

FE 79

WIRE DRAG

Diagram No. 78-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey .. Wire Drag

Field No. PBS-S149-WD

Registry No. FE-79WD

LOCALITY

State Virginia

General Locality .. Chesapeake Bay

Sublocality 5 Miles NE Rappannock Spit

19 49

CHIEF OF PARTY
R.H. Tryon, Jr.

LIBRARY & ARCHIVES

DATE January 17, 1950

☆U.S. GOV. PRINTING OFFICE: 1985-566-054

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.5 1949WD

FE 79
WIRE DRAG

FE No.5 1949 WIRE DRAG

FE-79

Diag'd. on Diag. Ch. No. 78-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey WIRE DRAG

Field No. PBS-8149-WD Office No. F.E. No.5,
(1949) W.D.

LOCALITY

State Virginia

General locality Chesapeake Bay

Locality 5 Miles NE Rappanock Spit

1949

CHIEF OF PARTY

R.H. Tryon, Jr.

LIBRARY & ARCHIVES

DATE January 17, 1950

B-1870-1 (1)

FE No.5
1949
WIRE DRAG

DESCRIPTIVE REPORT
TO ACCOMPANY

WIRE DRAG SURVEY

F. E. No. 5, 1949

(Field No. 8149)

SHIPS PARKER, BOWEN, & STIRNI

Lt. Comdr. Raymond H. Tryon, Jr.
Chief of Party

AUTHORITY

The survey was executed in compliance with verbal orders from the Supervisor, Southeastern District received on 30 November 1949.

SCOPE

On 26 November, at 08:44 A.M., a vessel bound for Baltimore, Maryland, reported striking an obstruction about five miles north-east of Rappahannock Spit in Latitude $37^{\circ} 39' .5$; Longitude $76^{\circ} 09' .5$. The vessel had a reported draft of 34 feet 7 inches. It was reported that subsequent examination showed about twelve feet of the bottom plates had been torn and damaged.

On 2 December, a second vessel drawing about the same water reported striking something in the general area suffering similar damage.

The survey was made to locate and determine the least depth over any obstruction that ships of the above draft might hit.

DATE OF SURVEY

Wire drag and sounding operations were between 5 December and 14 December 1949.

CONTROL

Due to the scarcity of objects that could be used for three-point fixes, it was decided to establish shoran stations at WINDMILL POINT LIGHTHOUSE and GREAT WICOMICO RIVER LIGHTHOUSE. The stations were named MIL and WIC respectively. The antenna at station MIL was lashed to the top balcony railing just below the light 3 meters, 045 degrees true from the lighthouse finial. The antenna at station WIC was similarly located 3 meters, 150 degrees true from the lighthouse finial. No correction was made for eccentricity of shoran antenna.

The shoran sets were calibrated in Chesapeake Bay at the beginning of the field season. Corrections have been applied to the observed readings to make the zero settings agree with the calibrated values.

SURVEY METHODS

Standard dual control methods were used. Azimuths to the Near and the Far buoys were determined by the azimuth circles on gyro repeaters mounted on top of the pilot houses of the Guide and End Launches. On several of the days when the Gyro Compass on one or the other of the Launches were inoperative bearings were taken on the other vessel and from this bearing and the one to the end buoy a relative bearing was computed and the Near or Far buoy position plotted.

Standard 100 foot lengths of ground wire were used for the tow line and the distance from the shoran mast to the end of the bridle was added to determine the total length of the towline. The distance from the shoran mast to the end of the bridle was about 60 feet. An 800 foot towline was used throughout the survey entered in the records as 270 meters.

Tests for lift were made by the Tender using a graduated lead filled pipe, 3/4" x 10 feet long, attached to a graduated airplane cord. This line was attached to a small buoy reel mounted on a small float. The pipe was coated with a mixture of white lead and oil to accurately determine the point of contact with the ground wire. Tests for lift were taken as soon as the drag was towing smoothly and repeated as thought necessary to take care of changing conditions.

When the drag hung, the position of the hang was obtained by having the tender proceed to the point of the "V" and at the mark by radio from the tender, simultaneous shoran positions and reciprocal sextant angles were taken by the towing vessels to cut in the tender.

FIELD OPERATIONS

A square area three nautical miles on a side was laid out, centered on Latitude $37^{\circ} 39'.5$, Longitude $76^{\circ} 09'.5$. Three drag strips, using an 8400 foot drag, were completed which gave adequate overlap on the center strip.

There is attached an obstruction data sheet, which lists the pertinent data for the four hangs located in the area.

Soundings were obtained in an area approximately 1.2 nautical miles square, centered on Latitude $37^{\circ} 38'.7$; Longitude $76^{\circ} 08'.9$. The line spacing was 150 meters.

RECORDS

The drag settings were based on predicted tides for Hampton Roads, Virginia corrected by +2h 20m for time and 0.5 range for height. The actual tides are not yet known and tide reducers have not been entered in the records. *Corrected for actual tides*

The lift corrections only have been entered to the nearest 0.5 foot and checked in the record books. The effective depth diagrams have not been accomplished.

The fathograms have been scanned and all corrections to the soundings have been entered and checked with the exception of the tide corrections.

TIDES

Tide gages were not maintained for this survey. Predicted tides for Hampton Roads corrected for time and height were used to get the effective depths listed on the attached obstruction data sheet. *Corrected for tide.*

OBSTRUCTIONS, CLEARANCES etc

^{Grounding} Obstruction No. 1 was located at the beginning of the drag strip - Position 2B - 11B. The drag was probably grounded when it was set out and failed to pull clear when the vessels started towing. The hang was subsequently cleared at 36.0 and ~~37.5~~₃₈ feet.

^{Grounding} Obstruction No 2 ^{38 ft} was located in the overlap between two strips and had previously been cleared with an effective depth 0.5 feet shoaler. This obstruction is probably some small object which projects a very small distance above the general bottom. *hydro. depths of 37-38 ft.*

Obstruction No. 3 was first hung at 37.5 feet and cleared the same day at 36.0 feet, both strips in a northerly direction. At a later date, two strips were dragged in a southerly direction. The first of these strips was rejected because no lifts were obtained by the tender even though the drag hung for about 15 minutes before slipping off the obstruction. The second of these strips failed to hang the obstruction at an effective depth of 39.0 feet, though indications were observed that the obstruction was still in its previously located position. This latter work was executed on a day when weather and sea conditions were bad. The U. S. Coast Guard had expressed a wish to mark this obstruction. As soon as weather conditions permitted, a marker was placed at the position of the obstruction and the Cutter MISTLETOE planted Obstruction Lighted Bell Buoy No. 17 100 yards, 090 degrees true from the marker.

Obstruction No. 4 was hung with an effective depth of 40.0 feet and the maximum clearance determined at 38.0 feet. This obstruction is located in 65 feet of water and was the only one of the obstructions found that registered on the fathometer. The profile shows a characteristic wreck sounding of about 47.0 feet in 65.0 feet of water. The tender probably did not get over the point closest to the surface.

CONCLUSIONS AND RECOMMENDATIONS

With the exception of obstruction No. 3, the entire surveyed area showed clear depths of from 37 to 40 feet. The hydrography in the vicinity of the charted 36 foot spot in Latitude $37^{\circ} 38.8$, Longitude $76^{\circ} 09.0$, showed nothing less than 37 feet and indications that this shoal area has shifted to the southeast.

It is recommended that obstructions Nos. 1 and 2 be disregarded as such and that the least depths obtained in this area be shown on the chart.

It is further recommended that obstructions Nos. 3 and 4 be charted as such with the least depth to be determined as soon as the actual tides are received and entered in the record books.

Raymond H. Tryon Jr.

Raymond H. Tryon, Jr.
Lt. Commander, USC&GS
Comdg. Ships PARKER, BOWEN, & STIRNI

OBSTRUCTION DATA SHEET

SURVEY NO. PBS-8149-WD

	LOCATION	GENERAL DEPTH FEET	HANG DEPTH FEET	POSITION NO.	CLEARANCE FEET	POSITION NO.	REMARKS
NO. 1	LAT. 37° - 37.80 [✓]	42	42.0 [✓]	2B - 11B	36.0	21B - 30B	Probably snagged bottom at set-out. Sounding shows general bottom only. ✓
	LONG. 76° - 08.00 [✓]				38 37.5	31B - 39B	
NO. 2	LAT. 37° - 38.62 ⁵	38	38 37.5	12B - 20B	37.0 [✓]	1 A - 41A	Probably bottom. Sounding shows general bottom only. ✓
	LONG. 76° - 08.72 [✓]				37.0 [✓]	1C - 30C	
NO. 3	LAT. 37° - 38.85 ⁷⁵	43	37.5	31C - 40C	36.0 [✓]	41C - 46C	Sounding of general bottom only. DRAG SLIPPED OFF OBSTRUCTION
	LONG. 76° - 10.88 ⁸⁵		(39.0)	5E - 12E			
NO. 4	LAT. 37° - 40.48 [✓]	65	40.0 [✓]	1D - 13D	36.0 [✓]	14D - 19D	Fathometer profile.
	LONG. 76° - 10.41 [✓]					37.0 [✓]	
					38.0 [✓]	28D - 39D	

STATISTICS FOR SURVEY NO. _____ (PBS-8149-WD)

SHIPS PARKER, BOWEN, STIRNI (Project CS-326)

<u>DATE</u> 1949	<u>DAY</u>	<u>STAT. MI.</u> <u>DRAG</u>	<u>NO.</u> <u>POS.</u>	<u>SOUNDINGS</u>
6 Dec.	A	3.5	41	-
7 Dec.	B	3.1	39	
9 Dec.	C	5.3	57	
10 Dec.	D	4.3	39	
13 Dec.	E	0.8	12	
		<u> </u>	<u> </u>	
		TOTALS 17.0	188	

Total Area Dragged 14.4 Sq. Stat. Miles

240

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

26 January 1950

Division of Charts: R. H. Carstens

Plane of reference approved in
6 volumes of sounding ~~records~~ and Wire Drag records
for FE No. 5, 1949

~~HYDROGRAPHIC SHEET~~

Locality Off Rappahanock Spit, Chesapeake Bay

Chief of Party: R. H. Tryon Jr. in 1949
Plane of reference is mean low water, reading
3.6 ft. on tide staff at Hampton Roads (NOB)
13.4 ft. below B. M. 6 (1927)

Height of mean high water above plane of reference is 1.2 feet.

Condition of records satisfactory except as noted below:

NOTE: Tide reducers have been entered in red, these reducers have been verified. The following allowances on Hampton Roads were used in determining these tide reducers.

<u>Time of Tide</u>	<u>Ratio of Range</u>
+ 2 00 hrs.	0.5

Section E. C. McKay
Chief, ~~Division of Tides and Currents~~

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. F.E. No. 5(1949) W.D.

Records accompanying survey:

Boat sheets ².....; sounding vols. ³.....; wire drag vols. ³.....;
 bomb vols.; graphic recorder rolls ¹envel.....;
 special reports, etc. ² sheets velocity curves; 1 tracing.....

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

Number of positions on sheet	.....	490
Number of positions checked	.....	47
Number of positions revised	.....	1
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	.....

Verification by *A. V. Evans* ^{UP}..... Total time *12 hrs.* Date *12 Oct. '50*

Reviewed by *J. F. Jordan*..... Time *4*..... Date *10 NOV '50*

REVIEW OF FIELD EXAMINATION NO. 5, 1949

This field examination was made to investigate an obstruction struck by a ship and reported in Chart Letter No. 977, 1949. The draft of the ship was reported to be $34\frac{1}{2}$ feet.

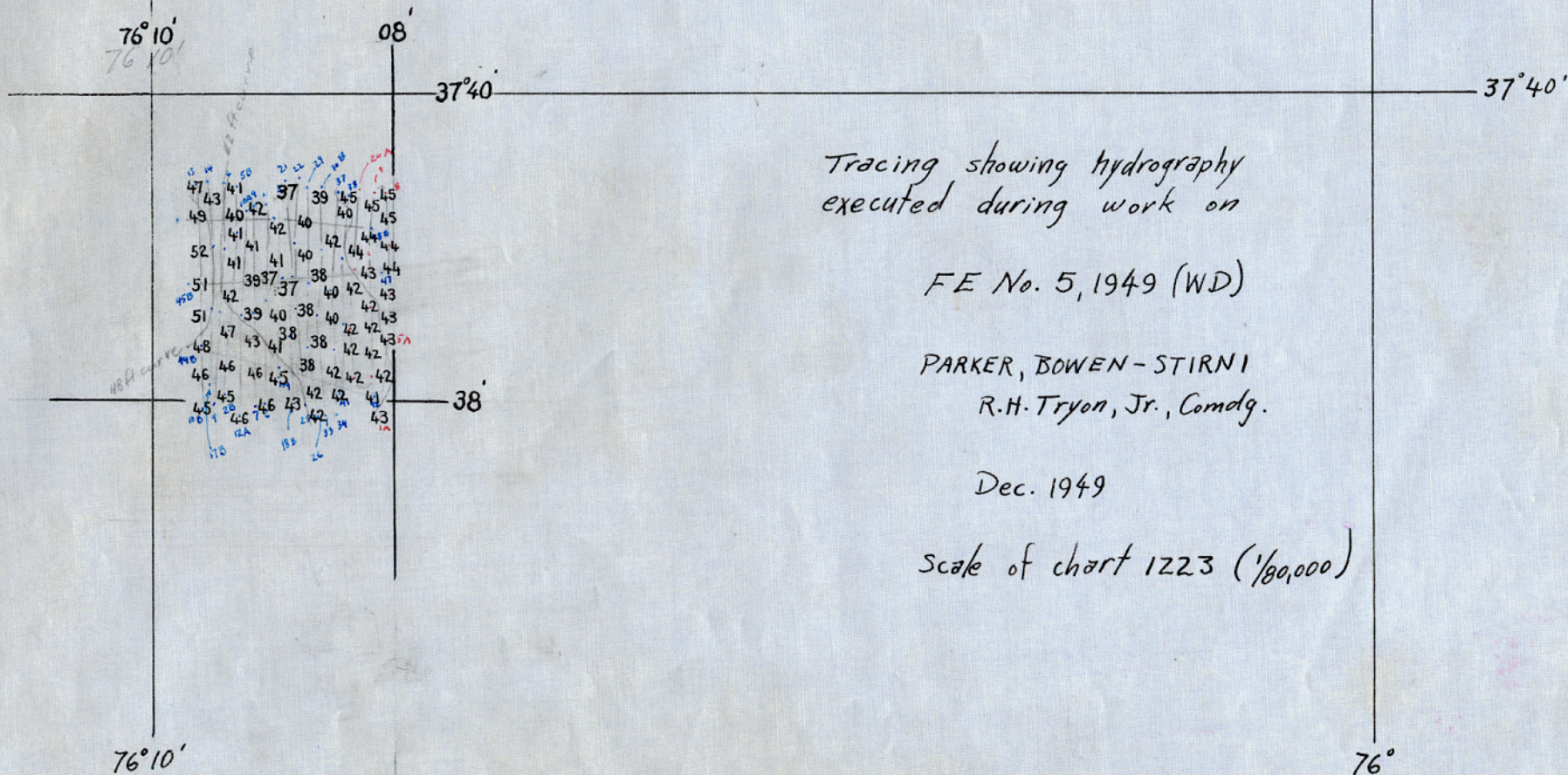
The control and scope of the examination is adequately described in the Descriptive Report. The wire-drag examination is plotted on the attached section of Chart 1223; the hydrography is on the attached overlay.

Two obstructions were found and clearance depths obtained. The proper clearance depths are shown on Charts 534 and 1223, but it should be noted that the southerly obstruction was replotted 150 meters southward during verification of the field examination. The discrepancy between a clearance depth of $37\frac{6}{10}$ feet and a depth of $34\frac{1}{2}$ ft. reported on the obstruction probably arises from partial demolition of the obstruction caused by the ship's impact. The plates of the ship were damaged.

The 37-ft. clearance on Chart 1223 in lat. $37^{\circ} 38.6'$, long. $76^{\circ} 08.7'$, is from the present examination, where the drag grounded at a depth of 38 feet. The 37- and 38-ft. bottom depths on the present hydrographic work are considered adequate. They also supersede the 36-ft. sounding charted 600 meters northwestward of the clearance depth. The 36 originates with H-252 (1851) and is on the same shoal area covered by present hydrography.

G. F. Jordan

Inspected by: R. H. Carstens
November 10, 1950



202 163

202

163

NAUTICAL CHARTS BRANCH

SURVEY NO. F.E. No. 5(1949) W.D.

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1-23-50	534	<i>M. Andrews</i>	Before After Verification and Review <i>Partially Applied</i>
4-25-50	1223	<i>McClasson</i>	Before After Verification and Review <i>Partially Applied</i>
4-25-50	78	<i>McClasson</i>	Before After Verification and Review <i>Partially Applied</i>
5/15/50	534 north	<i>J.F. Stegman</i>	Before After Verification and Review <i>Partially applied before office verification and possible tidal corr'n.</i>
2/27/51	534 north	<i>E.F. Stegman</i>	Before After Verification and Review <i>Completely applied.</i>
9-26-51	1223 recon.	<i>J.H. Eaton</i>	Before After Verification and Review <i>Completely Applied</i>
3/30/53	X 78	<i>same</i>	Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.