

6438

6438

Form 504  
Rev. April 1935

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

**DESCRIPTIVE REPORT**

Wire Drag  
*Topographic* }  
*Hydrographic* } Sheet No. H-6438

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L.O. Colbert

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State Virginia

**LOCALITY**

Chesapeake Bay

Entrance

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193.9

**CHIEF OF PARTY**

F.S. Borden

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

WIRE DRAYG  
~~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.

Field No. ....41.....

H6438

REGISTER NO. H - 6438

State .....Virginia.....

General locality.....Entrance To Chesapeake Bay.....

Locality.....*South of Cape Charles*.....

Scale .....1:40,000..... Date of survey .....May 4, -19....., 1939

Vessel .....Oceanographer.....

Chief of Party .....F.S. Borden.....

Surveyed by .....Kenneth S. Ulm.....

Protracted by .....R.M. Rader.....

Soundings penciled by .....R.M. Rader.....

Soundings in fathoms feet .....Effective Depths in Feet.....

Plane of reference .....M.L.W. ....

Subdivision of wire dragged areas by .....R.M. Rader.....

Inked by .....R.M. Rader.....

Verified by .....*H.F. Stegman*.....

Instructions dated .....March 4, 1938, July 5, 1938, ~~1939~~.....

Remarks: .....Dual Control-Visual Fixes using.....

.....Launches Marindin GL - Rodgers EL.....

DESCRIPTIVE REPORT  
TO ACCOMPANY WIRE DRAG SHEET H-6438

AUTHORITY

Instructions dated March 4, 1938 and letter dated July 5, 1938.

CHARACTER OF WORK

The work consisted of wire drag investigation of three items as follows: Item 1; A shoal reported  $1\frac{1}{4}$  miles northwest of buoy F.L.W. "2" Chesapeake Bay entrance by Japanese M.V. Kota TJANDI. Item 2; The wreck of the "Anglo African" and Item 3; A submerged wreck about 200 yards north of Nautilus Shoal Buoy #2 reported by fishermen.

The scale of the sheet is 1:40,000.

The position <sup>i</sup>interval was ten minutes except at beginning <sup>n</sup> and ends of lines and changes in course and speed.

Dual Control and visual fixes were used throughout the sheet.

Effective depths range from 13 to 33 feet. Control and Datum: This sheet is on the North American 1927 Datum. Basic control was triangulation stations of 1922 and 1932. The Virginia Beach Cavalier Hotel South Cupola Spire's position was received from the Washington Office without a date of establishment and was unadjusted. Adjustment was made by the smooth plotter as follows:  $-14.0$  meters for Latitude and  $+7.0$  <sup>Accepted</sup> meters for Longitude. Buoys were located by sextant cuts and positions and were used as auxiliary control.

DATES OF SURVEY

Six days work was done by the Launch <sup>a</sup>Merindin as guide launch and Launch Rodgers as end launch, on May 4, 7, 10, 11, 18 and 19.

TIDAL REDUCERS

Tide reducers for the sheet were taken from the hourly heights of the standard gage at Hampton Roads supplied by the Washington Office. A time correction of  $-1.0$  hour and a range correction of 1.1 were applied.

<sup>P</sup>  
SLITS  
<sup>A</sup>

None.

GROUNDING AND SHOALS

There are listed below in tabular form the groundings and shoals located:

<u>Pos. No.</u> <u>And</u> <u>Day Letter</u>	<u>Latitude</u> <u>And</u> <u>Longitude</u>	<u>Grounded</u> <u>Effective</u> <u>Depth</u> <u>Feet</u>	<u>Least Sounding</u> <u>Depth</u> <u>Feet</u>	<u>Cleared</u> <u>Effective Depth</u> <u>Feet</u>	<u>Depth</u> <u>Plotted</u> <u>Feet</u>
1a	36 59.3 75 50.9	31 34	30	28	30 ✓ 34 ✓
1b	36 57.8 75 50.0	33	34	29	33 ✓
1d	37 03.4 75 54.0	17	14	13 & 11 <small>partially</small>	14 ✓

#### GENERAL

##### Item 1:

##### *Square*

An area about 5.5 statute miles was covered on this item with effective depths of from 28 to 33 feet. A shoal 2.4 naut miles north east of buoy F.L.W. "2" was found with a least depth of 30 feet at M. L.W. in general depths of from 32 to 36 feet. It was cleared with 28 feet effective depth.

Another shoal was found 1.3 naut miles west of buoy F.L.W. "2" with an effective depth of 33 feet. The least sounding obtained was 34 feet at <sup>M.L.W.</sup> low water. It was cleared with 29 feet effective depth. Both these shoals were on an irregular bottom and shoal soundings felt like rocks.

##### Item 2:

Wreckage was found about 2.1 naut. miles north<sup>east</sup>west of Nautilus Buoy #2. The least depth obtained was 14 feet in general depths of 36 feet at M.L.W.. There were several pieces of obstructions in the vicinity varying from 14 feet to 17 feet at M.L.W.. This obstruction was cleared with 13 feet <sup>partially</sup> dragging from the south and 11 feet dragging from the north. Strong currents were encountered while dragging this area. On drag strip from 1D to 6D the bight of the drag was held to the north east behind the end launch by the current and the end of the line is plotted thus from G.L. Position 6D to E.L. Position 7D.

##### Item 3:

An area of 0.3 <sup>of</sup> a square statute mile was dragged with effective depths of 14 to 15 feet. Strong currents were encountered here.

#### COMPARISON WITH CHART 1222

##### On item 1:

There are no soundings shown on the chart shoaler than the drag depths.

On item #2:

The wreck of the "Angle African" is shown on chart 1222 - 0.2 of a naut. mile further south than found in the field.

On item #3:

In setting out the drag on E day the drag went aground with less effective depth than shown on the boat sheet from previous surveys. So a few sounding lines were run to ascertain, if there had been any appreciable change in the charted depths. From the sounding lines run it appears as though the shape of Nautilus Shoal had changed leaving a hole around Nautilus Buoy #2. The controlling depths approaching the buoy from the east, north and north west are from 14<sup>3</sup> to 17 feet.

Due to unfavorable weather conditions during the time this survey was in progress the writer did not feel justified in spending the time which would delay the work on the New Jersey Coast to make a more detailed hydrographic survey or to cover the area with deeper effective depths. It is recommended that detailed surveys be made in this area in the future.

PERSONNEL AND EQUIPMENT

Lieut.(j.g.) K.S. Ulm was in charge of the guide launch. Lieut. (j.g.) F.A. Riddell was in charge of the end launch. Launch MARINDIN was used as the guide launch and the Launch RODGERS was used as the end launch. Standard wire drag equipment was used.

Respectfully Submitted,

*Kenneth S. Ulm*

Kenneth S. Ulm

Lieut. (j.g.) C. & G. Survey

Forwarded:

*John H. Brittain*  
John H. Brittain  
In Charge, Norfolk Processing  
Office.

80 <sup>1940</sup>

POST-OFFICE ADDRESS: 600 Flatiron Building,  
Norfolk, Virginia.  
TELEGRAPH ADDRESS:  
EXPRESS ADDRESS:

File in DR of H-6438

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

1940 JUN - 6 - AM 8:35

June 5, 1940.

To: The Director,  
U.S. Coast And Geodetic Survey,  
Washington, D.C.  
  
From: The Officer In Charge,  
Norfolk Processing Office,  
U.S. Coast And Geodetic Survey,  
Norfolk, Virginia.  
  
Subject: Return of Smooth W.D. Sheet H-6438.

It is requested that smooth wire drag Sheet H-6438, the two accompanying boat sheets and the descriptive report be returned to this office. It was found to-day that the beads used to subdivide the drag strips on these sheets were in error.

*John H. Brittain*  
John H. Brittain  
In Charge, Norfolk Processing  
Office.

80-DRM

File in DR of H-6438

750R  
1517

June 7, 1940

To: Officer in Charge,  
U. S. Coast and Geodetic Survey,  
Processing Office,  
600 Flatiron Building,  
Norfolk, Virginia.

From: The Director,  
U. S. Coast and Geodetic Survey.

Subject: Wire drag survey H-6438.

With reference to your letter of June 5, 1940, requesting the return of wire drag survey H-6438, the corrections to the wire drag subdivisions which you mention will be made in this office.

(Signed) J. H. HAWLEY

Acting Director.

Corrected  
H. F. S.

STATISTICS  
TO ACCOMPANY  
WIRE DRAG SHEET H-6438

<u>Date</u> <u>(1939)</u>	<u>Letter</u> <u>Day</u>	<u>Volume</u> <u>No</u>	<u>Statute</u> <u>Miles</u>	<u>Positions</u>	<u>Drag Length</u> <u>Feet</u>	<u>Tender</u> <u>Soundings Positions</u>	
May 4	A	1	3.0	30	7200	1	1
" 7	B	1	0.5	17	7200	1	1
" 10	C	1	5.2	54	7200	0	0
					5000		
" 11	D	1	1.5	37	4000	1	1
					2400		
" 18	E	1	1.0	19	4000	0	0
" 19	F	1	1.8	27	4000	0	0
TCTALS							
FOR							
SHEET			13.0	184		3	3

Area = 6.6 Square Statute Miles.

<u>Date</u> <u>(1939)</u>	<u>Day</u>	<u>Letter</u>	<u>Volume</u> <u>No</u>	<u>Statute</u> <u>Miles</u>	<u>Soundings</u>	<u>Positions</u>
May 18	e	* RODGERS	1*	7.4	100	30
" 18	e	* Marindin	1*	5.4	109	23

\* Tender Record



LIST OF SIGNALS  
TO ACCOMPANY WIRE DRAG SHEET H-6438

<u>TRIANGULATION</u>	<u>HYDRO-NAME</u>
Cape Charles Lt. House 1887 - 1896 - 1932	Char
Cape Henry Lt. House 1887 - 1932	Hen
Hotel Cavalier Cupola	Cup
Tank Va. Beach	Tank
(F.L.W.) "2" Whistle Buoy	G.& W.2
(F.L.R.) "4" Bell Buoy	F.L.R.4
Nautilus Shoal Buoy N - 2	N - 2
Nautilus Shoal Buoy N - 4	N - 4

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6438** (Wire Drag)

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

Number of positions on sheet	..... <sup>240</sup>
Number of positions checked	... <sup>52</sup>
Number of positions revised	... <sup>12</sup>
Number of soundings recorded	... <sup>212</sup>
Number of soundings revised	.... <sup>2</sup>
Number of soundings erroneously spaced	... <sup>0</sup>
Number of signals erroneously plotted or transferred	.... <sup>1</sup>

Date: *July 24, 1940*

Verification by *H.F. Stegman*

Review by *Harold W. Murray*

Time: *16 hours*

Time: *7 hrs.*

HYDROGRAPHIC SURVEY NO. H6438 (Wire Drag)

Smooth Sheet Yes

Boat Sheet 2

Records; Sounding 1 Vols., Wire Drag 2 Vols., Bomb     Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) ---

Special Chart for Lighthouse Service No  
(Circular Nov.30, 1933)

Hydrography: Total Days 6 ; Last Date May 19, 1939

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Remarks

Decisions

1		370759
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GEOGRAPHIC NAMES

Survey No. **H6438**

(Wire Drag)

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.	
<u>Nautilus Shoal</u>										1
<u>Cape Charles</u>										2
<u>Chesapeake Bay</u>										3
										4
			Names unconfirmed in red approved							5
			by L. Hecx 07/29/40							6
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# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY  
DESCRIPTIVE REPORT  
PHOTOSTAT OF

No. H **H6438**  
~~No. I~~ (Wire Drag)

received June 6, 1940  
registered June 20, 1940  
verified  
reviewed  
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83	✓		Pages 2 and 3
88			
90			

RETURN TO

82	T. B. Reed
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L.A.C.  
Sick

## TIDE NOTE FOR HYDROGRAPHIC SHEET

July 2, 1940

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Tide Reducers are approved in  
3 volumes of sounding <sup>and wire drag</sup> records for

HYDROGRAPHIC SHEET 6438

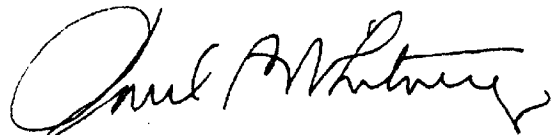
Locality Chesapeake Bay Entrance, Virginia

Chief of Party: F. S. Borden in 1939  
Plane of reference is mean low water reading  
3.4 ft. on tide staff at Hampton Roads Naval Base  
13.4 ft. below B.M. 6

Time of tide on working ground was taken one hour earlier and a ratio of ranges of 1.1 was applied.

Height of mean high water above plane of reference is 2.8 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

## VERIFICATION REPORT

H-6438 (1939) WD

CONDITION OF RECORDS: The records conform to the requirements of the Wire Drag Manual, and are neat and legible. However there were numerous typographical errors in the Descriptive Report (For example, the word "Nautilus" in the list of geographic names is apparently misspelled.) Corrected H.W.M.

This survey consists of three wire drag investigations: Items 1, 2, and 3.

Item 1: Discussed in detail on pages 1 and 2 of the Descriptive Report. The only change made by the verifier was to change the effective depth of the grounding at  $\phi - 36^{\circ}58'$   $\lambda - 75^{\circ}50'$ , from 33 ft to 34 ft. This was to agree with the lift test recorded on page 4 of the tender record. Since the tender searched in this vicinity for one hour and obtained a least depth of 34 feet it is probable that 34 ft was the actual effective depth of the drag.

The soundings of item 1 were transferred to H-4089 (1919).



Item 2: The wreck was located at  $\phi-37^{\circ}-03'.4$ ,  $\lambda-75^{\circ}-54'.0$ . The Descriptive Report states that the wreck lies in general depths of 36 ft. H-4926 (1929) shows depths of 19 ft to 27 ft in this vicinity, and is substantiated by soundings of the same depths taken by the wire drag launches.

The wreck was plotted on H-4926 (1929) \* See note on page 3 of this report H.F.S.

Item 3: The location of the wreck as reported, 200 yards north of Nautilus shoal buoy #2, was dragged with an effective depth of 15 ft. Soundings of 23 ft. to 33 ft were found in this vicinity. The existence of the wreck was therefore not disproved since it may have a least depth greater than 15 ft.

Comparison of the soundings taken on H-6438, with those of H-4926 (1929) shows a shoaling of 6 to 10 feet near  $\phi-37^{\circ}-03' \lambda-75^{\circ}-56'.5$ , and a deepening of 4 to 6 feet in  $\phi-37^{\circ}-03'.5 \lambda-75^{\circ}-57'.0$ . Since the change in depths is so evident the soundings of the present survey, H-6438, were not transferred to H-4926 (1929)

July 23, 1940

(over)

Respectfully submitted  
Harold A. Stegman

The corrections to the wire drag strips mentioned in the letter to the Director, from the officer in charge of the Norfolk Processing office, were made by the verifier. These corrections were changes in the length of drag bights, and drag subdivisions.

July 24, 1940

A. J. Stegman

\* The depth of 36 feet mentioned on page 2, paragraph 3 of the Descriptive Report is due to deepening in the immediate vicinity of the wreck and is not the general depth. This depth was noted while feeling for the least depth on the wreck. See page 29 of the guide launch record.

H.F.S.

DIVISION OF CHARTS

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6438 (1939) FIELD NO. 41

Virginia, Entrance to Chesapeake Bay, South of Cape Charles  
Surveyed in May 4 - 19, 1939, Scale 1:40,000  
Instructions dated March 4, and July 5, 1938 (OCEANOGRAPHER)

Wire Drag and Soundings,  
Hand lead

Dual Control

Chief of Party - Frank S. Borden.  
Surveyed by - Kenneth S. Ulm.  
Protracted by - R. M. Rader.  
Soundings plotted by - R. M. Rader.  
Verified and inked by - H. F. Stegman.  
Reviewed by - Harold W. Murray, May 24, 1940.  
Inspected by - H. R. Edmonston.

1. Purpose of Survey.

The purpose of this survey was to investigate obstructions or shoal areas reported off the entrance to Chesapeake Bay.

2. Results of Survey.

- a. Item 1; lat. 36°59.0', long. 75°49.3'. Reported obstruction (not charted) in depths of 37 feet struck by the Japanese Motor Vessel KOTA having a draft of 14 feet forward and 24 feet aft.

Dragging to effective depths of 31 to 32 feet failed to disclose any dangers to navigation. The excess, 7 to 8 feet of the effective drag depth over the maximum draft of the vessel is considered sufficient to disprove the uncharted obstruction as existing in the position as reported.

In extending the drag work to the westward, a shoal with a least depth of 30 feet (one hour's lead line investigation) was found in lat. 36° 59.3', long. 75°50.9'. A depth of 33 feet was formerly shown here on H-4089 (1919). The charted 31 foot sounding shown here originates with Chart Letter 728 of 1939, which is an advance report of the present survey and should be superseded. This sounding was cleared to an effective depth of 28 feet.

In lat. 36°57.8', long. 75°50.0'; a 34 foot depth (one hour's lead line investigation) was found

where H-4089 formerly showed 37 feet. This 34 was cleared with an effective drag depth of 29 feet. The charted 33 foot depth shown here originates with the previously mentioned chart letter and is superseded by the present survey.

- b. Item 2; Lat. 37°03.2', long. 75°54.0'. Charted wreck of ANGLLO-AFRICAN in depths of 22 feet.

This charted wreck was verified, a least depth of 14 feet (on obstruction) being found about 0.2 miles north of the charted position. The wreck was cleared by an effective drag depth of 11 feet dragging from the north. Another drag strip with depths of 13 and 17 feet (subdivision at vicinity of wreck) also cleared the wreck when dragging from a south to southwest direction.

- c. Item 3; Lat. 37°02.4', long. 75°56.2'. Submerged wreck (not charted) reported by fisherman as being about 200 yards north of Nautilus Shoal Buoy No. 2. (Authority: Letter dated August 18, 1937 on file, (Project 207) in Section of Field Work).

Several sounding lines run in this area show depths of 13 to 39 feet and indicate that portions of the area have changed as much as 13 feet since the last survey of 1929, H-4926. The vicinity of the wreck was cleared with a single effective drag strip of 15 feet. This depth which is from 3 to 18 feet above the bottom would indicate that the wreck is not of substantial proportions though a portion of it could still exist and therefore is not considered disproved. The wreckage symbol with the notation "reported" should be shown on the chart. Mention is made of the fact that in referencing the wreck to the buoy, the position is somewhat approximate because the buoy may be shifted from time to time and differences of 200 m. can easily exist.

3. Aids to Navigation.

The aids to navigation located on the present survey agree substantially with the charted positions and satisfactorily mark the features intended.

4. Additional Field Work Recommended.

The wreck discussed in paragraph 2c above is not considered entirely disproved and a further investigation would be desirable if field work is again undertaken

in this vicinity. Mention is also made of the changes  
in bottom which vary up to 13 feet.

Examined and approved:



T. B. Reed,  
Chief, Section of Field Records.



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

Partially Applied to Chart 78 Dec. 5, 1940 G.C.M.  
" " " 1222 Nov. 4 " G.R.  
" " " 1109 Oct. 29, 1941 K.R.

7-10-59 cht 562 R.E. Elkins Completely applied - no additions.