

7952

7953

Diag. Cht. No. 78-2

CS-350

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. Co-1152 Office No. H-7952

LOCALITY

State VIRGINIA

General locality YORK RIVER

Locality YORKTOWN

19 52 -53

CHIEF OF PARTY

J.H. BRITAIN, COMDR.

LIBRARY & ARCHIVES

DATE

MAY 7 1953

B-1870-1. (1)

7953

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. H-7952

Field No. Co-1152

State VIRGINIA

General locality ~~CHESAPEAKE BAY~~ YORK RIVER

Locality ~~YORK RIVER~~ YORKTOWN

Scale 1:10,000 Date of survey 15 May to 20 June 1952  
& 20th & 25th Aug. 1953

Instructions dated 15 March 1952

Vessel SHIP COWIE

Chief of party J.H. BRITTAIN

Surveyed by SHIP'S OFFICERS

Soundings taken by ~~ALTIMETER~~, graphic recorder, hand lead, ~~WIX~~ POLE

Fathograms scaled by SHIP'S PERSONNEL

Fathograms checked by SHIP'S PERSONNEL

Protracted by P.A. COX

Soundings penciled by G.L. FERNANDES & W.W. FEAZEL

Soundings in ~~4000ms~~ feet at MLW ~~MLLW~~  
and are true depths

REMARKS: This survey was smooth plotted in the Hydrographic Section of  
the Norfolk Processing Office.

*Add'l work of Aug. 1953 plotted by J.T. Gallahan, Wash. Office*

*X.W.C. 6/17/51*

*XW*

DESCRIPTIVE REPORT  
TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-7952, FIELD NO. CO-1152  
PROJECT CS-350  
YORK RIVER

SHIP COWIE

SCALE - 1:10,000

J. H. BRITAIN, COMDG.

A - PROJECT:

Project CS-350; Original instructions dated 13 March 1952.

B - SURVEY LIMITS AND DATES:

The area covered by this survey is the middle section of the York River from Gloucester Point to Sandy Point plus Queen Creek. Junction is made with <sup>H-7953 (1952-53)</sup> CO-1252 (1952) to the southeast and with H-7022 (1945) to the northwest. Queen Creek makes a junction with H-7022. Hydrographic surveys began 15 May and were conducted with intermittent intervals through 20 June 1952.

C - VESSELS AND EQUIPMENT:

Thirty-foot launch No. 102 and 25 foot hydrographic skiff No. 737 were used, both boats operating from the Ship COWIE. Launch No. 102 using 808 type fathometer #63 was used where the depth was 6 feet and over. Skiff No. 737 powered by two outboard motors and using pole and leadline for sounding was used in shoal areas close to shore, and in creeks and inlets where the depths were not sufficient for launch operation. Fathometer was not used with the skiff. Leadline was used for soundings around piers.

D - TIDE AND CURRENT STATIONS:

A portable automatic tide gage was maintained at Cheatham Annex during the major part of this survey. A staff was installed and read every 15 minutes during the survey of Queen Creek and the staff at Cheatham Annex was read in the same way while the leadline soundings around those piers were being made. No current stations were observed in this area. Tide gage records and all soundings are on Eastern Standard Time.

E - SMOOTH SHEET:

Projections will be constructed and sheets plotted by the Norfolk Processing Office.

F - CONTROL STATIONS:

1. The following triangulation stations were recovered and used:

HYDROGRAPHIC NAMENAME

BOAT - Gloucester Point Steamboat Pier Beacon, 1932

FLAG - *Marine Bks. Flagpole 1932*

GAS - Yorktown Gasoline Tank, 1932-43

MENT - Yorktown Monument, 1906

MINE - Navy Mine Depot Tank (Mine 1932-43)

PAGE - Page Rock Light House, 1911-45

PIER - Mine Depot Light on Pier, 1932

SHO - Sandy Point Shoal Light, 1945

SQUAT - Navy Mine Depot, Squat Tank, 1942

*Bridge (U.S.N.) 1951*

*Sandy Pt. 4 (1945)*

*See Processing Office  
list of signals*

2. Topographic Stations were taken from air photo manuscripts.

SIGNALS - SHEET - CO-1152:(H-7952)

AIR PHOTO MANUSCRIPT, RS-435:(1952)

COME	HILL	PILE	SHY
COR	HOME	RAMP	VAS
DER	LONG	RES	YOU
END	MUD	SAND	<i>LAST SOON</i>

AIR PHOTO MANUSCRIPT, RS-436:(1952)

ABE	BRU	DUK	LIP	STA <i>CAB</i>
ARM	BUD	ELK	MAR	<i>IDA</i>
ASK	CARE	FIL	NOX	<i>BOB</i>
AXE	CAT	FIND	PIG	<i>NIG</i>
BEA	DOL	HIX	PUC	<i>PLO</i>
BET	DON	JON	RON	<i>TES</i>
BIR	DUD	LEV	SAM	<i>MAK</i>

AIR PHOTO MANUSCRIPT, RS-439:(1952)

CUP	NEL	
GUL	WAT	<i>→ Hydro signal- see Vol. 2 H-7953</i>
<i>GUS</i>		
<i>ACK</i>		
<i>WET</i>		

G - SHORELINE AND TOPOGRAPHY:

The shoreline on the boat sheet was transferred from air photo manuscripts RS-435, RS-436 and RS-439<sup>(1951/52)</sup> which cover this area. The air photos were taken recently and the shoreline on the manuscripts is correct. All of the topographic signals were radial plotted from the air photos on the manuscripts and then transferred directly to the boat sheet.

It was not practical to define the entire low water line by soundings due to the small range of tide and the attendant difficulty of getting the sounding vessel close to the beach without long periods spent dragging bottom or going aground. However, the sounding lines were run close to and parallel to the beach wherever possible.

H - SOUNDINGS:

Depths were measured with 808 type recording fathometer, leadline and pole. Bar checks were taken daily from the launch to depths where satisfactory results could be obtained. Fathometer corrections have been determined from the bar checks and entered in the sounding volumes by the field party. The leadline was checked daily with no corrections found.

A check on the boat sheets of the overlap between fathometer, leadline and pole shows no more than 1 foot difference.

I - CONTROL OF HYDROGRAPHY:

Sounding lines were controlled by three point fixes using natural objects or signals erected along the shoreline. Satisfactory results were obtained from using these signals.

J - ADEQUACY OF SURVEY:

The survey is considered complete, adequate for charting purposes and to supersede all prior surveys. Junctions with adjoining surveys are satisfactory, no holidays exist and depth curves can be adequately drawn at the junctions. ✓

K - CROSSLINES:

Crosslines are in good agreement, the percentage is estimated at 10 percent. ✓

L-M - COMPARISON WITH PRIOR SURVEYS:

A comparison with Charts 492 and 495 shows the following:

1. The ruins known as Clements Wharf were looked for and found to no longer exist. *See pg. 3 of Appendix to Desc. Report & Review, par. 5.*

2. The area at the mouth of Queen Creek is foul with hundreds of stakes that are bare at MLW and covered at MHV. These areas are shown on the Skiff boat sheet. ✓

3. A hole shown approximately 400 meters west of Sandy Point Shoal Light is presumed to have been made by dredging for an adjacent road fill. ✓

4. The 16 foot sounding mentioned in the Preliminary Review (number 17) could not be sounded ~~for~~ due to a large barge being anchored on this spot. A sounding line was run up the center of the area between the two piers/<sup>and</sup> along the south side of the northern pier. *See Appendix to D.R. & Review, par. 5 b.* Hand line soundings were taken along the northern side of the southern pier.

5. There is no evidence of the 5 foot sounding mentioned in number 16 of Preliminary Review. ✓

L-M - COMPARISON WITH PRIOR SURVEYS: (CONT.)

This is assumed to have been an error on the previous survey. ✓

In general there seems to be very little change between the present survey and the chart and previous surveys. ✓

N - DANGERS AND SHOALS:

No evidence of dangers or shoals were found in the channels. Crab and fish nets are spotted along the shorelines, but they are temporary. There are hundreds of stakes coming out from each shore at the mouth of Queen Creek as mentioned in Section L-M. These have been used apparently by the Virginia Fisheries Commission for testing purposes. ✓

No other important dangers or shoals not already shown on Charts 492 and 495 were found in the area covered by this survey.

O - COAST PILOT INFORMATION:

This subject is covered in a separate report by the Commanding Officer Ship COWIE.

P - AIDS TO NAVIGATION:

Sextant fixes were obtained at all floating aids. Fixed aids positions were obtained by air photo processes.

1. Yorktown Buoy "5A": Lat.  $37^{\circ}14'29''$ ; Long.  $76^{\circ}30'44''$ ; in 44 feet or water. ✓
2. Gloucester Pt. Buoy "4A" Lat.  $37^{\circ}15'00''$ ; Long.  $76^{\circ}30'43''$ ; in 39 feet of water. ✓
3. Mumfort Island Flats Buoy "4B" Lat.  $37^{\circ}15'47''$ ; Long.  $76^{\circ}31'18''$ ; in 30 feet of water. ✓
4. Carmines Island Buoy "4C" Lat.  $37^{\circ}16'41''$ ; Long.  $76^{\circ}32'28''$ ; in 27 feet of water. ✓

The numbers of these buoys have been changed since the survey. ✓



Q - LANDMARKS FOR CHARTS:

No new landmarks for charts are recommended for the area covered by this survey.

R - GEOGRAPHIC NAMES:

Geographic names shown on Charts 492 and 495 for this area are adequate and no additional names are recommended.

U-Y - MISCELLANEOUS:

In featureless shoal areas, soundings were spaced every 30 seconds apart on the boat sheet. Intermediate soundings were plotted only where needed to define underwater features.

Z - TABULATION OF APPLICABLE DATA:

The Coast Pilot Report has been forwarded to the Washington Office. A list of signals is attached in Volume I of the sounding records. A tabulation of other data is attached.

Respectfully submitted,

*Robert M. Borst*

Robert M. Borst,  
Ensign, USC&GS.,  
Ship COWIE.

Approved and forwarded,

*J. H. Brittain*  
J. H. Brittain,  
Comdr. USC&GS.,  
Comdg. Ship COWIE.

STATISTICS

LAUNCH NO. 102

<u>VOL. NO.</u>	<u>DAY</u>	<u>DATE</u>	<u>NO. OF POS.</u>	<u>STAT. MI.</u>	<u>NO SDGS. H.L. &amp; POLE</u>
I	a	5/16	10	2.6	
I	b	5/20	184	41.8	
I	c	5/21	50	12.1	
II	c	5/21	155	31.9	
II	d	5/22	105	18.0	
III	e	5/23	<u>28</u>	<u>1.6</u>	18
TOTALS:			532	108.0	

SKIFF NO. 737

IV	a	5/15	58	8.7	
IV	b	5/20	129	23.4	
IV	c	5/21	84	12.7	
V	c	5/21	89	11.7	
V	d	5/22	82	11.9	
V	e	6/20	<u>14</u>	<u>0.6</u>	
TOTALS:			456	69.0	
<del>GRAND</del> TOTALS:			988	177.0	

TOTAL AREA: 6.5 Sq. Stat. Miles

ADDITIONAL WORK DONE ON f day (Lch. 102)

III	f	6/20	51	00	51
GRAND TOTAL			1039		69

FATHOMETER CORRECTIONS:

A a - day

16 May 1952

Fath. 808, No. 63

(A Scale) 0.0 to 13.0

(B Scale)

Taken from 14 May 1952

- 0.2 to 18.0

- 0.4 to 22.5

/ 1.6 to 36.0

- 0.6 to 26.0

/ 1.4 to 40.5

- 0.8 to 29.5

/ 1.2 to 45.0

- 1.0 to 32.5

/ 1.0 to 49.5

- 1.2 to 35.0

/ 0.8 to 53.0

- 1.4 to 37.0

/ 0.6 to 56.0

- 1.6 to 39.5

/ 0.4 to 60.0

- 1.8 to 42.0

/ 0.2 to 63.0

- 2.0 to 44.5

/ 0.0 to 67.0

- 2.2 to 47.0

- 0.2 to 70.0

- 2.4 to 50.0

- 0.4 to 73.5

- 2.6 to 52.0

- 0.6 to 77.0

- 2.8 to 54.0

- 3.0 - over

FATHOMETER CORRECTIONS: (CONT.)

b - day

20 May 1952

Fath. 808, No. 63

<u>A SCALE</u>	<u>B SCALE</u>
0.0 to 12.5	/ 0.6 to 40.0
-0.2 to 18.0	/ 0.8 to 46.0
-0.4 to 22.5	/ 1.0 to 60.0
-0.6 to 25.5	/ 0.8 to 62.0
-0.8 to 29.0	/ 0.6 to 64.5
-1.0 to 32.5	/ 0.4 to 66.5
-1.2 to 36.0	/ 0.2 to 69.0
-1.4 to 39.5	/ 0.0 to over
-1.6 to 44.0	
-1.8 to 49.0	
-2.0 to 54.00	
-2.2 to over	

c - day

21 May 1952

Fath. 808, No. 63

0.0 to 21.5	/ 1.4 to 50.0
-0.2 to 24.5	/ 1.2 to 52.5
-0.4 to 27.5	/ 1.0 to 54.5
-0.6 to 30.5	/ 0.8 to 57.0
-0.8 to 36.0	/ 0.6 to 59.5
-1.0 to 41.8	/ 0.4 to 64.0
-1.2 to 43.5	/ 0.2 to 68.0
-1.4 to 46.5	/ 0.0 to over
-1.6 to 49.0	
-1.8 to 51.5	
-2.0 to 54.5	

FATHOMETER CORRECTIONS: (CONT.)

<u>d - day</u>	<u>22 May 1952</u>	<u>Fath. 808, No. 63</u>
	<u>A SCALE</u>	<u>B SCALE</u>
	0.0 to 12.5	/ 1.4 to 37.0
	-0.2 to 17.5	/ 1.2 to 40.5
	-0.4 to 22.0	/ 1.0 to 44.0
	-0.6 to 25.5	/ 0.8 to 47.5
	-0.8 to 29.0	/ 0.6 to 51.5
	-1.0 to 32.0	/ 0.4 to 55.0
	-1.2 to 34.5	/ 0.2 to 58.5
	-1.4 to 37.0	0.0 to over
	-1.6 to 39.5	
	-1.8 to 42.0	
	-2.0 to 45.5	
	-2.2 to 49.0	
	-2.4 to 50.5	
	-2.6 to over	

<u>e - day</u>	<u>23 May 1952</u>	<u>Fath. 808, No. 63</u>
	0.0 to 21.5	
	-0.2 to 24.0	/ 1.0 to 52.0
	-0.4 to 27.0	/ 0.8 to 57.0
	-0.6 to 29.5	/ 0.6 to 61.5
	-0.8 to 32.0	/ 0.4 to 65.0
	-1.0 to 34.0	/ 0.2 to 68.5
	-1.2 to 36.5	0.0 to over
	-1.4 to 38.5	
	-1.6 to 40.5	
	-1.8 to 47.0	
	-2.0 to 47.0	

TIDE NOTE

A portable automatic tide gage at Cheatham Annex, Va. Lat.  $37^{\circ}17.55'$ ; Long.  $76^{\circ}35.17'$  was used for obtaining tide reducers for most of this survey. The tide reducers for Queen Creek were obtained by reading a staff placed at Lat.  $37^{\circ}17.80'$ ; Long.  $76^{\circ}39.09'$  every 15 minutes. The reducers for leadline soundings around Cheatham Annex were obtained by reading the staff at Cheatham Annex. Heights of MLW at Cheatham Annex was 2.7 feet above zero of the tide staff, and at Queen Creek was 0.3 feet above zero of the tide staff. No time or height corrections were applied to the observed tides. Hourly heights were scaled from the marigrams by the personnel of the Ship COWIE.

LIST OF SIGNALS  
To Accompany

Hydrographic Survey H-7952 (Co-1152)

TRIANGULATION STATIONS

BOAT	GLOUCESTER POINT, STEAMBOAT PIER, BEACON, 1932-43 <i>light discontinued</i>
GAS	YORKTOWN GASOLINE TANK, 1932-43
MENT	YORKTOWN MONUMENT, 1906
MINE	MINE, 1932-43
PAGE	PAGE ROCK LIGHTHOUSE, 1911
PIER	MINE DEPOT, LIGHT ON PIER, 1932-43 <i>station dismantled</i>
SHO	SANDY POINT SHOAL LIGHT, 1945
SQUAT	NAVY MINE DEPOT, SQUAT TANK, 1942
BRID	BRIDGE (U.S.N.), 1951
	SANDY POINT 4, 1945

*Fort (1906-48)*

RECOVERABLE TOPOGRAPHIC STATIONS

COME, 1952	(RS-435)	CARE, 1952	(RS-436)
HILL, 1952	"	FIND, 1952	"
HOME, 1952	"		
LONG, 1952	"		
PILE, 1952	"		
RAMP, 1952	"		
SAND, 1952	"		

TOPOGRAPHIC STATIONS

Cor (RS-435)	Abe (RS-436)	Bru (RS-436)	Elk (RS-436)	Nig (RS-436)
Der "	Ack "	Bud "	Fil "	Nox "
End "	Arm "	Cab "	Hix "	Pig "
Mud "	Ask "	Cat "	Ida "	Puo "
Res "	Axe "	Dol "	Jon "	Ron "
Shy "	Bea "	Don "	Lev "	Sam "
Vas "	Bet "	Dud "	Lip "	Sta "
You "	Bop "	Duk "	Mar "	Off "

Cup (RS-439)   Gul (RS-439)   Nel (RS-439)   Wet (RS-439)

HYDROGRAPHIC STATIONS

Wat Vol. 2, Sheet Co-1252 (H-7953)

PHOTOGRAMMETRIC STATIONS

Bir (Transferred from boat sheet as directed on compilation RS-436)

FLOATING AIDS TO NAVIGATION  
H-7952

<u>BUOY NAME</u>	<u>POSITION</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
Yorktown Buoy 5A	37-14 893M 76-30 1100M	44'	57b & 115c	5/20/52 5/21/52
Gloucester Pt. Buoy 4A	37-15 04M 76-30 1080M	39'	51f	6/20/52
Mumfort Island Flats Buoy 4B	37-15 1422M 76-31 444M	30'	50f	6/20/52
Carmines Island Buoy 4C	37-16 1266M 76-32 704M	27'	49f	6/20/52



ADDENDUM  
To Accompany

HYDROGRAPHIC SURVEY H-7952 (Field No. Co-1152)

GENERAL

The following are instances of dolphins, piles & duck blinds charted on 492 but not shown on air-photo compilations or mentioned on hydrographic survey:

3 dolphins charted at northern end of York River Bridge.

*Investigated '53 work- see appendix to Desc. Report*

Lat. 37-15.32 Long. 76-32.09 Chart 492 shows several piles in this area. Compilation RS-436 shows only one.

*Special investigation 1953 located additional piles*

Lat. 37-16.35 Long. 76-33.75 Duck blind.

*duck blind not located by additional 1953 work; presumed nonexistent*

CONTROL

Fixes in the vicinity of the S.W. end of York River Bridge are generally weak. Some adjustment of positions was required to make soundings agree along the steep gradient.

Respectfully submitted,

*Hugh L. Proffitt*  
Hugh L. Proffitt  
Cartographer.

Norfolk, Va.  
4 May 1953

Approved & Forwarded;

*Earle A. Deily*  
Earle A. Deily  
Supervisor, S.E. District.

GEOGRAPHIC NAMES

Survey No. H-7952

Name on Survey												
	A	B	C	D	E	F	G	H	K			
<u>Virginia</u>												1
<u>York River</u>												2
<u>Yorktown</u> ✓												3
<u>Gloucester Point</u> ✓												4
<u>Timberneck Creek</u> ✓												5
<u>Sandy Point</u> ✓												6
<u>Queen Creek</u> ✓												7
<u>Cheatham Annex</u> ✓												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

(location of tide gage)

Names approved May 20, 1953. If additional names are desired any on charts 492 and 495 may be used L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7952....

Records accompanying survey:

Boat sheets ~~1 (2 parts)~~ sounding vols. .5 <sup>82 (1953)</sup>; wire drag vols. ....;  
 bomb vols. *NONE*; graphic recorder rolls <sup>3 Env.</sup> & 1 Env. for 1953  
 special reports, etc. 1 ~~Smooth Sheet~~; 1 ~~Descriptive Report~~.....  
 .....

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

Number of positions on sheet	..11.36.
Number of positions checked	...3.5.
Number of positions revised	...10.
Number of soundings revised (refers to depth only)	....15.
Number of soundings erroneously spaced	...0.
Number of signals erroneously plotted or transferred	....0.
Topographic details	Time ..15..
Junctions	Time ..32..
Verification of soundings from graphic record	Time ...15..

Verification by John J. Gallahan Total time 21.2... Date Dec. 10, 1954

Reviewed by J.A. Dinmore Time 32.... Date Dec. 27, 1954

*Plotting of additional 1953 work by J.T. Gallahan*

15. dol. w. of ABOAT transferred from H-7953 Vol. 16 p. 5. other dol. or  
files originate with this survey or from RS 436 & 439.

shoreline of Timberneck Creek NE section of survey as  
new shoreline transferred from RS 436 along with sta.  
Ida, Cab, Mat, & Nig.

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

21 May 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 5  
volumes of sounding records for

HYDROGRAPHIC SHEET 7952

Locality York River, Virginia

Chief of Party: J. H. Brittain in 1952

Plane of reference is mean low water, reading

2.8 ft. on tide staff ~~at~~ (May 1952)  
-0.3 ft. ~~below B. M. 1~~ on tide staff (June 1952) } at Cheatham Annex  
13.2 ft. below B. M. 1 (1945) } (Naval Supply Depot)

Height of mean high water above plane of reference is 2.5 feet.

Condition of records satisfactory except as noted below:

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

## TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

2 October 1953

Division of Charts: R. H. Carstens

Plane of reference approved in  
2 volumes of sounding records for

HYDROGRAPHIC SHEET 7952 Add. Wk.

Locality York River, Virginia

Chief of Party: J. H. Brittain in 1953  
Plane of reference is mean low water, reading  
0.9 ft. on tide staff at Gloucester Point  
34.1 ft. below B. M. 4 (1918)

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

Note: Tide reducers for a day Volume VI, were verified  
by using a time correction of +55 minutes at the working  
grounds.

Condition of records satisfactory except as noted below:

*E. C. McKay*

Section of Tides

Chief, Division of Tides and Currents.

APPENDIX TO DESCRIPTIVE REPORT

ACCOMPANYING

(1952-53)  
HYDROGRAPHIC SURVEY H 7952, FIELD NO. CO 1152

CHESAPEAKE BAY PROJECT CS 350

SHIP COWIE SCALE 1:10,000

J. H. BRITAIN, COMDG.

Additional work was done on this survey during the 1953 field season in accordance with the Director's letter 22/MEK S-1-CO dated 10 July 1953.

This additional work was done 20 and 25 August 1953 with two hydrographic skiffs using the 808 type fathometer and sounding pole.

The sounding pole was used in areas in general too shoal for fathometer operation.

Tide reducers were taken from the standard tide gage at Gloucester Point, Va., except for the hydrography executed in Queens Creek.

Here a tide staff was installed, connected to existing tidal bench marks by leveling and read at half-hourly intervals during the progress of hydrography.

The additional work accomplished on the survey is discussed in detail in the following paragraphs in the order given in the aforementioned letter from the Director.

1. Only one dolphin shown on chart 492 near the north end of the Yorktown bridge remains in existence. This is the easterly one of the 4 charted and was located by 3 point fix on Survey H 7953 <sup>and transferred to H-7952</sup>. The second dolphin (going west from the old dock now falling into ruins) was at the site of the northern bridge pier. The two to the west were searched for by running east and west on ranges, the bottom

being visible to about 6 feet and using the fathometer beyond that depth.

No evidence of remains of the dolphins were found. It is recommended that all but the eastern dolphin be deleted from the chart. *Chart 492 has been revised accordingly*

2. The dog leg split in latitude 37° 14.65', longitude 76° 31.2' and the two lines in the vicinity of latitude 37° 16.5', longitude 76° 31' were run as marked on the boat sheet.

3. Offshore signals NEL, latitude 37° 14.68', longitude 76° 31.53; DUK, latitude 37° 15.35', longitude 76° 30.52'; and NOX, latitude 37° 16.89', longitude 76° 32.32' are duck blinds of temporary construction.

4. The area of the charted 16 ft. shoal in latitude 37° 15.1', longitude 76° 31.75', between piers at the Naval Ammunition Depot, was clear of moored vessels. The area was thoroughly investigated with a fathometer

*Review, par. 5 b.*

by circling and running ranges for 45 minutes. No indication of the

shoal was found, <sup>21 to 26 ft.</sup> soundings of ~~28 feet (28 feet at low water)~~ were

obtained at the position of the shoal. It is recommended that the

shoal sounding be deleted from the chart.

*Superseded by US Navy survey of 1954*

The object charted between the piers was a moored barge which has been moved. It is recommended that this be removed from the chart.

*Removed from Cht. 492*

The numerous piles charted upstream from the Naval Ammunition Depot piers were investigated on 20 and 25 August with fathometer, sounding pole and by dragging a 20 ft. section of pipe along the bottom throughout the area. One pile was located extending about <sup>7</sup>/<sub>8</sub> feet above

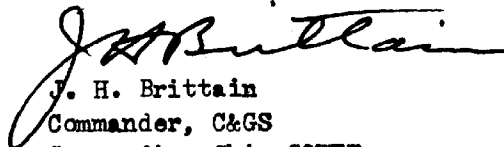
M.H. water. Several submerged piling were hung with the drag and located by 3 point fix with the least depth obtained on each. It is believed that only those piling located are now in existence as the investigation was thorough, over 4 hours being spent in the area. It is recommended that charting be revised accordingly.

*Applied to Cht. 492*



5. The investigation of the ruins of Clements Wharf charted in latitude  $37^{\circ} 15.7'$ , longitude  $76^{\circ} 32.5'$ , on 20 August 1953 consisted of pole and fathometer sounding simultaneously for two hours back and forth along the wharf site, and dragging the bottom with an 8 ft. section of pipe along the offshore end. The bottom was clearly visible to a depth of about 6 feet. No evidence of the existence of stub piling was found. The area was investigated in about the same manner in 1952. Furthermore, local information was obtained to the effect that the wharf was torn down in about 1918 so that any piling left in place has very probably long since rotted away. It is recommended that the ruins be deleted from the chart. (Removed from chart)  
492
6. Additional sounding lines were run in Queens Creek and Timberneck Creek as marked on the boat sheet.

Respectfully submitted,

  
J. H. Brittain  
Commander, C&GS  
Commanding Ship COWIE

STATISTICS

HYDROGRAPHIC SKIFF (NO NUMBER)

20 Aug. 1953 "a" day Vol. No. VII 4.0 Stat. Miles 62 Positions

HYDROGRAPHIC SKIFF NO. 737

20 Aug. 1953 "a" day Vol. VI 3.4 Stat. Miles 42 Positions

25 Aug. 1953 "b" day Vol. No. VI 0.0 Stat. Miles 24 Positions  
(detached)

TOTALS 7.4 Stat. Miles 128 Positions

FATHOMETER CORRECTIONS

HYDROGRAPHIC SKIFF (NO NUMBER)

0.0 ft. to 20 ft. depth

-0.2 ft. over 20 ft. depth

DIVISION OF CHARTS  
REVIEW SECTION- NAUTICAL CHART BRANCH  
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7952

FIELD NO. CO-1152

Virginia, York River, Yorktown

Project GS-350

Surveyed - May - June 1952 & Aug. 1953

Scale 1:10,000

Soundings:

Control:

808 Fathometer  
Hand lead  
Pole

Sextant fixes on  
shore signals

Chief of Party - J. H. Brittain

Surveyed by - R. A. Parker, R. M. Borst, A. E. Greaves and  
A. J. Ramey

Protracted by - P. A. Cox

Soundings plotted by - G. L. Fernandes & W. W. Feazel

Verified and inked by J. T. Gallahan

Reviewed by - T. A. Dinsmore 27 Dec. 1954

Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the unreviewed manuscripts of air-photographic revision surveys RS-435, 436 and 439 of 1952.

The origin of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in very good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The low-water curve was determined where practicable.

The bottom is generally smooth and undulating except where abrupt slopes occur at the banks of the natural channel. Depths through the river channel generally range from 40-80 ft.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7953 (1952-53) on the southeast and with H-7022 (1945) on the northwest.

5. Comparison with Prior Surveys

- a. H-583 (1857) 1:20,000  
 H-3310 (1911) 1:20,000  
H-3310a (1918) 1:20,000

These prior surveys covered the area of the present survey during the periods indicated. A comparison of the prior and present depths generally reveals only minor differences of 1-2 ft. in the inshore flats, except immediately north of Sandy Point where a depression with maximum depths of 16 ft. on the present survey has been created by sand dredging for nearby road construction. Previous depths in this area were 2-4 ft. Some filling-in has occurred in the deeps of the natural river channel. Prior depths of 68 ft. in lat.  $37^{\circ}16.53'$ , long.  $76^{\circ}32.62'$ , and 89 ft. in lat.  $37^{\circ}14.37'$ , long.  $76^{\circ}30.30'$ , are now superseded by depths of 61 and 83 ft., respectively. Evidence of both erosion and accretion are noted at Sandy Point where portions of the point have washed away although the shoreline immediately southward has built-out about 100 meters eastward since 1911.

Clements Wharf charted in lat.  $37^{\circ}16.72'$ , long.  $76^{\circ}32.48'$ , on Chart 495 originated with H-3310 (1911). The wharf was reportedly demolished in about 1918 and has subsequently been shown in ruins. During the present survey, the entire length of the wharf area was thoroughly investigated both in 1952 and 1953 by the use of pole and fathometer sounding supplemented by dragging the bottom with a pipe drag. Although the bottom was visible to a depth of about 6 ft., no evidence of stub piling was found. The investigation which is more fully described in the Descriptive Report is considered adequate to disprove the existence of any remains of the old wharf. The hydrographer's recommendation that the ruins be deleted from the chart is concurred in.

The present survey is adequate to supersede these prior surveys within the common area.

- b. H-5217 (1933) 1:5,000

This prior survey covers several of the dock and pier areas within the limits of the present survey. No important differences are noted between the prior and present depths. The 16-ft. shoal previously charted in lat.  $37^{\circ}15.10'$ , long.

76°31.73', from H-5217 was disproved by detached investigation on the present survey. The 18-ft. sounding now charted on Chart 492 in the above position originates with blueprint 51762 (1954) which supersedes the present survey.

c. F. E. No. 5 (1945) 1:10,000

This field examination covers the narrows between Yorktown and Gloucester Point. The construction of the present bridge was under consideration at the time. No appreciable differences are noted between the prior and present depths.

6. Comparison with Chart 492 (Latest print date 12/13/54)  
Chart 495 ( " " " 4/19/54)

A. Hydrography

Charted hydrography originates with the previously discussed surveys supplemented by partial application of the present survey prior to verification and review and by recent surveys by the U. S. Navy (Bps. 51761-62) in 1954. No important discrepancies are noted on Chart 492. Chart 495 does not as yet incorporate the results of the additional work on the present survey accomplished in 1953.

The charted information is superseded by the present survey except that originating with sources subsequent to the present survey.

B. Aids to Navigation

The aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

The buoys in the area have been renumbered in accordance with information reported in H. O. Notice to Mariners 31 (1952).

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done.
- c. The additional hydrography and investigative work of 1953 together with recommendations by the hydrographer pertaining to the retention or rejection of certain charted information is fully covered in the appendix to the Descriptive Report.

d. Enlarged drawings showing hydrography adjacent to the piers at Cheatham Annex are attached to the Descriptive Report.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered basic within the limits covered and no further field work is recommended.

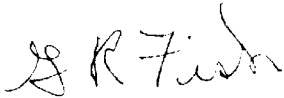
Examined and approved:



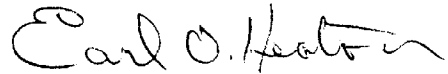
H. R. Edmonston  
Chief, Nautical Chart Branch



E. R. McCarthy  
Acting Chief, Division of Charts



G. R. Fish  
Chief, Hydrography Branch



Earl O. Heaton  
Chief, Division of Coastal Surveys

LIST OF SIGNALS  
H-7953

TRIANGULATION STATIONS

BOAT	GLOUCESTER POINT, STEAMBOAT PIER BEACON, 1932-43
CUBA	CUBA, 1932
CHAN	SARAH CREEK, N.E. BEACON, 1932-43
ELLEN	ELLEN, 1906-44
EAST	OLD COLONIAL HOUSE, EAST GABLE, 1911-44
FUEL	FUEL, 1932-49
GREEN	GREEN POINT (VFC), 1934
INN	WEST BEACON, SINGLE PILE WITH LIGHT, 1932-40
LEAN	SANDBOX, 1907-47
LIG	MIDDLE BEACON, THREE PILE STRUCTURE, 1932
MENT	YORKTOWN MONUMENT, 1906-43
POT	FUEL DEPOT, POWERHOUSE STACK, 1932-43
QUA	QUARTER 2, 1906-49
TUE	TUE MARSH LIGHTHOUSE, 1900-32
WORM	WORMLEY CREEK HOUSE, WEST CHIMNEY, 1906-43

DESCRIBED TOPOGRAPHIC STATIONS

ANDY	CANDY POINT LIGHT, 1952
BAY	BAY TREE POINT LIGHT, 1952
PER	EAST BEACON, 1952

TOPOGRAPHIC STATIONS

AIR\*PHOTO COMPILATION RS-437

Aft	Age	Aim	All	Aro	Bli	Bot	Box	Bug	Bun	Can
Chi	Chu	Cow	Dog	Dok	Dor	Fal	Fat	Fro	Gab	Gan
Gra	Ire	Leg	Mig	Mil	Ooz	Pod	Poi	Pom	Red	Rim
Sar	Sem	Sik	Sok	Smo	Sue	Tac	Tel	Tic	Tie	Tom
Top	Tre	Tus	Vis	② Wan(d)	Way	Zoo				

AIR\*PHOTO COMPILATION RS-438

Ale	Dip	Gin	Put	<sup>(4)</sup> Las
-----	-----	-----	-----	--------------------

AIR-PHOTO COMPILATION RS-439

Cup	Gul	Gus	Wet
-----	-----	-----	-----

AIP-PHOTO COMPILATION RS-440

Ant	Ape	Ben	Bla	Bro	Buk	Col	Cue	① Day(d)	Dee	Dep(d)
Doe	End	Far	① Fare(d)	Gal	Ham	Haz	How	Ike	Kit	Lar
Lin	Log	Mee	Mot	Mut	Nef	Nit	Ola	① Ole	Pop	Ray
Mos	③ Rug	mun	Sac	Sea	Sin	Soa	① Thor(d)	Tin	Tug	Unk
① York(d)										

*②, ③ see back side*

HYDROGRAPHIC STATIONS

Fish	Vol. 1, index
Oak	Vol. 10, pg. 25
Trap	Vol. 2, pg. 3
Wat	Vol. 2, pg. 57
Nut	Vol. 15 p. 28
Rear	Vol. 16
Front	Vol. 16
US	Vol. 16
Oak	

*Is-10/16*

\*STATIONS PRICKED FROM BOAT SHEET (GREEN)

Bag	Cap	Ded	Dro	Fid	Maw
Ter					

\*See notes on compilations RS-437 & 440

Notes

- ① See T-8316 (1974) for 524 cards
- York (York River Theropere #1)
- Day ( " " " #2)
- Thero ( " " " #3)
- Fero ( " " " " Light #5)

- ② Wan = ① Per air 524 card for T-8327
- ③ Rug plots near ① Mac T-8316 524 card - could be it.
- ④ topo sta. Has same as hydro sta IS



# 7953

*Mayson Jr.*

Diag. Cht. Nos. 78-2 & 3, & 1222-3

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey ..... HYDROGRAPHIC

Field No. CO-1252 ..... Office No. H-7953

### LOCALITY

State ..... Chesapeake Bay

General locality York River

Locality The Marshes Lighthouse to Yorktown

19 52-53

CHIEF OF PARTY

COMDR. J. H. BRITTAIN

LIBRARY & ARCHIVES

DATE ..... OCT. 20, 1953

B-1870-1 (1)

7953

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. H-7953

Field No. CO-12 52

State ~~VIRGINIA~~ Chesapeake Bay

General locality ~~CHESAPEAKE BAY~~ York River

Locality Tue Marshes Lighthouse to Yorktown  
~~YORK RIVER~~

Scale 1:10,000 Date of survey 5 May - 11 July, 1952  
19 Aug. - 2 Sep't. 1953

Instructions dated 10 July 1953 (Directors letter 22-MEK - S-1-CO)

Vessel COWIE

Chief of party J. H. Brittain

Surveyed by J. H. Brittain, R. M. Borst, J. O. Phillips, R. A. Parker, W. D. Gardner  
A. J. Ramsey, J. M. Ogilvie and A. E. Greaves

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

Fathograms scaled by Personnel of Ship COWIE

Fathograms checked by " " " "

Protracted by J. T. Gallahan & A. K. Schugeld

Soundings penciled by " "

Soundings in Feet ~~fathoms~~ ~~feet~~ at MLW ~~MEAN~~ and are true depths

REMARKS: This survey covers additional work on Sheet CO-1252 in  
accordance with Directors letter 22-MEK, S-1-CO, dated 10 July 1953.

JUN 12 1953

Form 537  
(Ed. June 1946)

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.

See 1953 Work

REGISTER No. H-7953

Field No. CO-1252

State ~~VIRGINIA~~ Chesapeake Bay

General locality ~~CHESAPEAKE BAY~~ York River

Locality Twe Marshes Lighthouse to Yorktown  
~~YORK RIVER~~

Scale 1:10,000 Date of survey 19 Aug - 2 Sept, 1953  
5 May - 11 July 1952

Instructions dated 13 March 1952

Vessel SHIP COWIE

Chief of party J. H. BRITTAIN

Surveyed by SHIPS OFFICERS (See 1953 Work)

Soundings taken by fathometer, ~~graphic recorder~~, hand lead, ~~wire~~ and pole

Fathograms scaled by Personnel of Ship COWIE

Fathograms checked by " " " "

Protracted by ALLEN K. SCHUGELD J. T. Gallahan

Soundings penciled by ALLEN K. SCHUGELD J. T. Gallahan

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ and are true depths

REMARKS: This survey was smooth plotted in the Hydrographic Section of the Norfolk Processing Office.

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DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H -7953, FIELD NO. CO-1252

YORK RIVER

SHIP COWIE

SCALE 1:10,000

J. H. BRITAIN, COMDG.

A - PROJECT:

Project CS-350; Original Instructions dated 13 March 1952.

B - SURVEY LIMITS AND DATES:

The area covered by this survey is the mouth of the York River West to Yorktown. Junction is made with <sup>H-7952 (1952-53)</sup> CO-1152 (1952) to the west, with <sup>H-7960</sup> CO-2152 (1952) to the east, with <sup>H-7954</sup> CO-1352 (1952) to the south and with <sup>H-7955</sup> CO-1452 (1952) to the north. Hydrographic surveys began 5 May 1952 and were conducted through 11 July 1952.

C - Vessels and Equipment:

Thirty-foot launch no. 102 and 25 foot hydrographic skiff no. 737 were used, both boats operating from the Ship COWIE. Launch no. 102 using 808 type fathometer #63 was used where the depth was 6 ft. and over. Skiff No. 737 powered by two outboard motors and using pole and leadline for sounding was used in shoal areas close to shore, and in creeks and inlets where the depths were not sufficient for launch operation. Fathometer was not used with the Skiff. Leadline was used for soundings around piers.

D - TIDE AND CURRENT STATIONS:

A portable automatic tide gage was maintained at Tue Marshes Lighthouse during the entire period of this survey. Any slight interruptions when the gage stopped have been referred back to the Standard gage at Gloucester Point.

D - TIDE AND CURRENT STATIONS: (CON'T.)

A staff was installed and read every 15 minutes during the survey of Perrin River. Tide gage records and all soundings are on Eastern Standard Time. No current stations were observed in this area.

E - SMOOTH SHEET:

Projections <sup>were</sup> ~~will be~~ constructed and sheets plotted by the Norfolk Processing Office.

F - CONTROL STATIONS:TRIANGULATION:

*See Processing office  
List of Signals*

BOAT	Gloucester Point <u>Steamboat</u> Pier Beacon, 1932-43.
CUBA	Cuba, 1932.
CHAN	Sarah Creek, NE Beacon, 1932-43
ELLEN	Ellen, 1906-44.
EAST	Old Colonial House, <u>East</u> Gable, 1911-44.
FUEL	Fuel, 1932-49.
GREEN	<u>Green</u> Point (VFC), 1934.
INN	Perrin River <u>Inner</u> Light, 1932 (West Beacon).
LIG	Ellen Island <u>Light</u> , 1932 (Middle Beacon).
LEAN	Sandbox, 1907-47.
MENT	Yorktown <u>Monument</u> , 1906-43.
POT	Fuel <u>Depot</u> , Powerhouse Stack, 1932-43.
QUA	<u>Quarter</u> 2, 1906-49.
TUE	<u>Tue</u> Marshes L.H., 1900-32.
WORM	<u>Wormley</u> Creek House West Chimney, 1906-43.

F - CONTROL STATIONS: (CON'T.)HYDROGRAPHIC:

FISH Sht. 1252 - Lch. 102 - Vol. I, Index.  
 TRAP Sht. 1252 - Lch. 102 - Vol. II, page 3.  
 OAK Sht. 1252 - Skiff 737 - Vol. X, page 25.  
 WAT Sht. 1252 - Lch. 102 - Vol. II, page 57.

*10P Vol. 8 p. 50 (not used)*

TOPOGRAPHIC:

ALE - RS-440	CUP - RS-439	Fare - RS-440
ALL - 437	CAN - 437	GIN - 438
AIM - 437	CUE - 440	GAN - 437
APE - 440	CHU - 437	GAL - 440
ANDY - 440	COW - 437	GAB - 437
AFT - 437	COL - 440	GRA - 437
ARO - 437	DEP - 440	GUS - 439
AGE - 437	DOR - 437	GUL - 439
ANT - 440	DRO - 440	HOW - 440
BOX - 437	DED - 440	HAM - 440
BLI - 437	DIP - 438	HAZ - 440
BAG - 430	DOK - 437	IKE - 440
BOT - 437	DOG - 437	IRE - 437
BAY - 440	DNE - 440	KIT - 440
BRO - 440	DAY - 440	LOG - 440
BUN - 437	DOE - 440	LEG - 437
BUG - 437	END - 440	LIN - 440
BEN - 440	FID - 440	LAR - 440
BUK - 440	PRO - 437	LEV - 436
CAP - 437	FAT - 437	MUT - 440
CHI - 437	FAL - 437	MAW - 440

F - CONTROL STATIONS: (CON'T.)TOPOGRAPHIC:

MIG - RS-437	RUN - RS-440	TIN - RS-440
MIL - 437	RUG - 440	TRE - 437
MOT - 440	ROS - 440	TOM - 437
MEE - 440	RAY - 440	TIE - 440
NIT - 440	SUE - 437	TUS - 437
NEF - 440	SAC - 440	THOR - 440
OLA - 440	SIN - 440	TUG - 440
OLE - 440	SMO - 437	TOP - 437
OOZ - 437	SOK - 437	UNK - 440
PER - 437	SEM - 437	VIS - 437
POI - 437	SIK - 437	WET - 439
POD - 437	SOL - 430	WAN - 437
PUT - 438	SAR - 437	WAY - 437
POP - 440	SEA - 440	YORK - 440
RED - 437	TEL - 437	ZOO - 437
RIM - 437	TAC - 437	
	TER - 440	

G - SHORELINE AND TOPOGRAPHY:

The shoreline on the boat sheet was transferred from air photo manuscripts <sup>(1952)</sup> RS-436 through <sup>(1952)</sup> RS-440 which cover this area. The air photos were taken recently and the shoreline on the manuscripts is correct. All of the topographic signals were radial plotted from air photos on the manuscripts and then transferred directly to the boat sheet.

G - SHORELINE AND TOPOGRAPHY: (CON'T.)

It was not practical to define the entire low water line by soundings due to the small range of tide and the attendant difficulty of getting the sounding vessel close to the beach without long periods spent dragging bottom or going aground. However, the sounding lines were run close to and parallel to the beach wherever possible.

H - SOUNDINGS:

Depths were measured with 808 type recording fathometer, handlead and pole. Bar checks were taken daily from the launch to depths where satisfactory results could be obtained. Fathometer corrections have been determined from the bar checks and entered in the sounding volumes by the field party. The leadline was checked daily with no corrections found.

A check on the boat sheets of the overlap between fathometer, leadline and pole shows no more than 1 foot difference.

*See P2  
of Review*

I - CONTROL OF HYDROGRAPHY:

Sounding lines were controlled by three point fixes using natural objects or signals erected along the shoreline. Satisfactory results were obtained from using these signals.

J - Adequacy of Survey:

This survey is considered complete, adequate for charting purposes and should supersede all prior surveys. Junctions with adjoining surveys are satisfactory, no holidays exist and depth curves can be adequately drawn at the junctions.

*After Office  
inspection additional  
work was done in  
1953 completing area.*



K - CROSSLINES:

Crosslines are in good agreement, the percentage is estimated at 10 percent.

P-2 of Review

L-M - COMPARISON WITH PRIOR SURVEYS:

A comparison with Charts 492, 494 and 1222 shows the following:

lat 37°12.28', long 76°26.08'

1. The wreck, number 15 on preliminary review in Back Creek, is no longer there. The Coast Guard forced it to be pulled over on shore in 1946 or 1947.

lat. 37°14.98', long. 76°24.10'

2. The wreck, number 12 on preliminary review in York River, is no longer there. Personnel of Ship COWIE saw it removed.

3. The 1 foot sounding shown on the chart in the Eastern branch of Sarah Creek, (and circled on the preliminary review) could not be verified.

lat. 37°15.6', long. 76°28.1'

Disregard 1ft.

The shoalest at that point is 6 feet.

4. The 4 foot sounding shown on the charts, and circled on the preliminary review was not found. The controlling depth instead is 7 feet through this point.

in Sarah Cr.

in lat 37°15.44' long 76°28.83'

Present survey depths 8 ft. See TFS Review

5. The following soundings were looked for but no indication was found of their existence:

(a) The 12-1/2 foot sounding (number 13 of preliminary review).

lat. 37°13.45' long. 76°28.45'

Disregard 12 1/2 - disproved

(b) The 16 foot sounding (number 14 of preliminary review).

lat. 37°13.68' long. 76°28.95'

Disregard 16 - disproved.

(c) The 18 foot sounding (Lat. 37°14.53'; Long. 76°28.78').

18' carried forward from H-4026 (1918)

(d) The 12 foot sounding (Lat. 37°15.30'; Long. 76°23.12').

falls in pres depths 11-12 ft. 5ft on stake nearby

6. The 18 foot sounding mentioned in the preliminary review at

Lat. 37°14.70'; Long. 76°29.58' could not be found, but a 19 foot

sounding was found at Lat. 37°14.69'; Long. 76°29.58'.

L-M - COMPARISON WITH PRIOR SURVEYS: (CON'T.)

7. The 3 foot sounding mentioned in preliminary review at Lat. 37°15.2<sup>3</sup>'; Long. 76°23.60' was found as mentioned.

8. The 12 foot sounding mentioned in the preliminary review at Lat. 37°15.46'; Long. 76°21.97' was ~~not~~ found, <sup>in 1953</sup> but a 14 foot depth (Lat. 37°15.44'; Long. 76°21.78') was found between two 16 foot soundings.

The bottom between the 12 foot and 18 foot depth curves in this locality is irregular with 13 foot and 14 foot soundings being found throughout the area. An uncharted <sup>8</sup>10 foot sounding was found in this area at Lat. 37°15.52: Long. 76 22.8<sup>5</sup>'<sup>9</sup>, and a <sup>7</sup>12 foot sounding at Lat. 37°15.5<sup>5</sup>'<sup>88</sup>; Long. 76°22.7<sup>4</sup>'.

N - DANGERS AND SHOALS:

No evidence of dangers or shoals were found in the channels. Crab and fish nets are spotted along the shorelines but they are temporary. A handlead sounding of 7 feet, Lat. 37°12.35'; Long. 76°22.97 could not be verified by sounding or with wire drag. This sounding was in Volume XIII between positions 97 m and 98 m. It is assumed that the lead either hit on a fish stake that is no longer there or the lead was read 1 fathom in error. The wire dragging was done by lch. 102 and skiff 737 on 11 July 1952 and positions have been transferred to Volume XIV. A <sup>99 (1953)</sup>10 <sup>5</sup>/<sub>2</sub> sounding was found at Lat. 37°15.52'; Long. 76°22.84', between positions 101 1 and 102 1, Vol. VI.'

*Not plotted on smooth sheet. Dis-regard.*

No other important dangers or shoals not already shown on Charts 492, 494 and 1222 were found in the area covered by this survey.

O - COAST PILOT INFORMATION:

This subject is covered in a separate report by the Commanding Officer, Ship COWIE.

P - AIDS TO NAVIGATION:

*See Processing Office List*

1. Perrin River Buoy "2", Lat. 37°15.15; Long. 76°23.69';  
in 23 feet of water (Vol. III, page 41).
2. Perrin River Buoy "4", Lat. 37°15.60; Long. 76°24.78';  
in 8 feet of water (Vol. IX, page 23).
3. Perrin River Buoy "1", Lat. 37°15.75'; Long. 76°25.32';  
in 7 feet of water (Vol. XI, page 48).
4. Perrin River Buoy "3", Lat. 37°15.99'; Long. 76°25.47';  
in 9 feet of water (Vol. XI, page 37).
5. Sarah Creek Buoy "1", Lat. 37°15.05; Long. 76°29.08';  
in 9 feet of water (Vol. XIII, page 15).
6. Persimmon Pt. Buoy "3", Lat. 37°12.56'; Long. 76°24.02';  
in 10 feet of water (Vol. XIV, page 46).
7. Green Pt. Buoy "5", Lat. 37°12.72'; Long. 76°24.44';  
in 14 feet of water (Vol. XIV, page 46).
8. Goodwin Islands Buoy "6", Lat. 37°12.79'; Long. 76°24.47';  
in 13 feet of water (Vol. XIV, page 46).
9. Goose Pt. Lighted Bell Buoy "2", Lat. 37°12.37'; Long. 76°22.81';  
in 14 feet of water (Vol. VIII, page 9).
10. Guinea Marshes Buoy "2B", Lat. 37°14.99'; Long. 76°22.59';  
in 45 feet of water (Vol. II, page 4).
11. York River Buoy "2C", Lat. 37°14.49'; Long. 76°25.60';  
in 36 feet of water (Vol. XIV, page 59).
12. Quarter Pt. Shoal Buoy "4", Lat. 37°14.54'; Long. 76°27.52';  
in 7 feet of water (Vol. XIV, Page 59).
13. Clarkston Creek Shoal Buoy "5", Lat. 37°13.73'; Long. 76°25.84';  
in 26 feet of water (Vol. XIV, page 59).

*See # 6-C  
of Review*

P - AIDS TO NAVIGATION: (CON'T.)

14. Perrin River Junction Lighted Buoy, Lat.  $37^{\circ}14.98'$ ; Long.  $76^{\circ}23.78'$ ; in 20 feet of water (Vol. III, page 41).

The names and numbers of the York River Buoys have been changed since this survey.

Q - LANDMARKS FOR CHARTS:

No new landmarks for charts are recommended for the area covered by this survey.

R - GEOGRAPHIC NAMES:

Geographic names shown on Charts 492, 494 and 1222 are adequate and no additional names are recommended.

U-Y - MISCELLANEOUS:

In featureless shoal areas, soundings were spaced every 30 seconds apart on the boat sheet. Intermediate soundings were plotted only where needed to define underwater features.

Z - TABULATION OF APPLICABLE DATA:

The Coast Pilot Report has been forwarded to the Washington Office. A list of signals is attached in Volume I of the sounding records. A tabulation of other data is attached.

Respectfully submitted,

*Robert M. Borst*

Robert M. Borst,  
Ensign, USC&GS.,  
Ship COWIE.

Approved and forwarded,

*J. H. Brittain*  
J. H. Brittain,  
Comdr. USC&GS.,  
Comdg. Ship COWIE.

STATISTICS

LAUNCH NO. 102:

<u>VOL. NO.</u>	<u>DAY</u>	<u>DATE</u>	<u>NO. OF POSITIONS</u>	<u>STAT. MILES</u>
I	a	5/5	27	5.5
I	b	5/6	194	46.2
II	c	5/7	79	16.2
II & III	d	5/8	193	54.3
III	e	5/9	133	31.3
III & IV	f	5/14	210	49.0
IV	g	5/16	117	26.6
IV	h	5/22	39	6.6
V	j	5/23	70	12.2
V	k	6/4	190	42.7
VI	l	6/5	158	34.0
VI & VIII	m	6/6	168	32.4
VII	n	6/10	197	35.1
VIII	p	6/11	28	2.1
VIII	q	6/12	77	13.2
VIII	r	6/17	<u>177</u>	<u>32.6</u>
<u>TOTAL:</u>			<u>2057</u>	<u>440.1</u>

STATISTICS

SKIFF NO. 737:

<u>VOL. NO.</u>	<u>DAY</u>	<u>DATE</u>	<u>NO. OF POSITIONS</u>	<u>STAT. MILES</u>
IX	a	5/5	81	13.8
IX	b	5/6	171	31.3
IX & X	c	5/7	161	27.6
X	d	5/8	153	24.4
XI	e	5/9	107	17.4
XI	f	5/13	84	10.0
XI & XII	g	5/14	176	33.2
XII	h	5/16	101	19.5
XII	j	5/20	28	3.0
XIII	k	5/22	90	5.7
XIII	l	5/23	7	0.8
XIII & XIV	m	6/5	220	39.6
XIV	n	6/6	84	10.2
XIV	p	6/16	88	13.8
XIV	q	7/11	<u>41</u>	<u>3.1</u>
TOTAL:			1592	253.4
TOTALS, GRAND:			3649	693.5
TOTAL AREA: 27.5 Sq. Stat. Miles.				

TIDE NOTE

A portable automatic tide gage at Tue Marshes Light-house, Lat.  $37^{\circ}14.13'$ ; Long.  $76^{\circ}23.18'$ , was used for obtaining tide reducers for most of this survey. Any slight interruptions when the gage stopped have been referred to the standard gage at Gloucester Point, Va. The tide reducers for Perrin River were obtained by reading a staff placed at Lat.  $37^{\circ}15.98'$ ; Long.  $76^{\circ}25.75'$  (every 15 minutes). Height of MLW at Tue Marshes was 2.0 feet above zero of the tide staff. No time or height corrections were applied to the observed tides. All tidal data was based on Eastern Standard Time. Hourly heights were scaled from the marigrams by the personnel of the Ship COWIE.

FATHOMETER CORRECTIONS

FATHOMETER NO. 63

"a" day - 5 May 1952:

A - SCALE

- 0.0 to 11.5
- 0.2 to 16.0
- 0.4 to 20.5
- 0.6 to 24.5
- 0.8 to 28.5
- 1.0 to 33.0
- 1.2 to 37.0

"b" day - 6 May 1952:

A - SCALE

- 0.0 to 12.5
- 0.2 to 17.5
- 0.4 to 22.0
- 0.6 to 26.0
- 0.8 to 29.0
- 1.0 to 34.0
- 1.2 to 39.0
- 1.4 to 43.0
- 1.6 to 47.0
- 1.8 to 50.0
- 2.0 to 54.0
- 2.2 to ----

B - SCALE

- (+) ~~1.2~~ to 38.0
- ~~1.0~~ to 42.0
- ~~0.8~~ to 46.0
- ~~0.6~~ to 50.0
- ~~0.4~~ to 53.0
- ~~0.2~~ to 56.5
- 0.0 to 60.0
- 0.2 to 63.5
- 0.4 to 67.0
- 0.6 to ----



FATHOMETER CORRECTIONS: (CON'T.)(SEE NOTE AT BOTTOM R<sup>E</sup>. "c" day:)"c" day - 7 May 1952:A - SCALE

0.0 to 11.0  
 -0.2 to 24.0  
 -0.4 to 30.5  
 -0.6 to 33.0  
 -0.8 to 35.0  
 -1.0 to 37.0  
 -1.2 to 39.5  
 -1.4 to 41.5  
 -1.6 to 43.5  
 -1.8 to 45.5  
 -2.0 to 48.0  
 -2.2 to 50.0  
 -2.4 to 52.0  
 -2.6 to 54.0  
 -2.8 to 56.0

B - SCALE

~~/~~1.2 to 38.0  
~~/~~1.0 to 42.0  
~~/~~0.8 to 46.0  
~~/~~0.6 to 50.0  
~~/~~0.4 to 53.0  
~~/~~0.2 to 56.5  
 0.0 to 60.0  
 -0.2 to 63.5  
 -0.4 to 67.0  
 -0.6 to ----

Fathometer No. 118S used in place of No. 63 after position

44 c - on 7 May 1952 only.

FATHOMETER CORRECTIONS: (CON'T.)"d" day - 8 May 1952:A - SCALE

0.0 to 12.0 ft.  
-0.2 to 16.0 ft.  
-0.4 to 20.5 ft.  
-0.6 to 24.5  
-0.8 to 28.5  
-1.0 to 32.5  
-1.2 to 35.0  
-1.4 to 38.0  
-1.6 to 40.5  
-1.8 to 43.0  
-2.0 to 45.0  
-2.2 to 47.0  
-2.4 to 49.5  
-2.6 to 51.5  
-2.8 to 54.0  
-3.0 to ----

B - SCALE

~~/~~1.2 to 39.0  
~~/~~1.0 to 42.5  
~~/~~0.8 to 46.0  
~~/~~0.6 to 49.5  
~~/~~0.4 to 55.0  
~~/~~0.2 to 61.0  
0.0 to ----

FATHOMETER CORRECTIONS: (CON'T.)"e" day - 9 May 1952:A - SCALE

0.0 to 15.0  
-0.2 to 21.0  
-0.4 to 23.0  
-0.6 to 25.0  
-0.8 to 27.0  
-1.0 to 28.5  
-1.2 to 30.5  
-1.4 to 33.0  
-1.6 to 35.5  
-1.8 to 38.0  
-2.0 to 41.0  
-2.2 to 45.0

B - SCALE

~~/~~1.6 to 38.5  
~~/~~1.4 to 41.5  
~~/~~1.2 to 44.5  
~~/~~1.0 to 47.5  
~~/~~0.8 to 51.0  
~~/~~0.6 to 54.0  
~~/~~0.4 to 57.0  
~~/~~0.2 to 60.0  
0.0 to 70.0  
-0.2 to 80.0  
-0.4 to ----

"f" day - 14 May 1952:

A - SCALE

0.0 to 22.0 ft.  
 -0.2 to 25.5  
 -0.4 to 29.0  
 -0.6 to 32.0  
 -0.8 to 34.0  
 -1.0 to 36.0  
 -1.2 to 38.5  
 -1.4 to 40.5  
 -1.6 to 43.5  
 -1.8 to 47.0  
 -2.0 to 50.5  
 -2.2 to 53.5  
 -2.4 to ----

B - SCALE

~~1.6~~ to 36.0 ft.  
~~1.4~~ to 40.5  
~~1.2~~ to 45.0  
~~1.0~~ to 49.5  
~~0.8~~ to 53.0  
~~0.6~~ to 56.0  
~~0.4~~ to 60.0  
~~0.2~~ to 63.0  
 0.0 to 67.0  
 -0.2 to 70.0  
 -0.4 to 73.5  
 -0.6 to 77.0  
 -0.8 to 81.0

FATHOMETER CORRECTIONS: (CON'T.)

"g" day - 16 May 1952:

A - SCALE

0.0 to 13.0 ft.  
-0.2 to 18.0  
-0.4 to 22.5  
-0.6 to 26.0  
-0.8 to 29.5  
-1.0 to 32.5  
-1.2 to 35.0  
-1.4 to 37.0  
-1.6 to 39.5  
-1.8 to 42.0  
-2.0 to 44.5  
-2.2 to 47.0  
-2.4 to 50.0  
-2.6 to 52.0  
-2.8 to 54.0  
-3.0 to ----

B - SCALE

~~/~~1.6 to 36.0 ft.  
~~/~~1.4 to 40.5  
~~/~~1.2 to 45.0  
~~/~~1.0 to 49.5  
~~/~~0.8 to 53.0  
~~/~~0.6 to 56.0  
~~/~~0.4 to 60.0  
~~/~~0.2 to 63.0  
0.0 to 67.0  
-0.2 to 70.0  
-0.4 to 73.5  
-0.6 to 77.0  
-0.8 to 81.0

FATHOMETER CORRECTIONS: (CON'T.)

"h" day - 22 May 1952:

A - SCALE

- 0.0 to 12.5 ft.
- 0.2 to 17.5
- 0.4 to 22.0
- 0.6 to 25.5
- 0.8 to 29.0
- 1.0 to 32.0
- 1.2 to 34.5
- 1.4 to 37.0
- 1.6 to 39.5
- 1.8 to 42.0
- 2.0 to 45.5
- 2.2 to 49.0
- 2.4 to 50.5
- 2.6 to ----

B - SCALE

- ~~1.4~~ to 37.0 ft.
- ~~1.2~~ to 40.5
- ~~1.0~~ to 44.0
- ~~0.8~~ to 47.5
- ~~0.6~~ to 51.5
- ~~0.4~~ to 55.0
- ~~0.2~~ to 58.5
- 0.0 to ----

"j" day - 23 May 1952:

- 0.0 to 21.5
- 0.2 to 24.0
- 0.4 to 27.0
- 0.6 to 29.5
- 0.8 to 32.0
- 1.0 to 34.0
- 1.2 to 36.5
- 1.4 to 38.5
- 1.6 to 40.5
- 1.8 to 47.0
- 2.0 to ----

- ~~1.0~~ to 52.0
- ~~0.8~~ to 57.0
- ~~0.6~~ to 61.5
- ~~0.4~~ to 65.0
- ~~0.2~~ to 68.5
- 0.0 to 80.0

"k" day - 4 June 1952:A - SCALE

0.0 to 21.0 ft.  
 -0.2 to 24.0  
 -0.4 to 26.5  
 -0.6 to 29.5  
 -0.8 to 36.0  
 -1.0 to 42.0  
 -1.2 to 44.0  
 -1.4 to 46.5  
 -1.6 to 49.0  
 -1.8 to 51.0  
 -2.0 to 53.0  
 -2.2 to 55.0

B - SCALE

~~1.0~~ to 39.0 ft.  
~~1.2~~ to 53.0  
~~1.0~~ to 64.0  
~~0.8~~ to 74.0  
~~0.6~~ to 85.0  
~~0.4~~ to ----

"l" day - 5 June 1952:

0.0 to 21.0 ft.  
 -0.2 to 23.5  
 -0.4 to 26.0  
 -0.6 to 28.5  
 -0.8 to 31.0  
 -1.0 to 42.0  
 -1.2 to 44.5  
 -1.4 to 46.5  
 -1.6 to 48.5  
 -1.8 to 51.0  
 -2.0 to 53.0  
 -2.2 to 55.5  
 -2.4 to 57.5

~~1.8~~ to 34.5 ft.  
~~1.6~~ to 36.5  
~~1.4~~ to 38.5  
~~1.2~~ to 41.0  
~~1.0~~ to 43.0  
~~0.8~~ to 45.5  
~~0.6~~ to 47.5  
~~0.4~~ to 52.0  
~~0.2~~ to 54.0  
 0.0 to 56.5  
 -0.2 to 58.5  
 -0.4 to 61.0

FATHOMETER CORRECTIONS: (CON'T.)"m" day - 6 June 1952:A- SCALE

0.0 to 13.0 ft.  
 -0.2 to 18.0  
 -0.4 to 22.0  
 -0.6 to 25.5  
 -0.8 to 29.0  
 -1.0 to 33.0  
 -1.2 to 37.5  
 -1.4 to 41.5  
 -1.6 to 46.0  
 -1.8 to 50.0  
 -2.0 to 55.0  
 -2.2 to ----

B - SCALE

0.0 to 60 ft.  
 -0.2 to 64.0  
 -0.4 to ----

"n" day - 10 June 1952

0.0 to 23.0 ft.  
 -0.2 to ~~2~~7.5  
 -0.4 to 32.0  
 -0.6 to 35.5  
 -0.8 to 39.0  
 -1.0 to 42.0  
 -1.2 to 44.5  
 -1.4 to 46.5  
 -1.6 to 48.5  
 -1.8 to 51.0  
 -2.0 to 53.0  
 -2.2 to 55.0

~~/~~2.2 to 37.0  
~~/~~2.0 to 39.0  
~~/~~1.8 to 41.5  
~~/~~1.6 to 43.5  
~~/~~1.4 to 45.5  
~~/~~1.2 to 48.0  
~~/~~1.0 to 54.0  
~~/~~0.8 to 64.0  
~~/~~0.6 to 74.0  
~~/~~0.4 to ----



FATHOMETER CORRECTIONS: (CON'T.)"p" day - 11 June 1952:A - SCALE

0.0 to 22.0 ft.  
-0.2 to 26.0  
-0.4 to 30.5  
-0.6 to 35.0  
-0.8 to 39.0  
-1.0 to 42.0  
-1.2 to 44.0  
-1.4 to 46.0  
-1.6 to 48.0  
-1.8 to 50.0

"q" day - 12 June 1952:A - SCALE

0.0 to 22.0 ft.  
-0.2 to 26.0  
-0.4 to 30.5  
-0.6 to 35.0  
-0.8 to 39.0  
-1.0 to 42.5  
-1.2 to 46.0  
-1.4 to 50.0  
-1.6 to 53.0  
-1.8 to 55.0

"r" day - 17 June 1952:

No Corrections:

FLOATING AIDS TO NAVIGATION

H-7953

<u>NAME</u>	<u>LAT.</u>	<u>LONG.</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
Perrin River Buoy 2 ✓	37-15 272m	76-23 1023m	23.0	134e	5/9/52
Perrin River Buoy 4 ✓	37-15 1106m	76-24 1151m	8.0	82a	5/5/52
Perrin River Buoy 1 ✓	37-15 1378m	76-25 469m	8.0	47f	5/13/52
Perrin River Buoy 3 ✓	37-16 0m	76-25 688m	9.0	34f	5/13/52
Sarah Creek Buoy 1 ✓	37-15 102m	76-29 150m	9.0	54k	5/22/52
Persimmon Pt. Buoy 3 ✓	37-12 1047m	76-24 34m	10.0	86p	6/16/52
Green Point Buoy 5 ✓	37-12 1326m	76-24 660m	13.0	87p	6/16/52
Goodwins Islands Buoy 6 ✓	37-12 1459m	76-24 694m	12.0	88p	6/16/52
Goose Point Lighted Bell Buoy 2 ✓	37-12 679m	76-22 1210m	14.0	28p	6/11/52
Guinea Marshes Buoy <sup>28</sup> <del>28</del> ✓	37-14 1837m	76-22 887m	45.0	2c	5/7/52
*York River Buoy <sup>N-24</sup> <del>28</del> ✓	37-14 914m	76-25 888m	36.0	3r	7/18/52
**QUARTER Point Shoal Buoy 4	37-14 987m	76-27 762m	7.0	2r	7/18/52
***Clarkson Creek Shoal Buoy <del>23</del> ✓	37-13 1359m	76-25 1240m	37.0	1r	7/18/52
Perrin River Junction Lighted Buoy ✓	37-14 1810	76-23 1164m	20.0	133e	5/9/52
*Changed to N24 (See vol. 14, pg. 59)					
** " " N26 " " " "					
*** " " C25 " " " "					

BUOYS NOT IN LIGHT LIST

Yellow Marker Buoy ✓	37-15 16m	76-24 218m	14.0	1r	6/17/52
Wreck Buoy 2B ✓	37-15 56m	76-24 165m	16.0	2r	6/17/52
B & W Spar 80N ✓	37-14 1038	76-20 1257m	42.0	43g	5/16/52
B & W Spar 79N ✓	37-14 00m	76-21 295m	30.0	64q	6/12/52

cht 12221 Prototype Fully Applied  
10-3-85 J-Graham

Additional Signals used in  
1953 additional work on  
H-7953 and transferred  
to this sheet from  
Air Photo Compilation

RS-437	RS-440
Bur	Sot
Clu	Ann
Kip	Low
Rud	Mok
TIP	Rex
Smi	Sun
Zag	Wal
Zig	Vet

---

Additional Hydro stations

Nut	Us
Hear	Oak
Frant	Is

ADDENDUM  
To Accompany

HYDROGRAPHIC SURVEY H-7953 (Field No. Co-1252)

CONTROL

This is a well controlled survey and no difficulties were experienced during the smooth plot

All green signals were transferred directly from the boat sheet in compliance with notes on the air-photo compilations

SOUNDINGS

Pole and handlead soundings average from one to two feet deeper than fathometer soundings in areas where they overlap. (*adjusted by verifier*)

There are numerous instances of line joggling between positions. Soundings on these lines were carefully adjusted to surrounding hydrography.

WIRE DRAG

*\* Drag information inadequate to plot as survey data. 7ft sq. not plotted.*  
Lat. 37-12.3' Long. 76-23.0' Drag strips to disprove the 7' sounding (pos. 97 to 98m) <sup>(blue)</sup> were plotted on an overlay to accompany the smooth sheet. *\**  
Drag information, such as effective depth, drag and topline length was not recorded. Since the area was adequately covered the shoal sounding was not plotted.

COMPARISON WITH CHART 492

Lat. 37-13.92 Long. 76-25.5	36' soundings are no longer there. (38-39 prev. survey)
Lat. 37-16.0 Long. 76-22.0	Line of pilings not shown on RS-438 also small islands E & W of pilings.
Lat. 37-13.52 Long. 76-28.85	4 dolphins here and one off the east end of pier not shown on RS-440 ( <i>See dols. located on smooth sheet</i> )
Lat. 37-15.19 <sup>20</sup> Long. 76-29.11 <sup>0</sup>	Piling not shown on RS-437 ( <i>located on smooth sheet</i> )
Lat. 37-15.65 Long. 76-28.80	2 small piers not shown on RS-437 or located on prev. survey
Lat. 37-12.21 Long. 76-25.84	Watch house not shown on RS-440 ( <i>delete - Sec D.R. pg 2-1953</i> )
Lat. 37-14.18 <sup>6</sup> Long. 76-30.35	Small pier not shown on RS-439 ( <i>rocks - 1953 work</i> )

Respectfully submitted,  
*L. Proffitt*  
L. Proffitt  
Cartographer.

Norfolk, Va.  
9 June 1953

*\* drag work not verified  
see verifier report*

Approved & Forwarded  
*Earle A. Dilly*  
Earle A. Dilly, Supervisor, S.E. Dist.

Examination of Unverified Survey H-7953 (1952)  
and

Recommendations for Additional Field Work

*See Desc. Rpt of 1953 work  
for results of Add. Work.*

The unverified hydrographic survey H-7953 (1952), covering the lower portion of York River, Virginia, has been examined for completeness. Orange-colored lines have been drawn on the boat sheets to indicate needed additional lines, except in Sarah Creek where red-colored lines have been drawn on an overlay covering that area. It may not be feasible to run some of the lines indicated in tributaries of the creeks; but the survey shows 3 ft. or more at the mouth of these tributaries. Also, detached soundings in the shoal, wider parts of the creeks would provide survey evidence of the shoal depths outside the narrow channels.

The following recommendations are made:

1. Furnish descriptions of offshore <sup>dark bluffs</sup> signals ANT in lat.  $37^{\circ} 12.73'$ , long.  $76^{\circ} 24.15'$ , and HAZ in lat.  $37^{\circ} 12.85'$ , long.  $76^{\circ} 24.43'$ . RS 440 shows structures. Also, furnish description of boat sheet and RS 440 signal HOT in lat.  $37^{\circ} 12.24'$ , long.  $76^{\circ} 24.43'$ . *A gone*
2. Run additional sounding lines marked in York Thorofare, Clarkson Creek, Back Creek, and on the south side of Goodwin Islands.
3. In Back Creek, furnish information for disposal of the pier ruins shown on Chart 494 in lat.  $37^{\circ} 12.3'$ , long.  $76^{\circ} 25.20'$ . The long pier was removed from Chart 492 on the basis of a Coast Pilot Inspection report (CL 428-1946) that the pier was no longer in existence. There is no positive information that the pier's piling was removed, and Chart 494 therefore correctly shows pier ruins. Also, furnish information on the watch house shown on the charts in lat.  $37^{\circ} 12.20'$ , long.  $76^{\circ} 25.83'$ .
4. At the entrance to York River, develop the 5-ft. shoal in lat.  $37^{\circ} 14'$ , long.  $76^{\circ} 21.9'$ .
5. Furnish information on the rows of piles "with pronged cable" in two areas on the south side of Guinea Marshes on T-8328 and Chart 492. Also, run additional lines on the south side of Guinea Marshes where the survey stops in 5-ft. depths, unless this area is covered by the survey to the north.
6. Run additional lines in Perrin River and the marked entrance channel, and also for development of the 10-ft. shoal (9 ft. on smooth sheet) and investigation of the prior 6-ft. sounding marked on the preliminary review in lat.  $37^{\circ} 15.32'$ , long.  $76^{\circ} 24.55'$ . Also, furnish information on piles charted in lat.  $37^{\circ} 15.96'$ , long.  $76^{\circ} 25.5'$ , from T-4682 (1932).

7. Run numerous additional lines in Sarah Creek, which are marked in red on an overlay attached to the boat sheet. Furnish information on two piles in the approach to Sarah Creek. The pile shown on Chart 492 in lat.  $37^{\circ} 15.19'$ , long.  $76^{\circ} 29.11'$ , is from a Coast Pilot inspection report - CL 101 (1937). This pile bared 3 ft. at H.W. in 1937. Chart 494 shows a pile in lat.  $37^{\circ} 15.07'$ , long.  $76^{\circ} 29.25'$ .
8. Run split lines about 500 meters off Gaines Point in the vicinity of lat.  $37^{\circ} 14.72'$ , long.  $76^{\circ} 27.6'$ , to determine if  $3\frac{1}{2}$ -ft. shoals lie farther offshore in a suspect area where lines are spaced 130 meters apart.
9. Furnish conclusive information of the reported 16-ft. sounding charted in lat.  $37^{\circ} 13.65'$ , long.  $76^{\circ} 28.94'$ . Numerous development lines were run at 15-meter intervals. The spacing 25 meters southwest of the reported position is 25 meters. The scope of the transducer beam in 33-ft. depths is approximately  $5\frac{1}{2}$  meters - one-third of the 15-meter spacing. Wire dragging or authoritative local information appears to be necessary in order to dispose of this reported concrete pier.
10. Furnish information on the four dolphins charted west of the pier, in the vicinity of lat.  $37^{\circ} 13.52'$ , long.  $76^{\circ} 28.9'$ , and the dolphin adjacent to the east end of the pier. Note that RS 440 (and smooth sheet before correction) showed dolphins off end of pier instead of mooring buoys LE to 4E referred to in the sounding volumes.
11. Furnish information on the pier ruins extending into deep water from signal WET in lat.  $37^{\circ} 14'$ , long.  $76^{\circ} 30.07'$ , at Yorktown - see Chart 492 and T-8317.
12. In Wormley Creek and approaches, furnish description of, "obstruction" signal MUT in lat.  $37^{\circ} 13.18'$ , long.  $76^{\circ} 27.97'$ , and run additional lines to fully develop channels and shoal areas.
13. Reference is made to paragraph 20 in the original instructions dated 13 March 1952, concerning bottom characteristics. The instructions refer to paragraphs 384 to 3847 in the Hydrographic Manual. Only two bottom characteristics obtained by the launch (red letter positions) were found on the smooth sheet. The records show that no samples were obtained at detached positions at navigation buoys. There may be records of additional samples, but it would appear that reliance was placed on the prior surveys for bottom characteristic coverage. The prior surveys and the charts show mostly the nature (Par. 3546) of the bottom - hrd, sft, or stk. Reference is made to Par. 3843 which discusses complete descriptions of bottom characteristics.

14. Reference is also made to the comparisons between fathometer and leadline soundings. In general, discrepancies are not too obvious - plotted differences in depth are generally limited to 1 ft. There are a few areas, however, in soft bottom, in 10-to 15-ft. depths where the differences amount to 2 ft. In the vicinity of lat. 37° 13.3', long. 76° 28.3', near the Navy pier, the 12-ft. curve is displaced 150 meters shoreward by the deeper leadline soundings. Leadline soundings obtained by the skiff show 15.4-ft. depths in an overlap with launch fathometer soundings showing 13.3 ft. During the smooth-plotting of the survey it was noticed that leadline and pole soundings averaged from one to two feet deeper than fathometer soundings, according to the addendum to the Descriptive Report.

Reviewed by: G. F. Jordan  
7/1/53

Supplement to Item 10

Determine new positions of buoys 1-4 E in the vicinity of the pier. These buoys were shifted to new positions in May 1953. Locate new pier under construction (completion date 10 August 1953) and revisions to pierhead of old pier. Determine temporary position of light on pierhead. This information should be shown on a chart section and furnished separately in the form of a chart letter to the Chart Division.

19 June 1953

To: Commanding Officer  
USC&GS Ship COWIE  
418 U. S. Post Office Building  
Norfolk 10, Virginia

Subject: Hydrographic Survey H-7953 (Boat Sheet CO-1252),  
York River

The following notes are not intended to be critical of your work, but rather as a guide in future operations.

An examination of the smooth sheet for survey H-7953, which was recently received in this office, indicates certain deficiencies and this letter is written in order that future surveys will be more complete when received in this office. Any additional work required on survey H-7953 will be the subject of more correspondence after the survey has received a preliminary review.

One of the principal reasons for making the present surveys in Chesapeake Bay is to adequately develop the shoal-water areas, including inlets and creeks along the edge of the bay, for the use of small boats. On survey H-7953 several lines of soundings were run in Wormley Creek, where the maximum depths are two to three feet. This development is adequate for a waterway with these depths. On the other hand about the same number of lines were run in Sarah Creek where the depths exceed six feet, and it appears that a channel with a minimum depth of seven feet extends a considerable distance up the creek and its branches. Also, the creek appears to be extensively used by small boats, judging by the number of boat piers in the creek.

In Sarah Creek the development on survey H-7953 is inadequate to permit the accurate drawing of the six-foot curve, and basically the information on this survey adds little to the information already available in this office. Where the depths are sufficient for the navigation of small boats, the development in the creeks and other waterways should be adequate to permit accurate delineation of the depth curves. This is particularly true when there are indications that the area is extensively used.



Page 2  
Commanding Officer, Ship COWIE

A quick examination of the smooth sheet and descriptive report shows several other places where the survey is deficient besides those mentioned above. Reference Nos. 3521 and 3522 of the Hydrographic Manual outline the explanations and recommendations which the Descriptive Report must contain concerning the verification of information from prior surveys and charted features. Paragraph 13 of the instructions dated 5 February 1953 specifies that the Descriptive Report shall contain a positive statement about the disposition of items shown on the preliminary review furnished by the Division of Charts. Probably because the above paragraph was not included in your 1952 instructions your Descriptive Report for H-7953 does not contain these positive statements and makes no recommendations. A specific example is the reported obstruction shown on the chart in the vicinity of the Mine Base pier, and with a depth of 16 feet. The Descriptive Report simply states that the obstruction was not found. As I remember it, from information obtained from Mr. Townley of the Naval District Public Works, this was a concrete pile which may by this time have been removed. The hydrographic sheet indicates a good coverage with sounding lines, but indicates no wire-drag coverage. On the other hand, your party made a small wire-drag survey southeast of Goodwin Island, where a seven-foot depth was found in general depths of eleven to twelve feet. Since the 16-foot obstruction is adjacent to the mooring buoy and pier a small additional amount of time for a similar operation would have been justified to definitely prove or disprove the reported 16-foot obstruction.

(Signed) E. O. Heaton  
Chief, Division of  
Coastal Surveys.

cc. Nautical Chart Branch, Div. of Charts

APPENDIX TO DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7953 (CO-1252)

CHESAPEAKE BAY

PROJECT CS-350

SHIP COWIE

SCALE 1:10,000

J. H. BRITAIN, COMDR.

The additional work on this survey was done in accordance with the Director's letter 22/MEK S-1-CO dated 10 July 1953.

The hydrography and wire drag was done between 19 August and 2 September 1953, using two hydrographic skiffs. Some additional bottom samples were taken with the Ship COWIE.

The sounding was done with 808 type portable fathometers, pole and hand lead. Bar checks were taken and used to correct the soundings.

The work done is covered in detail in the following paragraphs, listed in the order given in the reference letter.

Hourly heights from the Standard Tide Gage at Gloucester Point, Va., furnished by the Washington Office were used for reduction for tides.

## SURVEY H-7953 (CO-1252)

1. Offshore signals ANT, latitude  $37^{\circ}12.73'$ , longitude  $76^{\circ}24.15'$ , and HAZ, latitude  $37^{\circ}12.85'$ , longitude  $76^{\circ}24.43'$  are duck blinds, temporary construction. Signal HOT, latitude  $37^{\circ}12.24'$ , longitude  $76^{\circ}24.43'$ , no longer exists. The remains of a duck blind is washed up on the shore nearby. It is believed that this signal was a duck blind, temporary construction.

2. Additional sounding lines were run as marked on the boat sheet in York Thorofare, Clarkson Creek, Back Creek and on the south side of Goodwin Islands.

3. A thorough investigation was made of the site of the charted pier ruins in Back Creek, latitude  $37^{\circ}12.3$  longitude  $76^{\circ}25.20$ . The bottom was clearly visible. No stub piling could be found. It is recommended that these ruins be deleted from the chart.

delete

However, along the south side of Back Creek in the vicinity of these charted ruins there are a number of piers in poor condition with submerged piling off the ends and a number of mooring piling. All these were located by 3 point fix and plotted on the boat sheet.

To be charted  
See Smooth  
sheet.

The site of watch house shown on chart in latitude  $37^{\circ}12.20$ , longitude  $76^{\circ}25.84$  was thoroughly investigated. No evidence of the watch house was found. It is recommended that this be deleted from the charts.

delete from  
charts

4. The 5 ft. shoal in latitude  $37^{\circ}14.'$ , longitude  $76^{\circ}21.9$  was developed. No shoaler depth was found.

5. The rows of piles "With pronged cable", in areas on the south side of Guinea Marshes are within the area surveyed on Sheet CO-1452, to the north of CO-1252. These were investigated in connection with the additional work on CO-1252. All remaining piling were located and plotted on Sheet CO-1252. The remaining piling are all located next to shore, being the end piling of barriers placed across the shallow channels leading through the marshes into York River as a security measure during World War II. It is reported that these barriers were removed about 1946. The sites were examined by wading and cruising with a skiff between the end piles. The bottom was clearly visible. No evidence of stub piling was found. It is recommended that these be deleted from the charts.

*delete rows of piling - show piling near shore on chart.*

A three point fix was taken on a 6" galvanized iron pipe extending about 8 feet above water located about <sup>1100</sup>300 meters SE of signal GIN. This is in the area of Sheet CO-2152 and should be plotted on that sheet if not already located there. *(See Pg. 58, Vol 16 sdg. record)*

*Vol 16: 2258  
p. 58 of  
Vol. #16*

6. Additional sounding lines were run in the Perrin River and entrance channel as marked. The 10 foot shoal was developed and investigation made of the prior 6 foot sounding marked on the preliminary review.

*6 ft carried forward to present survey*

8 feet was the least depth found. The area about the piles charted in latitude  $37^{\circ}15.96'$ , longitude  $76^{\circ}25.5'$  was searched but the piling was not found. It is reported locally that this once was the site of a pier. The last of the piling fell over about 15 years ago. It is recommended that these be deleted from the chart. A group of piles

*delete from chart. See # 6 Review*

<sup>at MLW</sup> bare 1 foot, about 50 meters SSW of Perrin River Inner Light were located by 3 point fix, position 69-c.

*cht 494 not plotted too close to Lt. 1154*

7. Additional sounding lines were run in Sarah Creek as marked on 1- overlay of boat sheet. A pile, bare <sup>5</sup> ~~6~~ <sup>MHW</sup> feet, was found in approxi- P6 Review  
 mately, latitude  $37^{\circ}15.0^{\circ}$ , longitude  $76^{\circ}29.1^{\circ}$ . The pile shown on v  
 Chart 494 at latitude  $37^{\circ}15.0^{\circ}$ , longitude  $76^{\circ}29.2^{\circ}$  was searched for P6 Review  
 but not found. The bottom could be clearly seen. It is recommended v  
 that this pile be deleted from chart.

8. Split lines were run about 500 meters off Gaines Point in the vi-  
 cinity of latitude  $37^{\circ}14.72'$ , longitude  $76^{\circ}27.6'$ . as marked on the  
 boat sheet. *3 ft. shoal verified on H-7953.*

9. The 16 foot sounding charted in latitude  $37^{\circ}13.65'$ , longitude  
 $76^{\circ}28.94'$  was wire dragged with a 400 foot drag in 2 directions, one  
 with an effective depth of 26 foot and one way with an effective depth  
 of 30 feet. The drag did not hang in either direction. On the 30  
 foot effective depth strip the buoy weights on the inshore end of the  
 drag slid along the bottom where the depth was less than that at  
 which the drag was set. The area for some distance <sup>north</sup> from the drag  
 strip was covered with fathometer, circling and on ranges. The area  
 inshore adjacent to the drag strip was covered with a 20 foot pipe  
 being dragged along the bottom. See overlay  
attached  
to D.R.

Mr. Townley of the Naval District Public Works Office was con-  
 tacted. He could find no record of the 16 foot obstruction being re-  
 ported but did remember that a ship had a concrete piling fall over-  
 board in the area. It is recommended that this sounding be deleted. Delete 16ft  
from Chart

10. Three of the 4 dolphins charted west of the pier in the vicinity  
 of latitude  $37^{\circ}13.52'$ , longitude  $76^{\circ}28.9'$  are no longer in existence  
 and should be deleted from the chart. delete  
3 dols. from  
chart

## 10. (Con't.)

The one adjacent to the pier was located by 3 point fix as well as 4 new dolphins toward the pier head. The dolphin charted adjacent to the east end of the old pier head does not exist and should be deleted from the chart. The dolphins were searched for with a 20 foot section of pipe dragged along the bottom, along ranges, throughout the area. Each hanging was investigated and in each case was cleared by raising the bar no more than 2 feet from the bottom. A 3 point fix was taken at each hanging.

(eday-green  
Aug 27)

The mooring buoys 1 E to 4 E, the temporary light on the pierhead and the changes being made in the pier and pierhead were located and plotted on the boat sheet. These were transferred to a section of chart 492 and forwarded with a chart letter. (837 (1953)) also see Ch Letter 594 (1953)

11. Stub piling exist at the site of the pier ruins extending beyond  $\phi 37^{\circ}14'$   $\lambda 76^{\circ}30'$  signal WET. The shoal water here was investigated with a pipe drag and the deep water with the fathometer, cruising back and forth on ranges. Fixes and least depths were taken on stub piling located. It is recommended that the charting of these ruins be continued.

12. The additional sounding lines marked on the boat sheet were run in Wormley Creek and approaches. Offshore signal MUT<sub>1</sub> is a duck blind of temporary construction. Lat.  $37^{\circ}13.18'$ , Long.  $76^{\circ}27.97'$

13. Additional bottom samples were obtained on Both CO-1152 and CO-1252.

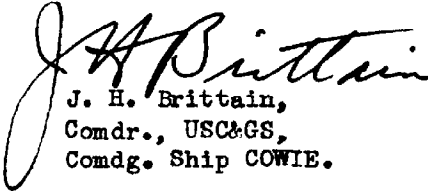
14. Zig-Zag sounding lines were run with the fathometer over the questionable hand lead soundings in the vicinity of latitude  $37^{\circ}13.3'$  and longitude  $76^{\circ}28.3'$ . These lines show a uniform slope here. The hand lead soundings apparently are erroneous due to the lead sinking one to two feet in the mud.

Hand lead  
sdgs. ad-  
justed to  
agree with  
fath. sdgs.

14. (Con't.)

Some additional hydrography was done in latitude  $37^{\circ}15.5'$ , longitude  $76^{\circ}21.9'$  and latitude  $37^{\circ}15.6'$ , longitude  $76^{\circ}22.8'$  where it was considered that development was insufficient.

Respectfully submitted,

  
J. H. Brittain,  
Comdr., USC&GS,  
Comdg. Ship COWIE.

STATISTICS

ADDITIONAL WORK - SURVEY H-7953

FIELD NO. CO-1252

HYDROGRAPHIC SKIFF (JET)

VOL.	DATE 1953	DAY LETTER		NO. OF POS.	STAT. MI.
XV	8/19	a	Sarah Creek	120	9.4
XV	8/20	b	" "	11	0.4
XV	8/21		Fuel Depot whf/ 37°13' 76°29.0	32 wire drag	
XV	8/24		1. N.N.E. of Fuel Pt. 37°14' 76°21.8	54	3.8
XV-XVII	8/25		2. Chan. of Burlington Is. 3. S.W. shore of Goodwin Is. therefore, Back Cr., Clarkston Cr. & of Goodwin Is.	139	10.2
XVII	8/27	f	off Wormley Cr.	27	2.1
XVII	8/28	g	37°15.5' 76°22.8'	24	3.0
XVII	8/2	h	Entrance to Perrin River	19	0.5

HYDROGRAPHIC SKIFF (738)

XVI	8/19		2 Gloucester Point. E. of York to wh. Wormley Cr. & south of Gainers Pt.	134	9.6
XVI	8/21		b Fuel Depot Wharf 37°13.7' 76°29.0	46 wire drag	
XVI	8/24		c S. of Jenkins Neck (Perrin River)	81	9.7
XVI	8/25		d 3/4 mile south & southeast of Jenkins Neck	52	4.8
XVIII	8/27		e West of Navy Fuel Wharf	35 wire drag	-

SHIP COWIE

XIX	8/25	A		27	
XIX	8/27	B		4	
<b>GRAND TOTALS:</b>				<b>683</b>	<b>53.5</b>



LIST OF HYDROGRAPHIC SIGNALS

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7953 (CO-1252)

The following hydrographic signals were located and used in addition to those listed in the previous report:

FRONT

US

NUT

*Rear*

*Oak*

*Is*

## FATHOMETER CORRECTIONS

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7953 (CO-1252)

HYDROJET SKIFF

"a" day 8/19/53  
-0.5 all depths

"b" day 8/21/53  
Wide drag

"c" day 8/24/53  
-0.4 to 5 ft.  
-0.2 to 18.5 ft.  
0.0 over 18.5 ft.

"d" day 8/25/53  
0.0 to 7.5 ft.  
-0.2 to 13.5 ft.  
-0.4 over 13.5 ft.

HYDROGRAPHIC SKIFF #736

"a" day 8/19/53  
Pole soundings

"b" day 8/20/53  
Pole soundings

"c" day 8/21/53  
Wire drag

"d" day 8/24/53  
0.0 to all depths

"e" day 8/25/53  
0.0 to all depths

"f" day 8/27/53  
0.0 to 12.5 ft.  
-0.2 over 12.5 ft.

"g" day 8/28/53  
0.0 to all depths

"h" day 9/2/53  
Pole soundings

SHIP COWIE

"A" day 8/25/53  
Leadline soundings and  
bottom samples.

"B" day 8/27/53  
Leadline soundings and  
bottom samples.

GEOGRAPHIC NAMES

Survey No. H-7953

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
<u>Virginia</u>										B.G.N.	1
<u>Chesapeake Bay</u>										"	2
<u>York River</u>											3
											4
✓ <u>Tue Point</u>										B.G.N.	5
✓ <u>Goodwin Islands</u>											6
✓ <u>Thorofare</u>											7
✓ <u>Back Creek</u>											8
✓ <u>Green Point</u>											9
✓ <u>Clarkston Creek</u>										(Pending with B.G.N.: Clayton Cr. on "Harris Grove" plat)	10
✓ <u>Wormley Creek</u>											11
✓ <u>West Branch</u>											12
✓ <u>Yorktown</u>											13
✓ <u>Gloucester Point</u>											14
✓ <u>Sarah Creek</u>											15
✓ <u>Northwest Branch</u>											16
✓ <u>Northeast Branch</u>											17
✓ <u>Quarter Point</u>											18
✓ <u>Perrin River</u>										B.G.N.	19
✓ <u>Guinea Marshes</u>											20
HOG I											21
JENKINS NECK											22
											23
cht 494 applied. H. Heck's											24
											25
											26
											27

Names underlined in red are approved.  
7-15-53. L. Heck

(See chart 492 for placement of names)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7953...

Records accompanying survey:

Boat sheets 1 (2 Parts); sounding vols. 14; wire drag vols. ....; bomb vols. ....; graphic recorder rolls 8; special reports, etc. 1. Smooth Sheet.; 1. Descriptive Report.; 1. Overlay (Wire Drag).....

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

Number of positions on sheet 4332
Number of positions checked 50
Number of positions revised 10
Number of soundings revised (refers to depth only) 35
Number of soundings erroneously spaced 0
Number of signals erroneously plotted or transferred 0
Topographic details Time 20
Junctions Time 30
Verification of soundings from graphic record Time 20

Verification by John T. Gallahan Total time 470. Date March 8, 1955

Reviewed by [Signature] Time 129. Date April 21, 1955

Plotting of additional 1953 by J.T. Gallahan

RH C

TIDE NOTE FOR HYDROGRAPHIC SHEET

16 July 1953

~~Division of Coastal Surveys:~~

Division of Charts: R. H. Carstens

Plane of reference approved in  
14 volumes of sounding records for

HYDROGRAPHIC SHEET 7953

Locality York River, Chesapeake Bay, Virginia

Chief of Party: J. H. Brittain in 1952  
Plane of reference is mean low water, reading  
2.0 ft. on tide staff at Tue Marshes Lighthouse  
6.6 ft. below B. M. 1 (1952)

0.9 ft. on tide staff at Gloucester Point  
34.1 ft. below B. M. 4 (1918)

Height of mean high water above plane of reference is as follows:

Tue Marshes Lighthouse	=	2.2 feet
Gloucester Point	=	2.4 feet

Condition of records satisfactory except as noted below:

*E. C. McKay*

Section of Tides

Chief, Division of Tides and Currents.

RHC  
3

### TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

4 November 1953

Division of Charts: R. H. Carstens

Plane of reference approved in  
5 volumes of sounding records for

HYDROGRAPHIC SHEET 7953 Add. WK.

Locality York River, Virginia

Chief of Party: J. H. Brittain in 1953  
Plane of reference is mean low water, reading  
0.9 ft. on tide staff at Gloucester Point  
34.1 ft. below B. M. 4 (1918)

Height of mean high water above plane of reference is 2.4 feet.

Condition of records satisfactory except as noted below:

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

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7953

FIELD NO. CO-1252

Chesapeake Bay, York River, Tue Marshes Lighthouse to  
Yorktown

Project No. CS-350

Surveyed - May 1952 - Sept. 1953

Scale 1:10,000

Soundings:

Control:

808 Fathometer

Sextant fixes on

Leadline

shore signals

Sounding Pole

Chief of Party - J. H. Brittain

Surveyed by - J. H. Brittain, R. A. Parker, R. M. Borst  
A. J. Ramey, J. O. Phillips, W. D. Gardner and  
A. E. Greaves, Jr.

Protracted by - A. K. Schugeld and J. T. Gallahan

Soundings plotted by - A. K. Schugeld and J. T. Gallahan

Verified and inked by - J. T. Gallahan

Reviewed by - I. M. Zeskind April 20, 1955

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with unreviewed air-photographic revision surveys RS-436 to RS-440 of 1952.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement. However, it was necessary to revise lead line soundings obtained on several days in 1952 by  $\frac{1}{2}$  to 2 ft. in depths as great as 17 ft. in order to bring these depths into harmony with the fathometer depths obtained in 1952 and 1953 which provided the basic delineation of the areas.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated.

The bottom is generally smooth, except near the mouth of the York River where a few inshore shoals contribute to the bottom irregularity.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-7952 (1952-53) on the west. H-7955 (1952), which has only received a preliminary verification, joins the present survey on the northeast. Depths on H-7955 are in agreement with the present survey in the junctional area. When the verification of H-7955 has been completed, a junction will be effected with the present survey. The junctions with H-7960 (1952) on the east and H-7954 (1952-53) on the south will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

- A. H-446 (1854), 1:40,000  
H-583 (1857), 1:20,000  
H-977 (1868), 1:20,000

These surveys cover the area of the present survey. A comparison between the prior and present surveys shows changes in depths. The changes, in general, are minor and range from 2-5 ft. However, in several areas greater changes in depths are noted, as for example, in lat.  $37^{\circ}14.30'$ , long.  $76^{\circ}29.83'$ , where a prior depth of  $12\frac{1}{2}$  fms. (75 ft.) falls in present depths of 50-52 ft., and in lat.  $37^{\circ}14.10'$ , long.  $76^{\circ}26.25'$ , where a prior depth of  $6\text{-}\frac{3}{4}$  fms. (41 ft.) falls in present depths of 67-68 ft. These changes in depth are attributed to the action of the current on the bottom, the deposition of sediment and dredging operations.

The present survey is adequate to supersede the prior surveys within the common area.

- B. H-2850 (1906), 1:20,000  
H-3310 (1911), 1:20,000  
H-4026 (1918), 1:20,000

These surveys fall within the area of the present survey. A comparison between the prior and present surveys show in general only minor changes of 1-2 ft. in depths, the present depths generally being shoaler. However, in several areas greater differences in depths are noted, as for example, in lat.  $37^{\circ}13.96'$ , long.  $76^{\circ}28.39'$ , where a prior depth of 62 ft. falls in present depths of 44-47 ft. These changes in depths are attributed to causes similar to those given in paragraph A above. Attention is directed to the 4-ft. sounding charted in the channel in Sarah Creek in lat.  $37^{\circ}15.40'$ , long.  $76^{\circ}28.63'$  and the 1-ft. sounding charted in lat.  $37^{\circ}15.6'$ , long.  $76^{\circ}28.1'$  from H-3310 (1911) which should be deleted from the chart. These soundings originating with a single line of soundings along the axis of the channel are believed to be out of position and



should actually fall in shoaler depths at the side of the channel. The present survey shows depths of 8 ft. and 5 ft. respectively through the channel here.

The present survey is adequate to supersede the prior surveys within the common area.

C. H-5201 (1932), 1:10,000

The prior survey covers that area of the present survey which lies approximately north of lat.  $37^{\circ}14.5'$ , between Gaines Pt. and Hog Island. A comparison shows in general only minor differences of 1-3 ft. in depths, as for example in lat.  $37^{\circ}15.65'$ , long.  $76^{\circ}23.90'$ , where the bottom, formerly awash at M.L.W. is now covered by 1-3 ft. at M.L.W. The depth curves on the prior and present surveys are in close agreement as regards their location and delineation.

The piling charted in lat.  $37^{\circ}15.96'$ , long.  $76^{\circ}25.48'$  from H-5201 should be deleted from the chart. The field party searched for but could not find these piles. The piles are considered to be nonexistent (See page 3 of Descriptive Report 1953).

The present survey is adequate to supersede the prior survey within the common area.

D. Comparison with Contemporary Wire-drag Survey

Wire-drag strips covering the previously charted 16-ft. sounding in lat.  $37^{\circ}13.67'$ , long.  $76^{\circ}28.93'$ , are plotted on tracing cloth and are part of the Descriptive Report. The 16-ft. sounding was disproved.

Effective depths determined by the present wire-drag operations are in harmony with the present survey soundings.

The area northwest and southeast of the Fuel Depot pier in lat.  $37^{\circ}13.55'$ , long.  $76^{\circ}28.75'$  was dragged with a pipe dragging on the bottom and no obstructions considered dangerous to navigation were found. On prior charts, piling had been charted northwest of the pier.

6. Comparison with Chart 492 (Latest print date 11-16-52)  
494 (Latest print date 11-8-54)

A. Hydrography

The charted hydrography originates principally with the previously discussed prior surveys, which need no further

consideration, supplemented by soundings from the present survey prior to verification and review. The following differences between the charted and present survey hydrographic information are noted:

- (1) The pile shown only on Chart 494 in lat.  $37^{\circ}15.08'$ , long.  $76^{\circ}29.26'$ , originates with a source not readily ascertainable and should be deleted from the chart. The pile was not found during a search for it and it is considered to be nonexistent, (See page 4 of the Descriptive Report, 1953.)
- (2) The  $12\frac{1}{2}$ -ft. sounding charted in lat.  $37^{\circ}13.44'$ , long.  $76^{\circ}28.46'$ , from a survey by the U. S. Navy in 1942 (Bp. 36325), falls on the present survey in depths of 15-18 ft. The present survey is adequately developed in the area to disprove the existence of the charted sounding.
- (3) The watch house charted in lat.  $37^{\circ}12.21'$ , long.  $76^{\circ}25.84'$ , from T-2749 (1906) should be deleted from the chart. A thorough investigation of the area by the field party failed to reveal the existence of the feature. (See page 2 of the Descriptive Report, 1953.)
- (4) The pile charted in lat.  $37^{\circ}15.18'$ , long.  $76^{\circ}29.12'$ , from a source not readily ascertainable, should be deleted from the chart. The pile was searched for but not found by the field party. (See page 4 of the Descriptive Report, 1953). A pile was found about 40 meters northeastward.
- (5) The wreck charted in lat.  $37^{\circ}12.28'$ , long.  $76^{\circ}26.04'$ , has been removed by the U. S. Coast Guard. (See page 5, par.L-M of the Descriptive Report.)
- (6) The "obstruction" charted in lat.  $37^{\circ}13.18'$ , long.  $76^{\circ}27.97'$ , from air-photographic survey RS 440 (1952), was reported by the hydrographic field party to be a duck blind of temporary construction. (See page 5 of the Descriptive Report, 1953).
- (7) The two rows of piles charted in the vicinity of lat.  $37^{\circ}16.0'$ , long.  $76^{\circ}21.0'$ , from T-8328 (1941-45) should be deleted from the chart and in their place should be charted the several piles shown near the shore on the present survey. An examination of the area by the field party failed to reveal the existence of the charted rows of piles. (See page 3 of the Descriptive Report, 1953).

(8) The dolphin charted in lat.  $37^{\circ}15.10'$ , long.  $76^{\circ}29.09'$ , from the present survey prior to verification and review should be charted 20 meters westward. The location of the dolphin on the smooth sheet was revised during verification and review of the present survey.

(9) The charted positions of the Front and Rear Range Lights in lat.  $37^{\circ}13.55'$ , long.  $76^{\circ}29.4'$ , which originates with HON to M 33, 1952, differ from the smooth sheet positions by 43 meters and 15 meters respectively. The charted azimuth of the range through these lights is in agreement with the smooth sheet azimuth.

(10) The dolphin charted on the west side of the Fuel Depot pier in lat.  $34^{\circ}13.48'$ , long.  $76^{\circ}28.82'$ , from Chart letter 494, 1945 (air-photograph 45C-601) falls 50 meters northward on the present survey. (Also see Chart letter 837, 1952.)

(11) The duck blind charted in lat.  $37^{\circ}12.46'$ , long.  $76^{\circ}23.44'$ , from Chart letter 903 (1944) is not shown on the present survey. The duck blind is believed to no longer exist and therefore, should be deleted from the chart.

(12) Numerous piles in Back Creek located on the present survey have not been charted, as for instance, the piles located in the vicinity of lat.  $37^{\circ}12.45'$ , long.  $76^{\circ}25.15'$ .

The present survey is adequate to supersede the charted hydrography within the common area.

B. Dredged Channel

The present survey depths in the dredged channel in York River Thorofare are in harmony with the charted controlling depth of 7 ft. (Corps of Engineers Annual Report, June, 1953.)

C. Aids to Navigation

The present survey positions of aids to navigation are in substantial agreement with the charted positions, except as noted below:

(1) The charted positions of the following buoys differ from the smooth sheet positions by as much as 200 meters.

<u>Buoy</u>	<u>Charted Location</u>	
	<u>Latitude</u>	<u>Longitude</u>
N "26"	37°14.47'	76°27.52'
N "24"	37°14.53'	76°25.68'
RB (1 QkFLW)	37°14.93'	76°23.75'
S "79N"	37°13.93'	76°21.18'
FLW "2" Bell	37°12.27'	76°22.88'

The charted positions of these buoys more adequately mark the features intended.

(2) The following buoys located during the present survey were subsequently replaced by beacons which have been charted.

<u>Smooth Sheet</u>	<u>Charted Position</u>		<u>Charted</u>	<u>Source</u>
<u>Designation</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Designation</u>	
<u>Buoy</u>			<u>Beacon</u>	
BC-3	37°12.52'	76°23.98'	B-3	HON to M 33, 1954
RN-6	37°12.77'	76°24.48'	R-6	HON to M 33, 1954
BC-5	37°12.67'	76°24.44'	B-5	HON to M 33, 1954
BC-3	37°16.00'	76°25.47'	B-3	HON to M 34, 1954
BC-1	37°15.75'	76°25.32'	B-1	HON to M 34, 1954
RN-4	37°15.62'	76°24.77'	R-4	HON to M 34, 1954
BC-1	37°15.08'	76°29.07'	B-3	HON to M 22, 1955

(3) The lighted bell buoy (FLG) "21" charted in lat. 37°14.06', long. 76°21.50', originates with HON to M 31, 1952, and was established subsequent to the 1952 season's work of the present survey.

(4) The lighted bell buoy (Qk FLR) "22" charted in lat. 37°15.02', long. 76°22.57', originates with HON to M 31, 1952, and was established subsequent to the 1952 season's work of the present survey.

(5) The RN buoy 2 B which was located on the present survey 70 meters southwest of the buoy mentioned in paragraph (4) above, was discontinued subsequent to the present survey, HON to M 31, 1952.

(6) The RB WK buoy 2 B and the W Marker buoy Y located on the present survey in lat. 37°15.05', long. 76°24.15', were deleted from the chart subsequent to the present survey in accordance with HON to M 28, 1952.

(7) Red Bn "2" charted in lat. 37°14.94', long. 76°29.15', from HON to M 33, 1954, was established subsequent to the present survey.

7. Condition of Survey

- a. The smooth plotting was accurately done.
- b. The sounding records and Descriptive Report are complete and comprehensive, except as follows:
  - (1) Sometimes the sounding records failed to note whether the soundings were obtained by lead line or sounding pole.
  - (2) The sounding records failed to note the length of towline, the effective depth and the length of drag of wire drag strips.

8. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

The survey is considered to be basic and no additional ~~of~~ field work is recommended.

Examined and Approved:

*Wallace A. Bruder*

Wallace A. Bruder  
Acting Chief, Nautical Chart Branch

*E. R. McCarthy*

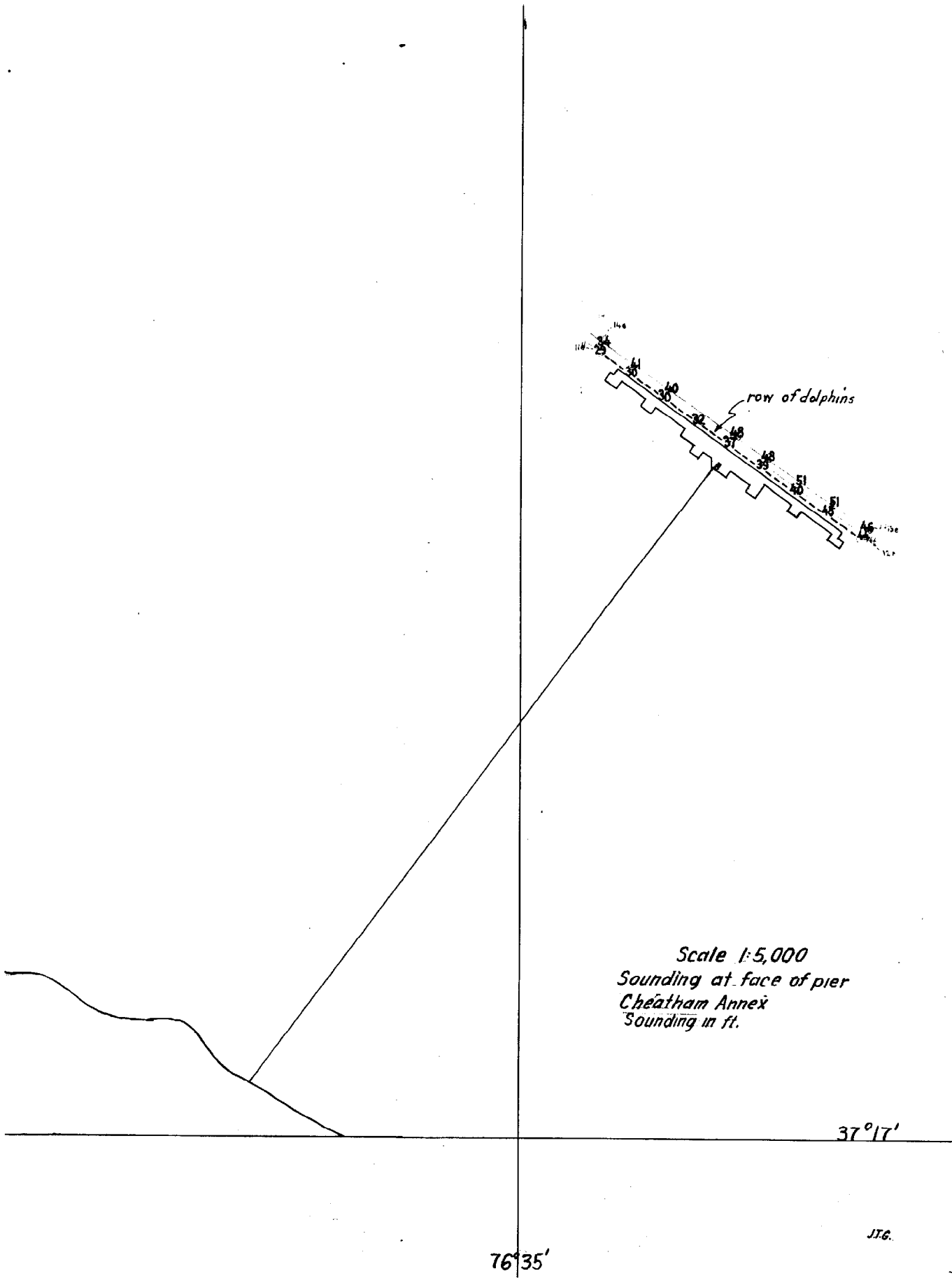
E. R. McCarthy  
Acting Chief, Chart Division

*J. C. Bull*

J. C. Bull  
Chief, Hydrography Branch

*Earl O. Heaton*

Earl O. Heaton  
Chief, Division of Coastal Surveys



Scale 1:5,000  
 Sounding at face of pier  
 Cheatham Annex  
 Sounding in ft.

37°17'

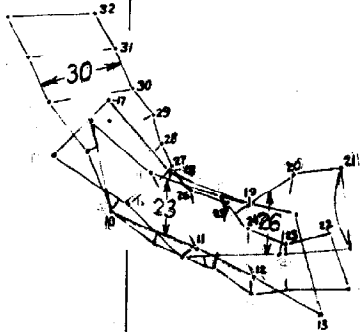
76°35'

JTG.

76° 29'

76° 28'

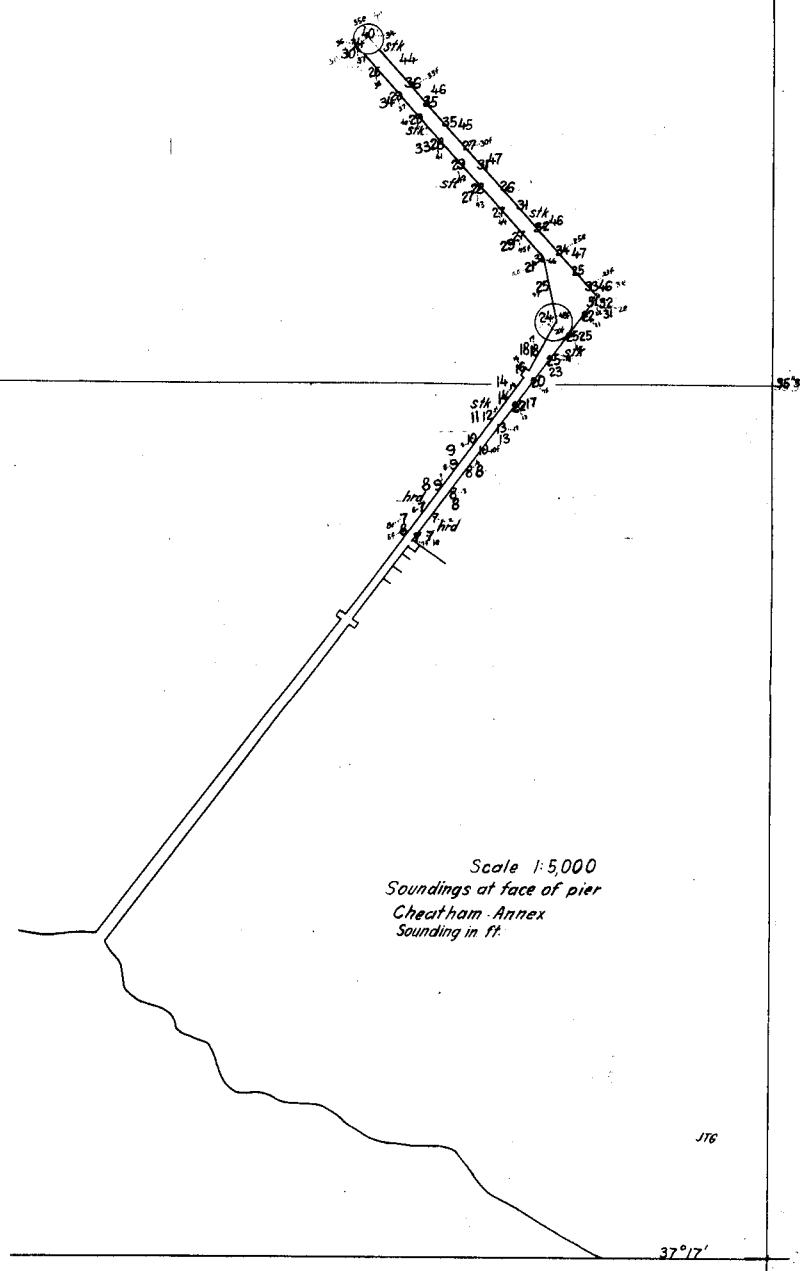
37° 14'



WIRE DRAG OVERLAY  
TO ACCOMPANY H-7953  
FUEL DEPOT  
YORK RIVER-VICINITY OF WORMLEY CR. 13'  
Scale 1:10,000 Ship COWIE

*Inked by Gallahan*

76°35'



Scale 1:5,000  
Soundings at face of pier  
Cheatham Annex  
Sounding in ft.

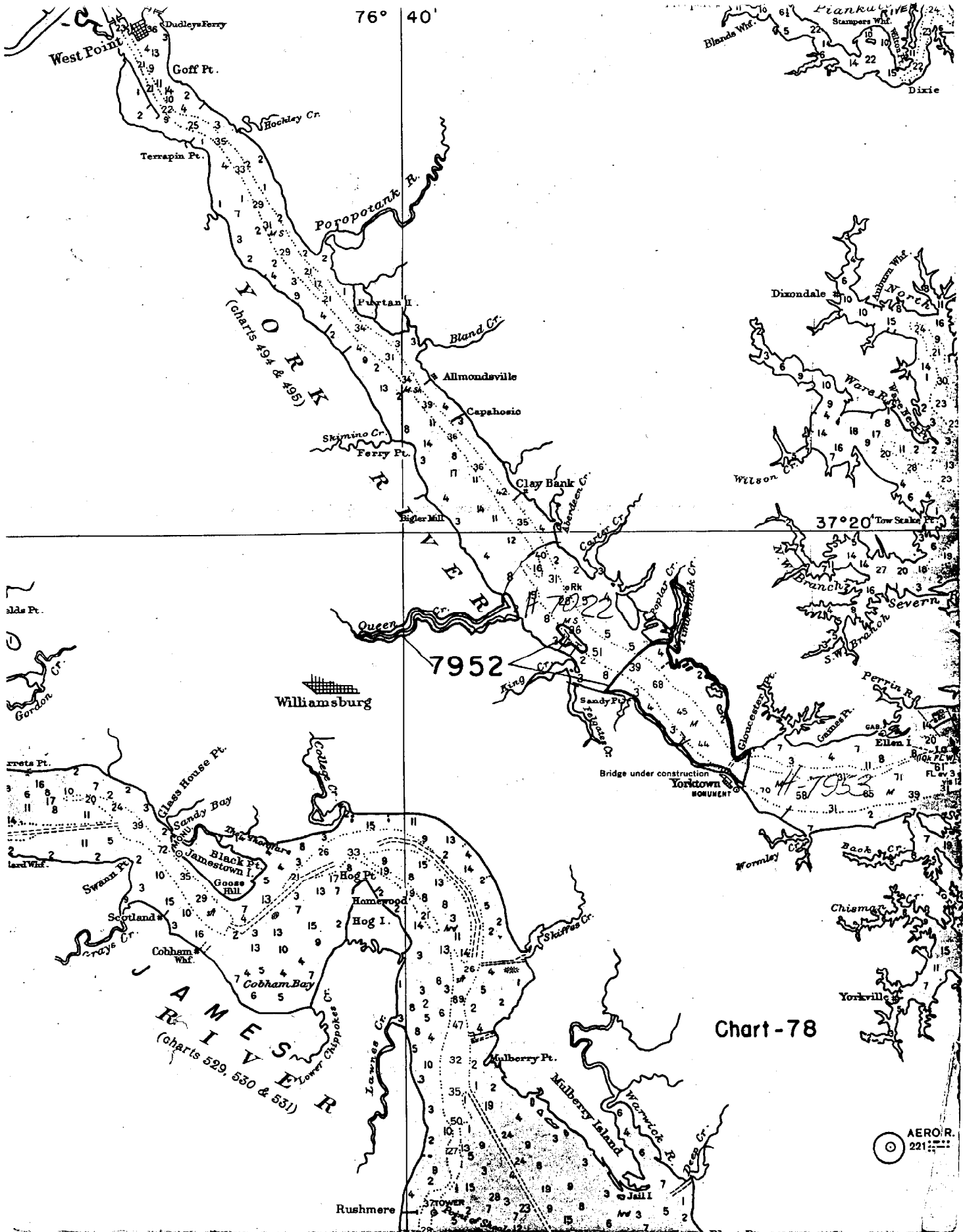
176

37°17'

76°35'



76° 40'



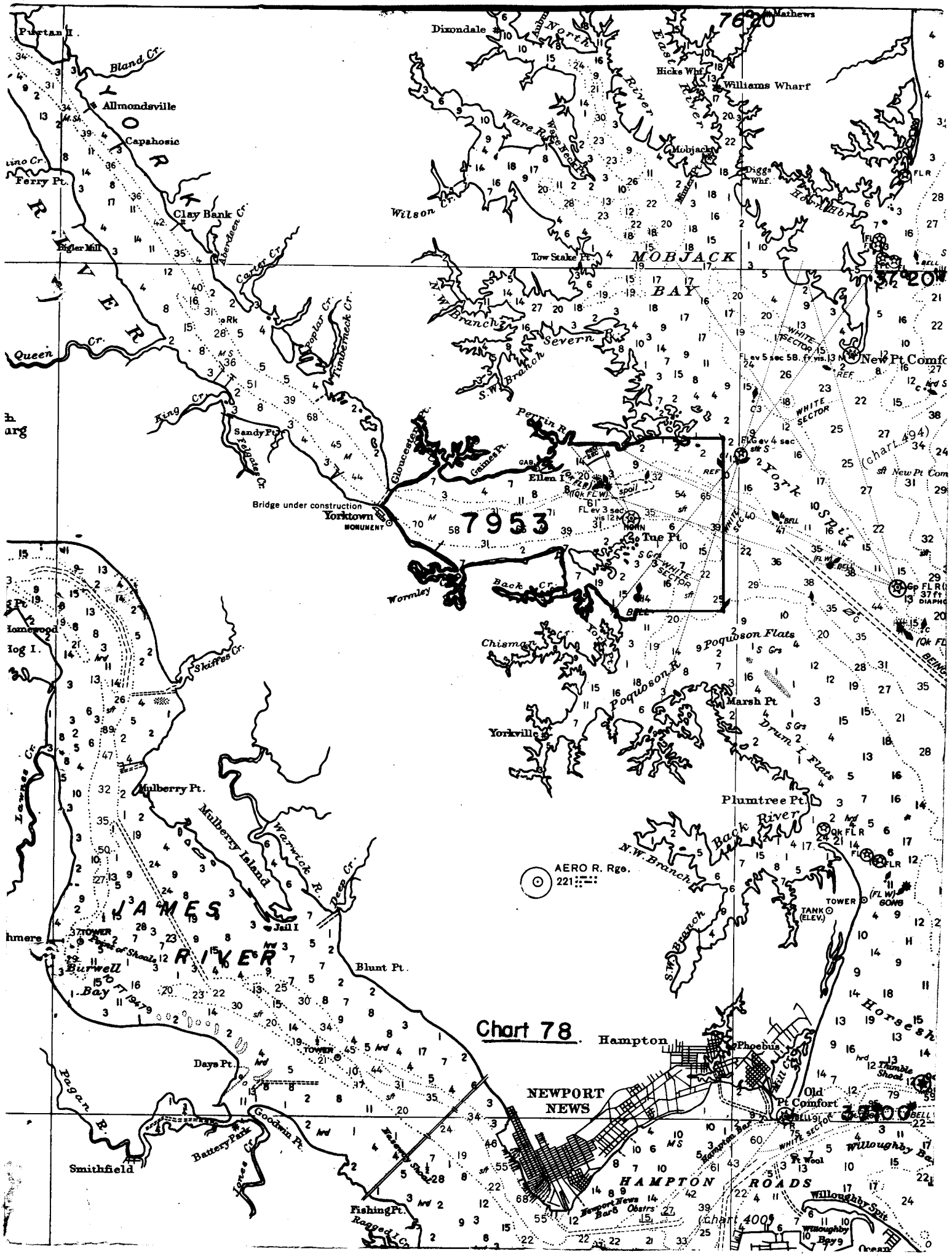


Chart 78





