

6796

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GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.



Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

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PURSUANT TO DOC SYSTEMATIC REVIEW
GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

Type of Survey Hydrographic
Field No. 1143 Office No. H6796

LOCALITY

State Virginia
General locality Chesapeake Bay
Locality northeast of Wolf Trap Lighthouse

194 3

CHIEF OF PARTY
John Bowie Jr.

LIBRARY & ARCHIVES

DATE March 3, 1943

6796



DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. H6796

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. 1143

REGISTER NO.

State VIRGINIA

General locality CHESAPEAKE BAY

Locality Northeast of WOLFTRAP LIGHTHOUSE

Scale 1:10,000 Date of survey February, 1943

Vessel M.V. GILBERT

Chief of Party John Bowie Jr.

Surveyed by Ship's Officers

Protracted by A. Kaupa & J. D. Curd

Soundings penciled by A. Kaupa & J. D. Curd

Soundings in ~~fathoms~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by Leroy L. King March 10, 1943

Verified by

Instructions dated Director's letter, Dec. 23, 1942

Remarks: This sheet was processed at the Norfolk Processing Office.

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3.3(a), EXECUTIVE ORDER 12356.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO.

The Hydrographic Sheet should be accompanied by a certificate, when the sheet is forwarded to the Office.

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GUIDELINES AS DESCRIBED IN SECTION
3.3(b) EXECUTIVE ORDER 12065
1679

REGISTER No. H6796

Field No. 1143

State Virginia

General locality Chesapeake Bay

Locality Northeast of Wolf Trap Lighthouse

Scale 1:10,000 Date of survey February 1943

Instructions dated Director's letter Dec. 23, 1942

Vessel U.S.S. Gilbert

Chief of party John Bowie Jr.

Surveyed by Ship's Officers

Soundings taken by fathometer, graphic recorder, hand lead, wire fathometer

Protracted by A. Kaupa & J.D. Curd

Soundings penciled by A. Kaupa & J.D. Curd

Soundings in ~~feet~~ feet at MLW ~~MLLW~~

REMARKS: Inked by Leroy King March 10, 1943

verified by Leroy L. King March 10, 1943

This sheet was processed at the Norfolk Processing Office.

H6796

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet No. 1143 (Field)

Scale 1 : 10,000

Special Survey in Lower Chesapeake Bay

Requested by U. S. Navy

U. S. C. & G. S. Motor Vessel GILBERT

John Bowie, Jr., Comd'g. Officer

January and February 1943

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GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356

In accordance with the nature of the instructions received, the report is to be kept

AUTHORITY:

The survey was performed in accordance with Supplemental Instructions from the Director dated Dec. 23, 1942.

Additional instructions were received at a later date defining the limits of the area to be surveyed.

PURPOSE OF WORK:

The purpose of the survey was not stated in the instructions other than the hydrography was requested by the U. S. Navy.

CONTROL:

Buoys were used for control of sextant fixes for the hydrography as the area was too far out in the Chesapeake Bay to use signals along the shore.

SURVEY METHODS:

Three buoys spaced about a mile apart were planted in a North - South direction on the west side of the area to be surveyed. The distances between the buoys were determined by double run taut wire measurements made by the Launch WAINWRIGHT, Lieut. Comd'r. L. C. Johnson, Commanding Officer.

SURVEY METHODS: (Cont'd.)

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The positions of the buoys were determined by sextant angles and double run taut wire measurements from a fourth buoy located 4 miles N. W. of the northerly of the 3 buoys. The location of this buoy was determined by sextant observations on three light houses and its position computed by means of the three point problem.

The M. V. GILBERT was used for the hydrography. Soundings were obtained by a portable depth recorder mounted inside the pilot house with the "fish" suspended overboard on a hinge so that the "fish" could be raised from the water and secured in an up-right position when not in use.

As instructed, lines spaced 50 meters with a 10 meter tolerance were run in an East - West direction. Splits were run where necessary to hold the divergence of lines within this limit.

Soundings were reduced for tide from observations obtained from a tide staff established on Wolf Trap L. H. The 1901 Bench Marks were recovered. An eleven day record was obtained during which most of the hydrography was accomplished. The staff was carried away during a storm on the night of Feb. 13th. Reducers for the subsequent soundings were computed from the predicted tides.

Only one of the two buoys referred to in paragraph 14 of the instructions was recovered. The buoy (designated as WS"G" on Chart 1223) was located by intersection lines from sextant fixes.

The hydrography was extended about one mile to the southward of the specified area of the concentrated development in accordance with a note added by the office to a photostat sent with the additional instructions. The spacing of lines in this extended area was gradually increased.

Bar checks were made on the "B" scale at 10 fathoms three times daily. All were in excellent agreement and the depth recorder performed very satisfactory throughout. 99% of the recordings were within the "B" scale range and the remaining 1% on the "C" scale. By taking the bar checks on the "B" scale, fathometer corrections were eliminated except for an occasional correction at the end of a days work due to the wearing down of the stylus needle, and a 1/4 foot constant correction in shifting from the "B" to "C" scale.

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GENERAL:

The starting of the survey was delayed about ten days after the receipt of the original instructions by lack of information defining the limits of the area to be surveyed.

An additional loss of another ten days was caused by the taut wire machine being lost by the Railway Express Agency. Delivery was not made until Jan. 18th. The M.V. GILBERT did not have enough deck space to install and operate the taut wire machine so it was recommended that the installation be made on the Launch WAINWRIGHT and the personnel of that vessel be authorized to make the taut wire measurements. This was approved by the Director.

Field work began on Jan. 22nd when the M.V. GILBERT sailed for the working grounds. Three buoys were planted, using two 300# car couplers on each for anchors. These anchors were placed in a North - South direction to hold the buoys in a rigid position and prevent swinging with the changes in currents.

A reconnaissance was then made to determine a means of locating the buoys. Nothing on the Eastern shore was available for sextant fixes and Wolf Trap L. H. was the only object visible on the West shore. The possibility of obtaining fixes at night was eliminated because of the uncertainty of good visibility conditions as compared with the distances involved. Consequently, it was decided to establish a 4th buoy closer inshore and obtain its position by sextant observations using the lighthouses at Wolf Trap, Stingray Point and Windmill Point.

The M.V. GILBERT returned to Norfolk on Jan. 26th to construct a 4th buoy and take on water and supplies.

Departure for the working grounds was delayed by bad weather until Feb. 2nd. The M. V. GILBERT sailed accompanied by the Launch WAINWRIGHT. On reaching the working grounds, one buoy was missing so we had to return to Norfolk to construct another buoy. The buoy was either destroyed by storms or run down by one of the numerous ships maneuvering in the area. A tide staff was then established on Wolf Trap L. H. and the M.V. GILBERT arrived at Norfolk on Feb. 3rd.

Storms delayed returning to the working grounds until Feb. 8th, when the M.V. GILBERT sailed accompanied by the Launch WAINWRIGHT. Two buoys were planted in the afternoon, located, and part of the taut wire measurements made.

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GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

GENERAL: (Cont'd.)

Hydrography was conducted on Feb. 9th, 10th, and 12th. The 11th was squally. On the night of the 11th we get cold. Strong winds, with near zero temperatures, prevailed until the 17th. As our water supply was getting low, the M.V. GILBERT returned to Norfolk on Feb. 14th for supplies since field work could not be undertaken.

As a precautionary measure, another buoy was constructed for a spare. Supplies were taken aboard and the M. V. GILBERT sailed for the working grounds on Feb. 17th, accompanied by the Launch WAINWRIGHT so as to be on hand to make taut wire measurements without delay should any of the buoys turn up missing.

Weather prevented field work on the 18th. The next day was favorable so we went out and found the north buoy to be missing. Our spare buoy was planted on range with the other two and the distances double run by the Launch WAINWRIGHT, which then returned to Norfolk. A daily radio-phone schedule was arranged on general principles.

Then a period of heavy haze or light fog set in. Visibility was limited to around a mile maximum and hydrography was confined to a few uncertain hours in the afternoons when the fog would thin out a little. This continued until the 21st when we were completely stymied with only a few miles of splits remaining in the northern part of the area to be surveyed and visibility worse. On communicating with Lieut. Comd'r. Johnson that afternoon, I requested that he come up the next morning with the Launch WAINWRIGHT as I was stalled by poor visibility and would have to pick up the South buoy and move it in closer in order to finish.

The Launch WAINWRIGHT arrived the next morning. The south buoy was moved to a new position closer in on the northern end of the line of buoys. The distance was then measured by taut wire and the hydrography completed that afternoon.

The following day, Feb. 23rd, the M.V. GILBERT returned to Norfolk. Enroute a stop was made at Wolf Trap L. H. to dismantle the tide staff and collect the record. It was then learned that the tide staff had been carried away during the night of Feb. 13th by a storm.

In addition to the adverse weather conditions, many ships of all sizes and descriptions constantly interfered with hydrographic operations, causing numerous splits and broken lines. One large ship actually anchored in the area.

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GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

GENERAL: (Cont'd.)

All records were turned over the the Supervisor, Norfolk, for processing and smooth plotting upon order.

Every attempt was made to complete the assignment as soon as possible. Under favorable conditions and circumstances, the entire job should not have taken over 10 days. The officers and crew cooperated in an admirable manner throughout the assignment as each Sunday was a work day and each work day was from dawn to dusk.

LIST OF SIGNALS USED:

The buoy signals AXE, BAY, COB, ICE and FOG as they appear on the boat sheet, were used for control of sextant fixes.

TIDAL DATA:

Tide reducers were obtained from readings made from a tide staff located on Wolf Trap L. H. until it was demolished by a storm. After that, the predicted tides were used. See addendum, next page.

M. L. W. on the staff was computed at 2.8 feet.

STATISTICS:

Day	Letter	Date	Stat. Miles of Sounding	No. of Positions
	A	2-9-43	25.0	104
	B	2-10-43	31.5	117
	C	2-12-43	34.6	159
	D	2-19-43	24.0	102
	E	2-20-43	10.4	72
	F	2-21-43	--	1
	G	2-22-43	11.6	81
			137.1	636

Total Area: 3.0 square statute miles

PROGRESS SKETCH:

A progress sketch has been submitted separately under title of monthly progress sketch. A blue print should be made and attached to this report.

Respectfully submitted,

John Bowie, Jr.
Lieut. Comd'r., U.S.C. & G.S.,
Comdg. Officer, M.V. GILBERT

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TIDAL DATA

Referring to paragraph "Tidal Data" the Old Point Comfort
marigram was used for tides for February 19. The tides as
recorded at Old Point Comfort were reduced to mean low water
by subtracting 3.1 on staff and then further reduced by $\times 0.6$, 0.6 *pen*
being the ratio range between Old Point Comfort and Wolf Trap
Lighthouse. The difference between the predicted tides and
the reduced observed Old Point Comfort tides was not considered
great enough on the 20th and 22nd to change the already plotted
soundings.

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RECLASSIFICATION REVIEW
IN SECTION
SER 12330

pen

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A D D E N D U M

SHEET NO. F-1143

CHESAPEAKE BAY

M. V. GILBERT

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RSUANT TO DOC SYSTEMATIC REVIEW
DELINES AS DESCRIBED IN SECTION
3(a), EXECUTIVE ORDER 12356.

Discrepancy:

Positions 73 to 78G (red); latitude $37^{\circ} 26' 30''$ and longitude $76^{\circ} 05' 28''$. If this line were moved northward about 75 meters, it would be in better agreement with surrounding hydrography.

deeper
soundings
pos. 77-78G omitted

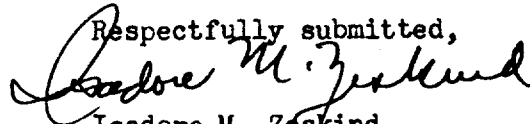
Control:

The control for this survey was computed at this office, and was plotted by geodetic positions. ✓ ✓

General:

In compliance with telephonic instructions by Captain G.T. Rude, Chief, Division of Coastal Surveys, the soundings were not recorded on the boat sheet, as this would have necessitated delay in completing the smooth sheet. Because of the urgency of this survey, it was deemed advisable to forward the boat sheet without soundings having been recorded thereon. ✓ ✓

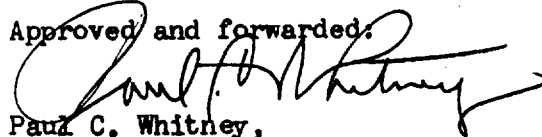
Respectfully submitted,



Isadore M. Zeskind
Associate Cartographic Eng'r.

Norfolk, Va.
Mar. 1, 1943

Approved and forwarded:



Paul C. Whitney,
Supervisor, SE District.

LCC
TMR

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 4, 1943.

~~Division of Hydrography and Topography:~~

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

Tide Reducers are approved in
3 volumes of sounding records for


HYDROGRAPHIC SHEET ⁴⁷⁹⁶~~1143~~

Locality Vicinity of Wolf Trap Lighthouse, Chesapeake Bay

Chief of Party: John Bowie, Jr. in 1943
Plane of reference is mean low water reading
2.8 ft. on tide staff at Wolftrap Lighthouse
6.6 ft. below B.M. 1

Height of mean high water above plane of reference is 1.5 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

GEOGRAPHIC NAMES

Survey No.

H6796

~~CONFIDENTIAL~~

Name on Survey

On Chart No.

On previous survey No.

On U. S. Maps

From local information

On local Maps

P. O. Guide or Map

Rand McNally Atlas

U. S. Light List

A,

B,

C,

D,

E

F

G

H

K

Name on Survey	A,	B,	C,	D,	E	F	G	H	K
Virginia									1
Chesapeake Bay									2
Wolf Trap Lighthouse									3
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Remarks

Decisions

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GUIDELINES AS DESCRIBED IN SECTION
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	Remarks	Decisions
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Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO

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GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

Records accompanying survey:

Boat sheets .1...; sounding vols. ³....; wire drag vols.;
bomb vols.; graphic recorder rolls .6...;
special reports, etc. ^{carrier} ~~made~~ ^{envelop} with computations for control

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

Number of positions on sheet	.636.
Number of positions checked	..23.
Number of positions revised	..0.
Number of soundings recorded
Number of soundings revised (refers to depth only)	..4.
Number of soundings erroneously spaced	..0.
Number of signals erroneously plotted or transferred	..0.
Topographic details	Time ..0.
Junctions	Time ..0.
Verification of soundings from graphic record	Time ..0.

Verification by... ^{J. K. Hartsock} ~~Larry~~ King... Total time $\frac{3}{44}$ hrs. Date March 10, 1943

Review by... ^{G. F. Jordan}..... Time $\frac{8\frac{1}{2}}$ hrs. Date Mar. 12, 1943

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DIVISION OF CHARTS
PURSUANT TO DOC SYSTEMATIC REVIEW
SURVEYS BRANCH
GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12958
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6796
Field No. 1143

Chesapeake Bay, Northeast of Wolf Trap Lighthouse
Surveyed in February 1943; Scale 1:10,000
Instructions dated December 23, 1942 (GILBERT)

Soundings:
808 Fathometer

Control:
Three-point Fix on Buoy Signals

Chief of Party - John Bowie, Jr.
Surveyed by - Ship's Officers
Protracted by - A. Kaupa; J. D. Curd
Soundings plotted by - A. Kaupa; J. D. Curd
Verified and inked by - L. L. King
Reviewed by - G. F. Jordan
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The control is from temporary buoy signals which were located by taut wire measurement and computations of three-point problems. Computations and measurements are based on previously established triangulation stations, the position of which falls off the smooth sheet. The North American Datum for these stations was used, so the 1927 Datum has been added to the smooth sheet.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

The 60-ft. depth curve is completely drawn. No attempt was made to correct the minor irregularity of this depth curve which is due to 1 to 4-ft. differences in the adjacent depths of closely spaced lines.

4. Junctions with Contemporary Surveys

There are no junctional surveys on this special survey project.

5. Comparison with Prior Surveys

H-285 (1851) 1:40,000

The agreement with this original survey is satisfactory. The depths at the point in the 60-ft. curve at Lat. $37^{\circ}25.55'$; Long. $76^{\circ}05.1'$ have deepened 10 feet since this prior survey.

H-2500 (1901); H-2551 (1901)

There are no disagreements with these prior 1:60,000 scale reconnaissance surveys.

H-3313 (1911) 1:40,000

The present survey covers a gap in this prior survey making a sufficient overlap with it as per instructions. The agreement in depths is satisfactory.

The 41-ft. sounding charted on 1223, from this prior survey, at Lat. $37^{\circ}26.3'$; Long. $76^{\circ}04.5'$ is actually 51 feet in the sounding records.

H-4039 (1918) 1:30,000

The present survey adjoins this prior survey on the east with satisfactory agreement in depths.

6. Comparison with Chart 1223 (latest print of 10-15-42)

a. Hydrography

The present survey is in satisfactory agreement with the charted depth except for the 41-ft. sounding noted above.

b. Controlling Depths

There are no dredged channels in the area of the present survey.

c. Aids to Navigation

The white spar buoy "G" was located at Lat. $37^{\circ}26.2'$; Long. $76^{\circ}05.4'$ 350 meters WSW of its charted position. Either position appears adequate. The nearby charted white spar buoy "H" was missing according to the descriptive report.

7. Condition of Survey

The sounding records, descriptive report, and field plotting are satisfactory.

8. Compliance with Instructions for the Project

Satisfactory.

9. Additional Field Work


The present survey is adequate.

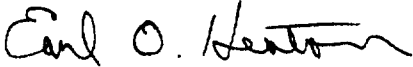
10. Superseded Surveys


H- 285 (1851) in part
H-2500 (1901) " "
H-2551 (1901) " "
H-3313 (1911) " "
H-4039 (1918) " "

Examined and approved:


Chief, Surveys Branch


Chief, Division of Charts


Chief, Section of Hydrography


Chief, Division of
Coastal Surveys

applied to chart 1223

May 25, 1943 g.H.S.