8191

Diag. Cht. No. 78-3.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. CO-2154 *Office No.* H-8191

LOCALITY

State Virginia

General locality Chesapeake Bay

Locality Off Stingray Point to Hughlett Point

19 54-55

CHIEF OF PARTY

K.S.Ulm, W.N.Martin, J.C.Bull and ~~D.A.Jones~~

LIBRARY & ARCHIVES

DATE October, 1957

8-1870-1 (1)

8191

Form 537
(Ed. June 1940)

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-8191

Field No. Co-2154

State VIRGINIA

General locality OFF STINGRAY POINT TO HUGHLETT POINT.

Locality CHESAPEAKE BAY

Scale 1:20,000 Date of survey 8/23/54 to 9/14/55

Instructions dated 2/5/53, 2/25/54 & 1/14/55

Vessel COWIE

Chief of party K.S. ULM, W.N. MARTIN, J.C. BULL & D.A. JONES

Surveyed by J.P. RANDALL, P. HERTELENDY, A.J. RAMEY & J.M. OGALVIE

Soundings taken by [illegible], graphic recorder, hand lead, [illegible]

Fathograms scaled by SHIP PERSONNEL

Fathograms checked by SHIP PERSONNEL

Protracted by A. KAUPA

Soundings penciled by A. KAUPA

Soundings in [illegible] feet at MLW [illegible] AND ARE TRUE DEPTHS.

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

U. S. GOVERNMENT PRINTING OFFICE 777032

DESCRIPTIVE REPORT
TO ACCOMPANY

HYDROGRAPHIC SURVEY H — FIELD NO. CO-2154

CHESAPEAKE BAY — STINGRAY POINT TO GREAT WICOMICO RIVER

USC&GS SHIP COWIE — SCALE 1:20,000

Cdr. K. S. Ulm
Cdr. W.N.Martin
Cdr. J. C. Bull
Lcdr. D.A.Jones
Commanding

A. Project:

Project CS-287, Supplemental Instructions dated 2/5/53, 2/25/54 and 1/14/55.

B. Survey Limits and Dates:

This survey covers the western half of Chesapeake Bay from Latitude 37° 34.0' to 37° 45.5' N, Longitude 76° 09.5' to 76° 16.5'W. Junctions with contemporary surveys are as follows: CO-2153 to the south, CO-1553 (H-8082-1953) CO-1454 (H-8083-1953) and CO-1554 (H-8084-1954) to the west, and CO-2155 (H-8282-1954) to the north.

Surveying operations began on 23 August 1954 and continued in progress until the end of the 1954 field season. The survey was resumed on 11 April 1955 and completed on 14 September 1955.

C. Vessel and Equipment:

The Ship COWIE, equipped with 808 type fathometer No. 114-S was used for the entire survey, 1954 season; No. 118S and 120S being used for the 1955 Season.

D. Tides and Currents:

The standard automatic tide gage at Kiptopeke Beach was used for obtaining tide reducers for this survey. Hourly heights were furnished by the Washington Office. Tide gage records and soundings are on Eastern Standard Time.

No current stations were occupied within the limits of this survey.

E. Smooth Sheet:

The smooth sheet will be constructed and plotted by the Norfolk District Processing Office.

F. Control Stations:

Triangulation Stations also see Processing Office list.

Buff - Bluff, 3, 1944
Dian - Old Tom's Light, 1944
Flee - Fleets Bay Entrance Light 1, 1954
Hugh - Hugh 3, 1954
Kil - Kilmarnock Municipal Water Tank, 1942
Mars - Marsh, 1944
Reek - Indian Creek Entrance Light 2, 1954
Sting - Stingray Point Light House, 1900
Wico - Great Wicomico River Light House, 1898
Wind - Windmill Point Light House 1898

Topographic Stations:

T-11051	Aft	T-11057	Ado	T-11059	Abe
T-11053	Glo		Ben		Fed
	Jap		Bib		Sag
	Van		Boa		Sal
T-11055	Ann		Egg		Sex
	Amy		Gag		War
	Bob		Hid		Win
	Dim		Ida		Yes
	Hug		Lay	T-11061	Rat
	Jar		Lux		
	Why		Sax		
	Yum		Sue		

G. Shoreline and Topography:

There was no shoreline transferred to the boat sheet. The topographic signals were scaled from aerial photograph manuscript T-11053 and plotted on the boat sheet.

Shoreline transferred to Smooth Sheet from T-11053 (52-54), T-11055 (52-54), T-11057 (52-53), T-11059 (52-53) and T-11061 (52-53).

H. Soundings:

Depths were measured with the 808 type fathometer. Bar checks were used for obtaining fathometer corrections. Junctions between the ship and launch are in good agreement and depth curves can be adequately drawn.

I. Control of Hydrography:

Sounding lines were controlled by three point fixes using natural objects or signals erected along the shoreline. Signals Hugh and Mars were lost during storms, which made it necessary to plot arcs using Wind, Kil and Aft, in order to obtain control for a small area from Latitude 37° 38' to 46', and from Longitude 76° 08' to 13'.

J. Adequacy of Survey:

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

K. Crosslines:

Crosslines are in good agreement and comprise approximately eight percent of the principal system of lines.

L-M. Comparison with Prior Surveys and Charts:

1. Item 16 (Preliminary Reviews), the 36 foot sounding in latitude 37° 34.52', longitude 76° 10.85' is a single 6 fathom sounding in 6-1/2 fathoms on H-285 (1851). Nothing less than 40 feet was obtained.

The 36 foot sounding in latitude 37° 34.32', longitude 76° 09.70' is a single 36 foot sounding in 40 feet depth on H-3313 (1911). Nothing less than 39 feet was obtained. O.K.

2. Item 13 (Preliminary Reviews). The 36 foot obstruction in latitude 37° 38.75', longitude 76° 10.85' was charted from FE5(1949). Nothing less than 43 feet was obtained, however, it is recommended that the 36 foot clearance be retained on the chart. see Review

The 38 foot obstruction in latitude 37° 40.48', longitude 76° 10.41' was charted from FE5(1949). A sounding of 49 feet, which is 10 feet less than the general depths in the area, was obtained, and it is recommended that the 38 foot clearance be retained on the chart. 40ft. hang depth obtained by F.E.N65. (1949). at the position of 49 see Review

3. Item 12 (Preliminary Reviews). The wreck, covered 75feet, in latitude 37° 42.85', longitude 76° 11.82' was charted from H. O. Notice 19, (1949). No wreck was found, however, it is recommended that this item be retained on the chart. Possible side echo from wreck at pos. 11 NA on line close to reported position. Wreck retained on the charts.

4. Item 11 (Preliminary Reviews). The 57 foot sounding in latitude 37° 43.08', longitude 76° 11.10' was charted from H-252(1849-51). An investigation revealed nothing less than 86 (30) feet in the immediate vicinity of this position, therefor, the shoal sounding is believed to be misplaced, which is in accordance with a notation on the Preliminary Reviews.

5. The charted 11 (11½ ft) foot sounding in latitude 37° 35.60', longitude 76° 13.38' is from H-2560. Nothing less than 13 feet was obtained. See Review carried forward.

6. The charted 36 foot sounding in latitude 37° 40.68', longitude 76° 13.24' is from H-252. Nothing less than 40 feet was obtained.

7. The charted 12 foot sounding in latitude 37° 42.37', longitude 76° 15.15' is from ~~H-2525~~. Nothing less than ~~16~~ 15 feet was obtained. This 12' sounding falls very close to two 12' soundings on the present survey.

8. The charted 38 foot sounding in latitude 37° 43.04', longitude 76° 10.24' is from H-252. Nothing less than 52 feet was obtained.

9. The 32 foot shoal in latitude 37° 41.45', longitude 76° 08.17' was reported on 10/18/54 to the Norfolk District Office. This spot was investigated by the COWIE on 10/25/54 and the results reported in a letter to the Director dated 11/3/54. A further investigation was made in 1955 on ~~H-2525~~ CO-2154, but the 32 foot depth was not verified. Not presently Charted — Discarded See letter 7/12/57 by Robert A. Earle CDR. USC&GS Comdg. Ship COWIE attached to Chart letter 523 (1957). See Chart letter 523 (1957)

10. A comparison with Chart 1223 (print date 10/25/54) and Chart 534 (print date 2/9/53) shows good agreement between the old and new surveys.

N. Dangers and Shoals:

No new dangers or shoals were found within the limits of this survey. Fish traps were found only in the areas designated for such purposes.

O. Coast Pilot Information:

The 1955 Coast Pilot Report is being prepared as a separate report.

P. Aids to Navigation: See Norfolk Processing Office list.

Form 567, Nonfloating Aids to Navigation, is being prepared as a separate report.

Floating Aids to Navigation, within the limits of this survey are as follows:

1. Rappahannock Spit Lighted Bell Buoy, latitude 37° 34.45', longitude 76° 10.38' in 41 feet of water.

	Buoy	Latitude	Longitude	
2.	S"9W",	37° 34.32'	76° 11.78'	in 31 feet of water.
3.	S"8W",	37 34.72	76 14.51	in 35 feet of water.
4.	S"8AW",	37 35.94	76 13.02	in 22 feet of water.
5.	S"10W",	37 37.00	76 11.69	in 39 feet of water.
6.	S"10AW",	37 38.50	76 11.61	in 38 feet of water.
7.	S"11W",	37 40.76	76 11.50	in 46 feet of water.
8.	S"12W",	37 41.32	76 11.49	in 52 feet of water.
9.	S"11AW",	37 40.54	76 14.12	in 41 feet of water.
10.	S"12AW",	37 41.02	76 14.20	in 42 feet of water.

11. Bluff Point Shoal Lighted Bell Buoy, latitude 37° 40.50', longitude 76° 16.24' in 27 feet of water.

12. Dividing Creek Outer Buoy S"2", latitude 37° 42.46, longitude 76° 16.27', in 20 feet of water.

13. C"12DW", latitude 37° 44.15', longitude 76° 11.81' (80'), in 90 (92) feet of water.

Q. Landmarks for Charts:

Form 567, Landmarks, is being prepared as a separate report.

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

R. Geographic Names:

Geographic names as shown on the charts of this area are adequate, and no additional names are recommended.

U-Y. Miscellaneous:

Fathometer corrections for the 1954 season were obtained by averaging all bar checks. For the 1955 season, all bar checks were averaged according to the fathometer used.

Z. Tabulation of Applicable Data:

A list of signals is attached to Vol I of the sounding records.

A tabulation of other data is included as part of this report.

Respectfully submitted,

Albert J. Ramey

Albert J. Ramey
Lieut. (j.g.) USC&GS

Approved and forwarded:

for

Kenneth S. Ulm
Commander, USC&GS
Commanding Ship COWIE

TIDE NOTE

Time did not agree with hours work was being done - see N/O Tide Notes H-8191 H L/P

Tide reducers for the 1954 work on Sheet CO-2154 were computed from the Kiptopeke Beach tide gage. A range factor of 0.48 and a time correction of plus 2 hours, 50 minutes was used.

A portable automatic tide gage was maintained at the Great Wicomico River Lighthouse throughout the entire 1955 period of this survey. A time correction of minus 45 minutes and no correction for range was used. ✓

The hourly heights were scaled from the marigrams and the tide curves were plotted by personnel of the Ship COWIE.

Statistics:

Ship COWIE:

Vol. No.	Date	Day Letter	No. of Pos.	Statute Miles
I	8/23/54	A	115	41.5
I	8/30/54	B	127	45.8
II	8/31/54	C	204	69.0
II	9/3/54	D	12	4.0
III	9/13/54	E	102	34.2
III	9/16/54	F	170	51.4
IV	9/16/54	F	9	3.6
IV	9/17/54	G	29	11.0
IV	9/20/54	H	100	35.8
IV	9/21/54	J	67	24.4
IV	9/23/54	K	36	14.2
V	9/23/54	K	165	58.3
V	9/24/54	L	35	13.1
V	9/27/54	M	64	21.6
VI	9/27/54	M	27	8.6
VI	9/29/54	N	66	18.2
VI	9/30/54	P	165	66.5
VII	9/30/54	P	3	0.8
VII	10/1/54	Q	91	32.2
VII	10/4/54	R	92	31.4
VII	10/8/54	S	49	17.0
VIII	10/8/54	S	26	9.3
VIII	10/11/54	T	112	39.7
VIII	10/13/54	U	122	38.6
IX	10/13/54	U	21	7.7
IX	10/14/54	V	131	42.8
IX	10/18/54	W	62	23.0
X	10/21/54	X	132	44.9
X	10/22/54	Y	99	32.7
XI	10/25/54	Z	47	15.4
XI	10/26/54	AA	216	63.9
XII	10/27/54	BA	173	56.0
XIII	4/11/55	CA	18	7.8
XIII	4/15/55	DA	27	11.9
XIII	5/2/55	EA	23	10.7
XIII	5/3/55	FA	66	27.3
XIII	5/6/55	GA	66	24.6
XIV	5/9/55	HA	39	12.1
XIV	5/16/55	JA	43	12.3
XIV	5/20/55	KA	39	13.7
XIV	5/23/55	LA	65	20.4
XIV	5/27/55	MA	3	0.7
XIV	6/3/55	NA	43	13.5

(Continued)

Vol. No.	Date	Day Letter	No. of Pos.	Statute Miles
XV	6/6/55	PA	206	46.7
XV	6/7/55	QA	64	15.2
XVI	6/7/55	QA	6	1.4
XVI	6/13/55	RA	66	15.8
XVI	6/17/55	SA	64	15.5
XVI	6/20/55	TA	50	10.2
XVI	6/21/55	UA	3	0.7
XVII	7/5/55	VA	8	2.3
XVII	7/11/55	WA	9	2.3
			3,777	1,241.7

Area: 17.92 Square Statute Miles.

FATHOMETER CORRECTIONS
Sheet - 2154 - Ship COWIE
1955 Season

Fathometer No. 120S, 4 April to 7 June (incl.)

A Scale

11.5	17	+0.4
17.5	24.5	+0.2
25	55	0.0

B Scale

35	67	-1.0
67.5	90	-1.5

C Scale

70	105	-1.5
105.5	113.5	-2.0

Fathometer No. 120S, 13 June to 1 July (incl.)

A Scale

10	16	+0.2
16.5	22.5	0.0
23	27.5	-0.2
28	31.5	-0.4
32	35	-0.6
35.5	38.5	-0.8
39	41.5	-1.0
42	45	-1.2
45.5	48.5	-1.4
49	52	-1.6
52.5	55	-1.8

B Scale

35	39.5	0.0
40	45.5	-0.5
46	56	-1.0
56.5	73	-1.5
73.5	79.5	-2.0
80	84	-2.5
84.5	90	-3.0

C Scale

70	76.5	-0.5
77	82.5	-1.50
83	89.5	-1.5
90	104.5	-2.0
105	109.5	-2.5
110	114.5	-3.0

Fathometer No. 120S 5 July to 11 July (incl.)

A Scale

15	27.5	+0.6
28	55	+0.4

B Scale

35	67	0.0
67.5	81	-0.5
81.5	90	0.0

C Scale

70	75	-1.0
75.5	105	-0.5
105.5	115	0.0

Fathometer No. 118S

A Scale

15	17	+1.0
17.5	36.5	+0.8
37	42	+0.6
42.5	47.5	+0.4
48	52.5	+0.2
53	55	0.0

B Scale

35	38	+0.5
38.5	76	+1.0
76.5	90	+1.5

C Scale

70	77.5	+1.5
78	125	+2.0

FATHOMETER CORRECTIONS
Sheet - 2154 - Ship COWIE
1954 Season

Fathometer No. 114-S

A Scale

12	30	+0.2
30.5	55	0.0

B Scale

Plus 2.0' throughout

C. Scale

Plus 4.0' throughout

NORFOLK PROCESSING OFFICE
LIST OF SIGNALS
H-8191

TRIANGULATION STATIONS

BUFF	BLUFF 3, 1944-52
MARS	MARSH, 1944-52
DIAN	OLD TOMS LIGHT, 1944
HUGH	HUGH 3, 1954
KIL	KILMARNOCK, MUNICIPAL WATER TANK, 1942-52
REEK	INDIAN CREEK ENTRANCE LIGHT NO. 2, 1954
STING	STINGRAY POINT LIGHTHOUSE, 1900-32
WICO	GREAT WICOMICO RIVER LIGHTHOUSE, 1898-1938
WIND	WINDMILL POINT LIGHTHOUSE, 1898-1944
AFT	REEDVILLE, MUNICIPAL WATER TANK, 1955
FLEE	FLEETS BAY ENTRANCE, LIGHT 1, 1954

TOPOGRAPHIC STATIONS

SOURCE T-11053

Glo Jap

SOURCE T-11055

Ann Amy Bob Dim Hug Jar Why Yum

SOURCE T-11057

Ado Ben Bib BOA, 1944 Egg Fed Gag Hid Ida Lay
Lux Sax Sex Sue

SOURCE T-11059

Abe Sal War Yes

SOURCE T-11061

Rat

NORFOLK PROCESSING OFFICE
FLOATING AIDS TO NAVIGATION
H-8191

BUOY	LATITUDE	LONGITUDE	DEPTH	POS. NO.	DATE
Rappahannock Spit Lighted Bell Buoy	37-34.44	76-10.35	~~40'~~ 39'	48V	10/14/54
BLUFF Point Sheal Lighted Bell Buoy	37-40.52	76-16.22	28'	127PA	6/ 6/55
Dividing Creek Outer Buoy 2	37-42.46	76-16.27	19'	18Z	10/25/54
C "12DW"	37-44.15	76-11.80	92'	60N	9/29/54
S "9W"	37-34.29	76-11.78	33'	30PA	6/6/55
S "8W"	37-34.74	76-14.50	34'	1Z	10/25/54
S "8AW"	37-35.94	76-13.01	22'	2Z	10/25/54
S "10W"	37-37.01	76-11.69	40'	26KA	5/20/55
S "10AW"	37-38.51	76-11.61	38'	36SA	6/17/55
S "11W"	37-40.81	76-11.49	46'	58QA	6/ 7/55
S "12W"	37-41.31	76-11.48	51'	70U	10/13/54
S "11AW"	37-40.54	76-14.13	39'	202AA	10/26/54
S "12AW"	37-41.02	76-14.20	41'	203AA	10/26/54

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8191 (Field No. Co-2154)

GENERAL

This appears to be an excellent basic survey and no unusual conditions were encountered during the smooth plot.

CONTROL

The smooth sheet projection was originally constructed on 42" paper and stations KIL and AFT were plotted on dog ears so an extension protractor could be used instead of circles for plotting the 300 positions using these stations. The sheet was then cut to it's present size. KIL and AFT may be re-established by swinging arcs on the distances from projection intersections as indicated.

This method was used as it is believed to be more accurate for re-establishing distant stations than the conventional arrows.

CORRECTIONS

Tide corrections for the 1954 season were compiled from hourly heights requested from the Washington Office and entered and checked by this Office.

Velocity corrections forethe 1954 season were entered and checked by this Office.

Norfolk, Va.
10 October 1957

Respectfully submitted,
Hugh L. Proffitt
Cartographer.

TIDE NOTE
H-8191

Tide reducers were entered in the sounding volumes, for the 1954 season only, by the Norfolk Processing Office from hourly heights requested from the Washington Office with time and height corrections applied. The hourly heights were requested, giving the standard gage at Kiptopeke Beach as a reference station as directed in the body of the descriptive report. Al-though the reference station was not mentioned in the data recieved from Washington, it is assumed the Kiptopeke gage was used.

R H C

Form 712
(11-30-55)

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens 15 November 1957

Plane of reference approved in
17 volumes of sounding records for

HYDROGRAPHIC SHEET 8191

Locality Cheasapeake Bay, Va.

Chief of Party: K. S. Ulm, W. N. Martin, J.C. Bull and D.A. Jones in 1954-1955

Plane of reference is mean low water, reading

2.9 ft. on tide staff ~~at~~ of 1951 at Kiptopeke Beach

11.3 ft. below B.M. 1 (1951)

1.9 ft. on tide staff at Great Wicomico River Lighthouse
14.2 ft. below B. M. 1 (1898)

Height of mean high water above plane of reference at the working grounds is 1.1 feet.

Condition of records satisfactory except as noted below:

William Shofner
Signature
Chief, Tides Branch

Comm-DC 34330

GEOGRAPHIC NAMES

Survey No. H-8191

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Virginia			(title only)						BGN	1
Chesapeake Bay			"	"					"	2
Great Wicomico River			"	"					"	3
Stingray Point										4
Windmill Point										5
Bluff Point										6
Dameron Marsh									BGN	7
Hughlett Point Note: this name approved in DR. H-8189(1954)				Names approved 10-22-57 L. Heck L.S.S. 7/15/59						8
										9
Tide Station off sheet:										10
Kiptopeke Beach										11
										12
										13
										14
										15
										16
										17
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										19
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										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8191..

Records accompanying survey:

Boat sheets ..1..; sounding vols. .17..; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 16-Envelopes

special reports, etc. .1-Smooth sheet, 1-Descriptive report,...

and 1-Overlay, circle sheet.....

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

Number of positions on sheet		3777
Number of positions checked		370
Number of positions revised		2
Number of soundings revised (refers to depth only)		30
Number of soundings erroneously spaced		5
Number of signals erroneously plotted or transferred		-
Topographic details	Time	2 Hr
Junctions	Time	24 Hrs
Verification of soundings from graphic record	Time	24 Hrs

Verification by Robert W. Lesher Total time 221 Date Nov 19 1958

Reviewed by [signature] Time 60 Date 3 Sept 1959

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION--NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8191 FIELD NO. CO-2154

Virginia, Chesapeake Bay, Off Stingray Point to Hughlett Point

Surveyed Aug.-Oct. 1954; Apr.-Sept. 1955 Scale 1:20,000

Project No. CS-287

Soundings: 808 Depth Recorder Control: Sextant fixes on shore signals

Chief of Party -------- K. S. Ulm, W. N. Martin, J. C. Bull, and D. A. Jones
Surveyed by ---------- J. P. Randall, P. Hertelendy, A. J. Ramey, and J. M. Ogalvie
Protracted by --------- A. Kaupa
Soundings plotted by -- A. Kaupa
Verified and inked by - R. H. Lesher
Reviewed by ---------- L. S. Straw Date: 9/3/59
Inspected by --------- R. H. Carstens

1. Shoreline and Control

The shoreline originates with reviewed air-topographic surveys T-11053 (1952-54); T-11055 (1952-54); T-11057 (1952-53); T-11059 (1952-53); and T-11061 (1952-53).

2. Sounding Line Crossings

The crosslines are adequate and the depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The 36-foot curve is shown in addition to the standard curves since it is already charted in these waters.

Throughout the area of this survey the mud and sand bottom is smooth, and slopes gently offshore from Rappahannock Spit and Fleets Bay to the deep natural channel of Chesapeake Bay.

4. Junctions with Contemporary Surveys

Adequate functions were effected with H-8083 (1953) on the south; H-8082 (1953) on the southwest; and H-8188 (1954) on the west.

The junction of H-8189 (1954) also on the west appears to be adequate but will be finally considered in the Addendum to the Review of that survey.

The junctions with H-8280 (1955) on the north and H-8407 (1956) not yet registered, on the east, will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys.

H-252 (1849-51)	1:40,000
H-285 (1851)	1:40,000

a. These early surveys, within the area of the present survey, contain about one fifth as many soundings. Generally, differences in depths do not exceed 1 to 2 feet. The shoal in lat. 37°43.2', long. 76°15.74' with depths of 12 to 13 feet as shown on H-252 (1849-51) has least depths of 10 and 11 feet on the present survey. The limits of this shoal appear more irregular on the present work because of the closer development. No appreciable change in depths are noted in depths greater than 18 feet, however, the Rappahannock Spit has shoaled on an average of 1 foot and extended southeastward about 200 meters (lat. 37°34.9', long. 76°11.72').

The western limits of the present survey is from one to one and a half miles from shore, but it is important to note that in consonance with the general shoaling of about a foot in depths less than 18 feet, the shoreline from Hughlett Point to Windmill Point has eroded from 30 to 150 meters.

The prior soundings in the deep water from lat. 37°40.70', long. 76°10.60' to the northern extent of the present survey are within 1 or 2 feet of the present survey depths except in the vicinity of lat. 37°42.2, long 76°11.57' where some soundings are up to 28 feet shoaler or 18 feet deeper than the depths on the present survey. Several sounding lines in this area on the old surveys are undoubtedly erroneously positioned.

The present survey supersedes these old surveys within the common area.

b.

H-2500 (1900-01)	1:60,000	H-3313(1911)	1:40,000
H-2560 (1901)	1:20,000	H-4918(1929)	1:40,000
H-2813 (1906)	1:20,000	FE No. 5(1949)	1:80,000
H-3002 (1907-08)	1:20,000		

The surveys from 1900 to 1929 show that the same trend of natural changes obtain as those discussed in the preceding paragraph.

A 11½ ft. sounding originating with H-2560 (1901) in lat. 37°35.6' long. 76°13.37' falls in present depths of 13 feet on a generally smooth hard sand bottom. It is possible that a small lump may not be detected by the present sounding lines spaced 50 meters apart, therefore, the 11½ foot sounding on the ridge line of the Rappahannock Spit is carried forward.

There are no conflicts in depths between the areas dragged by F.E. No. 5 (1949) and the present survey. A 49 foot sounding in lat. 37°40.48', long. 76°10.41' in general depths of 60 feet on the present survey falls on an obstruction located by F.E. No. 5 (1949). The drag hung at 40 feet and was cleared at 38 feet. The 40-foot (hang depth) sounding is carried forward. Another obstruction located in lat. 37°38.75', long. 76°10.85' by F.E. No. 5 (1949) was hung at 37 feet and was cleared by 36 feet in general present depths of 42 feet. The 37 foot (hang depth) sounding is carried forward.

The present survey with the indicated additions from the prior surveys and Field Examination No. 5 (1949) Wire Drag, supersedes the prior hydrographic surveys within the common area.

6. Comparison with Chart 534 (latest print 5/4/59)
Chart 1223 (latest print 6/22/59)

A. Hydrography

(1) The charted hydrography originates basically with the prior surveys discussed in paragraph 5 supplemented by information from other sources, and critical information from the present survey applied before verification and review.

(2) The Descriptive Report states that the wreck, covered 75 feet, reported to lie in lat. 37°42.85', long. 76°11.82' (H.O. Notice to Mariners No. 19 1949) was not found and recommends its retention on the charts. It is noted that in general depths of 66 to 92 ft. in this immediate vicinity side echoes of 80 and 86 ft. possibly from the wreck, were obtained near the charted position of the wreck. The wreck should be retained on the charts.

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

B. Aids to Navigation

The survey positions of aids to navigation are in satisfactory agreement with the charted positions and adequately mark the features intended.

7. Condition of Survey

a. The sounding records and the Descriptive Report are complete and comprehensive.

b. The smooth plotting was well done.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

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

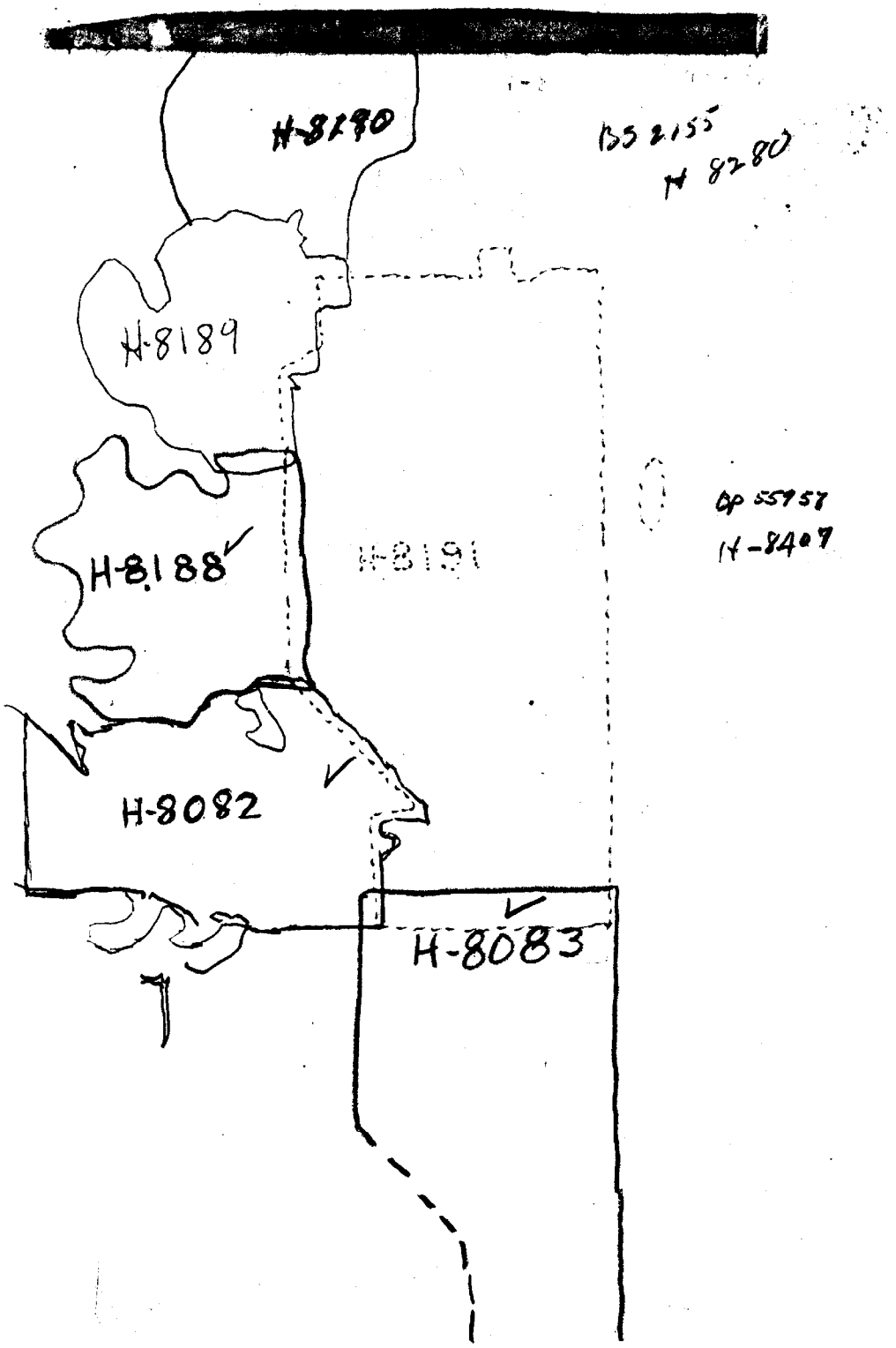
Examined and Approved:

Max G. Ricketts
Chief, Nautical Chart Branch

Ernest B. Lewey
Chief, Division of Charts

Lorin F. Woodcock
Chief, Hydrography Branch

Samuel B. Grenell
Chief, Division of Coastal Surveys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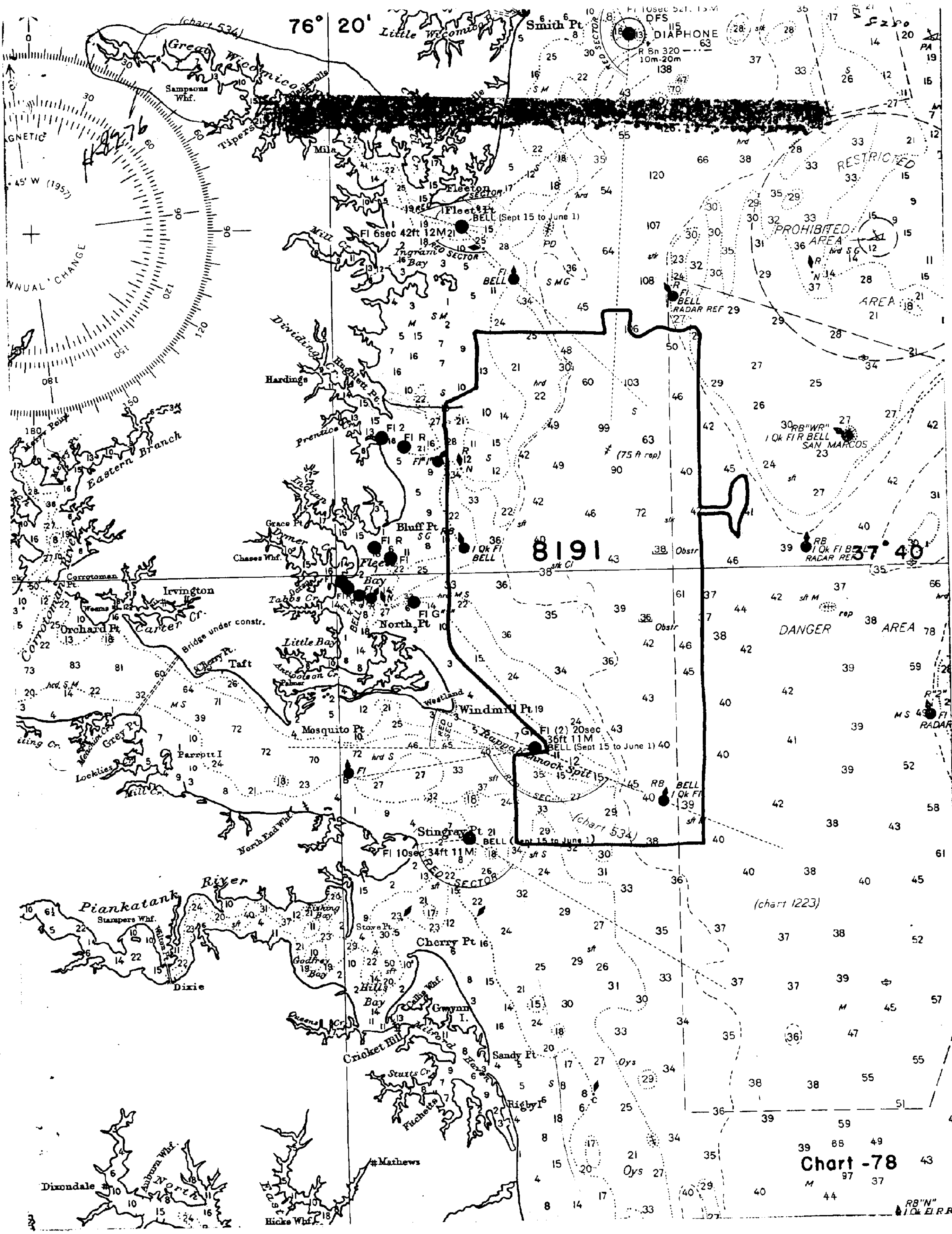
76° 20'
Smith Pt
DIAPHONE
Great Wicomico
Little Wicomico
Sampsons Whf.
Tipers
Fleeton
Fleet Pt
Ingram Bay
Mill Cr.
Dividing Cr.
Hardings
Prentice Cr.
Eastern Branch
Indian Cr.
Bluff Pt
Grace Pt
Dymer Cr.
Chases Whf.
Fleets Bay
Tabbs Cr.
North Pt
Irvington
Carter Cr.
Corrotoman Pt.
Orchard Pt
Weems
Bridge under constr.
Taft
Little Bay
Antipoison Cr.
Windmill Pt
Westland
Mosquito Pt
Grey Pt
Parrott I
Locklies Cr.
Mill Cr.
North End Whf.
Rappahannock Spit
Stingray Pt
RED SECTOR
Piankatank River
Stampers Whf.
Dixie
Fishing Bay
Godfrey Bay
Cherry Pt
Hills Bay
Gwynn I.
Queens Cr.
Cricket Hill
Milford Haven
Sandy Pt
Stutts Cr.
Rigby I
Fitchetts
Mathews
Dixondale
Auburn Whf.
North
East
Hicks Whf.
8191
37° 40'
PROHIBITED AREA
RESTRICTED AREA
DANGER AREA
SAN MARCOS
RADAR REF
(chart 534)
(chart 1223)
Chart -78

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8191

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10-18-57	1223	R. K. deLaunder	Part. applied. Before ~~After~~ Verification and Review. Added two 12 ft adys off Felicia I.
			Before After Verification and Review
11/1/57	78	S A McGann	Before ~~After~~ Verification and Review Exam. only. No correction at this time
9/23/59	534	J. H. Eaton	~~Before~~ After Verification and Review Fully applied
2/4/60	563	W. Evans Jr	~~Before~~ After Verification and Review Fully applied.
4-29-60	1223	R. K. deLaunder	~~Before~~ After Verification and Review Item cbt 534 563
1/4/61	78	J. H. Eaton	~~Before~~ After Verification and Review Item cbt 1223
			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.