

9421

Diag. Chrt. No. ~~1221~~ 2

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-10-2-74~~
Office No. H-9421

LOCALITY

State NORTH CAROLINA
General Locality .. CAPE LOCKOUT
Locality .. APPROACHES TO BEAUFORT INLET

19 74

CHIEF OF PARTY
F. T. SMITH

LIBRARY & ARCHIVES

DATE 2 - 11 - 75

9421

HYDROGRAPHIC TITLE SHEET

H-9421

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 10-2-74

State North Carolina

General locality Cape Lookout
~~Beaufort Inlet~~

Locality Approaches to
~~Offshore Beaufort Inlet~~

Scale 1:10,000 Date of survey April 12 - June 13, 1974

Instructions dated January 31, 1974 Project No. OPR-513

Vessel LAUNCH 1277

Chief of party F. T. Smith

Surveyed by W. A. Wert, F. L. Kleinschmidt, R. A. Lewis, W. Hill, J. S. Bradford
D. M. Bryant

Soundings taken by echo sounder, hand lead, pole _____

Graphic record scaled by Launch Personnel

Graphic record checked by Launch Personnel

Protracted by N/A Automated plot by 618 CAL COMP, AMC
~~BBE 8/e~~

Verification by AMC

Soundings in ~~fathoms~~ feet at MLW NEEWS

REMARKS: _____

Applied to sheets 3-7-75
JTB

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9421
AHP 10-2-74, SCALE 1:10,000
OPR-513
BEAUFORT INLET, NORTH CAROLINA

A. PROJECT

OPR-513 is a cooperative agreement between NOS and the U.S. Army Corps of Engineers to provide a new data base for computer studies of the Beaufort Inlet. The survey was accomplished in accordance with Project Instructions OPR-513-AHP-74, Beaufort Inlet, North Carolina, Dated 31 January 1974 and chapter 3 of the Atlantic Marine Center Manual.

B. AREA SURVEYED

The area encompassed by the sheet AHP 10-2-74 is an irregular section extending offshore from Bouge and Shackleford banks in Beaufort Inlet, North Carolina. The approximate limits of this section extend seaward from the 30-foot curve to $34^{\circ} 36.5'N$ and from $076^{\circ} 36.5'W$ to $076^{\circ} 44.8W$. Junction was made with contemporary survey AHP 05-2-74, 1:5,000 scale 1974. Detailed prior surveys of the area are H-6798, 1:10,000 scale, 1943; H-7963, 1:12,500 scale, 1952; and H-8565, 1:5,000 scale, 1960. All field work was accomplished during the period 12 April 74 to 13 June 1974.

C. SOUNDING VESSEL

Launch 1277 was used exclusively to accomplish the survey work on AHP 10-2-74.

D. SOUNDING EQUIPMENT

A Raytheon Fathometer model number DE 723D, serial number 1904 was used in Launch 1277. Frequent A to F scale checks were taken to check stylus arm length. All initial settings were adjusted to zero. A TRA correction of +1.5 feet was determined by drawing the bar check tightly against the transducer and measuring the bar depth.

All soundings were obtained at 2500 RPM. All fathograms were scanned to mean out sea swell action. Refer to Velocity and Fathometer Corrector Report, OPR 513, Beaufort Inlet, North Carolina.

E. SMOOTH SHEET

Raw master tapes were logged and data plotted on the boatsheet by the Launch's PDP8/e Hydroplot System. Edited master tapes, corrector tapes, velocity tapes, and TC/TI tapes were logged by Launch personnel and submitted for smooth plotting by Processing Division, Atlantic Marine Center.

F. CONTROL

Control for Del-Norte Hydrography was established utilizing four remote transponders located over 3rd order traverse stations, ~~Boye~~ Banks "N", Atlantic Beach "A", Beaufort Inlet front range light, and Beaufort Inlet rear range light. Calibration of the Del-Norte system was accomplished by 3 point sextant fixes using third order triangulation stations and third order traverse stations. Refer to horizontal control report OPR-513 Beaufort Inlet, 1974 and to enclosed Del-Norte note. Field calibration data is with the field records in a folder and should remain with the original descriptive report. An abstract of daily corrections is in the appendix.

G. SHORELINE

There is no shoreline on Sheet AHP 10-2-74.

H-9421 (1974)

H. CROSSLINES

Approximately 35.6 nautical miles or 13.5% of the hydrography run on sheet AHP 10-2-74 was crosslines. The agreement with main scheme hydro was excellent and all soundings agreed to the nearest foot.

I. JUNCTIONS

H-9432(1974)
Junction with AHP 05-2-74 was very good and all soundings agreed within 1 foot. ✓

J. COMPARISON WITH PRIOR SURVEYS

Comparison with H-7963, 1:12,500 scale, 1952; H-6798, 1:10,000 scale, 1943; and ✓
H-8565, 1:5,000 scale, 1960 showed the contemporary survey soundings to agree
at the 30-foot curve, but to be 1 to 3 feet shoaler in deeper water. The
contemporary survey soundings are up to 15 feet shoaler within the limits of
the disposal areas. Prior surveys H-9042, 1969 and H-8247, 1955 which super-
sede parts of H-7963, 1:12,500 scale 1952 were not available for comparison.
The contemporary survey soundings were reduced for predicted tides and did not
have velocity or settlement and squat correctors applied. There were no
presurvey review items within the limits of AHP 10-2-74.

K. COMPARISON WITH THE CHART

Comparison with charts No. 423, 15th Edition, December 8, 1973 and No. 420 ✓
41st Edition, December 16, 1972 generally showed the contemporary survey
soundings to agree at the 30 foot curve, but are up to 10 feet shoaler within
certain areas of the disposal areas. Agreement was within 2 feet in depths
ranging from 30 to 52 feet.

L. ADEQUACY OF SURVEY

This survey is complete and considered adequate to supersede prior surveys ✓
for chartings.

M. AIDS TO NAVIGATION

Comparison of the floating aids to navigation between charts No. 423, 15th ✓
Edition, December 8, 1973 and No. 420, 41st Edition, December 16, 1973 and
Light List Volume I, Atlantic Coast 1974 showed no differences.

A red can radar reflector buoy maintained by the state of North Carolina, Department of Economics and Natural Resources marks a sunken 441 foot liberty ship with the superstructure removed. Two small plastic bottle buoys mark the bow and stern of the sunken vessel.

Red can buoy position: Lat 34° 40' 15.48"
 Lon 076° 44' 41.66"
 Bow of Sunken Vessel: Lat 34° 40' 17.47" *Pos 2148*
 Lon 076° 44' 42.52"
 Stern of Sunken Vessel: Lat 34° 40' 20.83" *Pos 2151*
 Lon 076° 44' 45.22"

A least depth of ⁽¹⁷⁾18 feet (Lead Line) based on ~~predicted~~ ^{actual} tides was found. The sunken vessel lays 338° True. The vessel was sunk in early June, 1974 for the purpose of establishing an artificial fish haven.

N. STATISTICS

<u>Launch</u>	<u>Miles of Soundings</u>	<u>Sq. Miles of Soundings</u>	<u>No. of Bottom Samples</u>	<u>No. of Positions</u>
1277	271.7	21.2	17	2152

O. MISCELLANEOUS

None

P. RECOMMENDATIONS

It is recommended that the Red can buoy marking the sunken vessel (artificial fish haven) and least depth be applied immediately to C&GS Chart 420.

Q. REFERENCES TO REPORTS

1. Fathometer and Velocity Correction Report, OPR-513, Beaufort Inlet, North Carolina, 1974.
2. Horizontal Control Report, OPR-513, Beaufort Inlet, North Carolina, 1974.

Respectfully Submitted

LTJG William A. Wert

O-I-C Launch 1277



LCDR F. T. Smith

Chief, Atlantic Hydrographic Party

TRANSMITTAL SHEET

The Boatsheet and Records were inspected for completeness and no additional work is considered necessary.


Fidel T. Smith

LCDR, NOAA, Chief, AHP

ABSTRACT OF EQUIPMENT UTILIZATION

Shore Station Locations(R)

Julian Days 102-116

Unit S/N 252; Directional antenna on 20' guyed pipe

Location: Bogue Banks "N"
34° 41' 51.961"N, 76° 45' 03.391"W

Unit S/N 181; directional antenna on 20' light tower

Location: Beaufort Inlet Channel front range light
34° 41' 57.034"N, 76° 39' 57.336"W

Julian Days 119-122

Unit S/N 252; same as Julian Days 102-116

Unit S/N 188; directional antenna on 65' light tower

Location: Beaufort Inlet Channel rear range light
34° 42' 52.98"N, 76° 39' 46.37"W

Julian Days 144-164

Unit S/N 252; same as Julian Days 102-116

Unit S/N 249; omnidirectional antenna on 10' guyed pipe

Location: Atlantic Beach "A", Ft. Macon Park Station
34° 41' 39.911"N, 76° 40' 56.945"W

Mobile Transmitter(M)

Unit S/N 162, omnidirectional antenna

DMU

Julian Days 102-126: DMU S/N 162

Julian Days 127-164 DMU S/N 179

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 1277

SHEET : AHP-10-2-74

TIME	DAY	PATTERN 1	PATTERN 2
201205	102	-00001	+00004
142104	106	-00002	+00009
152534	107	-00002	+00006
192008	108	-00001	+00006
135628	109	+00001	+00005
170442		+00001	+00005
134020	112	+00000	+00005
140612	114	+00001	+00006
133346	116	-00001	+00006
140249		-00001	+00006
173536		-00001	+00006
143640	119	-00002	+00004
235959		-00002	+00004
141537	122	+00000	-00003
235959		+00000	-00003
171408	127	-00010	+00008
143523	144	+00005	+00000
165645		+00005	+00000
150501	163	+00001	+00002
144526	164	+00000	+00000

SIGNAL LIST
 OPR-513
 BEAUFORT INLET, N.C.

001	34	42	5301	076	43	2881	BOGUE SOUND LIGHT 4
002	34	42	4572	076	42	5502	BOGUE SOUND LIGHT 2
003	34	42	1766	076	42	4280	PILING, TRIPLE SSS PIER
004	34	42	0046	076	41	0003	FORT MACON CREEK LIGHT 2
005	34	42	4520	076	41	4774	MOREHEAD CITY CHANNEL LIGHT 23
006	34	41	5703	076	39	5734	BEAUFORT INLET CH. RANGE FRNT LT.
007	34	41	1873	076	39	3099	MOREHEAD CH. RANGE REAR LIGHT
008	34	41	2508	076	37	5798	SHACKLEFORD SLUE JNCT LIGHT "NR"
009	34	42	5298	076	39	4637	BEAUFORT INLET CH. RANGE REAR LT.
010	34	40	3519	076	37	1778	SHACKLEFORD BANKS STATION 10
011	34	40	3175	076	37	0661	SHACKLEFORD BANKS STATION 11
012	34	40	2634	076	36	4908	SHACKLEFORD BANKS STATION 12
013	34	40	2212	076	36	3540	SHACKLEFORD BANKS STATION 13
014	34	41	3991	076	40	5695	BOGUE BANKS STATION A
015	34	41	3984	076	41	1284	BOGUE BANKS STATION A1
016	34	41	3977	076	41	3032	BOGUE BANKS STATION B
017	34	41	4022	076	41	4621	BOGUE BANKS STATION B1
018	34	41	4069	076	42	0275	BOGUE BANKS STATION C
019	34	41	4356	076	42	2127	BOGUE BANKS STATION C1
020	34	41	4583	076	42	3600	BOGUE BANKS STATION D
021	34	41	4637	076	42	5629	BOGUE BANKS STATION E
022	34	41	4808	076	43	1041	BOGUE BANKS STATION E1
023	34	41	4922	076	43	2581	BOGUE BANKS STATION F
024	34	41	5029	076	43	3599	BOGUE BANKS STATION G
025	34	40	3977	076	37	3263	+NEW.
026	34	40	4340	076	37	4910	SHACKLEFORD BANKS STATION 1
027	34	40	4546	076	37	5846	SHACKLEFORD BANKS STATION 2
028	34	40	5000	076	38	1903	SHACKLEFORD BANKS STATION 3
029	34	40	5237	076	38	2976	SHACKLEFORD BANKS STATION 4
030	34	43	1473	076	42	5341	*MOREHEAD CTY T&T MICRO TWR (1962)
031	34	43	1637	076	42	3226	*MOREHEAD CTY STANDPIPE (1913)
032	34	42	5143	076	41	1149	*MOREHEAD CTY RADIO WMBL (1962)
033	34	43	0803	076	39	4992	*BEAUFORT MUNI WATER TANK (1927)
034	34	41	5196	076	45	0339	BOGUE BANKS STATION N
035	34	42	1613	076	40	4266	BEAUFORT HARBOR CHANNEL LIGHT 1
036	34	41	5025	076	43	4722	BOGUE BANKS STATION K
037	34	41	5108	076	44	0994	BOGUE BANKS STATION L
038	34	41	5210	076	44	3055	BOGUE BANKS STATION M
039	34	41	5204	076	44	4523	BOGUE BANKS STATION M1

THIRD ORDER TRAVERSE
 *THIRD ORDER TRIANGULATION
 +THREE POINT SEXTANT FIX

DEL NORTE NOTE

Del Norte electronic positioning equipment which operates in a range-range mode was used to control all of the hydrography on sheet AHP 10-2-74.¹⁴⁻⁹⁴²¹

Three different networks were utilized on this sheet. Shore stations were located over established third order traverse stations.

Calibration was established twice daily by three point sextant fixes; all calibration signals were situated over triangulation or traverse stations. Sextant fix positions were converted to Del-Norte ranges by PDP8/e computer using the RK561 program.

On any day, the difference observed between the average morning calibration and the average evening calibration seldom exceeded 1 meter, with a maximum difference of 3 meters. Daily correctors were determined by averaging all calibrations taken at the beginning and at the end of the work period.

Performance of the Del-Norte system during the project was, in general, good. The DMU was replaced on 27 May 1974 due to an intermittent problem which could not be solved by card substitution. (Refer to Failogs # 4887 and #5130). No difficulties were encountered with the remote transponders.

A problem existed in the hydroplot controller which caused loss of the "8" bit in the least significant digit of pattern 2; thus all positions with an "8" or "9" in this position were read as a "0" or "1", respectively. No corrections were made to adjust the affected positions on the boatsheet.

ABSTRACT OF SETTLEMENT AND SQUAT
H-9421 AHP 10-2-74

SPEED(RPM)	CORRECTION(FT)
0-1499	+0.0
1500 - 2000	+0.2
2001 - 3000	+0.4

FATHOMETER AND VELOCITY
CORRECTION REPORT OPR-513

H-9421

APRIL-JUNE 1974

A. EQUIPMENT

A Raytheon Fathometer, model number DE 723 D, serial number 1904 was used in Launch 1277. A TRA correction of +1.5 feet was determined by drawing the bar check tightly against the transducer and measuring the bar depth. Frequent A to F scale checks were taken to check stylus arm length. All initial settings were adjusted to zero. The fathometer would not sound in depths less than 3.7 feet and therefore pole soundings were necessary in shoal water. This problem was corrected by M. J. Ward of EED, however the fathometer will not digitize in depths less than 7 feet. Additional work should be performed.

B. VELOCITY AND INSTRUMENT ERROR CORRECTORS

Depth corrections were obtained by averaging all bar check values excluding values which differed by more than 0.4 feet. A graph was constructed and velocity correctors were scaled in accordance with table 2 of the Hydrographic Manual. The values obtained on the five foot bar check were rejected due to the problem cited in Section A. The graph and abstract of corrector values are included with this report.

C. SETTLEMENT AND SQUAT CORRECTORS

Settlement and Squat Correctors were obtained as outlined in Section 5-108 of the Hydrographic Manual. The graph and abstract of corrector values are included with this report.

D. MISCELLANEOUS

No appreciable changes in depth corrections occurred between the first and last days of hydrography, therefore bar check data was averaged and one velocity table was constructed which applies to all sounding data obtained during OPR-513.

Respectfully Submitted

William A. Wert
OIC Launch 1277

CORRECTIONS IN FEET, FATHOMS

FORM C&GS-117
(11-65)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship Atlantic Hydrographic Party
LAUNCH 1277 Lt. J. G. W. L. Wert Comdg.

These corrections are to be used
between April 1974 and June 1974
in the locality Beaufort Inlet, N. C.

for hydrographic surveys Nos. H-9421, H-9431,
H-9432, H-9433, H-9434

For depth water 33.0. These figures

DEPTH IN FEET		VELOCITY CORRECTIONS		EXTRAPOLATED
DEPTH (FT)	CORRECTIONS (FT)	DEPTH (FT)	CORRECTIONS (FT)	
0.0 - 3.3	0.0			25%
3.4 - 9.0	+0.2			
9.1 - 14.6	+0.4			
14.7 - 20.3	+0.6			
20.4 - 26.0	+0.8			
26.1 - 31.6	+1.0			
31.7 - 37.5	+1.2			
37.6 - 43.0	+1.4			
43.1 - 48.8	+1.6			
48.9 - 54.5	+1.8			
54.6 - 60.1	+2.0			

Settlement and Squat
Corrections
May 7, 1974

RPM	CORRECTION (FT)
0 - 1499	0.0
1500 - 2000	+0.2
2001 - 3000	+0.4

VELOCITY TAPE

OPR-513

AHP-10-2-74

H-9401 9421

LAUNCH 1277

000033	0	0000	0001	000	127700	009432
000090	0	0002				
000146	0	0004				
000203	0	0005				
000260	0	0003				
000316	0	0010				
000375	0	0012				
000430	0	0014				
000488	0	0016				
000545	0	0018				
000601	0	0020				
999999	0	0020				

APRIL - MAY - JUNE 1974
BAR CHECK ABSTRACT OPR-513

J.D.	10'	15'	20'	25'	30'	35'	40'	45'		
102	+1	+3	+5	+6						
106	+3	+6	+6	+7	+9	+1.0	+1.1	+1.2		
107	+2	+4	+6	+6						
108	+4	+6	+8	+1.0	+8	+1.2	+1.4	+1.3		
109	+3	+4	+6	+7	+8					
114	+4	+5	+8	+9	+1.3	+1.6	+1.5	+1.8		
116	-1	+3	+5							
119	+1	+2	+3	+6	+6	+1.0				
122	+2	+3	+6	+6	+9	+1.0	+1.2			
128	+1	+4	+6	+6	+8					
130	+2	+4	+5	+6	+8	+1.0	+1.2			
133	+3	+4	+6	+7	+1.0	+1.2				
134	+2	+6	+6	+9	+9	+1.2	+1.3			
135	+3	+4	+5	+8	+1.0					
140	+2	+4	+7	+1.0	+1.2	+1.4				
141	+4	+5	+6	+9	+1.0	+1.3				
143	+3	+5	+6	+9	+1.1	+1.4				
144	+4	+5	+7	+1.0	+1.1	+1.2				
148	+3	+5	+6	+8						
155	+2	+3	+6	+8	+9					
157	+2	+3	+6	+8	+1.1					
158	+1	+2	+5	+5	+1.1					
165	+4	+5	+8	+1.0	+1.2	+1.4				
170	+3	+5	+7	+1.0	+1.1	+1.3				
	51	11	105	180	156	172	77	43		
		2A	21	23	20	14	6	3		
	0.24	0.42	0.60	0.78	0.98	1.23	1.28	1.43		

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

FORM C&GS-733M
(2-66)

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH FATHOMS (# of fathoms)	WEIGHT OF SAMPLER	APX. PERC. RETEN- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, color, iron, etc., depth, cutter, strat. no., type of bottom, ref. lat. & lon., stops, plain, disposition, etc.)	OBS INIT			
		PROJ. NO.										YEAR	CHECKED BY	DATE CHECKED
		LATITUDE	LONGITUDE											
VESSEL		AHP 10-2-74		1974	W.A. WERT		6-24-74							
Vessel		Launch 1277		1974	Beauford Inlet									
1981	MAY 7	34° 40-43.29	76° 42-44.38	35	5.16	3 in		gy	fine gy S, bck Sh		ELL			
1983		39-56.36	44-34.36	49				gy	fine gy S.		"			
1984		39-28.85	43-27.30	50				gy	fine gy S.		"			
1985		38-55.19	43-58.80	50				brn	fine brn S.		"			
1986		38-26.66	44-01.25	47				brn	fine brn S.		"			
1987		38-25.63	43-00.41	48				gy	fine gy S.		"			
1988		38-02.05	43-09.59	50				gy	fine gy S, bck Sh		"			
1989		37-30.32	42-01.96	49				brn	fine brn S.		Wlw			
1990		39-25.03	40-55.30	30				brn	cr brn S, bck Sh		Wlw			
1991	MAY 7	40-08.23	41-32.54	36				brn	fine brn S.		Wlw			
2113	JUN 12	38-28.73	37-34.82	44				gy	fine gy S, M		ELL			
2114		37-54.87	37-18.85	46				gy	fine gy S, bck Sh, M		"			
2115		38-16.04	40-01.13	49				gy	fine gy S, bck Sh, M		"			
2116		38-37.12	40-33.27	47				gy	fine gy S, M		"			
2117		39-13.72	40-13.70	41				gy	fine gy S, M		"			
2118		39-33.94	39-32.91	36				gy	fine gy S, M		"			
2120	JUN 12	39-33.42	40-26.39	37				bk	M		"			

Use more than one line per sample if necessary.

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR 513
- 2. Reg. No. H-9421
- 3. Field No. AHP 10-2-74
- 4. Requested By Verification Branch
- 5. Ship or Office AMC
- 6. Date Required with sounding overlay

7. Polyconic Modified Transverse Mercator

8. Central Meridian of Projection 076 ° 40 ' 00 "

9. Survey Scale: 1: 10,000

10. Size of Sheet (check one):

36 x 54 36 x 60 Other Specify _____

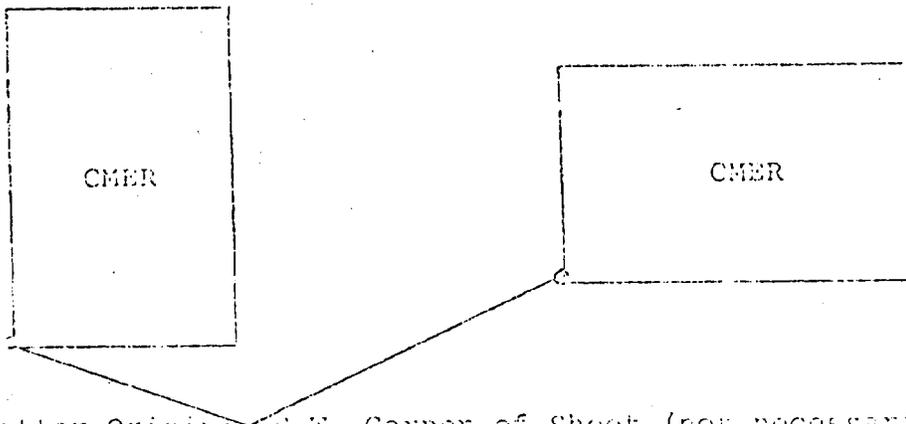
11. Sheet Orientation (check one):

NYX = 1

NYX = β

N

N



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

Latitude: 34 ° 36 ' 30 "

Longitude: 76 ° 45 ' 34 "

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

14. Material Desired: Tracing Paper Mylar

Smooth Sheet Other Specify _____

15. Remarks: _____

ATLANTIC MARINE CENTER
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-513 2. Reg. # H-9421 3. Field # AHP 10-2-74
 4. Type of Control DEL-NORTE (Hi-Fix, Raydist, EPI, etc.)
 5. Frequency 1498.35 (for conversion of electronic lanes to meters)
 6. Mode of Operation (check one): Control Type 101

Range-Range

Range-Visual

Range One (R₁) Brown
 Station I.D. 20942
 Range Two (R₂) Violet
 Station I.D. BEAUFORT INLET
BEAUFORT RANGE LIGHT

Lat. 34 ° 41 ' 51.96 "
 Long. 076 ° 45 ' 03.39 "
 Lat. 34 ° 42 ' 52.98 "
 Long. 076 ° 39 ' 46.37 "

Hyperbolic (3-station)

Hyper-Visual

Slave One
 Station I.D. _____
 Master
 Station I.D. _____
 Slave Two
 Station I.D. _____

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

7. Location of Survey:

Range-Range

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

Survey area is to observer's Right A=0

Survey area is to observer's Left A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left.

Slave Two must be to observer's Right.

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

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>1277</u>	<u>143640</u> <u>119</u>	<u>180355</u> <u>122</u>	<u>1568</u> to <u>1980</u>
<u>1277</u>	<u>150501</u> <u>163</u>	<u>162337</u> <u>163</u>	<u>2113</u> to <u>2121</u>

9. Remarks: _____

ATLANTIC MARINE CENTER
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-513 2. Reg. # H-9421 3. Field # AHP 10-2-74
 4. Type of Control DEL-NORTE (Hi-Fix, Raydist, EPI, etc.)
 5. Frequency 1498.35 (for conversion of electronic lanes to meters)
 6. Mode of Operation (check one): Control Type 102

Range-Range

Range-Visual

Range One (R ₁)	<u>Brown</u>	Lat.	<u>34</u> °	<u>41</u> '	<u>51.96</u> "
Station I.D.	<u>BOUQE BANKS "N"</u>	Long.	<u>076</u> °	<u>45</u> '	<u>03.39</u> "
Range Two (R ₂)	<u>Red</u>	Lat.	<u>34</u> °	<u>41</u> '	<u>52.03</u> "
Station I.D.	<u>BEAUFORT INLET FRONT RANGE LIGHT</u>	Long.	<u>076</u> °	<u>39</u> '	<u>57.34</u> "

Hyperbolic (3-station)

Hyper-Visual

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

7. Location of Survey:

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

Survey area is to observer's Right A=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. This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

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

Vessel	From		To		Position Numbers	
EDP #	Time	Day	Time	Day	(inclusive)	
<u>1277</u>	<u>201205</u>	<u>102</u>	<u>190030</u>	<u>116</u>	<u>01</u>	to <u>1567</u>
<u>1277</u>	<u>171408</u>	<u>127</u>	<u>192446</u>	<u>127</u>	<u>1981</u>	to <u>1991</u>

9. Remarks: _____

ATLANTIC MARINE CENTER
ELECTRONIC CONTROL PARAMETERS

1. Project # OPR-513 2. Reg. # H-9421 3. Field # AHP10-2-74
 4. Type of Control DEL-NORTE (Hi-Fix, Raydist, EPI, etc.)
 5. Frequency 1498.35 (for conversion of electronic lanes to meters)
 6. Mode of Operation (check one): Control Type 103

Range-Range

Range-Visual

Range One (R₁) Brown
 Station I.D. BOUGE BANKS "N"
 Range Two (R₂) Blue
 Station I.D. BOUGE BANKS "A"

Lat.	<u>34</u> °	<u>41</u> '	<u>51.96</u> "
Long.	<u>076</u> °	<u>45</u> '	<u>03.39</u> "
Lat.	<u>34</u> °	<u>41</u> '	<u>39.91</u> "
Long.	<u>076</u> °	<u>40</u> '	<u>56.95</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One
 Station I.D. _____
 Master
 Station I.D. _____
 Slave Two
 Station I.D. _____

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

7. Location of Survey:

Range-Range

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

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

Hyperbolic

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

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

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>1277</u>	<u>143523</u> <u>144</u>	<u>165554</u> <u>144</u>	<u>1992</u> to <u>2112</u>
<u>1277</u>	<u>144403</u> <u>164</u>	<u>153148</u> <u>164</u>	<u>2122</u> to <u>2152</u>

9. Remarks: _____

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H-9421

- 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 ~~been~~ been made. A new final sounding printout has ~~been~~ been made.

Date: Jan. 21, 1975

Signed: *William L. Jonns*
Title: William L. Jonns
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: Jan. 21, 1975

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

11/12/74

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

Tide Station Used (NOAA Form 77-12): Beaufort Inlet Channel Range

Period: April 12-June 13, 1974

HYDROGRAPHIC SHEET: H9421

OPR: 513

Locality: Beaufort Inlet, North Carolina

Plane of reference (mean ~~lower~~ low water): 8.8 feet

Height of Mean High Water above Plane of Reference is 3.8 (outer coast)

Remarks: Recommended zoning for offshore tidal conditions.

Apply the following corrections to Beaufort Inlet Channel Range.

<u>Time</u>	<u>Corrections</u>	<u>Apply Range Ration</u>
HW -0h 25m	LWW -0 25m	x1.12 to Channel Range gage.


Chief, Tides Branch

ATLANTIC MARINE CENTER
 VERIFICATION OF SMOOTH TIDES

SURVEY H-9421

PLANE OF REFERENCE
 TIME MERIDIAN
 HEIGHT DATUM ON STAFFS

MLW OR MLLW
 0 GMT
 1. 8.8 2. 3.

TIDE STATIONS	POSITION	TYPE GAGE	TIME CORR.		HEIGHT CORR. *	
			H.W.	L.W.	H.W.	L.W.
1. Beaufort Channel Range, Y N.C.	Ø	stand	-25m 13	-25m 13	1.12 27	1.12 27
2.	Ø Y					
3.	Ø Y					

HOURLY HIGHTS FROM ROCKVILLE OFFICE
 FROM FIELD MARIGRAMS

VERIFIED BY: Rockville

TIDE ZONING NOT APPLICABLE
 BY COMPUTER
 FROM TWO OR MORE GAGES

LIMITS AND DESCRIPTION OF ZONING METHODS

TIDE CORRECTIONS COMPILED BY COMPUTER
 MANUALLY

VERIFIED BY: GFT
 VERIFIED BY: _____

HEIGHT OF MHW ABOVE PLANE OF REFERENCE 3.8

TIDE CORRECTIONS VERIFIED ON SOUNDING PRINTOUT BY: GFT

DATE OF VERIFICATION 11-19-74

*OR RATIO

W. J. Jones
 EXAMINED & APPROVED

H-9421

GEOGRAPHIC NAMES

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

Approved
 Chas. E. Harrington
 Staff Geographer
 31 March 1975

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9421
AHP-10-2-74

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & 2-Overlays		1	BOAT SHEETS		1 (3 parts)	
DESCRIPTIVE REPORT		1	OVERLAYS		2	
ACCORDION FOLDER DESCRIPTION	TOTAL RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
Accordian folder						
CAHIERS	1		2			
VOLUMES						
BOXES			1 & 1-Bundle of Raw Data P/O.			
T-SHEET PRINTS (List) N/A						
SPECIAL REPORTS (List)						

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				2152
POSITIONS CHECKED		215		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED		30		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		3		
JUNCTIONS		8		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		5		
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		27		
TOTALS		43	78	
PRE-VERIFICATION BY M.W. Johnson, B.J. Stephenson	BEGINNING DATE 7/23/74	ENDING DATE 10/22/74		
VERIFICATION BY B.J. Stephenson	BEGINNING DATE 12/12/74	ENDING DATE 12/16/74		
REVIEW BY David H. Hallock	BEGINNING DATE 4/16/75	ENDING DATE 5/5/75		

Inspect Carstens 10hr 6/24/75 U.S. G.P.O. 1972-769-562/439 REG.#6

Reg. No. H-9421

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

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

CARDS CORRECTED

DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS:

Reg. No. _____

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

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

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQ'D. _____ INITIALS _____

REMARKS:

H-9421 (1974)

Items for Future Presurvey Reviews

W.D. investigation is desirable on wrecks:

17-ft. at lat. 34°40.32' long. 76°44.73'

18-ft. at lat. 34°41.12' long. 76°43.32'

<u>Position Index</u>				
<u>Lat.</u>	<u>Long.</u>	<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey Cycle</u>
0343	0764	5	0	50 yrs.
0343	0765	5	2	25 yrs.
0344	0764	5	2	25 yrs.
0344	0765	5	2	25 yrs.

3. Condition of the Survey

The sounding records, smooth plotting and Descriptive Report are complete and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual -- Automated Hydrographic Surveys.

4. Junctions

Adequate junctions were effected with contemporary surveys H-9432 (1974) and H-9434 (1974) on the north, and H-9427 (1974) on the west. A butt junction was made with H-9042 (1969) on the south. Differences of 1 to 2 feet in depths precluded combining data of the two surveys for the curve delineation required on this project. Present survey depths are in general harmony with charted depths on the east limits.

5. Comparison with Prior Surveys

A. H-576 (1857) 1:10,000	H-789 (1862) 1:10,000
H-577 (1857) 1:40,000	H-1219 (1874) 1:20,000
<u>H-419 (1854) 1:10,000</u>	<u>H-4770 (1927) 1:40,000</u>

These earlier surveys fall in the area of the present survey, but are not discussed in the present review.

B. H-6798 (1943) 1:10,000	H-8564 (1960) 1:5,000
H-7963 (1952-53) 1:12,500	H-8565 (1960) 1:5,000 (un-
<u>H-8247 and W.D. (1955) 1:20,000</u>	<u>verified)</u>

A comparison between the prior and present surveys reveals a general deepening of 1 - 2 feet in the area, except for changes resulting from dredging and spoiling in the area of the Federal Channel Project. The disposal of spoil has decreased least depths in the charted Disposal Areas by 10 to 15 feet since the surveys of 1952-55.

With the addition of several prior bottom characteristics and an 18-ft. Wk. brought forward from H-8247 W.D., the present survey is adequate to supersede the prior surveys in the common area.

6. Comparison with Charts 11547 (formerly 423) latest print
date November 2, 1974
420 latest print date
February 16, 1974

A. Hydrography

The charted hydrography originates with the prior surveys previously discussed which need no further consideration, supplemented by Corps of Engineers Surveys of 1973-74 (Bp-88006, Bp-88995, Bp-87899), and the boat sheets of H-9421 and H9432 of 1974 (Bp's-90057-59, Bp-89134, respectively). Charted sheet depths are 2-3 feet shoaler than present survey depths. The present survey is considered adequate to supersede the charted hydrography in the common area.

B. Controlling Depths

Tabulated controlling depths within the Beaufort Inlet Channel are from subsequent Corps of Engineers Surveys of 1974 and supersede the present survey.

C. Aids to Navigation

Charted positions of navigational aids adequately mark the features intended.

7. Compliance with Instructions

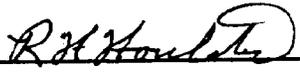
The survey adequately complies with the Project Instructions.

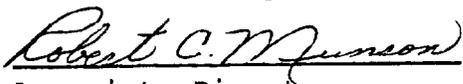
8. Additional Field Work

This is a very good basic survey and no additional field work is required. Wire drag investigation of the wrecks listed below should be made at an appropriate time:

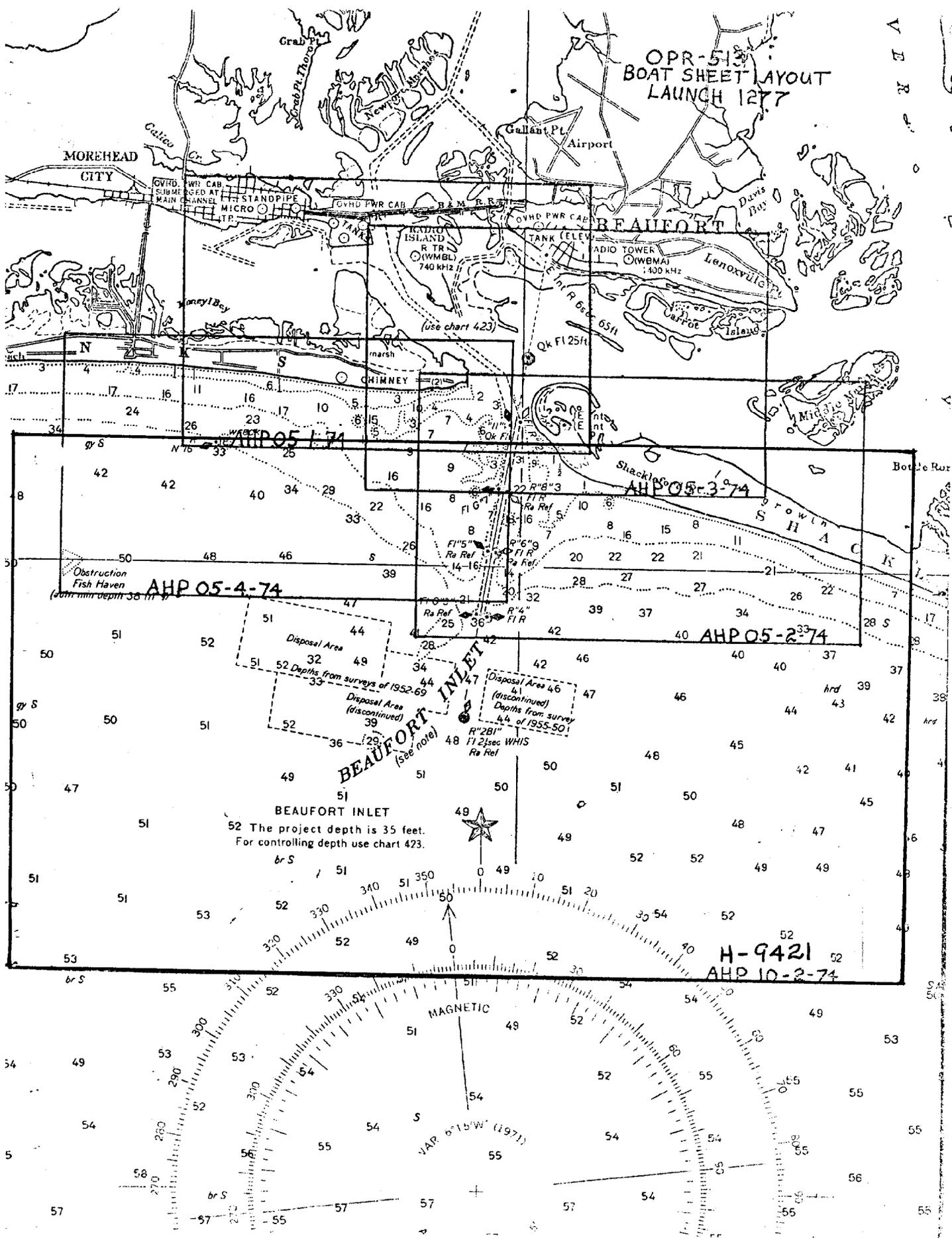
17-ft. Wk. at lat. 34°40.32' long. 76°44.73'
18-ft. Wk. at lat. 34°41.12' long. 76°43.32'

Examined and Approved:


Chief,
Marine Chart Division


Associate Director,
Office of Marine Surveys
and Maps

OPR-513
BOAT SHEET LAYOUT
LAUNCH 1277



AHP 05-1-74

AHP 05-3-74

AHP 05-4-74

AHP 05-2-74

BEAUFORT INLET
(see note)

BEAUFORT INLET
52 The project depth is 35 feet.
For controlling depth use chart 423.

H-9421
AHP 10-2-74

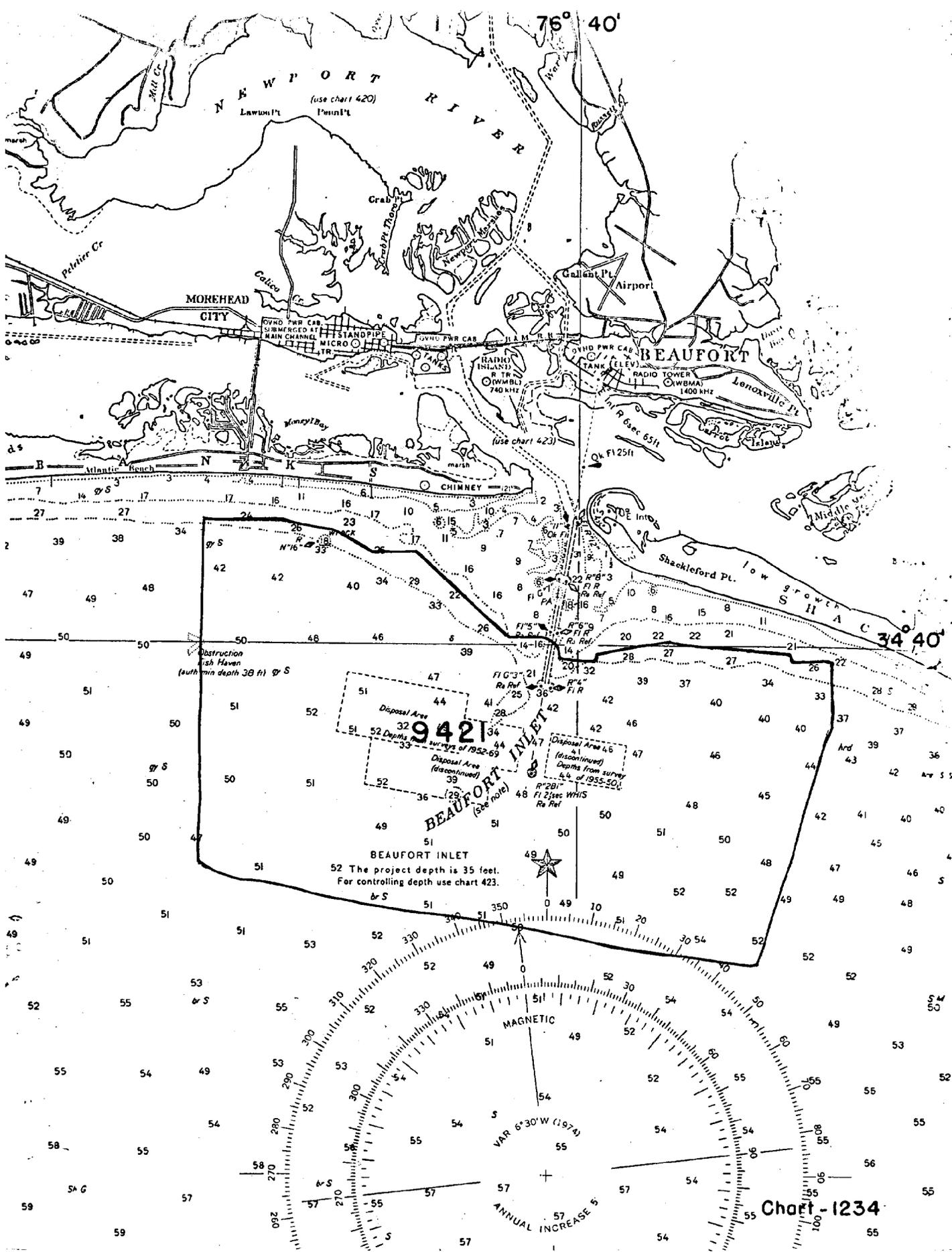


Chart 1234

