Approved 15 September 1983

Wesley V. Hull

Wesley V. Hull, RADM, NOAA
Director, Atlantic Marine Center

76° 45'

76° 44'

76° 43'

76° 42'

Shoreline in brown from Chart II547, 23rd Edition, February 20, 1982 for orientation only.

34° 42'

BOGUE BANKS

34° 42'

1 PEPPERTREE, 1983 (field position)

ATLANTIC BEACH

MONEY ISLAND BEACH

2 PIER, 1966



17 Wk

34° 41'

34° 41'

FE-247
 INVESTIGATION OF THE WRECK "PARKINS"
 1:20,000
 SOUNDING IN FEET AT MLW

76° 45'

76° 44'

76° 43'

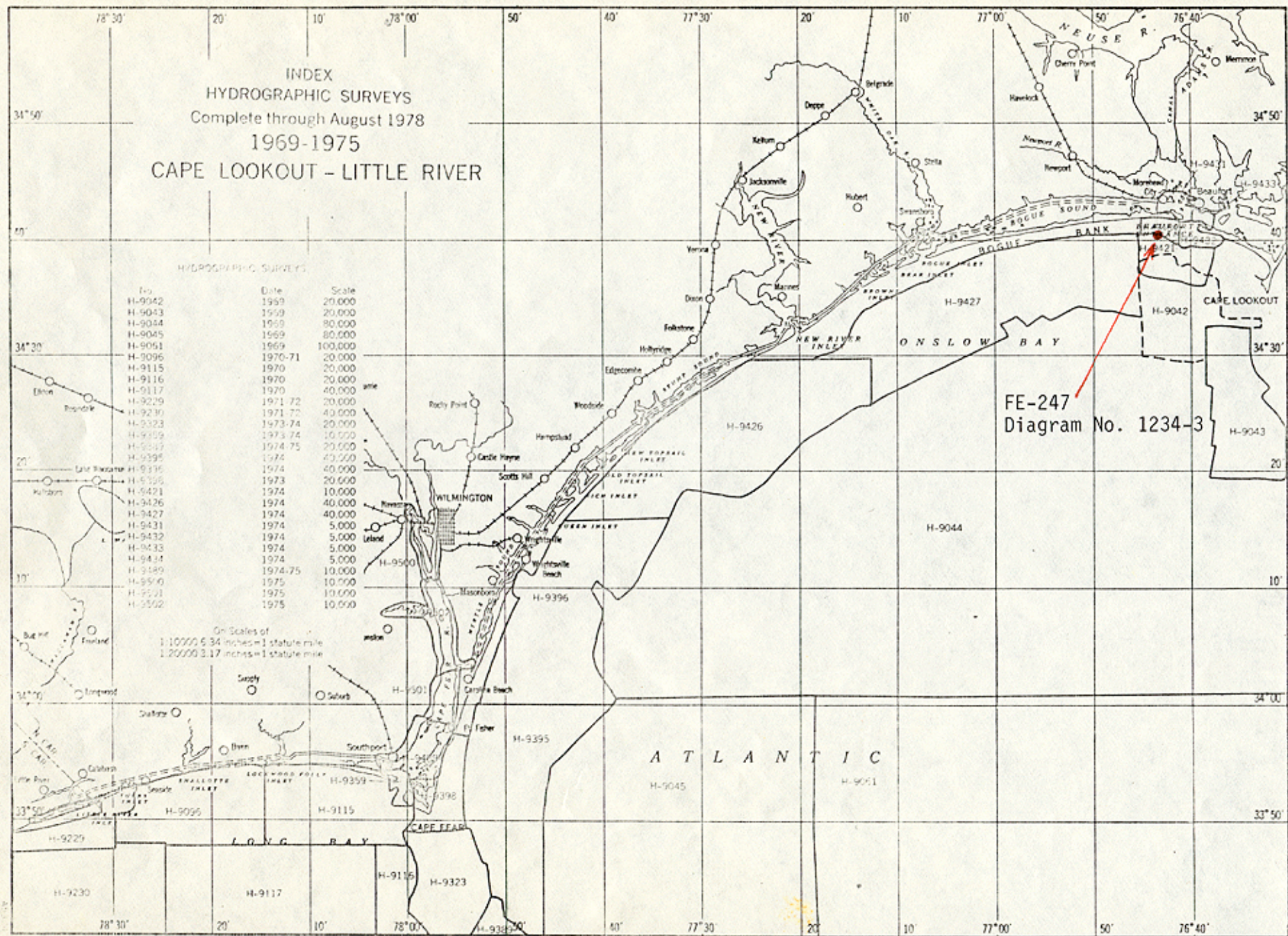
76° 42'

INDEX
HYDROGRAPHIC SURVEYS
Complete through August 1978
1969-1975
CAPE LOOKOUT - LITTLE RIVER

HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-9042	1959	20,000
H-9043	1959	20,000
H-9044	1959	80,000
H-9045	1959	80,000
H-9051	1969	100,000
H-9096	1970-71	20,000
H-9115	1970	20,000
H-9116	1970	20,000
H-9117	1970	40,000
H-9229	1971-72	20,000
H-9230	1971-72	40,000
H-9323	1973-74	20,000
H-9359	1973-74	10,000
H-9396	1974-75	20,000
H-9395	1974	40,000
H-9396	1974	40,000
H-9395	1973	20,000
H-9421	1974	10,000
H-9426	1974	40,000
H-9427	1974	40,000
H-9431	1974	5,000
H-9432	1974	5,000
H-9433	1974	5,000
H-9434	1974	5,000
H-9489	1974-75	10,000
H-9500	1975	10,000
H-9521	1975	10,000
H-9502	1975	10,000

On Scales of
1:100,000 5.34 inches = 1 statute mile
1:200,000 2.67 inches = 1 statute mile



DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville Maryland
Hydrographic Index No. 72 J

