7960

Diag. Cht. No. 1222-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. CO-2152 *Office No.* H-7960

LOCALITY

State Virginia

General locality Chesapeake Bay

Locality Entrances to York River and Mobjack Bay.

1952

CHIEF OF PARTY

J. H. Brittain

LIBRARY & ARCHIVES

DATE December 18, 1953

B-1870-1 (1)

7960

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.

REGISTER No. H-7960

Field No. CO-2152

State VIRGINIA

General locality Chesapeake Bay

Locality ~~Chesapeake Bay~~ Entrances to York River and Mobjack Bay

Scale 1:20,000 Date of survey 2 May - 17 October 1952

Instructions dated 13 March 1952

Vessel Ship COWIE

Chief of party J. H. Brittain,

Surveyed by Ship's Officers

Soundings taken by fathometer, Port. 808 type, hand lead, ~~wire~~ and pole

Fathograms scaled by Ship's Personnel

Fathograms checked by Ship's Personnel & Norfolk Processing Office

Protracted by W.L. Jonns

Soundings penciled by W.L. Jonns

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.

U. S. GOVERNMENT PRINTING OFFICE 777032

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7960, FIELD NO. CO-2152

CHESAPEAKE BAY — PROJECT CS-350

SHIP COWIE — SCALE 1:20,000

J. H. BRITTAIN, 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 western half of Chesapeake Bay from Plumtree Pt. to 37°20' N., and from approximately 76°09' to 76°21' W. Junction with recent surveys is made with CO-1252 (1952), H-7175 (1947), CO-1252 (1952), H-7954 (1953), CO-1752 (1952), H-7958 (1953) and with CO-1452 (1952) to the west, H-7750 (1948-49) to the east and with H-7185 (1947) and H-7823 (1949-50) to the south. & H-8083 (1953), H-8078 (1953) to the north. Review, par. 4.

Hydrographic surveys began 2 May 1952 and were conducted at intermittent intervals through 17 October 1952.

C - VESSELS AND EQUIPMENT:

The Ship COWIE, 30 foot launch no. 102 and 25 foot hydrographic skiff no. 737 were used for this survey. Ship COWIE using 808 type fathometer no. 118-S was used in general depths of over 12 feet in Chesapeake Bay and approaches to the York River and Mobjack Bay. Launch no. 102 using 808 type fathometer #63 was used in depths of 6 feet and over and where it was not practical to sound with the COWIE. Skiff no. 737 powered by two outboard motors and using pole and leadline for sounding was used in the shoal areas on York Spit close to shore.

D - TIDE AND CURRENT STATIONS:

A portable automatic tide gage was maintained at Tue Marshes Lighthouse with slight interruptions during this survey. The standard gage at Gloucester Point, Va. was used for tide reductions on the days the Tue Marshes Lighthouse was not operating. Tide gage records and all soundings are on Eastern Standard Time. No current stations were observed in this project.

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:

See Processing Office List

HYDROGRAPHIC NAME:

CAST	Cast, 1947
MARSH	Marsh Point, 1934
POINT	New Point Comfort L.H., 1871-1932
ROUND	Round, 1905-24
SPIT	York Spit Lighthouse (Va.), 1900-32
TOW	Tow, 1947
TUE	Tue Marshes Lighthouse
WHALE	Whale, 1934

2. The following topographic signals were used:

BAY - RS-437
BEN - RS-441
GIN - RS-438
HAR - 434 (cl - T-8328)
HORN - 434 (cl - T-8328)
JACK - RS-438
PARK - Card T-8328, 1944 (Form 524) (landmark)
PEP - 434
SIDE - 434

F - CONTROL STATIONS: (CON'T.)

3. The following hydrographic signals were used:

CHAN Vol. I, page 2. ✓

CLAM Sht. 1452, Vol. V, page 43. ✓

END Vol. XIV, page 33. (not described) (probably a fish stake)

FISH Sht. 1252, Vol. I, page 2. Not used

PLU Sht. 1352, Vol. I, page 2. ✓

POP Sht. 1252, Vol. VIII, page 20. Not used

TRAP Sht. 1252, Vol. II, page 3. ✓

G - SHORELINE AND TOPOGRAPHY:

There was no shoreline transferred to the boat sheet. The topographic signals were radial plotted from the air photos on the manuscripts and then transferred to the boat sheet, except signal PARK which was plotted directly from form 524, for PARK, 1944.

Review, par. 1

H - SOUNDINGS:

Depths were measured with 808 type recording fathometer, hand-lead and pole. Bar checks were taken daily from the ship and 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 when used with no corrections needed. ✓

A check on the boat sheets of the overlap between fathometer, leadline and pole show discrepancies not greater than 1 foot.

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 those 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 494 and 1222 shows the following:

1. The channel into York River has been dredged to 37 feet and has been remarked.

2. The 19 foot depth shown on Chart 494 at Lat. 37°19.1'; Long. 76°12.0' is an error and should be 29 feet. 19 not presently charted

3. The following shoal depths have been found:

Lat. 37°17.49'; Long. 76°14.08' - 16 feet.

Lat. 37°17.38'; Long. 76°13.30' - 18 feet.

Lat. 37°09.65'; Long. 76°15.23' - 16 feet.

Lat. 37°14.65'; Long. 76°11.39' - 29 feet.

4. The wrecks shown on the Charts at Lat. 37°17.90'; Long. 76°11.43'; and Lat. 37°15.78'; Long. 76°11.25' were developed with 100 meter lines only. No indication was found of either. It is recommended that the areas be wire dragged. Review, pars. 6 & 9

5. The 18 foot depth (No. 6, preliminary review) was not found, the general depth in this area being 19-20 feet. (19-ft. sdg. now charted in φ37°16.9', λ76°18.6' from present survey)

The preliminary review here mentioned is a preliminary review of chart 494 by the hydrographic section (review unit). It is for the use of the review unit and was not used in reconstruction of chart 494 J.M.A. 5-3-54

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

6. The 18 foot sounding in lat. 37°12.12, long. 76°18.0' (No. 10, preliminary review) was found as charted.

7. The 10 foot sounding in lat. 37°12.03', long. 76°18.56' (No. 11, preliminary review) was not found, the least depth being 12 feet in this area. (Present depths adequate for charting)

8. The 11 and 12 foot soundings circled on preliminary review at Lat. 37°12.9'; Long. 76°15.9' were found as charted.

9. The wreck that is circled on preliminary review (No. 9) was (formerly charted in lat. 37°11.7', long. 76°15.2') removed in May 1952 and has been deleted from the latest chart.

In general there seems to be little change in the present survey from the previous surveys and the Charts except as noted under (3) above.

N - DANGERS AND SHOALS:

No evidence of dangers or shoals were found in the channels. All areas that are shoaler than the charted depths have been mentioned in section L-M. There are numerous fish traps in the fish trap areas that have been spotted approximately on the boat sheet. There are no traps outside of the trap area.

There are no other important dangers or shoals not already shown on Charts 494 and 1222 in the area covered by this survey.

O - COAST PILOT INFORMATION:

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

P - AIDS TO NAVIGATION:

The lighthouses are all triangulation and other fixed aids are by sextant fixes. Positions of all floating aids were obtained by sextant fixes at the object or by running lines close to the aid and plotting on time and line from adjacent hydrographic fixes.

Review, par. 6 B.

Q - LANDMARKS FOR CHARTS:

No new landmarksfor 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 areas soundings were spaced every 30 seconds apart on the boat sheet. Intermediate soundings were plotted only where needed to define underwater features. In depths of 30 feet or more sounding lines were spaced up to 200 meters apart, except where closer spacing was 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

SHIP COWIE:

VOL.	DATE	DAY	NO. OF POSITIONS	STAT. MILES
I	5/2	A	146	50.2
I & II	5/13	B	165	54.3
II	5/26	C	115	35.0
III	5/27	D	225	78.1
III & IV	5/28	E	129	40.5
IV	5/29	F	131	39.3
V	6/9	G	63	20.2
V & VI	6/10	H	199	67.1
VI	6/11	J	13	4.0
VI	6/12	K	204	64.2
VI & VII	6/13	L	226	70.6
VII & VIII	6/18	M	93	30.2
VIII	7/3	N	198	64.0
VIII & IX	7/7	P	121	44.1
IX	7/16	Q	167	54.9
X	7/17	R	159	41.2
X & XI	7/18	S	182	62.4
XI	7/21	T	106	35.2
XI	7/22	U	204	60.9
XII & XIII	7/24	V	181	62.5
XIII	7/25	W	196	65.8
XIII & XIV	7/28	X	96	26.6
XIV	8/1	Y	180	45.7
XIV & XV	8/4	Z	131	48.1

CON'T. ON PAGE 8:

STATISTICS

SHIP COWIE: (CON'T.)

VOL.	DATE	DAY	NO. OF POSITIONS	STAT. MILES
XV	8/8	AA	117	33.0
XV & XVI	8/11	BB	155	48.9
XVI	8/18	CC	21	6.9
XVI	8/22	DD	27	8.2
XVII	8/25	EE	181	41.8
XVII	8/26	FF	210	69.1
XVIII	8/27	GG	198	71.0
XVIII	9/27	HH	49	12.4
XIX	10/6	JJ	159	50.7
XIX	10/13	KK	40	10.0
XIX & XX 1	10/17	LL	145	49.2
TOTAL:			4932	1566.3

SKIFF NO. 737:

XXI	5/28	a	27	6.3
XXI	6/3	b	154	38.5
XXI & XXII	7/29	c	108	22.4
TOTAL:			289	67.2

LAUNCH NO. 102:

XXIII	5/28	a	32	8.8
XXIII	6/3	b	190	40.0
XXIV	6/12	c	77	21.4
XXV	6/18	d	23	3.7
XXV	6/24	e	105	29.4

CON'T. ON PAGE 9:

FATHOMETER CORRECTIONS: (CON'T.)

LAUNCH. NO. 102:

VOL.	DATE	DAY	NO. OF POSITIONS	STAT. MILES
XXV	6/25	f	128	30.3
XXVI	6/26	g	95	23.0
XXVI	6/27	h	83	23.3
XXVII	7/2	j	31	7.3
XXVII	7/9	k	109	21.2
XXVII	7/11	l	56	9.0
XXVII	7/14	m	24	4.3
XXVIII	7/15	n	126	31.2
XXVIII & XXIX	7/16	p	146	32.4
XXIX	7/17	q	160	42.7
XXIX & XXX	7/18	r	73	13.1
XXX	7/30	s	167	46.2
TOTALS:			1625	396.4
GRAND TOTALS:			6846	2029.9

TOTAL AREA: 106 Sq. Stat. Miles.

TIDE NOTE

A portable automatic tide gage at Tue Marshes Lighthouse Lat. 37°14.13'; Long. 76°23.18'; was used for obtaining tide reducers for most of this survey. The standard gage at Gloucester Point ~~Point~~ was used for 9, 11 and 14 July and 13 October when the Tue Marshes gage was stopped. Height of MLW at Tue Marshes was 2.0 feet above zero of the tide staff; tide corrections for Gloucester Point were furnished by the Washington office. 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 of the Tue Marshes Lighthouse gage by the personnel of the Ship COWIE.

FATHOMETER CORRECTIONS:

SHIP COWIE: - Fathometer 808 No. 118-S:

"A" day - 2 May 1952:

A - SCALE	B - SCALE
0.0 to 17.5 ft.	No Correction
-0.2 to 22.5	
-0.4 to 27.5	
-0.6 to 33.0	
-0.8 to 38.0	
-1.0 to 43.0	
-1.2 to 48.0	

"B" DAY - 13 May - No Correction:

"C" DAY - 26 May 1952:

A - SCALE	B - SCALE
0.0 to 23.0 ft.	∕0.6 to 39.5 ft.
-0.2 to 27.5	∕0.4 to 41.5
-0.4 to 40.0	∕0.2 to 43.0
-0.6 to 47.0	0.0 to ----
-0.8 to 50.0	
-1.0 to ----	

"D" DAY - 27 May 1952:

A - SCALE	B - SCALE
0.0 to 22.0 ft.	∕0.4 to 34.0 ft.
-0.2 to 26.0	∕0.2 to 44.5
-0.4 to 30.0	0.0 to 55.0
-0.6 to 37.0	-0.2 to 65.0
-0.8 to 45.0	-0.4 to ----
-1.0 to 53.0	
-1.2 to ----	

(FATHOMETER CORRECTIONS - SHIP COWIE - CON'T.)

"E" DAY - 28 May 1952:

A - SCALE	B - SCALE
0.0 to 23.0 ft.	No Correction
-0.2 to 29.0	
-0.4 to 35.0	
-0.6 to 41.5	
-0.8 to 47.5	
-1.0 to 53.0	
-1.2 to ~~53.0~~	

"F" DAY - 29 May 1952:

A - SCALE	B - SCALE
0.0 to 22.0 ft.	No Correction
-0.2 to 26.0	
-0.4 to 30.5	
-0.6 to 43.0	
-0.8 to 48.0	
-1.0 to 53.0	
-1.2 to ----	

"G" DAY - 9 June 1952 - NO CORRECTION:

"H" DAY - 10 June 1952:

A - SCALE	B - SCALE
0.0 to 13.0 ft.	No Correction
-0.2 to 18.0	
-0.4 to 25.0	
-0.6 to 35.0	
-0.8 to 45.0	
-1.0 to 55.0	

(FATHOMETER CORRECTIONS - SHIP COWIE - CON'T.)

"J" DAY - 11 June 1952:

A - SCALE	B - SCALE
0.0 to 22.0 ft.	No Correction
-0.2 to 26.0	
-0.4 to 40.5	
-0.6 to 45.0	
-0.8 to 49.0	
-1.0 to 53.0	

"K" DAY - 12 June 1952:

A - SCALE	B - SCALE
0.0 to 25.0 ft.	No correction
-0.2 to 42.5	
-0.4 to 48.0	
-0.6 to 53.5	
-0.8 to 61.0	

"L" DAY - 13 June 1952 - No Correction:

"M" DAY - 18 June 1952 - No Correction:

"N" DAY - 3 July 1952 - No Correction:

"P" DAY - 7 July 1952 - No Correction:

"Q" DAY - 16 July 1952 - No Correction:

"R" DAY - 17 July 1952 - No Correction:

"S" DAY - 18 July 1952 - No Correction:

(FATHOMETER CORRECTIONS - SHIP COWIE - CON'T.)

"T" DAY - 21 July 1952:

A - SCALE	B - SCALE
0.0 to 22.0 ft.	No Correction
-0.2 to 26.0	
-0.4 to 30.0	
-0.6 to 34.0	
-0.8 to 38.0	
-1.0 to 42.0	
-1.2 to 46.0	
-1.4 to 50.0	

"U" DAY - 22 July 1952:

A - SCALE	B - SCALE
0.0 to 31.5 ft.	No Correction
-0.2 to 35.0	
-0.4 to 38.5	
-0.6 to 42.0	

"V" DAY - 24 July 1952 - No Correction:

"W" DAY - 25 July 1952 - No Correction:

"X" DAY - 28 July 1952 - No Correction:

"Y" DAY - 1 Aug. 1952 - No Correction:

"Z" DAY - 4 Aug. 1952 - No Correction:

"AA" DAY - 8 Aug. 1952 - No Correction:

"BB" DAY - 11 Aug. 1952 - No Correction:

"CC" DAY - 18 Aug. 1952 - No Correction:

"DD" DAY - 22 Aug. 1952 - No Correction:

"EE" DAY - 25 Aug. 1952 - No Correction:

"FF" DAY - 26 Aug. 1952 - No Correction:

"GG" DAY - 27 Aug. 1952 - No Correction:

(FATHOMETER CORRECTIONS - SHIP COWIE - CON'T.)

"HH" DAY - 29 Sep't. 1952 -

A * SCALE	B - SCALE
0.0 to 22.0 ft.	No Correction
-0.2 to 27.0	
-0.4 to ----	

"JJ DAY - 6 October 1952 - No Correction:

"KK" DAY - 13 October 1952 - No Correction:

"LL" DAY - 17 October 1952 - No Correction:

(FATHOMETER CORRECTIONS - SKIFF NO. 737:)

"a" day - 28 May 1952 - No Correction:

"b" day - 3 June 1952 - No Correction:

"c" day - 29 July 1952 - Leadline Correction:

LEADLINE
0.0 to 8.5 ft.
-0.2 to 17.0
-0.4 to 20.5
-0.6 to 23.5
-0.8 to 26.0

FATHOMETER CORRECTIONS - LCH.102 - FATHOMETER No. 63:

"a" day - 28 May 1952:

A - SCALE	B - SCALE
0.0 to 12.0 ft.	+1.0 to 41.0 ft.
-0.2 to 16.0	+0.8 to 46.0
-0.4 to 21.0	+0.6 to 52.0
-0.6 to 25.0	+0.4 to 56.0
-0.8 to 30.0	+0.2 to 61.0
-1.0 to 36.0	0.0 to 66.0
-1.2 to 42.0	
-1.4 to 48.5	

"b" day - 3 June 1952:

A - SCALE	B - SCALE
0.0 to 12.5 ft.	+1.0 to 41.0
-0.2 to 17.0	+0.8 to 45.0
-0.4 to 22.0	+0.6 to 49.5
-0.6 to 25.5	+0.4 to 53.0
-0.8 to 29.0	+0.2 to 57.0
-1.0 to 32.0	0.0 to 60.0
-1.2 to 34.5	
-1.4 to 36.5	
-1.6 to 39.0	
-1.8 to 41.0	
-2.0 to 52.0	

(FATHOMETER CORRECTIONS - LCH. 102 - CON'T.)

"c" day - 12 June 1952:

A - SCALE	B - SCALE
0.0 to 22.0 ft.	+2.0 to 40.0 ft.
-0.2 to 26.0	+1.8 to 44.0
-0.4 to 30.5	+1.6 to 48.0
-0.6 to 35.0	+1.4 to 52.0
-0.8 to 39.0	+1.2 to 57.0
-1.0 to 43.0	+1.0 to 61.0
-1.2 to 46.5	
-1.4 to 50.0	
-1.6 to 53.5	
-1.8 to 57.0	

"d" day - 18 June 1952 - No Corrections:

"e" day - 24 June 1952 - No Corrections:

"f" day - 25 June 1952 - No Corrections:

"g" day - 26 June 1952 - No Corrections:

"h" day - 27 June 1952 - No Corrections:

"j" day - 2 July 1952 - No Corrections:

"k" day - 9 July 1952 - No Corrections:

"l" day - 11July 1952:

A - SCALE	B - SCALE
0.0 to 22.5 ft.	No Corrections
-0.2 to 28.0	
-0.4 to 33.0	
-0.6 to 38.0	
-0.8 to 43.5	
-1.0 to 49.0	

(RATHOMETER CORRECTIONS - LCH. 102 - CON'T.)

"m" day - 14 July 1952:

A - SCALE	B - SCALE
0.2 to 14.0 ft.	No Corrections
0.0 to 32.0	
-0.2 to 36.0	
-0.4 to 40.0	

"n" day - 15 July 1952 - No Corrections:

"p" day - 16 July 1952 - No Corrections:

"q" day - 17 July 1952 - No Corrections:

"r" day - 18 July 1952:

A - SCALE	B - SCALE
0.0 to 23.0 ft.	No Corrections
-0.2 to 28.0	
-0.4 to 32.5	
-0.6 to 35.5	
-0.8 to 39.0	
-1.0 to 43.0	
-1.2 to 46.0	
-1.4 to 49.5	

"s" day - 30 July 1952 - No Corrections:

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LIST OF SIGNALS
H-7960

TRIANGULATION STATIONS

CAST	CAST, 1947
MARSH	MARSH POINT, 1934
POINT	NEW POINT COMFORT LIGHTHOUSE, 1871-1932
ROUND	ROUND, 1905-24
SPIT	YORK SPIT L.H. (VA.), 1900-32
TOW	TOW, 1947
TUE	TUE MARSH L.H., 1900-32
WHALE	WHALE, 1934
WOLF	WOLF TRAP L.H. (VA.), 1898-1932

TOPOGRAPHIC STATIONS (DESCRIBED)

[redacted]

Ben, 1952	(RS-441)
Bay, 1944-52	(RS-437)
Har, 1944-52	(RS-434)
Park, 1944	(Form 524)
Horn, 1944	(RS-434)
Pop, 1944-52	(RS-434)
Side, 1944-52	(RS-434)

TOPOGRAPHIC STATIONS

Gin	(RS-438)
Jack	(RS-438) Not described
Mit	(RS-442)

BOAT SHEET STATIONS*

*See note on compilation RS-442

[redacted]

Pom

HYDROGRAPHIC STATIONS

Chan	Vol. 1, pg. 2	Survey H-7960
Clam	Vol. 5, pg. 45	Survey H-7954
End	Vol. 14, pg. 33	Survey H-7960 No description mentioned
Flu	Vol. 1, pg. 2	Survey H-7954
Trap	Vol. 2, pg. 3	Survey H-7955

Note: For descriptions of hydro signals located on other surveys see appropriate smooth sheet.

FLOATING AIDS TO NAVIGATION

LIGHT LIST	POSITION	DEPTH	POS. NO.	DATE
Pequoson Flats Buoy 1	37-12.55 .23 76-17.61 .73	35	1L	6/13/52
York Spit Swash Chan. Buoy 1	37-15.28 76-20.38	11 9	44c Skiff 20m Lch 102	7/29/52 7/14/52
New Point Shoal Buoy 7	37-15.95 .85 76-12.45 3	36 35	94AA 98AA	9/8/52 9/8/52
York Spit Swash Chan Buoy 3	37-16.95 76-19.55	14	118p Lch 102	7/16/52
York River Entrance, Chan. Buoy 7	37-09.67 76-13.00	33	179S	7/18/52
New Point Comfort Shoal Buoy 9A	37-17.81 0 76-11.15 52	41	2HH	9/29/52
York River Entrance Chan. Buoy 11	37-11.20 76-15.25	36	172S	7/18/52
York River Entrance Channel Buoy 15	37-12.68 76-17.50	44	16SS	7/18/52
York Spit Buoy	37-11.60 56 76-14.69 7	32 33	78N	7/3/52
York Spit Swash Chan. Buoy 2	37-15.50 76-20.10	12	39c skiff	7/29/52
York River Lighted Bell Buoy 21	37-14.07 76-21.51 49	34	70r Lch 102	7/18/52
York River Lighted Bell Buoy 22	37-15.05 76-22.45 52	39	72r Lch 102	7/18/52
York Spit Bell Buoy 2A	37-13.90 76-18.70	36	48r lch 102	7/11/52
York River Entrance Chan. Buoy 8	37-09.77 76-12.85	33	6JJ	10/6/52
York River Entrance Chan. Buoy 12	37-11.28 76-15.08	37	11JJ	10/6/52
York River Entrance Chan. Buoy 16	37-12.80 76-17.40	36	164S	7/18/52
York River Entrance Chan. Lighted Buoy 6	37-09.05 1 76-11.71	32	2JJ	10/6/52
York River Entrance Chan. Lighted Buoy 10	37-10.50 76-13.97	33	9JJ	10/6/52

(Cont)

OFFICIAL FLOATING AIDS (CONT)

LIGHT LIST	POSITION	DEPTH	POS. NO.	DATE
York River Entrance Chan. Lighted Buoy 14	37-12.053 76-16.30.25	40	15JJ	10/6/52
York River Entrance Chan. Lighted Buoy 18	37-13.55 76-18.50	42	68r Lch 102	7/18/52
York River Entrance Chan. Lighted Buoy 5	37-08.90 76-11.82	38	182S	7/18/52
York River Entrance Chan. Lighted Buoy 9	37-10.40 76-14.10	36	75S	7/18/52
York River Entrance Chan. Lighted Buoy 13	37-11.90 76-16.35	39	169S	7/18/52
York River Entrance Chan. Lighted Buoy 17	37-13.41 76-18.65	38	69r lch. 102	7/18/52

FLOATING AIDS (Not listed in Light List)

BUOY	POSITION	DEPTH	POS. NO.	DATE
Spar 61N	37-12.33 76-20.60	24	53h Lch 102	6/27/52
Spar 68N	37-09.80 76-16.65.15	18	55Y	9/1/52
Spar 72N	37-09.95 76-13.80	34	70Q	7/16/52
Spar 79N	37-14.07 76-21.20	35	1F	5/29/52
Spar 84N	37-11.45 76-12.42	34	65BB	8/11/52
Spar 91N	37-15.30 76-16.65.55	26	40R	7/17/52
Spar 92N	37-16.15 76-17.50	27	147q lch. 102	7/17/52
Spar 93N	37-17.00 76-18.40	25	109s lch. 102	7/30/52
Spar 94N	37-17.83 76-19.29	24	54s lch. 102	7/30/52
Spar 105N	37-17.31 76-18.07	23	14s lch. 102	7/30/52

(Cont)

FLOATING AIDS (Cont)

BUOY	POSITION	DEPTH	POS. NO.	DATE
Spar 111N	37-16.73 76-12.82	22	85W	7/25/52
Spar 112N	37-19.38 76-11.22	40	106FF	8/26/52
Spar 114N	37-12.15 76-12.51 49	34	16CC	8/18/52
Spar 115N	37-13.38 76-13.80	30	61Q	7/16/52
Spar 117N	37-15.26 76-14.30	29	62S	7/18/52
Spar 118N	37-15.92 76-13.48	21	76T	7/21/52
Spar 119N	37-16.67 58 76-12.69 2	21	132W	7/25/52
Spar 120N	37-17.49 76-11.58	41	52FF	8/26/52
Spar 122N	37-13.83 76-12.21	33	33BB	8/11/53
Spar	37-15.35 76-17.12	25	11BB	5/13/52
Spar	37-16.17 76-17.20	26	13BB	5/13/52

Note: Buoy position, depths and position numbers are only approximate as all aids were located by references from sounding lines.

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-7960 (Field No. Co-2152)

GENERAL

The field work on this survey was carefully done and no unusual difficulties were experienced during the smooth plot. Soundings at crossings checked very well considering the many irregularities in the bottom.

SHORELINE

The shoreline was reduced on the projector from original 1:10,000 scale manuscripts nos. RS-432, RS-434 and RS-442. *Review, par. 1.*

FATHOGRAMS

A great many apparent strays were encountered on the fathograms and noted in the record books. As it is quite possible that various types of wreckage may be in the area, it is believed these indications should be reviewed for possible wire drag investigation. *(probably broken fish stakes)*

FLOATING AIDS

Most of the floating aids to navigation were located from references from sounding lines. All official aids were plotted directly on the smooth sheet. Some temporary buoys used for dredging purposes etc., are being submitted on overlays. *Review, par. 6 B.*

DISCREPANCIES

Positions 1 thru 23Y are plotted incorrectly on the boat sheet. These positions are apparently plotted on split fixes. See overlay and notes in record books. *(Discrepancies resolved in verification; positions plotted acceptably on smooth sheet)*

Respectfully submitted,

Hugh L. Proffitt
Cartographer.

Norfolk, Va.
14 Dec. 1953

Approved & Forwarded:

H.A. Paton
Supervisor, S.E. Dist.

GEOGRAPHIC NAMES

Survey No. H-7960

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Virginia									8614	1
Chesapeake Bay									"	2
Mobjack Bay									"	3
York River										4
Guinea Marshes										5
New Point Comfort										6
PLUMTREE POINT										7
MARSH P T.										8
				Names approved 9-23-54. L. Heck						9
										10
										11
Gloucester Point				(tide stations)						12
The Marshes Light										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7960...

Records accompanying survey:

Boat sheets 1(2 Parts); sounding vols. ...30...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 26 Env.;

special reports, etc. 1 Smooth Sheet; 1 Descriptive Report; 1 Overlay;

.....

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

Number of positions on sheet		6846
Number of positions checked		165
Number of positions revised		4
Number of soundings revised (refers to depth only)		*Approx. 600
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	8
Junctions	Time	10
Verification of soundings from graphic record	Time	10

Verification by J. P. Shadsburg .....Total time 539 Date 3/21/56

Reviewed by J. A. Dinsmore ..... Time 56 Date 17 April 1956

*Approx. 600 sdgs were affected by various corrections applied to Q day (Vol. 9), W day (Vol. 19), f day (Vol. 25), g day (Vol. 26), r day (Vol. 29) - this figure does not include numerous revisions of 0.2' - 1.0' in an effort to attain reasonable depth curves.

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7960 FIELD NO. CO-2152

Virginia, Chesapeake Bay, Entrance to York River and Mobjack Bay

Project No. CS-350

Surveyed - May - Oct., 1952 Scale 1:20,000

Soundings: Control:

808 Fathometer
Hand lead
Pole

Sextant fixes on shore signals

Chief of Party - J. H. Brittain
Surveyed by Ship's Officers
Protracted by - W. L. Jonns
Soundings plotted by - W. L. Jonns
Verified and inked by - F. P. Saulsbury
Reviewed by - T. A. Dinsmore 17 April 1956
Inspected by - R. H. Carstens

1. Shoreline and Signals

This is an offshore survey. The incomplete shoreline outlined on the smooth sheet originates with air-photographic surveys T-8315 (1944), revision surveys RS-434, 438, 442 (1952, unreviewed) and T-11161 (1952, unreviewed). The short section of dashed-red shoreline at Plumtree Point is sketched from photograph 34713 (1952).

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

2. Sounding Line Crossings

Depths at crossings are in very good agreement. Minor differences of 1 ft. between pole and fathometer soundings were resolved in the smooth plotting and verification.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The 3-and 24-ft. curves were added to more completely define the configuration of the bottom.

This survey covers a large portion of the lower part of the Chesapeake Bay including most of the York River Entrance

Channel and the entrance to Mobjack Bay. These two features are separated by York Spit, the offshore extremity of which is marked by the lighthouse in lat. 37°12.57', long. 76°15.27'. Sharp irregularities in the form of sand waves occur in the general vicinity of lat. 37°17.5', long. 76°14'. The sand waves range from 3 to 8 ft. in height. A conspicuous declivity is revealed in lat. 37°14', long. 76°18.8', where depths drop rapidly from 6 to 40 ft. in about 150 meters. Except for the irregularities mentioned and the steep channel banks in several localities, the bottom is generally smooth and undulating.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with the following surveys:

H-7958 (1952), on the north.
H-8078 (1953, on the north.
H-8083 (1953), on the north.
H-7750 (1948-50), on the east and southeast.
H-7823 (1949-50), on the south.
H-7185 (1947), on the south.
H-7954 (1952-53), on the southwest.
H-7953 (1952-53), on the west.
H-7175 (1947), on the northwest.
H-7955 (1952), on the northwest.

Surveys H-7955 and H-7958 have only been partially verified. The transfer of junctional soundings between these surveys and the present survey is, therefore, deferred pending their complete verification. A comparison of the junctional depths, however, indicates good agreement.

Because of dredging in the York River Channel in May 1952, the deeper channel depths in the vicinity of lat. 37°09', long. 76° 11.9', on the present survey supersede the lesser channel depths on H-7750 (1948-50).

5. Comparison with Prior Surveys

a.

H-364 (1852), 1:40,000	H-2870 (1906-07), 1:20,000
H-446 (1854), 1:40,000	H-3313 (1911), 1:40,000
H-2191 (1894), 1:20,000	H-4026 (1918), 1:20,000
H-2551 (1901), 1:60,000	H-4038 (1918), 1:40,000
H-2850 (1906), 1:20,000	H-4039 (1918-19), 1:30,000
H-2866 (1906), 1:20,000	H-4040 (1919), 1:20,000

These prior surveys covered the area of the present survey during the periods indicated. Except for the dredging in York River Channel, no important changes in bottom are noted. In some localities, present depths are 1 to 3 ft. less than

the prior depths. The close development on the present survey also reveals some bottom features and shoal spots not disclosed by the widely spaced prior sounding lines, such as the peaks of the sand ridges which occur in the vicinity of lat. 37°17.5', long. 76°14'. In general, however, there is remarkably close agreement between the prior and present depths.

b. F. E. No. 2 (1945), 1:10 & 1:40,000

This field examination is a development of a small area in the vicinity of lat. 37°09', long. 76°12'. The dredged channel on the present survey did not exist in 1945. Except for the deeper present-channel depths no appreciable changes in bottom are noted.

The present survey is adequate to supersede, within the common area, the prior surveys discussed in the preceding paragraphs.

c. H-7677 W.D. (1947-48), 1:40,000

This wire-drag survey covers detached areas within the limits of the present survey and was made to investigate the existence of reported wrecks or obstructions.

No conflicts are noted between the effective drag depths and depths on the present survey.

Critical information on this wire-drag survey has been carried forward to the present survey in the vicinity of lat. 37°19.4', long. 76°11.5'.

6. Comparison with Chart 494 (latest print date 8/22/55)
Chart 1222 (latest print date 2/6/56)

A. Hydrography

Charted hydrography originates principally with the present survey prior to verification and review. No important discrepancies are noted in the charted information. Attention, however, is directed to the uncharted 20-ft. shoal in lat. 37°14.5', long. 76°12.95', on the present survey.

Specific comment is made of the following charted information:

(1) The sunken wrecks (PD) charted in lat. 37°17.90', long. 76°11.43', and lat. 37°15.78', long. 76°11.25' originate with H. O. Notices to Mariners Nos. 18 (1948) and 2 (1950), respectively. Present development which

revealed no indications of the wrecks is considered inadequate to disprove their existence. Until investigated by wire drag, the wrecks should be retained on the charts.

(2) The wreck charted in lat. 37°15.52', long. 76°20.50', from H. O. Notice to Mariners 30 (1953) is from information subsequent to the present survey and, therefore, should be retained on the charts.

Except as noted in the preceding paragraphs, the present survey entirely supersedes the charted hydrography.

B. Aids to Navigation

Numerous buoys have been charted subsequent to the completion of the present survey. Several buoys have been discontinued and others have been changed in character or position since the present survey was made. In view of the widespread changes in the floating aids to navigation in this area, a detailed discussion of the changes would serve no useful purpose.

The charted aids to navigation adequately mark the features intended.

C. Dredged Channels

The charted controlling depth of 37 ft. (May 1952) in the York River Entrance Channel originates with the present survey which was made immediately subsequent to the dredging of this channel.

7. Condition of Survey

(a) The sounding records are complete; the Descriptive Report covers all matters of importance.

(b) The smooth plotting was accurately done. Minor corrections were made to several hundred soundings during verification in order to effect agreement between pole and fathometer soundings and in certain junctional areas.

(c) No description was furnished by the field party for hydrographic signal END in lat. 37°09', long. 76°15'. Falling in an authorized fish-trap area, the signal is presumed to be a banner on a fish stake similar to signal CLAM to the westward.

8. Comoliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

This is an excellent basic survey and no additional hydrography is required. However, wire-drag investigations of the wrecks charted in lat. 37°17.90', long. 76°11.43', and lat. 37°15.78', long. 76°11.25', would be desirable for disposition of these charted features.

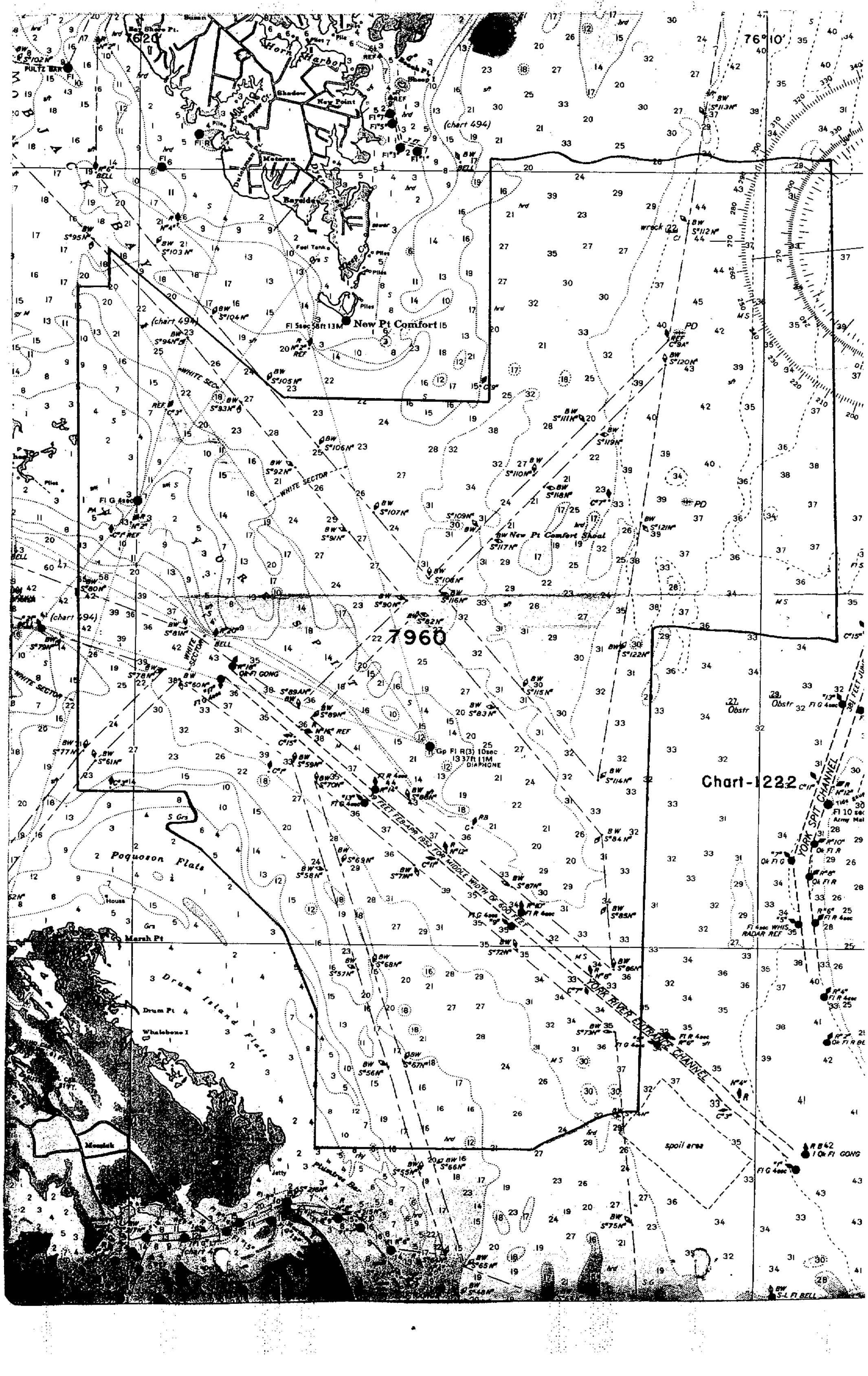
Examined and Approved:

Wallace A. Bruder
Wallace A. Bruder
Asst. Chief, Nautical Chart Branch

E. R. McCarthy
E. R. McCarthy
Chief, Chart Division

J. C. Bull
J. C. Bull
Chief, Hydrography Branch

Earl O. Heaton
Earl O. Heaton
Chief, Division of Coastal Surveys



76°10'
Horn Harbor
New Point
New Pt Comfort
(chart 494)
WHITE SECTOR
New Pt Comfort Shoal
7960
Chart-1222
YORK SPIT CHANNEL
YORK RIVER ENTRANCE CHANNEL
Poquoson Flats
Marsh Pt
Drum Island Flats
Drum Pt
Whalebone I
spoil area
Obstr
DIAPHONE
RADAR REF

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 8 January 1954

Division of Charts: R. H. Carstens

Plane of reference approved in
30 volumes of sounding records for

HYDROGRAPHIC SHEET 7960

Locality York River Approaches, 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.

U. S. GOVERNMENT PRINTING OFFICE 756675

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7960

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
11 Jan '54	Reconstr. 494	H. E. MacEwen	Before [redacted] Verification and Review
July 1954	1222	"	" " " " Partially
9 Nov 54	492	Earl M. Brogan	Before [redacted] Verification and Review Civil Surveys only
Oct '59	494	H. E. MacEwen	[redacted] After Verification and Review (Dwg #17)
11-10-59	562	R. E. Elkins	~~Before~~ After Verification and Review Fully applied - app in part thru cht 494 dwg 17.
5/3/61	492	H. Radden	~~Before~~ After Verification and Review Completely Applied
9/28/61	1222	Helmer	~~Before~~ After Verification and Review Fully app. thru chart 494 Dwg #17 in overlap. Remainder fully app.
8/24/70	78	J. McMillan	~~Before~~ After Verification and Review fully applied Thru cht 1222 Dwg #57.
10-2-85	12221 Prototype	J. Graham	~~Before~~ After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

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