

FE 145

WIRE DRAG

Diagram No. 1246

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-4656WD

Office No. FE-145WD (1955-56)

LOCALITY

State Florida

General Locality .. Atlantic Ocean

Locality Cape Canaveral

1955-56

CHIEF OF PARTY
J.C. Ellerbe

LIBRARY & ARCHIVES

DATE March 11, 1957

FE 145
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.4 1957WD

F E No. 4 1957

WIRE DRAG

FE-145WD

Diag. Cht. No. 1246

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	WIRE DRAG
Field No.	PBS-4656WD
Office No.	F.E.No. 4
	(1957) W.D.
LOCALITY	
State	FLORIDA
General locality	ATLANTIC OCEAN
Locality	CAPE CANAVERAL
194 56	
CHIEF OF PARTY	
John C. Ellerbe	
LIBRARY & ARCHIVES	
DATE	MAR 11 1957

B-1870-1 (1)

F E No. 4 1957
WIRE DRAG

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. _____

Field No. PBS-4656 WD

State Florida

General locality Atlantic Ocean

Locality Cape Canaveral

Scale 1:40000 Date of survey 10/12/56 - 1/3/57

Instructions dated 24 August 1956

Vessel PARKER - BOWEN - STIRNI

Chief of party K.S. Ulm, C.R. Reed, & J.C. Ellerbe

Surveyed by R.C. Darling, D.G. Rushford, O.L. Doster, W.M. Lee,
E.R. Scyoc, L.L. Seal, & J.S. Baker

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand level~~, ~~etc.~~

Fathograms scaled by Field Party

Fathograms checked by Norfolk District Processing Office

Protracted by PERSONNEL SHIPS PARKER, BOWEN & STIRNI

DRAG STRIPS INKED BY

~~Soundings recorded by~~ Hugh L. Proffitt

Soundings in ~~fathoms~~ feet at MLW ~~MLW~~

REMARKS: This Report covers the wire drag investigation of
the DUNHAM WHEELER (Wreck No. 502).

702

Descriptive Report to Accompany Hydrographic Surveys

H-8340 (Field No. PBS-1156)
H-8341 (Field No. PBS-2456)
H-8342 (Field No. PBS-2556)
H-8343 (Field No. PBS-2656)
H-8344 (Field No. PBS-2756)
H-8345 (Field No. PBS-4356)
(Field No. PBS-4556 WD)
(Field No. PBS-4656 WD)

These Surveys were accomplished by Coast & Geodetic Survey Ships PARKER, BOWEN, STIRNI, and Launch No. 180. Chiefs of Party during the project were CDR. Kenneth S. Ulm, CDR. Clarence R. Reed, and CDR. John C. Klerbe.

A. PROJECT: Project No. 10000-804. Original instructions dated 24 Aug. 1956. Supplemental instructions dated 3 October 1956 and 9 October 1956.

B. SURVEY LIMITS AND DATES: This project is in the general vicinity of Cape Canaveral, Florida. Field work was begun on 12 October 1956 and ended 3 January 1957. The progress of the work was hampered as the project was in a restricted area of the guided missile range. Work could only be accomplished when missile tests were not being conducted. At other times, shoran operations had to be stopped, because it was causing some interference with the Air Force. As a result, long hours and weekend work was necessary.

C. VESSELS AND EQUIPMENT: The Ships PARKER, BOWEN, STIRNI, and Launch No. 180 were used in the survey. All vessels based at Port Canaveral, Florida, in the immediate project area. The majority of soundings were taken with 808 type fathometers. The following instruments being used: 1008, 1125, 151 SPX, 160 SPX, and 164. Edo Fathometer No. 215 was used for part of the work on Launch No. 180.

D. TIDE AND CURRENT STATIONS: A portable automatic tide gage was maintained at the Air Force Wharf, Port Canaveral, Florida. MLW as furnished by the Washington Office was 1.0 Ft. on the Tide Staff. No other time or range corrections were applied. Three current stations were occupied by the Ship STIRNI using a combination of Roberts Radio Current Buoys and Current Poles. Currents were very weak at all three stations.

E. SMOOTH SHEET: Smooth sheet projections were constructed by hand at the Norfolk District Processing Office.

F. CONTROL STATIONS: Shoran control was used for the entire project. Three shoran stations were erected. Each station was located near a triangulation station. The shoran mast was located by azimuth and distance from the adjacent triangulation station and G.P.'s computed using standard methods. This location work was done by Lt. Nygren's Geodetic Party based at Patrick Air Force Base.

G. SHORLINE AND TOPOGRAPHY: Shoreline details will be taken from Topographic Manuscripts compiled from recent photographs. *No shoreline has been applied to this offshore survey.*

H. SOUNDINGS: All depths were measured by fathometers using standard methods.

I. CONTROL OF HYDROGRAPHY: Shoran control was used for the entire project. Three stations were used in various combinations as the work progressed.

* Does not apply to this survey
* (= NP)

J. ADEQUACY OF SURVEY: This survey is considered complete and adequate to supersede prior surveys for charting. Some additional development could have been made of the shoal areas if time had permitted. Junctions with adjoining surveys are satisfactory and depths curves can be adequately drawn at the junctions.

K. CROSSLINES: Approximately 5 - 8% crosslines were ran.

L. COMPARISON WITH PRIOR SURVEYS: No comparison had been made at the time of this report. Comparisons will be made after smooth sheets are plotted.

M. COMPARISON WITH CHART: See Section "L".

N. DANGERS AND SHOALS: No new dangers or shoals were found. All charted dangers, shoals, and bare rocks were found as charted; no shoaler depths were found except for those listed in L, M, and N.

O. COAST PILOT INFORMATION: This information will be submitted as a separate report.

P. AIDS TO NAVIGATION: All floating aids to navigation were located by shore or sextant fixes. Form 567 was submitted to W. O. 1/3/57.

Q. LANDMARKS FOR CHARTS: Washington Office requested CDH. James C. Tison, CAUS liaison officer with U. S. Air Force, to furnish information for landmarks directly.

R. GEOGRAPHIC NAMES: This information will be submitted on a separate report.

S. SILTED AREAS: Not applicable.

T. BY-PRODUCT INFORMATION: Wire Drag investigations were made of several items in the area in conjunction with the hydrographic surveys. A separate report "Investigation of Wrecks" was submitted to the Washington Office on 12/11/56, covering this phase of the work. Standard wire drag methods were used. Shore provided the control for both the guide and end vessels. The STIRNI was used as tender and tests were made according to standard procedures.

The following Wire Drag Investigations were Made:

- Sheet P85-4556 WD, Wreck Nos. 495, 501, 845, & 1221 L121 (1957)
- Sheet P85-4656 WD, Wreck No. 502 L121 (1957)

WRECK NO. 495 Wreck located at latitude $28^{\circ} 34.22'$ - longitude $80^{\circ} 18.95'$. A least depth of 60 feet was obtained on the wreck by fathometer. Wreck was hung at 65.0 feet effective depth and cleared at 56.0 feet effective depth. ND

WRECK NO. 501 Wreck located at latitude $28^{\circ} 23.30'$ - longitude $80^{\circ} 17.72'$. A least depth of 46 feet was obtained on the wreck by fathometer. Wreck was hung at 55.5 feet effective depth and cleared at 43.0 feet effective depth. NP

WRECK NO. 845 Wreck is in two sections. The northern and shoalest section lies at latitude $28^{\circ} 28.70'$ - longitude $80^{\circ} 22.00'$. The deeper section lies at latitude $28^{\circ} 28.66'$ - longitude $80^{\circ} 21.95'$. The wreck was hung at 49.5 feet effective depth and cleared at 46.0 feet effective depth. The deeper section has a depth of 53 feet by fathometer. Wreck is marked by obstruction buoy W84A. Buoy location at time of survey: latitude $28^{\circ} 28.51'$ - longitude $80^{\circ} 21.84'$. NP

WRECK NO. 1221 (Obstruction): This obstruction was not found by sonar search or dragging operations. The immediate area of the reported position was dragged to an effective depth of 41.5 feet in a general bottom depth of 44 to 50 feet. NP

FE 4 (1957)
WRECK NO. 5021. This wreck was not found. The area was dragged by four strips with effective depths ranging from 60.0 to 66.5 feet with negative results. L-21 (1957)

U. TABULATION OF APPLICABLE DATA: See following pages.

Respectfully submitted,

William R. Kachel

William R. Kachel
Lt., CAGS

NOTE: The above named officer was not present during any of the work covered by this report. This report was written prior to the plotting of the smooth sheets.

APPROVED AND FORWARDED:

(with additional note, see below:)

Clarence R. Reed

Clarence R. Reed
CDB., CAGS

WRK:fl

Conditions under which hydrography was accomplished on the Cape Canaveral project were a little unusual. Early completions of the project was urgent and work "around the clock" was often necessary in order to dovetail the work to avoid interference with military operations. The ships were not designed for continuous operation and, due to shortage of personnel and time, the records were not as complete as could be desired for submission to the Norfolk Processing Office. However, on this date (7 February 1957) it is believed that records have been placed in good condition by office personnel under the supervision of Lt. W. R. Kachel. Although Mr. Kachel was not present during the Florida field season, his previous experience has proved very valuable.

INVENTORY OF DATA - PROJECT 10000-80A

1. BOAT SHEETS:

1 ea. Sheet	Field No.	PBS-1156
1 ea.	"	PBS-2456
1 ea.	"	PBS-2556
1 ea.	"	PBS-2656
1 ea.	"	PBS-2756
1 ea.	"	PBS-4556
1 ea.	"	PBS-4556 WD
2 ea.	"	PBS-4656 H.D.
1 ea. Sheet,	Dinaplex,	Calibration

2. <u>Sounding Volumes:</u>	<u>PARKER</u>	<u>BOWEN</u>	<u>STIRNI</u>	<u>Launch 180</u>	<u>Total</u>
PBS 1156	0	0	0	1	1
PBS 2456	12	0	3	3	18
PBS 2556	0	16	0	0	16
PBS 2656	11	1	3	6	21
PBS 2756	0	11	0	0	11
PBS 4556	4	1	0	0	5
PBS 4656	0	1	0	0	1
PBS 4556 WD	1	2	1	0	4
PBS 4656 WD	1	1	0	0	2
Calibrations & Bar Checks	1	1	2	1	5

TOTAL - 84 Volumes

3. Pathograms:

Ship PARKER	26 Envelopes
Ship BOWEN	36 Envelopes
Ship STIRNI	7 Envelopes
Launch 180	14 Envelopes

TOTAL - 83 Envelopes

4. TIDES:

Marigrams 15 Oct. - 17 Nov. 1956 Sent to W. O. 12-1-56
 Marigrams 17 Nov. - 3 Jan. 1957 " 1-21-57
 sea. Level record and sea. Report of Tide Station for Air Force
 Wharf, Port Canaveral, Florida - Sent to W. O. 10-23-56

5. CURRENTS:

3 ea. Form 270, Record of Current Observations and 28 ea. Tapes,
 Chronograph Sent to W. O. 1-22-57

6. MAGNETICS:

Special Report - Magnetics Sent to W. O. 1-10-57

7. TRIANGULATION:

Mis. Triangulation data for location of Sheran Stations.

INVENTORY OF DATA - PROJECT 10000-804 (cont.)

8. WRECKS:

Special Report - Investigation of Wrecks - Sent to W. O. 12-11-56

SHORAN CORRECTIONS

Numerous calibrations were made by each vessel during the course of project to determine the correctors to be applied to the shoran distances.

The calibration was accomplished by taking a series of simultaneous visual (sextant) and shoran fixes. The visual fixes were then plotted on a dinaplex calibration sheet. The values were scaled off in statute miles and compared with the values as read on the shoran. The corrections thus determined were fairly consistent and a mean correction was determined for each vessel for the entire project.

Three station sites were occupied during the course of the work. In each case, the G.P. of the shoran mast was determined by computation using a nearby triangulation station and measuring azimuth and distance to the mast itself.

The positions were determined as follows:

Station PAT(Also known as BASE in some of the computations) was computed using Patrick Air Force Base, SOUTH WATER TANK.

Station DUM was computed using DUMMIT, 1934

Station COR was computed using COURTENAY, 1953

Final G.P.'s for Shoran Stations:

PAT Lat. 28° 15' 08.602"
Long. 80° 36' 30.550"

DUM Lat. 28° 41" 47.565"
80° 43' 20.268"

COR Lat. 28° 28' 20.532"
80° 42' 34.733"

The same shoran monitors were used at Stations COR and DUM during the entire project., Monitor #2 at COR and Monitor #4 at DUM. At station PAT, Monitor #3 was used except on 10, 11, & 12 December when Monitor #1 was put to use to facilitate repairs on Monitor #3. Corrections were computed for all four monitors where necessary.

TIDE NOTE

A portable automatic recording tide gage was in operation at Port Canaveral, Fla. for the entire project. The plane of mean low water corresponds to 1.0 feet on the staff for this station as furnished by the Washington Office in letter of 7 December 1956.

All tides needed for the periods of hydrography and wire drag were scaled from the marigrams before submitting the marigrams to the Washington Office. Curves were drawn after applying the 1.0 foot correction and tides were tabulated to 0.2 feet for hydrography and 0.5 ft. for wire drag.

TIDE NOTES (CONT.)

The tide gage was continued in operation after the project was finished and was transferred to Lt. Nygren's Geodetic Party for servicing in order to obtain a longer series of observations.

FATHOMETER CORRECTIONS

Numerous bar checks were taken by each vessel as the work progressed. These bar checks were limited primarily to the A & B scales. The bar checks were meaned, curves drawn, and correctors tabulated for each fathometer used. Correctors were tabulated to 0.2 ft. for hydrography and 0.5 ft. for wire drag.

The following fathometers were used:

Ship PARKER:	Model 808 No. 1128	19 Oct. thru 8 Nov. 1956
	Model 808 No. 164	16 Nov. thru 18 Dec. 1956
Ship BOWEN:	Model 808 No. 160XP3	Entire project
Ship STIRNI:	Model 808 No. 151SPX	Entire project
Launch No. 180:	EDO No. 215	26 Nov. thru 10 Dec. 1956
	Model 808 No. 1008	11 Dec. to End

On 17 Dec. 1956 two bar checks were taken by the PARKER using fathometer 808, No. 164. These were taken on the edge of the Gulf Stream in order to have sufficient water depth for C & D scale check. Due to the difference in temperature and salinity, the correctors resulting from these two bar checks were considerably different from the other correctors determined for this fathometer. It was decided not to use this set of correctors for reducing the soundings unless difficulty was encountered in obtaining satisfactory line crossing.

A tabulation was made of the phase shift ^{error} even-between C & D scales to determine the D scale corrections.

FATHOMETER VELOCITY CORRECTIONS
 SHIPS PARKER, BOWEN, & STIRNI
 PROJECT 10,000-804
 CAPE CANAVERAL, FLORIDA

SHIP PARKER

SON PATH. #1125

19 Oct. thru 8 Nov. 1956

A SCALE

B SCALE

C SCALE

D SCALE

0.0 to 15.0
 -0.2 to 25.0
 -0.4 to 35.0
 -0.6 to 55.0

-1.2 to 40.0
 -1.4 to 60.0
 -1.6 to 90.0

-1.6 all -1.6 all

SHIP PARKER

SON PATH. #164

16 Nov. thru 18 Dec. 1956

A SCALE

B SCALE

C SCALE

D SCALE

0.0 to 11.8
 -0.2 to 15.8
 -0.4 to 20.0
 -0.6 to 25.4
 -0.8 to 30.4
 -1.0 to 40.0
 -1.2 to 43.4
 -1.4 to 46.2
 -1.6 to 48.4
 -1.8 to 49.6
 -2.0 to 51.0

^{-1.0}
 -0.2 to 40.0
 -1.2 to 50.0
 -1.4 to 80.0

-1.4 all -1.4 all

SHIP PARKER

SON Path. #164

* 17 December 1956 only

A SCALE

B SCALE

C SCALE

D SCALE

0.0 to 12.4
 -0.2 to 17.4
 -0.4 to 22.0
 -0.6 to 27.4
 -0.8 to 40.0
 -1.0 to 47.6
 -1.2 to 52.0
 -1.4 to 55.0

-1.8 to 60.0
 -1.6 to 62.4
 -1.4 to 64.0
 -1.2 to 65.8
 -1.0 to 67.2
 -0.8 to 68.4
 -0.6 to 69.6
 -0.4 to 71.0

0.0 to 71.4 -0.5 all
 -0.2 to 75.4
 -0.4 to 80.0
 -0.6 to 83.2
 -0.8 to 87.4
 -1.0 to 125.0

* These correctors determined from bar checks taken outside the working area on edge of Gulf Stream. Not to be used for reducing soundings unless other correctors for Path. No. 164 give poor crossings.

SHIP BOWEN

SON PATH. 160 XPS

ENTIRE PROJECT

A SCALE

B SCALE

-0.2 to 14.4'
 0.0 to 30.0'
 -0.2 to 36.4'
 0.4 to 43.0'
 0.6 to 50.0'
 0.8 to 55.0'

* 0.4 to 40.0'
 0.6 to 46.6'
 0.8 to 52.6'
 1.0 to 57.6'
 1.2 to 62.0'

* Corrections additive

**PATHOMETER
VELOCITY CORRECTIONS**

SHLY STIRSI

808 FATH. 2 1512PX

ENTIRE PROJECT

A SCALE

0.0 to 20.0'
+0.2 to 50.0'

LAUNCH 180

E.D.O. FATH.

BEGINNING TO 10 DEC. 1956

A SCALE

*0.0 to 17.6'
0.2 to 21.0'
0.4 to 23.0'
0.6 to 25.0'
0.8 to 30.0'
1.0 to 31.4'
1.2 to 32.2'
1.4 to 32.8'
1.6 to 33.4'
1.8 to 34.4'
2.0 to 50.0'

*Corrections additive

LAUNCH 180

808 FATH. 1008

11 DEC. 1956 only

A SCALE

-0.8 to 19.0'
-0.6 to 23.2'
-0.4 to 26.8'
-0.2 to 35.0'
-0.4 to 40.0'

LAUNCH 180

808 FATH. 1008

12 DEC. 1956 to end

A SCALE

0.0 to 37.5'
-0.2 to 50.0'

FINAL SHORAN CORRECTIONS - CAPE CANAVERAL PROJECT

SHIP PARKER

Station PAT:

~~0.010~~ Monitor #1
-0.040 Monitor #1
~~0.025~~ Monitor #3
-0.020 Monitor #3

(Monitor #1 used 10,11,12 Dec. only)

Station on left dial (left side of page)
Station on right dial (right side of page)
Station on left dial (left side of page)
Station on right dial (right side of page)

Station COR:

-0.010 Monitor #2

Station DUM:

-0.025 Monitor #4

SHIP BOWEN

Station PAT:

0.000 Monitor #3
~~0.020~~ Monitor #3

Thru 11 November 1956
12 November on

Station COR:

-0.020 Monitor #2

Station DUM:

-0.020 Monitor #4

SHIP STINNI

Station PAT: Monitor #3 0.000
Station COR: Monitor #2 -0.025
Station DUM: Monitor #4 -0.015

LAUNCH NO. 180

Station PAT:

Monitor #1 -0.010
Monitor #3 ~~0.005~~
Monitor #2 -0.0025

(Monitor #1 used 10,11,12 Dec. only)

Station COR:

Station DUM:

Monitor #4 -0.025

PROCESSING OFFICE ADDENDUM
To Accompany.

WIRE DRAG WRECK INVESTIGATION PBS-4656WD

GENERAL

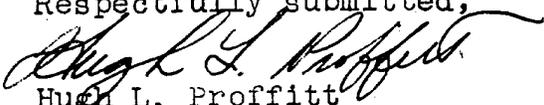
Wire Drag boat sheets were received at this Office with only the path of "H" buoy plotted on the Guide Launch sheet, and the path of "K" buoy plotted on the End Launch sheet.

Wire Drag records were processed and drag strips inked on the End Launch sheet in this Office. Field plotting was accepted on all lines.

The DUNHAM WHEELER, wreck no. 502, was the only item dragged for on this survey and no indications of the wreck were found.

Drag tests were recorded in Tender Record for survey PBS-4556WD.

Norfolk, Va.
11 Feb. 1957

Respectfully submitted,

Hugh L. Proffitt
Cartographer

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

21 March 1957

Plane of reference approved in

3 volumes of ~~sounding records~~ for wire drag and sounding records

HYDROGRAPHIC SHEET FE No. 4 1957

Locality Cape Canaveral, Florida

Chief of Party: J. C. Ellerbe in 1956

Plane of reference is mean low water, reading

1.0 ft. on tide staff at Canaveral Harbor

10.9 ft. below B.M. 1 (1956)

Height of mean high water above plane of reference is
3.5 feet.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch

GEOGRAPHIC NAMES

Survey No. F.E.No.4
(1957) W.D.

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	
										1
										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
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										25
										26
										27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ~~F.E.No.4~~ (1957) W.D.

Records accompanying survey:

Boat sheets .2...; sounding vols. .1...; wire drag vols. ..2...;
 bomb vols.; graphic recorder rolls 1-Envelope
 special reports, etc. 1-~~Descriptive report~~.....

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

Number of positions on sheet		..112..
Number of positions checked		..28..
Number of positions revised	0..
Number of soundings revised (refers to depth only)	0..
Number of soundings erroneously spaced	-
Number of signals erroneously plotted or transferred	-
Topographic details	Time-
Junctions	Time-
Verification of soundings from graphic record	Time1..
Verification by <i>J. J. Zeskund</i>	Total time	..13... Date <u>3-26-57</u>
Reviewed by <i>J. J. Zeskund</i>	Time3... Date <u>3-26-57</u>

Field Examination No. 4, 1957

This field examination was made to locate and determine the least depth over wreck No. 502 "Dunham Wheeler" in compliance with original instructions dated 24 August 1956, and supplemental instructions dated 3 and 9 October 1956.

Wreck No. 502 was not found. The vicinity of the wreck was covered by four drag strips whose effective depths ranged from 50 - 66 ft. The charted depths here range from 65 - 75 ft.

The results of the wire-drag examination are shown on the attached section of smooth sheet accompanying the Descriptive Report.

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

Reviewed by: I. M. Zeskind
March, 1957

Inspected by: R. H. Carstens

80° 20'

18'

16'

14'

14'

16

28

40

PAT 18

COR 30

30

DUM 42

42

20

32

22

44

34

WRECK No. 502 (DUNHAM WHEELER)
Not found

62

62

63' used

12'

FIELD EXAMINATION No. 4, 1957
FLORIDA
ATLANTIC OCEAN
CAPE CANAVERAL

Scale: 1-40,000
Oct. 1956 - Jan. 1957

"Dunham Wheeler"
502

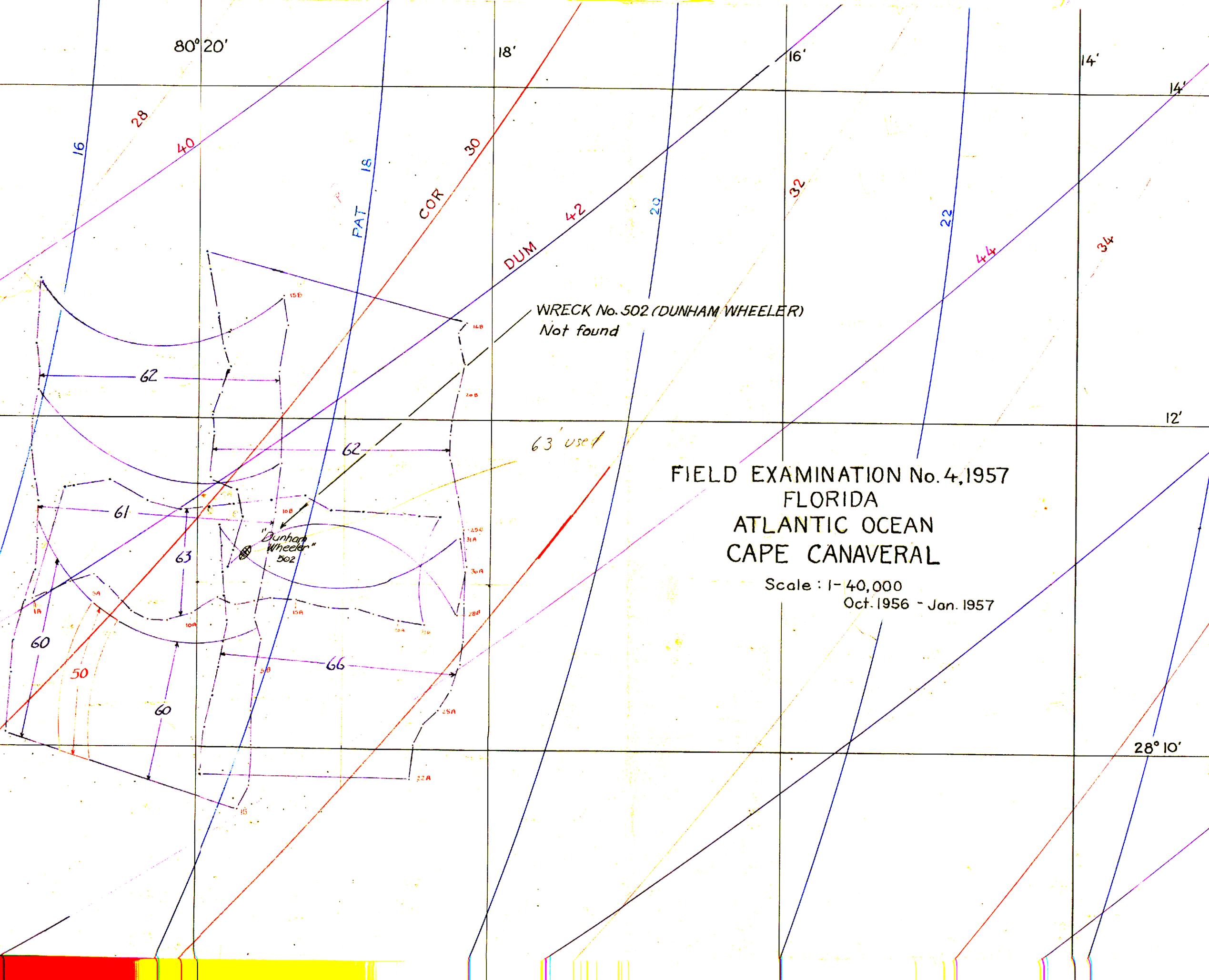
60

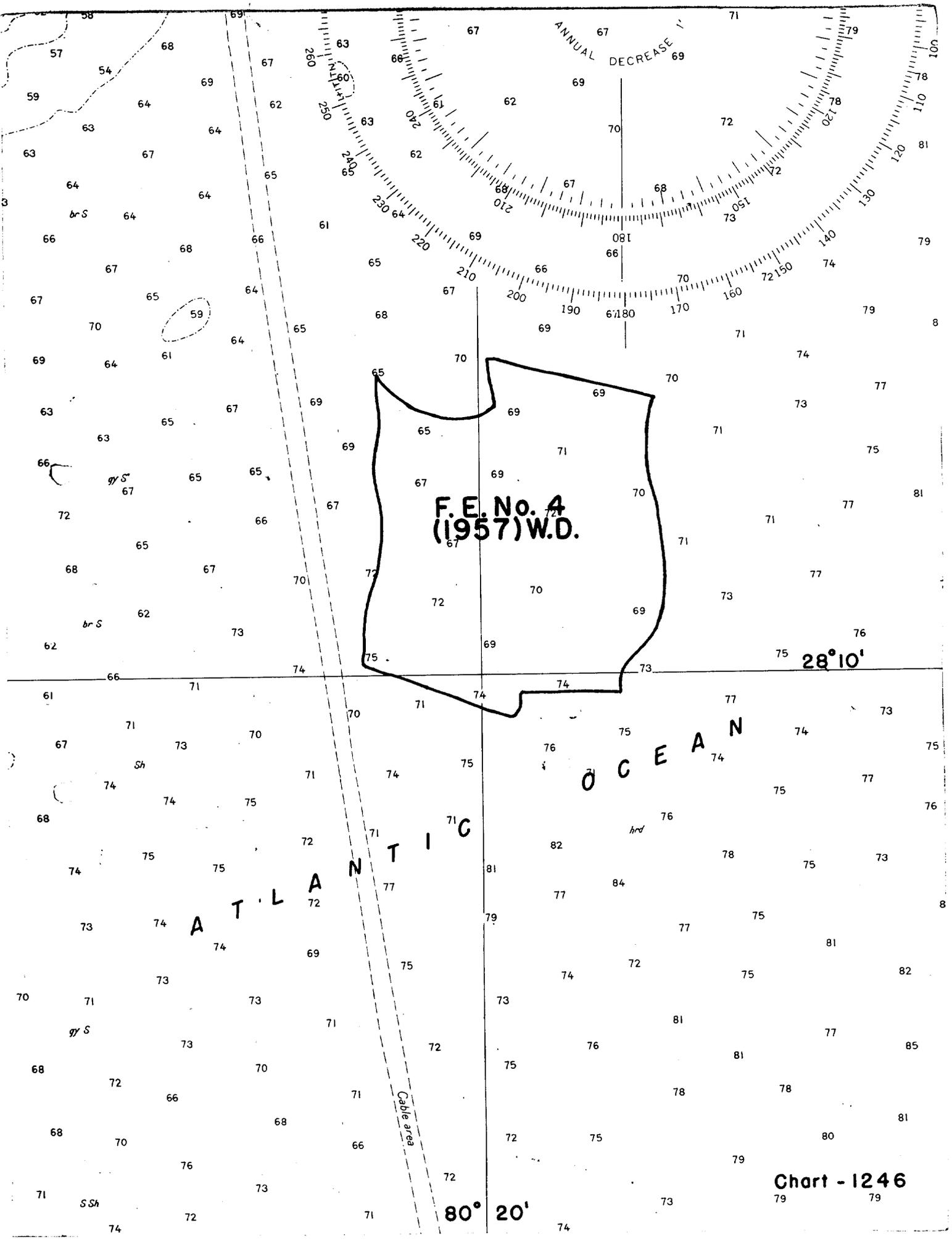
50

60

66

28° 10'





F. E. No. 4
(1957) W.D.

ATLANTIC OCEAN

80° 20'

28° 10'

Chart - 1246

Examined for Part 1007 - no corr'n - 3/26/57 WE (after Review)