8705

Diag. Cht. No. 77-3.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. CO-10-2-62 *Office No.* H-8705

LOCALITY

State Maryland - Virginia

General locality Potomac River

Locality Port Tobacco River and Nanjemoy Creek

19 62

CHIEF OF PARTY

D. G. Rushford

LIBRARY & ARCHIVES

DATE July 24, 1963

USCOMM-DC 5087

8705

MP

MP

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-8705

Field No. CO-10-2-62

State MARYLAND AND VIRGINIA

General locality Potomac River

Locality Port Tobacco River & Nanjemoy Creek

Scale 1:10,000 Date of survey 14 Aug. - 13 Oct., 1962

Instructions dated 23 April, 1959 and 15 February, 1962

Vessel USC&GS Cowie Launch 178 Skiff 750

Chief of party Cdr. D.G. Rushford

Surveyed by Lt.jg D. Seets, Ens. M.L. Geiger, Ens. G.R. Cichy

Soundings taken by fathometer, ~~[illegible]~~, hand lead, ~~[illegible]~~ and sounding pole

Fathograms scaled by Ship Personnel

Fathograms checked by Ship Personnel

Protracted by D.C. Calland (Norfolk Processing Office)

Soundings penciled by D.C. Calland " " "

Soundings in ~~[illegible]~~ feet at MLW ~~[illegible]~~ And are true depths

REMARKS:

Appd To Sht

U. S. GOVERNMENT PRINTING OFFICE 16—66520-1

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY

H - 8705 (Field No. CO-10-2-62)

SHIP COWIE

DEWEY G. RUSHFORD COMDG.

PROJECT OPR-409

1962

POTOMAC RIVER

A. PROJECT

The hydrographic survey was executed under original instructions (OPR-464) dated 23 April, 1959 and supplemental instructions dated 15 February, 1962.

B. AREA SURVEYED

The survey limits and the sheet layout are shown on the chart section that accompanies this report. The survey includes the Port Tobacco River and that portion of the Potomac River North of a line joining Lat; 38° 26' North and Long. 77° 00' 45'' West to Lat. 38° 24' 30'' North and Long. 77° 02' 30 ''West and North of a line from the above latter point along the 38° 24' 30'' parallel to its intersection with shore. That portion of the river Between Long. 77° 02' 30'' West, 77° 03' 00'', Lat. 38° 24' 30'' North and the Southern shore of the river at Mathias Point is also included in this survey. Nanjemoy creek, with a southern limit of Lat. 38° 24' 30'' North is also included in this survey through the use of an insert on the boat sheet. The Virginia bank of the river in the vicinity of Mathias Point is characterized by steep bluffs while the Maryland shore is flat rolling land. The submarine topography of the river off Mathias Point is characterized by steep banks cut out by strong tidal currents. Very heavy grass is found in Port Tobacco River and Nanjemoy Creek along the edges as shown on the photogrammetric manuscripts.

~~The prior survey with which this chart junctions is CO-10-5-61.~~

Contemporary surveys with which a junction was made are H-8704, (1962) (CO-10-1-62) on the Southeast and H-8706 (1962) (Co-10-3-62) on the Southwest and the South of Nanjemoy Creek.

C. SOUNDING VESSELS

All of the hydrography of this survey was accomplished by Launch 178 and Skiff 750 which were based from the ship Gowie. Launch 178 worked offshore in the Potomac River and used blue ink position numbers on the boat sheet. Skiff 750 did Nanjemoy Creek and Port Tobacco entirely as well as the inshore work in the Potomac and a little offshore work. Violet ink was used for the position numbers of work done by Skiff 750.

D. SOUNDING EQUIPMENT

All echo sounding was done with 808 type fathometers calibrated for 820 fathoms per second. Fathometer 69-S was used on Launch 178 and numbers 60, 164, and 120-S were used on Skiff 750. Fathometers were used in depthes of water from about 4 to 120 feet.

A 16 feet sounding pole was used by Skiff 750 in shoal and grassy areas from about one to fifteen feet.

The fathometer velocity corrections were calculated from bar checks taken whenever possible. Strong tidal currents made it difficult at times to get good bar checks. The corrections are adequate for the survey.

E. SMOOTH SHEET

The smooth sheet ~~will be~~ WAS plotted by the Norfolk ~~Hydrographic~~ PROCESSING Office.

F. CONTROL

Hydrography was primarily controlled by three point sextant fixes taken simultaneously on hydrographic signals and on natural objects. On certain inshore areas and small creeks some positions were determined by estimating the distance and direction from signals or natural objects, known as 'see boat sheet' positions.

The hydrographic signals were of three types; triangulation stations, topographic stations, and photo points. A complete list of signals stating how each was obtained accompanies this report.

Photogrammetric manuscripts T-10903, T-10904, T-10905, T-10906, T-10907, T-10908, and T-10909 were used for transfer of signals to the boat sheet.

The horizontal datum for the planimetric manuscripts, triangulation, and the boat sheet is the North American Datum of 1927.

Triangulation in the area of this sheet was done in 1928, 1934, 1942, and 1959 by the Coast and Geodetic Survey.

G. SHORELINE

The shoreline was transferred to this boat sheet from the cronoflex prints of the manuscripts as stated in section F of this report.

H. CROSSLINES

Crosslines were run on the sheet to the extent of about 6% . No major discrepancies were found. Many of the prominent shoal areas were cross-hatched with sounding lines on different days.

I. JUNCTIONS

Soundings from adjoining surveys are shown in red on the boat sheet. The junctions are in good agreement.

J. COMPARISON WITH PRIOR SURVEYS

Pre survey review items are shown on the boat sheet.

No pre-survey review items in area of this Sheet.

K. COMPARISON WITH THE CHART

Positive enlargements of charts 558 and 559 were used to transfer CHARTED soundings to the boat sheet. The soundings, in green, served as a means of continual comparison between charted soundings and the soundings that were taken in those areas.

L. ADEQUACY OF THE SURVEY

The survey is complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

As most of this chart covered inshore areas there were few aids to navigation encountered. Those aids to navigation on this sheet were unchanged.

N. STATISTICS

Launch 178	485 positions	66.7 nautical miles of sounding lines
Skiff 750	3665 positions	446.3 nautical miles of sounding lines
Total	4150 positions	513.0 nautical miles of sounding lines

Total area surveyed: 10.0 square miles.

One tide gage was located at Mathias Point, Virginia.

O. MISCELLANEOUS

None.

P. RECOMMENDATIONS

Special attention should be given to fish stakes which are in profusion in some areas and are a danger to navigation.

Q. REFERENCES TO REPORTS

Coast Pilot Report	30 November, 1962
Statistics Report	7 November, 1962

TIDE NOTE:

Sheet CO-10-2-62 is comprised of Nanjemoy creek and Port Tobacco River. The Nanjemoy Creek area (insert) is controlled by a tide gage located at (Smoot's Pier), Lat. 38° 21.83' North and Long. 77° 08.60' West. The rest of the sheet is controlled by a tide gage at Mathias Point, Lat. 38° 23.86' North and Long. 77° 03.32' West. The time meridian used was 60° West. Minor corrections were applied as they became necessary for the individual days. No other time correction was applied. Mean low water was 0.8 feet on the tide staff at Smoot's Pier and 2.0 feet on the tide staff at Mathias Point. Heights recorded on the marigram should be corrected for this amount.

Fathometer Corrections (cont.)
Fathometer 60
Skiff 750
Aug. 21 - Sept. 6; e,g,h,j,m days.

Fathometer Reading (ft.)	Fathometer Correction (ft.)
A Scale	
2.0 - 28.8	+0.2
28.8-----	0.0
B Scale	
40.0 - 50.0	-0.4
50.0 - 60.5	-0.2
60.5 - 70.0	0.0
70.0 - 80.0	+0.2
80.0 - 90.0	+0.4
90.0 - 99.8	+0.6
99.8 - 110.0	+0.8

Fathometer 60

Aug . 29; k day.

Fathometer Reading (ft.)	Fathometer Correction (ft.)
A Scale	
0.0 - 2.5	+0.4
2.5 - 5.7	+0.6
5.7 - 10.0	+0.8
10.0 - 15.6	+1.0
15.6 - 20.3	+1.2
20.3 - 25.3	+1.4
25.3 - 30.1	+1.6
30.1 - 35.0	+1.8
35.0 - 39.9	+2.0
39.9 - 44.7	+2.2

Fathometer Corrections (cont.)

Skiff 750

Fathometer 60

Sept.11; n day

Fathometer Reading (ft.) A Scale	Fathometer Correction (ft.)
2.1 - 3.2	-0.4
3.2 - 4.2	-0.2
4.2 - 5.2	-0.0
5.2 - 15.0	-0.2

Fathometer 164

Sept 29; u day.

Fathometer Reading (ft.) A Scale	Fathometer Correction (ft.)
2.0 - 19.0	0.0
19.0 - 35.2	-0.2
35.2 - 62.0	-0.4

Fathometer Corrections (cont.)

Skiff 750

Fathometer 120-S
Oct. 2; v day.

Fathometer Reading (ft.) A Scale	Fathometer Correction (ft.)
1.8 - 4.5	+0.2
4.5 - 7.2	0.0
7.2 - 10.0	-0.2
10.0 - 13.0	-0.4
13.0 - 15.6	-0.6
15.6 - 18.6	-0.8
18.6 - 21.3	-1.0
21.3 - 24.0	-1.2
24.0 - 27.0	-1.4
27.0 - 31.0	-1.6
31.0 - 35.9	-1.8
35.9 - 41.2	-2.0
41.2 47.8	-2.2

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

LAUNCH 178

Fathometer 69 - S

Aug. 14- Sept. 12; a,b,c,d days

Fathometer Reading (ft.)	Fathometer Correction (ft.)
A Scale	
0.0 - 22.0	-0.6
22.0 - 31.8	-0.8
31.8 - 40.6	-1.0
40.6 - 49.6	-1.2
49.6 - 58.6	-1.4
B Scale	-0.
40.0 - 90.0	+0.6
C Scale	
70.0 - 83.5	+1.8
83.5 - 88.0	+1.6
88.0 - 92.1	+1.4
92.1 - 96.7	+1.2
96.7 - 101.0	+1.0
101.0 - 105.4	+0.8
105.4 - 110.0	+0.6
110.0 - 114.4	+0.4
114.4 - 118.4	+0.2

LIST OF SIGNALS ON H - 8705 (CO - 10-2-62)

Name Used On Hydrographic Survey	Origin and Remarks
ABE #1	T - 10905
ABE #2	T - 10907
ACE	T - 10907
ADD	T - 10904
ADO	T - 10903
ALP	T - 10908
ANT	T - 10908
ART	T - 10905
ASK	T - 10905
AXE	T - 10905
BAG	T - 10908
BAR	T - 10904
BED	T - 10904
BIB	T - 10903
BOB	T - 10905
BUM	T - 10905
CAB	T - 10907
CAR	T - 10904
COD	T - 10903
CON	T - 10905
COO	T - 10908
COP	T - 10907
COW	T - 10908
CROSS	T- 10908, T - 10909
CUR	T - 10908
DAR	T - 10907

LIST OF SIGNALS (cont.)

DAW	T - 10908
DAY	T - 10904
DEB	T - 10905
DIM	T - 10904
DOC	T - 10907
DON	T - 10903
EGG	T - 10908
EGO	T - 10907
ELF	T - 10905
ELLA △	~~T - 10907~~ UPPER CEDAR PT. LT, 1959
EMO	T - 10908
ERA	T - 10905
EST	T - 10903
EVA	T - 10904
FEW	T - 10907
FIN #1	T - 10905 ✓
FIN #2	T - 10903 ✓
FOE	T - 10905
FOP	T - 10904
FRY	T - 10905
GAL	T - 10905
GAS	T - 10904
GEM	T - 10903
GET	T - 10904
GNAT	T - 10905
GUS #1	T - 10905 ✓
GUS #2	T - 10904 ✓

LIST OF SIGNALS (cont.)

HAG	T - 10903
HAP	T - 10905
HAT	T - 10907
HEM	T - 10903
HID	T - 10904
HOW	T - 10905
IVY	T - 10904
ION	T - 10904
JAP #2	T - 10904
JAP #1	T - 10905
JAY	T - 10907
JOY	T - 10904
JOE	T - 10905
JUT #2	T - 10908
JUT #1	T - 10907
KED	T - 10903
KID #2	T - 10907
KID #1	T - 10903
LAY	T - 10905
LAX	T - 10904
LEG	T - 10907
LEO	T - 10903
LET	T - 10905
LIP	T - 10908
LIZ #2	T - 10904
LIZ #1	T - 10905
LOW	T - 10907
LUB	T - 10908

LIST OF SIGNALS (cont.)

LUG	T - 10905
LUX	T - 10903
MAL	T - 10904
MAN	T - 10907
MAT △	~~T - 10908~~ MATHIAS PT. SHL. L.H., 1928
MAX	T - 10905
MET	T - 10907
MOP	T - 10905
MUM	T - 10907
NAT #2	T - 10908 ✓
NAT #1	T - 10903
NAY	T - 10905
NEW	T - 10905
NIP	T - 10907
NIT	T - 10903
NUT	T - 10907
NUX	T - 10905
OAK	T - 10904
OBI	T - 10905
OFF	T - 10905
OIL #2	T - 10908 ✓
OIL #1	T - 10907
OLD	T - 10905
ORA #2	T - 10904 ✓
ORA #1	T - 10905 ✓
OWL #2	T - 10908 5 ✓
OWL #1	T - 10904 ✓
PAR	T - 10907
PAD	T - 10907

LIST OF SIGNALS (cont.)

PAD	T - 10905
PAW	T - 10908
PEP	T - 10905
PET	T - 10905
PIN	T - 10903
PIX	T - 10907
POT #2	T - 10907 ✓
POT #3	T - 10908 ✓
POT #1	T - 10905 ✓
PRO	T - 10903
PUP	T - 10907
RAD △	~~T - 10907~~ BLOSSOM PT. RADIO TR., 1959
RAG #2	T - 10907 - S ✓
RAG #1	T - 10905 ✓
RAT #1	T - 10907 5 ✓
RAT #2	T - 10904 ✓
RIG	T - 10907 3
RIP	T - 10905
ROT	T - 10905
ROY	T - 10907
RUE	T - 10908
RUM #1	T - 10905 ✓
RUM #2	T - 10904 ✓
SAD	T - 10905
SAL	T - 10907
SAM #2	T - 10907
SAM #1	T - 10904 ✓
SAX	T - 10907

LIST OF SIGNALS (cont.)

SHE	T - 10907
SILO	T - 10905
SIP	T - 10903
SIR	T - 10907
SIS	T - 10908
SLY	T - 10905
SKI	T - 10905
SOL	T - 10904
SOP	T - 10907
SOW	T - 10904
SOX	T - 10905
STY #1	T - 10905
STY #2	T - 10903
SUB #2	T - 10903
SUB #3	T - 10909
SUB #1	T - 10905
SUE	T - 10907
TAP #2	T - 10908
TAP #1	T - 10905
TAN	T - 10907
TEX	T - 10905
TRY	T - 10907
TUB	T - 10905
USE	T - 10905
VAL	T - 10908
VIA	T - 10907
VIM	T - 10907
WAD	T - 10907

LIST OF SIGNALS (cont.)

WAR #1	T - 10905
WAR #2	T - 10907
WAS	T - 10905
WAX	T - 10905
WHY	T - 10907
WIN	T - 10905
WIT	T - 10904
WOO	T - 10903
YAK #1	T - 10905
YAK #2	T - 10903
YAM PIER END, 1959 (TOPO)	T - 10905
YES #1	T - 10903
YES #2	T - 10908
YET	T - 10907
ZIG #1	T - 10905
ZIG #2	T - 10905

FORM 1547
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8705

Name on Survey	A On Chart No. 559	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K BGN	
Balls Point	x									1
Benjy Gray Point	x									2
Blossom Point	x									3
Boot Creek	x									4
Burgess Creek	x	✓							x	5
Cedar Point Neck	x								x	6
Chapel Point	x									7
Deep Point	x									8
Fourth Point	x									9
Goose Creek	x								x	10
Hill Top Fork	x								x	11
Kings Creek	x									12
Nanjemoy Creek	x									13
Port Tobacco River	x	✓								14
Tanners Point	x	✓								15
Upper Cedar Point	x	✓							x	16
Warehouse Point	x	✓							x	17
Windmill Point	x									18
POTOMAC RIVER										19
MATHIAS POINT		✓								20
										21
										22
										23
										24
										25
										26
										27

George M. Case
Geographic Names Section
9 October 1963

CEH
1-23-78

RHC

FORM C&GS-712
(4-62)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

October 24, 1963

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
11 volumes of sounding records for

HYDROGRAPHIC SHEET 8705

Locality Port Tobacco River and Nanjemoy Creek, Potomac River

Chief of Party: D. G. Rushford, 1962

Plane of reference is mean low water, reading

2.0 ft. on tide staff at Mathias Point, Virginia

19.6 ft. below B. M. 1 (1962)

0.8 ft. on tide staff at Metompkin Point
5.6 ft. below B. M. 1 (1962)

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

Mathias Point . . 1.20 feet
Metompkin Point . 0.9 feet

Condition of records satisfactory except as noted below:

J. M. Symons
Chief, Tides and Currents Branch

USCOMM-DC 16543-P62

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8705 (Co-10-2-62)

GENERAL

Except for the discrepancies listed below, this appears to be an excellent basic survey. Soundings are in generally good agreement at crossings. The bottom is very lumpy in the lower bay at the entrance to Port Tobacco River and is soft mud with heavy grass accumulations, particularly near the shoreline, in the upper reaches and in Nanjemoy Creek.

SOUNDINGS

There are crossing discrepancies of from 1 to 2 feet in Nanjemoy Creek where pole soundings run shoaler than fathometer soundings between positions 2 - 18p, 90 - 104p and 51 - 59t, Skiff 750. The bottom in the area is silty and the definition is poor on the fathograms. FATHOMETER SDGS. RESCANNED IN SILT AREAS. MAJORITY OF DISCREPANCIES ELIMINATED.

POSITIONS

This office was unable to smooth plot positions 31 thru 37c, Skiff 750. These positions are supposed to locate piers at the Tobacco River Marina in the vicinity of Lat. 38-29.8' and Long. 77-01.6'. This omission appears to be of little significance as the piers are obviously very small in size.

CONTROL

While the (photo?-hydro) stations listed below do appear on the boat sheet they were not plotted on the smooth sheet as they were not shown on the cronarflex control compilations. All positions referenced on these stations are "See Boat Sheet" positions and they were transferred directly from the boat sheet.

Vicinity of Lat. 38-26.2' and Long. 77-09.1'

AUX HUX JUX MUX NUX RUX TUX UUX VUX WUX ZUX

Vicinity of Lat. 38-27.8' and Long. 77-05.1'

SUB MUL DID

Respectfully submitted,

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer

Norfolk, Va.
17 July 1963

Form 946

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8795

Records accompanying survey: Smooth sheets 1;

boat sheets 1; sounding vols. 11; wire drag vols. ;

(Boat sheet in 2 parts)

Descriptive Reports 1; graphic recorder envelopes 7;

special reports, etc. ~~2 Overlays (paper copy)~~

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

Number of positions on sheet		4150
Number of positions checked		311
Number of positions revised		0
Number of soundings revised (refers to depth only)		0
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	32 hrs
Junctions	Time	None
Verification of soundings from graphic record	Time	16 hrs
Special adjustments	Time	0

Verification by G. C. Chambers Total time 208 hrs Date 3/11/64

Reviewed by Dale E. Westbrook Time 53 hrs. Date 10/8/64

Inspected by

K. W. Wellman 36 hrs. 1-24-78

D. R. Engle 8 1-28-78

US COMM C&GS DC

H-8705

Information for Future Presurvey Reviews

Port Tobacco River seems to be silting at a relatively slow rate of 1 foot in 100 years.

The shoal off Windmill Point seems to be quite stable.

South of Windmill Point, the numerous oyster shell mounds are hard, stable, and sharp. It is thought that most of the features that exist in this area have been found, but any future survey should be alert to finding new ones. Several soundings carried forward to the present survey from the prior surveys should be verified or disproved on any future survey.

The Potomac River channel is shoaling rapidly at the rate of almost 1 foot in 5 years and probably will continue.

Little comparative information is available for Nanjemoy Creek. Caution should be exercised in a future survey of this creek to assure that the soundings do not conflict due to different measuring devices used where the bottom is composed of unconsolidated silt. On the present survey, the depth of water has been measured to the top of the silt.

Position Index		Bottom Change Index	Use Index	Resurvey Cycle
Lat.	Long.			
382	0771	4	4	25 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE SURVEYS DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8705 FIELD NO. CO 10-2-62

Maryland-Virginia, Potomac River, Port Tobacco River and Nanjemoy Creek

SURVEYED: August - October 1962

SCALE: 1:10,000 PROJECT NO.: OPR-409

SOUNDINGS: 808 Depth Recorders
16' Sounding Pole

CONTROL: Sextant Fixes on
Shore Signals

Chief of Party ..... D. G. Rushford
Surveyed by ..... D. Seets
..... M. L. Geiger
..... G. R. Cichy
Protracted by ..... D. C. Calland
Soundings Plotted by ..... D. C. Calland
Verified and Inked by ..... J. C. Chambers
Reviewed by ..... D. E. Westbrook
Date: October 8, 1964
Inspected by ..... K. W. Wellman

1. Description of the Area

This survey covers the Port Tobacco River and Nanjemoy Creek in Maryland and a portion of the Potomac River off Mathias Point in Virginia.

The Potomac River makes a sharp bend to the right to round Mathias Point. The river channel here is narrow and quite deep. North of the channel are shoal flats which extend across the mouth of the Port Tobacco River.

The west side of the entrance to the Port Tobacco River is studded with hard oyster shell mounds which rise from 1 to 3 feet above a mud bottom.

Nanjemoy Creek (inset A on the present survey) flows from the north and empties into the Potomac River to the west of the Port Tobacco River entrance. These two tributary streams are separated by Cedar Point Neck which is approximately 1 mile wide at its southern limits.

Much of Nanjemoy Creek is quite shallow and flat with general depths of 4 to 6 feet at MLW. The bottom is composed of soft mud, the top 1 or 2

feet of which is silt almost too thinly consolidated to be adequately recorded by a fathometer.

The upper reaches of Nanjemoy Creek are covered by insets B and C on this survey.

2. Control and Shoreline

The control is adequately described in section F of the Descriptive Report.

The shoreline originates with reviewed photogrammetric manuscripts T-10903 through T-10909 (1958-61). The mean high water line is shown for guidance only and, except for the revision shown in red discussed below, the true position is shown on the topographic surveys previously mentioned.

A small pier in latitude 38°25.89', longitude 77°03.79', signal SAL on the present survey, was apparently built subsequent to the date of T-10907 (1958-61) and has been shown on the survey in red ink.

3. Hydrography

a. Depths at crossings are in good agreement. A portion of m-day and n-day, skiff-750 fathograms, required rescanning to effect agreement between fathometer and pole soundings in Nanjemoy Creek because of the light trace made by the top layer of silt on the fathograms.

b. The usual depth curves are adequately delineated. The 3-foot depth curve was added to define the bottom configuration adequately.

The zero depth curve could not be completely defined because of the small tide range, shallow flats, and heavy grass growth.

c. The development of the bottom configuration and determination of least depths are considered adequate except that the shoals at the entrance to the Port Tobacco River and those bordering the Potomac River channel should have been more closely developed and probed for least depth. As an example, the 6-foot sounding obtained on a shoal in latitude 38°24.80', longitude 77°02.64' rises from surrounding depths of 15 to 20 feet. The line spacing was not subsequently reduced to less than 60 meters over the feature, and it was not investigated for least depth.

4. Condition of Survey

The field plotting, sounding records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual except for the following:

a. The same signal names were used for different signals several times on this survey. Two names, POT and SUB, were used three times.

b. Entries in the approval stamps in the sounding volumes were improperly inserted by the recorder rather than by the Chief of Party and Officer in Charge.

c. An approval sheet was not inserted into the Descriptive Report to certify that the Chief of Party had inspected and approved the records.

5. Junctions

Adequate junctions were effected with H-8706 (1962) on the south and west, and H-8704 (1962) on the east.

6. Comparison with Prior Surveys

H-738	(1861)	1:10,000	RECON.
H-813	(1862)	1:20,000	
H-2710	(1904)	1:10,000	

Taken together, these prior surveys constitute the prior coverage of the area of the present survey.

H-738 (1861) is nothing more than a sketchy reconnaissance across the Potomac River at Mathias Point and will not be discussed.

A comparison between H-813 (1862) and the present survey indicates that the Port Tobacco River north of Windmill Point is relatively stable. The surveys compare quite favorably in this area.

South of Windmill Point, the comparison shows some change in the bottom configuration, especially in the vicinity of the shoals immediately north of the Potomac River channel where present depths are as much as 16 feet deeper than prior depths. In one area of the Potomac River channel, however, shoaling of as much as 30 feet is noted.

A comparison with H-2710 (1904) indicates general silting of about 1 foot in the Port Tobacco River area.

The deepest portion of the Potomac River has shoaled about 5 to 12 feet, and other portions of the channel have shoaled about 3 to 5 feet.

Between Windmill Point and the Potomac River channel, the west side of the river is studded with oyster shell mounds which protrude 1 to 3 feet from the soft mud bottom. Most of the mounds shown on the prior surveys were

recovered on the present survey and some new ones were found. These mounds seem to be quite stable in position and least depth. The mounds are also relatively sharp and are easily missed by a regular system of sounding lines.

Because of the nature of these oyster shell mounds, several shoal soundings, which were not adequately verified or disproved, have been brought forward from the prior surveys to the present survey. These soundings serve both to supplement the information obtained on the present survey and to point up the additional dangers in the area.

Several bottom characteristics on oyster shell mounds have also been brought forward from the prior surveys to supplement those obtained on the present survey.

With the addition of the above soundings and bottom characteristics, the present survey is adequate to supersede the prior surveys within the common area.

7. Comparison with Chart 559, 5th Edition, Rev. November 26, 1962

a. Hydrography

Most of the charted hydrography in the area of the present survey originates with the previously discussed prior surveys which require no further consideration. The charted soundings in Nanjemoy Creek originate with Chart Letter 469 of 1946 from Lieutenant Commander Deily, USC&GS, and a U.S. Corps of Engineers survey of 1915 (Bp-16778).

Attention is directed to the following:

(1) The foul area charted in latitude 38°27.04', longitude 77°03.36' originates with T-10905 (1958-61). Soundings on the present survey discredit the foul area although thick grass exists in the vicinity. The foul area should be deleted from the chart in favor of the hydrographic information shown on the present survey.

(2) Several piers charted on Mathias Point (vicinity of latitude 38°24.00', longitude 77°02.50') are not shown on either T-10908 (1958-61) or the present survey. They originate with 1951 air photographs (Chart Letter 372 of 1952). These piers are relatively unimportant and probably no longer exist. Those not shown on the present survey should be deleted from the chart.

(3) The two small islets charted off Warehouse Point in the vicinity of latitude 38°29.73', longitude 77°01.38' originate with T-2635 (1902-03). They are not shown on either T-10905 (1958-61) or the present

survey. Soundings of 1 foot on the present survey in the general area indicate that the high water portions of these islets have probably eroded away. They should be deleted from the chart.

(4) The islet, called Fergusons Island, charted in the vicinity of latitude 38°29.29', longitude 77°01.39' is not shown on T-10905 (1958-61) or the present survey. General depths of 3 feet are shown in the area on the present survey; however, no lines were run across the old location of the islet. Thus, in recognition of the possibility that a shoal may sill exist in this location, a low water feature has been brought forward to the present survey using the position and configuration of the islet as shown on T-2635 (1902-03).

(5) The islet, called Wills Island, charted in the vicinity of latitude 38°28.92', longitude 77°01.53', is not shown on T-10905 (1958-61) or the present survey. The high water portion of the islet has probably eroded, leaving an area which bares at MLW as shown on the present survey. The islet should be deleted from the chart.

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

b. Aids to Navigation

The aids shown on the present survey are in substantial agreement with their charted positions and adequately mark the features intended.

8. Compliance with Instructions

The survey adequately complies with the project instructions except for the development of the area mentioned in part 3(c) of this review, and the investigation of the charted piers discussed in section 7a(2) of this review.

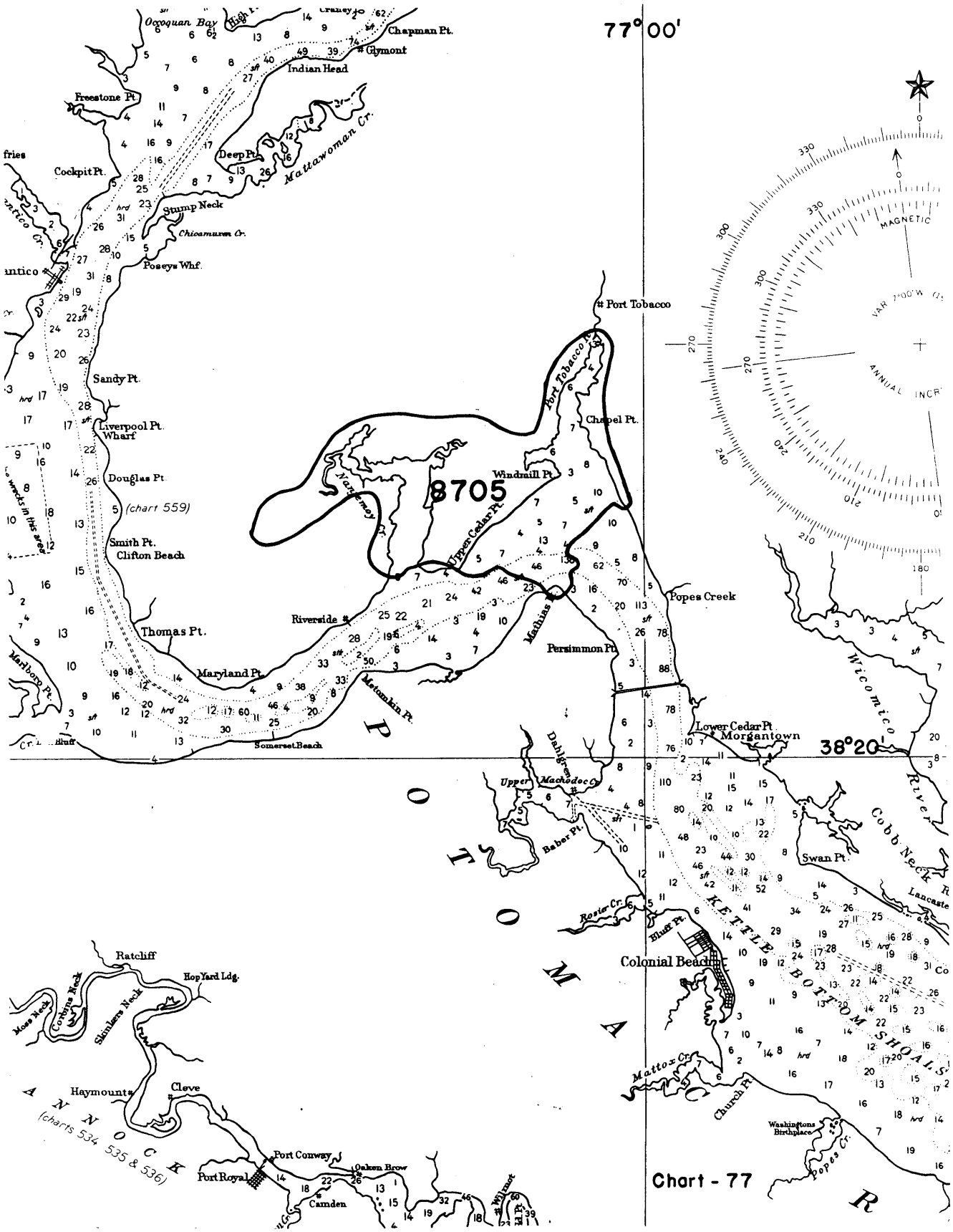
9. Additional Field Work

This survey is considered to be a good basic survey and no additional field work is recommended.

Examined and Approved:

R.H. Carstens
for Chief
Marine Surveys Division

R.B. Houston
Associate Director
Office of Marine Surveys
and Maps


77°00'
38°20'
8705
Occoquan Bay
Chapman Pt.
Glymont
Indian Head
Freestone Pt.
Deep Pt.
Mattawoman Cr.
Cockpit Pt.
Stump Neck
Chicamuxen Cr.
Poseys Whf.
Sandy Pt.
Liverpool Pt.
Wharf
Douglas Pt.
(chart 559)
Smith Pt.
Clifton Beach
Thomas Pt.
Maryland Pt.
Marlboro Pt.
Somerset Beach
Port Tobacco
Port Tobacco R.
Chapel Pt.
Windmill Pt.
Upper Cedar Pt.
Nanjemoy Cr.
Riverside
Mathias
Persimmon Pt.
Popes Creek
Wicomico River
Lower Cedar Pt.
Morgantown
Metomkin Pt.
Dahlgren
Upper Machodoc Cr.
Baber Pt.
Swan Pt.
Cobb Neck R.
Lancaste
Rosier Cr.
Bluff Pt.
KETTLE BOTTOM SHOALS
Colonial Beach
Mattox Cr.
Church Pt.
Washingtons Birthplace
Popes Cr.
POTOMAC R.
Ratcliff
Hop Yard Ldg.
Moss Neck
Cobourns Neck
Shinkers Neck
Haymounts
Cleve
ANNOCK
(charts 534 535 & 536)
Port Conway
Oaken Brow
Port Royal
Camden
Wilmot
Chart - 77
MAGNETIC
ANNUAL INCR

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8705

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
559	10-2-63	L. VanZant	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
77	8-15-63	S. Eaton	Drawing No. 19
			~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No.
559	2/18/65	J.H. Eaton	Full ~~Part Before~~ After Verification Review Before Inspection Signed Via
			Drawing No. 19
101-SC	4/13/65	F. B. Powers	Full ~~Part Before~~ After Verification Review Before Inspection Signed Via
			Drawing No.
559	4/9/79	Bill Wanless	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 26
77	4-17-79	M. PANAS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 39
101-SC	4-23-79	M. PANAS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 22 FULLY APPLIED THRU CHT #559 (101-SC PAGE "C")
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63