

FE 156

WIRE DRAG

Diagram No. 1235

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey Wire Drag

Field No. PBS-4755WD

Office No..... FE-156WD (1955-56)

LOCALITY

State North Carolina

General Locality ... Atlantic Ocean

Locality Cape Fear Area

1955-56

CHIEF OF PARTY

J.C. Mathisson & K.S. Ulm

LIBRARY & ARCHIVES

DATE June 13, 1957

FE 156
WIRE DRAG

☆ U.S. GOV. PRINTING OFFICE: 1976-669-441

NOTE; A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as;

FE No.15, 1957WD

F E No. 15 1957

WIRE DRAG

FE 156 WD

Fig. Cht. No. 1235

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey WIRE DRAG WRECK INVESTIGATION

Field No. PBS-4755WD Office No. F.E.No.15
(1957)WD

LOCALITY

State NORTH CAROLINA

General locality ATLANTIC OCEAN

Locality CAPE FEAR AREA

194 55&56

CHIEF OF PARTY

J.C. MATHISSON & K.S. ULM

LIBRARY & ARCHIVES

DATE JUN 15 1957

B-1870-1 (1)

F E No. 15 1957
WIRE DRAG

*Sound search
recorded in
vol for FE 12(1957)*

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. F.E.No. 15-1957WD

Field No. PBS-4755WD

State NORTH CAROLINA

General locality VICINITY OF CAPE FEAR

Locality _____

Scale 1:40,000 Date of survey 18 Oct. 1955 /to 26 July 1956

Instructions dated 28 January 1955

Vessel PARKER, BOWEN & STIRNI

Chief of party J.C. MATHISSON & K.S. ULM

Surveyed by J.C. MATHISSON, H.J. SEABORG, K.S. ULM, J.R. PLAGGMIER,
R.C. DARLING, D.G. RUSHFORD & W.R. KACHEL

Soundings taken by ~~XXXXXX~~ XXXXXX, graphic recorder, ~~XXXXXX, XXXX~~

Fathograms scaled by FIELD PARTY

Fathograms checked by FIELD PARTY

Protracted by FIELD PARTY

Drag strips inked by: _____

~~Soundings punched by~~ Field Party

Soundings in ~~fathoms~~ feet at MLW MLW

REMARKS: This is a wire drag investigation of off-shore wrecks.

*Scanned
by T.H. APR 17 1997*

FE

Field Notes for Descriptive Reports to Accompany
1955 Wire Drag and Hydrographic Sheets - Ships PARKER,
BOWEN, STIRNI - Cdr. John C. Mathisson, Chief of Party

A. PROJECT - Original instructions for Project No. CS-377 addressed to the Commanding Officer of the Ships PARKER, BOWEN, and STIRNI are dated 28 January 1955. Project number was later changed to 1377.

B. SURVEY LIMITS AND DATES - The following sheets are included in the 1955 seasons work of the Ships PARKER, BOWEN, and STIRNI.

(a.) Hydrography and Wire Drag: PBS 2255 (H-8247) Cape Lookout Shoals -
North End
PBS 2355 (H-8248) Cape Lookout Shoals -
South End

(b.) Hydrography: PBS 2455 (H-8249) Diamond Shoals

(c.) Wire Drag: PBS-4155 W.D. South of Cape Lookout, N. C.
PBS-4255 W.D. East of Cape Lookout, N.C.
PBS-4355 W.D. Off Ocracoke Inlet, N.C.
PBS-4455 W.D. Cape Hatteras, N.C.
PBS-4555 W.D. Northeast of Cape Hatteras, N.C.
PBS-4655 W.D. Offshore - East of Cape Fear, N.C.
PBS-4755 W.D. Inshore - East of Cape Fear, N.C.

(d.) Reconnaissance Hydrography: PBS-4855 - Offshore - Southeast of
Cape Lookout, N.C.

No work was accomplished on sheet PBS-2155 W.D. - Northwest of Cape Henry, Virginia.

A special hydrographic investigation was made in Core Sound, north of Ocracoke Inlet. It is the subject of a special report previously submitted.

A special wire drag investigation was made in the Pasquotank River, Virginia. This is also the subject of a special report already forwarded.
N.C.

Plotting of the wire drag boat sheets was not completed in the field. Shoalest hangs and deepest clearances on wrecks will have to be determined after plotting has been completed. Wreck letters submitted during the field season give preliminary values based on predicted tides and approximate lifts.

A comparison of boat sheet depths with charted depths in the case of hydrographic sheets serves no useful purpose at this time. The comparison should be made after the completion of the smooth sheets.

SHORAN CORRECTIONS:

The shoran equipment in all three vessels was calibrated at frequent intervals during the season. Three "Dinoplex" calibration sheets were used. One each in the vicinities of Cape Hatteras, Cape Lookout, and Cape Fear. Calibrations were taken each time the shoran stations were moved and at other intervals when thought necessary.

Once a shoran correction was determined, this correction was applied to all shoran readings until a new calibration was taken. The new connection was then applied to all subsequent shoran readings. Zero checks were made at the time of each calibration and at frequent intervals while using shoran control. No abnormal deviation from the zero set was found.

A tabulation of the shoran corrections used for the three ships follows: Shoran corrections were rounded off to the nearest 0.005 mile when entering corrections in volumes.

Tabulation of Shoran Calibrations - STIRNI:

Date	Recorded in Vol. Sheet No.	Monitor No.	Sta. 36	Corr'n	Sta. 37	Corr'n
4-26-55	2255	1	SAM	-0.021	KNOL	0.012
5-9-55	8155	1	SAM	0.001	KNOL	0.010
5-25-55	8155	1	SAM	0.002	KNOL	-0.009
6-3-55	4455	1	CLUB	0.007	PEA	-0.045
6-6-55	4455	2	CLUB	0.008	PEA	-0.016
7-22-55	2455	2	CLUB	0.061 (r)	PEA	0.021 (r)
7-29-55	4355	2	CLUB	-0.031	LOLA	-0.029
8-31-55	4255	2	SAM	0.004	LOLA	-0.019
9-26-55	4155	2	DEY	-0.040	KNOL	-0.030
10-20-55	4755	2	SURF	-0.008	CAK	-0.034

PARKER:

		1	SAM	-0.003	KNOL	-0.026
4-18-55	2355	2	SAM	-0.016	KNOL	-0.008
4-27-55	2355	1	SAM	-0.009	KNOL	-0.011
5-25-55	4155	1	SAM	-0.008	KNOL	-0.016
5-31-55	2455	1	CLUB	-0.020	PEA	-0.055
6-6-55	4555	2	CLUB	-0.001	PEA	-0.032
7-22-55	4455	2	CLUB	-0.023	PEA	-0.032
7-28-55	4455	2	CLUB	-0.004	LOLA	-0.034
8-31-55	4255	2	SAM	-0.001	LOLA	-0.042
9-28-55	4155	2	DEY	-0.015	KNOL	-0.043
10-18-55	4755	2	SURF	-0.061	CAK	-0.022

Tabulation of Shoran Corrections Entered in Volumes - STIRNI:

	Sta. 36	Sta. 37
Begin season thru 5-8-55	-0.020 (SAM)(Set #1)	0.010 (KNOL) (Set #1)
5-9-55 - 6-1-55	0.000 (SAM) "	0.010 (KNOL) "
6-2-55 - 6-5-55	0.005 (CLUB) "	-0.045 (PEA) "
6-6-55 - 7-28-55	0.010 (CLUB) <i>set 2</i>	-0.015 (PEA) <i>set 2</i>
7-29-55 - 8-5-55	-0.030 (CLUB) "	-0.030 (LOLA) "
8-6-55 - 9-25-55	0.005 (SAM) "	-0.020 (LOLA) "
9-26-55 - 10-5-55	-0.040 (DEY) "	-0.030 (KNOL) "
10-6-55 - Season End	-0.010 (SURF) "	-0.035 (CAK) "

PARKER:

4-18-55 0900 - 1130	-0.005 (SAM)(Set #1)	-0.015 (KNOL)(Set #1)
1401 - 1520	-0.015 (SAM)(Set #2)	-0.010 (KNOL)(Set #2)
1520 - 1650	-0.005 (SAM)(Set #1)	-0.015 (KNOL)(Set #1)
1650 - end	-0.015 (SAM)(Set #2)	-0.010 (KNOL)(Set #2)
4-19-55 - 5-2-55 at 10:55	-0.005 (SAM)(Set #1)	
5-2-55 1055-1115	-0.015 (SAM)(Set #2)	
1115 - end	-0.005 (SAM)(Set #1)	
4-19-55 - 1600 4-26-55		-0.015(KNOL)(Set #1)
4-20-55 1600 - 1650		-0.010 (KNOL)(Set #2)
26 1650 - end		-0.015(KNOL) set #1

	<u>STA. 36</u>	<u>STA. 37</u>
3-3-55 - 5-25-55	-0.005 (SAM)(Set #1)	
4-27-55 - 5-25-55		-0.015 (KNOL)(Set #1)
5-31-55 - 6-5-55 1300	-0.020 (CLUB)(Set #1)	
6-5-55 1300-1945	-0.015 (CLUB)(Set #2)	
5-31-55 - 6-7-55		-0.045 (PEA)(Set #1)
6-13-55 - 7-23-55		-0.040 (PEA)(Set #2)
6-6-55 - 6-14-55 1400	-0.015 (CLUB)(Set #2)	
6-14-55 1400 to end	-0.020 (CLUB)(Set #1)	
7-26-55 - 9-2-55		-0.040 (LOLA)(Set #2)
6-15-55 - 8-4-55	-0.015 (CLUB)(Set #2)	
7-7-55 - 10-5-55		-0.045 (KNOL)(Set #2)
8-8-55 - 9-18-55	0.000 (SAM)(Set #2)	
9-21-55 - 10-4-55	-0.015 (DEY)(Set #2)	
10-5-55 - 10-27-55	-0.060 (SURF)(Set #2)	
10-6-55 - 10-25-55		-0.020 (OAK)(Set #2)
8,12,&28 July 1955	STIRNI as Shore Station (STIR I, STIR II, STIR III)	-0.020
	<u>BOWEN:</u>	
4-18-55 0900 - 1130	-0.020 (SAM)(Set #1)	0.005 (KNOL)(Set #1)
1130 - 1345	-0.015 (SAM)(Set #2)	0.005 (KNOL)(Set #2)
1345 - End	-0.020 (SAM)(Set #1)	0.005 (KNOL)(Set #1)
4-19-55 - 4-20-55	-0.020 (SAM)(Set #1)	0.005 (KNOL)(Set #1)
4-21-55 - 5-2-55 1055	0.010 (SAM)(Set #1)	
1055-1115	0.005 (SAM)(Set #2)	
5-2-55 1115-end	0.010 (SAM)(Set #1)	
4-19-55 - 4-26-55 at 1600		-0.005 (KNOL)(Set #1)
1600 - 1650		0.005 (KNOL)(Set #2)
4-26-55 1650 - end		-0.005 (KNOL)(Set #1)
4-27-55 - 5-25-55		-0.005 (KNOL)(Set #1)
5-3-55 - 5-25-55	0.010 (SAM)(Set #1)	
5-31-55 - 1300 6-5-55	-0.010 (CLUB)(Set #1)	
6-5-55 - 1300 - end	-0.010 (CLUB)(Set #2)	
5-31-55 - 6-7-55		-0.040 (PEA)(Set #1)
6-13-55 - 7-23-55		-0.015 (PEA)(Set #2)
6-6-55 - 1400 6-14-55	-0.010 (CLUB)(Set #2)	
6-14-55	-0.010 (CLUB)(Set #1)	
6-15-55 - 8-4-55	-0.010 (CLUB)(Set #2)	
7-26-55 - 9-2-55		-0.025 (LOLA)(Set #2)
8-8-55 - 9-18-55	0.010 (SAM)(Set #2)	
9-7-55 - 10-14-55		-0.015 (KNOL)(Set #2)
9-21-55 - 10-4-55	-0.005 (DEY)(Set #2)	
10-5-55 - 10-27-55	-0.035 (SURF)(Set #2)	-0.015 (OAK)(Set #2)

Settlement and Squat Corrections:

The settlement and squat corrections were the same as used in previous years for all three ships. The correction depending upon the speed and the water depth. Tabulation of corrections follows:

(Next Page)

SETTLEMENT & SQUAT CORRECTIONS (ALL f)

PBS

<u>SPEED (RPM)</u>	<u>CORRECTION (FEET)</u>	<u>FROM DEPTH TO DEPTH (FEET)</u>
400	0.2	all depths
450	0.2	all depths
500	0.2	all depths
600	0.4 0.2	6.0 to 14.5 15.0 and over
650	0.4 0.2	11.5 to 17.0 17.5 and over
700	0.6 0.4 0.2	12.5 to 15.0 15.5 to 19.5 20.0 and over
750	0.8 0.6 0.4 0.2 0.4	12.5 to 14.0 14.5 to 16.5 17.0 to 21.5 22.0 to 31.5 32.0 and over
800	1.0 0.8 0.6 0.4	12.5 to 13.0 13.5 to 15.5 16.0 to 19.0 19.5 and over
850	1.0 0.8 0.6 0.4	12.5 to 13.5 14.0 to 16.5 17.0 to 22.5 23.0 and over
900	1.0 0.8 0.6 0.4	12.5 to 14.5 15.0 to 20.5 21.0 to 34.0 34.5 and over
1000	1.0 0.8 0.6	6.0 to 21.5 22.0 to 31.5 32.0 and over

TIDES:

Final tides were either furnished by the Washington Office for the periods needed, or were tabulated in the field from observed tides.

Tide reducers for the Cape Hatteras Area were based on tide staff readings for Hatteras Inlet (Outside).

Tide reducers for the Cape Lookout Area were based on the portable gage installed at Lookout Bight.

Tide reducers for the Cape Fear Area were interplated by the Washington Office, Division of Tides and Currents.

All tide reducers were referred to the plane of mean low water.

On the hydrographic surveys, tide reducers were entered to 0.2 ft. On the wire drag surveys, tide reducers were entered to 0.5 feet.

ECHO CORRECTIONS:

The echo corrections for all three ships were determined by bar checks at intervals during the season. Standard methods were used and the leadlines on the bars were checked and found to be the correct length so no correction was necessary to leadline lengths.

Bar checks were not taken as often as would be expected for a hydrographic party due to the nature of operations and lack of suitable weather along the open coast. However, sufficient tests were made to provide accurate corrections for the various fathometers and scales.

The Edo fathometer on the STIRNI was not used for hydrographic work, but was tested and separate reports submitted to the Washington Office on 30 September 1955 and 20 June 1956.

On the BOWEN and STIRNI fathometers No. 160SPX, 100S and 161SPX, the corrections on the A scale varied with the depths and were so entered. On the PARKER fathometer No. 1175, the A scale corrections were uniform regardless of depth so one correction for the entire A scale was determined and used. On the B, C, and D scales of all fathometers, a single correction was determined for each scale.

On the PARKER, fathometer No. 1175 no D scale correction could be determined as no return could be gotten from the bar at that depth in D scale. On the PARKER, the D scale was used only for a few soundings during the following periods:

6 June 1955	Sheet PBS-4455	Vol. I	Position 8	on B day
12 July 1955	Sheet PBS-4455	Vol. II	Pos. 46 to 49	on D day
12 July 1955	Sheet PBS-4455	Vol. II	Pos. 57 to 62	on D day

On 11 June 1956, a bar check was obtained under ideal conditions and one check on the D scale at 110 feet was obtained. The correction was -2.0 feet. It is suggested that this correction be used in the above few positions. These positions had no correction entered in the Volumes at the time the volumes were transferred to the Norfolk District Office.

A tabulation of the corrections applied to the fathometer soundings follows:

A. PARKER Fath. No. 1175 Type 808

A scale -0.2 feet
B scale -0.6 feet
C scale -0.2 feet
D scale See Report *

B. BOWEN Fath. No. 160SPX Type 808

A scale -0.2 feet. 0 to 16.9 ft.
0.0 ft. to 27.2 ft.
~~0.2 ft.~~ to 33.8 ft.
~~0.4 ft.~~ to 39.4 ft.
~~0.6 ft.~~ to 45.2 ft.
~~0.8 ft.~~ to 50.9 ft.
~~1.0 ft.~~ to 55.0 ft.

B scale ~~1.5 ft.~~ to 57.8 ft.
~~2.0 ft.~~ to 90.0 ft.

C scale ~~2.5 ft.~~

D scale ~~2.5 ft.~~

Fath. No. 100S Type 808

A scale 0.0 ft. to 22.0 ft.
~~0.2 ft.~~ to 35.5 ft.
~~0.4 ft.~~ to 48.9 ft.
~~0.6 ft.~~ to 55.0 ft.

B scale ~~1.0~~

C scale ~~1.5~~

C. STIRNI Fath. No. 161 SPX Type 808

A scale 0.0 ft. 0 to 13.5 ft.
~~0.2 ft.~~ to 24.0 ft.
~~0.4 ft.~~ to 33.0 ft.
~~0.6 ft.~~ to 42.5 ft.
~~0.8 ft.~~ to 49.0 ft.
~~1.0 ft.~~ to 55.0 ft.

B scale 0.0 ft.

C scale -2.5 ft.

D scale -4.5 ft.

PROCESSING OFFICE NOTES
FOR

WIRE DRAG WRECK INVESTIGATION PBS-4755WD

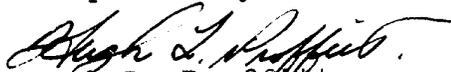
GENERAL

This survey was forwarded to this Office with all records processed and the drag strips inked on the boat sheet by the Field Party. ✓

The body of the descriptive report covers that part of the work accomplished during the 1955 field season. A report for the 1956 Season has not been received. ✓

Norfolk, Va.
10 June 1957

Respectfully submitted,



Hugh L. Proffitt
Cartographer.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ~~F.F.~~ No. 15-1957WD

Records accompanying survey:

Boat sheets ..2...; sounding vols. ..2...; wire drag vols. ..6...;
 bomb vols.; graphic recorder rolls ~~1-Envelope~~
 special reports, etc. ~~1-Descriptive report and 1-Boat sheet...~~
 .tracing. (Tender).....

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

Number of positions on sheet	215
Number of positions checked	33
Number of positions revised	3
Number of soundings revised (refers to depth only)	—
Number of soundings erroneously spaced	—
Number of signals erroneously plotted or transferred	—
Topographic details	Time	—
Junctions	Time	—
Verification of soundings from graphic record	Time	1
Verification by <i>J. J. Zerkund</i>	Total time	11
	Date	11-15-57
Reviewed by <i>J. J. Zerkund</i>	Time	4
	Date	11-18-57

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

2 July 1957

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET F E NO. 15 1957

Locality Cape Fear, N.C.

Chief of Party: J. C. Mathisson in 1955

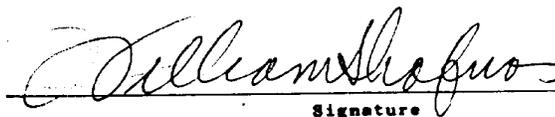
Plane of reference is mean low water, reading

2.6 ft. on tide staff at Lookout Bight

8.5 ft. below B.M. 5 (1926)

Height of mean high water above plane of reference at the working
grounds is 4.0 feet.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch

Review of Field Examination No. 15, 1957

The field examination was made in compliance with Instructions for Project C5-377 dated 28 January 1955. The project number was subsequently changed to 1377.

The purpose of the examination was to verify or disprove the existence of Wrecks Nos. 461, 481, 482 and 483.

Wrecks Nos. 461, 482 and 483 were not found.

Wreck No. 481 was found in lat. $33^{\circ}58.54'$, long. $77^{\circ}41.20'$. A wire-drag set to an effective depth of 43 ft. hung the wreck. It was cleared by a wire-drag set to an effective depth of 42 ft. A sounding of 45 ft. was obtained on the wreck.

While searching for Wreck No. 482, a wire-drag set to an effective depth of 67 ft. hung on a coral head in lat. $33^{\circ}57.10'$, long. $77^{\circ}35.56'$. The coral head was cleared by a wire-drag set to an effective depth of 62 ft. A sounding of 66 ft. was obtained on this feature.

Wreck 461 which was reported to be located in lat $33^{\circ}54.08'$, long $77^{\circ}44.94'$, where depths of 38-61 ft. are found, was cleared by one wire-drag strip set to an effective depth of 31 ft. and one wire-drag strip set to an effective depth of 38 ft. The information would have been more conclusive if both strips had been set to effective depths of 38 ft.

The results of the wire-drag examinations are shown on the accompanying 2 sections of smooth sheet.

The work has been applied to chart 1235 dated 9-16-57, from advance information of the field examination. Attention is directed to the following:

The effective wire-drag depth of 41 ft. charted over wreck 481 from chart letter 876 (1955) in lat. $33^{\circ}58.54'$, long. $77^{\circ}41.20'$, was revised to 42 ft. by the field party while smooth plotting the field examination.

It is recommended that the words "Co. Hd." be added to the charted 62 ft. wire-drag clearance depth over the above mentioned coral head.

FE 15, 1957 - 2

There are no conflicts between the charted depths and the effective wire-drag depths of the field examination.

The Descriptive Report adequately covers all other matters pertaining to this examination. No further discussion is considered necessary.

Reviewed by: I. M. Zeskind
11-15-57

Inspected by: R. H. Carstens

77° 50'

48'

46'

56'

32'

14

Surf

10

38

31'

Oak

33° 54'

30'

38'

Reported Position of
WRECK #461 (Cassimer)
No Obstruction Found
Cleared area 30'-38'

Kure

40

10

12

12

52'

FIELD EXAMINATION No. 15, 1957
WIRE DRAG WRECK INVESTIGATION
CAPE FEAR AREA, N.C.

Scale: 1-40,000

Effective wire-drag depths in feet at M.L.W.

Sheet 1 of 2

42

(Name unknown) WRECK # 481
Hung at 43'
Cleared at 42'
Actual sounding 45ft.

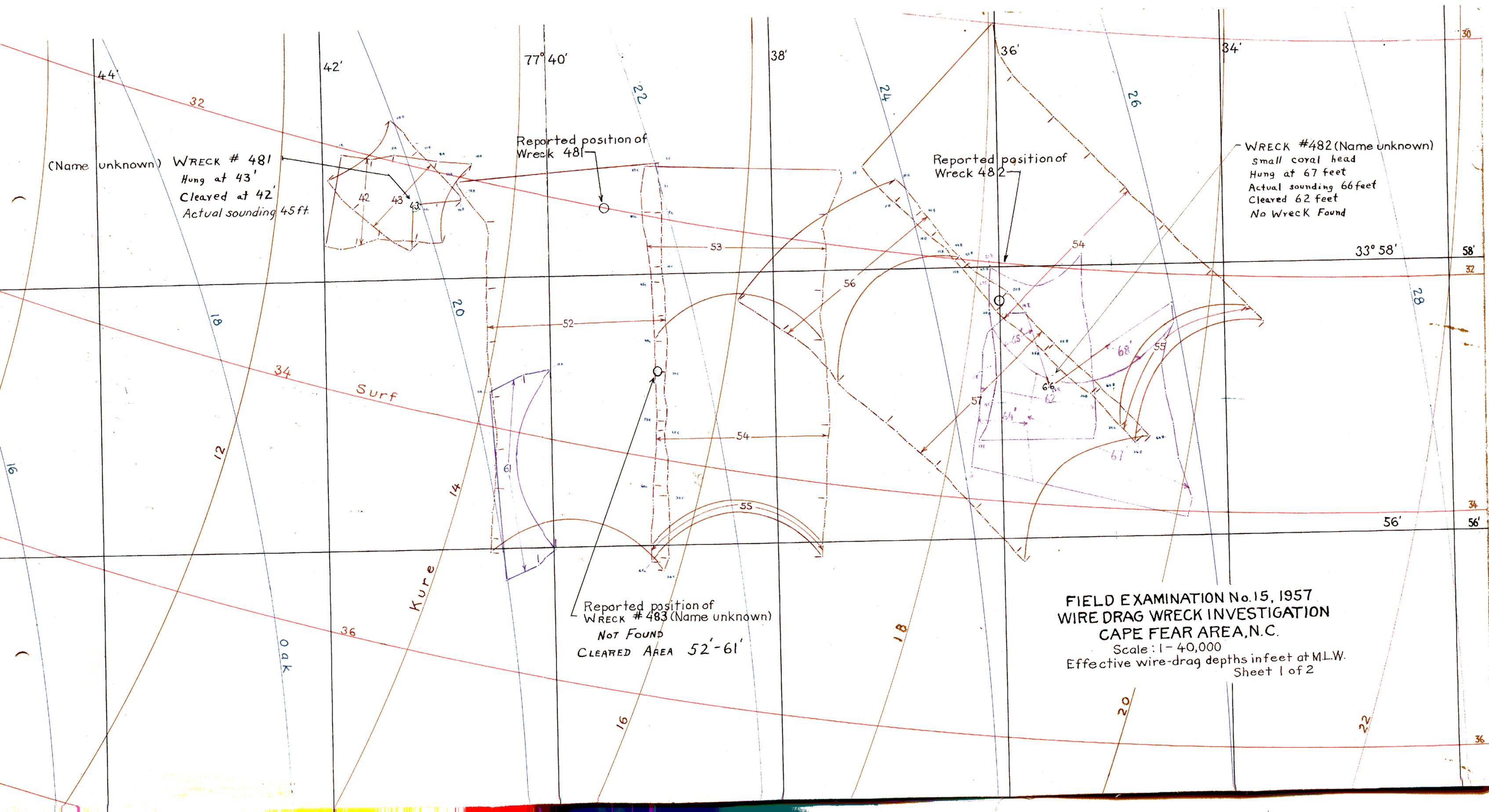
Reported position of
Wreck 481

Reported position of
Wreck 482

WRECK #482 (Name unknown)
Small coral head
Hung at 67 feet
Actual sounding 66 feet
Cleared 62 feet
No Wreck Found

Reported position of
WRECK # 483 (Name unknown)
NOT FOUND
CLEARED AREA 52'-61'

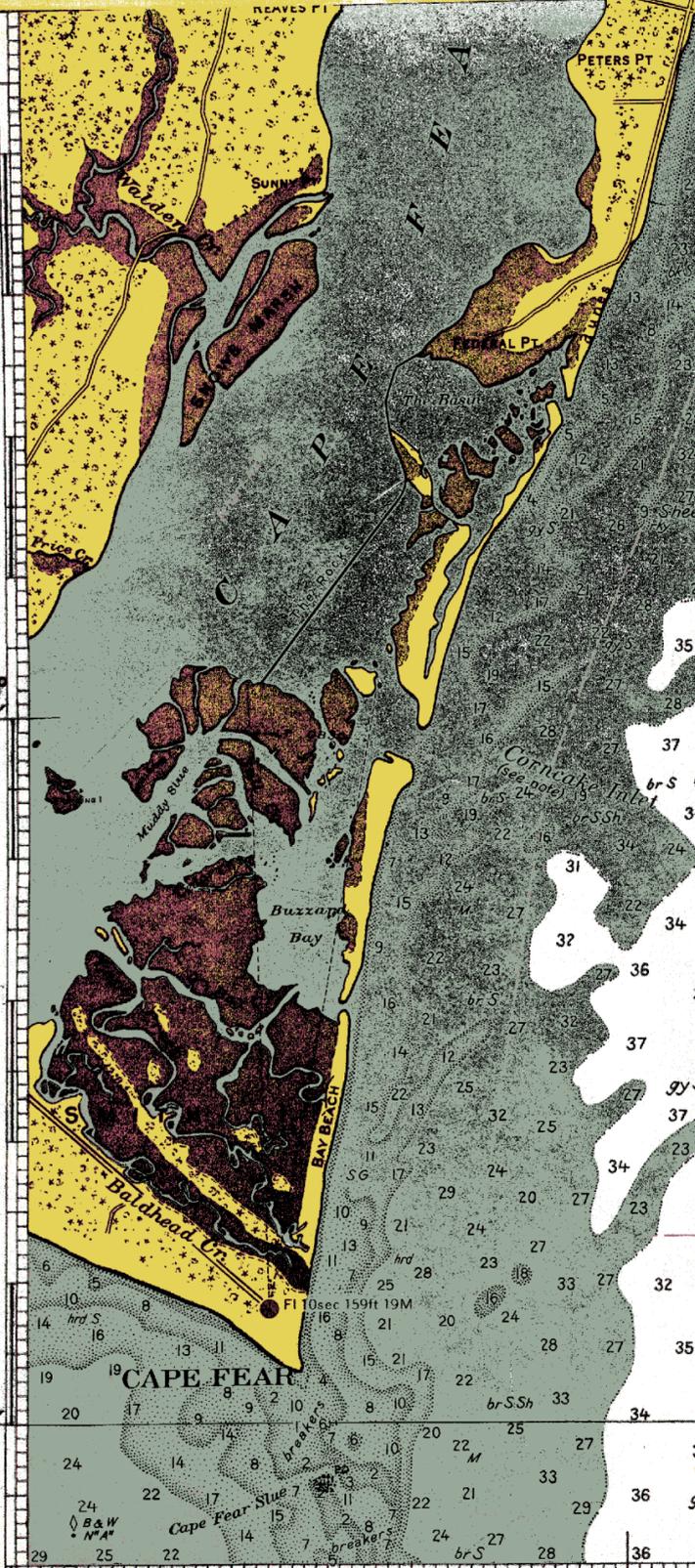
FIELD EXAMINATION No. 15, 1957
WIRE DRAG WRECK INVESTIGATION
CAPE FEAR AREA, N.C.
Scale: 1-40,000
Effective wire-drag depths in feet at M.L.W.
Sheet 1 of 2



(JOINS CHART 1236)

33° 55'

50'



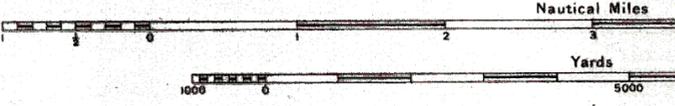
(JOINS CHART 1236)

F.E.No.15 (1957) W.D.

F.E.No.15 (1957) W.D.

Chart - 1235

33° 50'



78°

55'

50'

45'

40'

35'

