

9454

Diag. Cht. No. 77-3.

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC

Field No. AHP-10-4-74

Office No. H-9454

LOCALITY

State MARYLAND

General Locality CHESAPEAKE BAY

Locality ... LOWER PORTION GUNPOWDER RIVER

AND VICINITY

1974

CHIEF OF PARTY

F. T. SMITH

LIBRARY & ARCHIVES

DATE 10/16/75

☆U.S. GOVERNMENT PRINTING OFFICE: 1974-763-098

9454

Charts
549
1226

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HYDROGRAPHIC TITLE SHEET

H-9454

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

AHP-10-4-74

State Maryland

General locality Chesapeake Bay
Gunpowder Neck

Locality Lower Portion Gunpowder River and Vicinity
Southern Half Gunpowder River, Saltpeter and Dundee Creek

Scale 1:10,000 Date of survey June thru August 1974

Instructions dated 14 December 1973 Project No. OPR-510-AHP-74

Vessel Launch 1260, 1270, Skiff 570

Chief of party Lt. Cdr. F. T. Smith, NOAA

Surveyed by Lt. (jg) W. E. George, NOAA OIC Launch 1260

Soundings taken by echo sounder, hand lead, pole R. Snow, M. Robinett, S. Weisner

Graphic record scaled by W. Piner, L. Gilden, M. Robinett, R. Snow

Graphic record checked by W. E. George, W. Piner, M. Robinett

Automated plot
Protracted by AMC - Calcomp Plotter 618 Automated plot by AMC

Verification by B. J. Stephenson

Soundings in ~~fathoms~~ feet at MLW ~~XXXXX~~ All times are GMT

REMARKS:

Applied to stda 12/29/75
ESB

AHP-10-3-74

H-9453



T.G.

Bird River

AHP-10-4-74

H-9454

T.S.

39° 20'

76° 20'

SHEET LAYOUT

CPR-51Q

AHP-1AUNCH 1260

REF: C&GS 1226

T.G.
 Ⓧ Tolchester, Md.
 Lat. 39° 12.9'
 Long. 76° 14.7'

(2)

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9454
AHP 10-4-74
OPR-510 GUNPOWDER RIVER LOWER HALF, MARYLAND

A. Project

The project number of this survey is OPR-510-AHP-74. The date of the original instructions is 14 December 1973. No supplemental instructions were issued.

B. Area Surveyed

The area covered by this survey is the southern half of the Gunpowder River, the entire area of Saltpeter and Dundee Creek and the navigable tributaries of these areas.

The general locality of the survey is on the northwest bank of the Chesapeake Bay to the west of Gunpowder Neck, Maryland.

The approximate upper limits of the survey is south of a line drawn between the following points on the Gunpowder River:

Lat. $39^{\circ} 21' 00''$ ✓
Long. $76^{\circ} 21' 00''$ ✓

Lat. $39^{\circ} 21' 30''$ ✓
Long. $76^{\circ} 18' 30''$ ✓

The approximate lower limits of the survey is a line drawn by connecting the following points:

Lat. $39^{\circ} 18.3'$ ✓
Long. $76^{\circ} 20.2'$ ✓

Lat. $39^{\circ} 18.0'$ ✓
Long. $76^{\circ} 21.1'$ ✓

Lat. $39^{\circ} 17.2'$ ✓
Long. $76^{\circ} 20.8'$ ✓

Lat. $39^{\circ} 17.2'$ ✓
Long. $76^{\circ} 17.9'$ ✓

Lat. $39^{\circ} 18.1'$ ✓
Long. $76^{\circ} 17.9'$ ✓

This survey was begun on 5 July 1974 and was completed on 28 August 1974.

This survey makes ^{overlaps} ~~junctions~~ with the following prior surveys:

No. 2399(1:20,000) 1898
No. 2335(1:20,000) 1897
No. 6373(1:10,000) 1938

This survey junctions to the north with the following contemporary survey:

H-94⁵~~93~~ (1:10,000) 1974

G. Sounding Vessels

The following survey vessels were used to obtain soundings:

Vessel	Color to identify work
Launch 1260	Blue
Launch 1270	Violet
Skiff 570	Green

D. Sounding Equipment

Raytheon Fathometer No. 1888, DE-723, was used on Launch 1260 for all depths greater than three feet. No pole soundings were taken, but frequent lead line comparisons were taken to verify the bottom trace due to heavy grass in some areas of the survey.

Raytheon Fathometer No. 927, DE-723, was used on Launch 1270 for all depths greater than three feet. No pole soundings were taken, but frequent lead line comparisons were taken to verify the bottom trace due to heavy grass in some areas of the survey.

Raytheon Fathometer No. 1884, DE-723, was used on Skiff 570 for all depths greater than three feet. Pole soundings were taken in all depths less than three feet. A seven (7) foot pole was used.

The maximum depth of the soundings was 32 feet in one isolated place. The general depth range was from 6 to 20 feet.

Echo Sounder corrections were determined from daily bar checks and lead line comparisons. No trouble was encountered with the sounding equipment.

The sounding pole was measured with a steel tape before and after the completion of the survey. No change was observed in the pole or its marks.

All fathograms were checked by the hydrographer and found to be adequate.

All fathograms were check scanned by trained personnel for peaks, deeps, strays, and initial error on the trace.

Digital phase checks were also performed as frequently, as possible. Frequent F-Scale checks were made routinely as the hydrography progressed.

Methods of computing corrections to depth will be discussed in the Report on Corrections to Echo Sounder for this project.

E. Smooth Sheet

The smooth sheet will be prepared by Atlantic Marine Center's Processing Division from punched tapes made by party personnel.

F. Control

Electronic control (Del Norte), Visual, and "See Boatsheet" methods were used to obtain all fixes during this survey. When "See Boatsheet" fixes were obtained, these fixes were given dummy positions for logging and computer plotting.

A list of positions accompanies this report which was provided by Photo Party 61. All methods used by Photo Party 61 will be described in their Horizontal Control Report.

All electronic control was checked twice daily. Once before work commenced and once after the work broke for the day. The method used to calibrate the Del Norte equipment is described in the Electronic Control Corrections Report for this project. (See control report for additional information)

A copy of the Electronic Corrector tape will accompany this report.

G. Shoreline

Shoreline detail for this survey was obtained from the following shoreline manuscripts:

TP-00640
TP-00641
TP-00642
TP-00643

All field edit was done by Photo Party 61. The ~~high water and low water~~ line was not defined by hydrography due to the small tides range.

H. Crosslines

Crosslines were run in excess of 10% of the regular system of ^hHydrography. The crosslines were in good agreement with the regular system of hydrography. Any differences between the echo soundings will be resolved when settlement and squat, actual tides, and velocity corrections are applied to the echo soundings.

Soundings from positions 416 to 567 do not agree with the crosslines and this is due to extreme low tides during the day on which hydrography was run. The application of smooth (actual) tides will rectify these crossings.

I. Junctions

This survey makes good junctions to the north with the contemporary survey H-9453. (AMP 10-3-74)

J. Comparison with Prior Surveys

This survey contains four numbered pre-survey review items and one unnumbered pre-survey review item.

Pre-survey Review

See overlay

Item #1 described as a "Dangerous sunken wreck PA on chart 549 in Lat. $39^{\circ} 18'$, Long. $76^{\circ} 21.5'$ was not found.

A wiredrag survey was conducted after developing the area adequately, information about the wreck was obtained from a local marina. It was reported that a local fisherman had gotten his gear hung-up in the wreck about $1\frac{1}{2}$ years ago. The report concluded that the fisherman towed the wreck clear of the area.

Many local people were interviewed about the presence of a dangerous wreck in the area indicated. No one could recall any such danger.

Because of the wiredrag survey and the interviews it is recommended that pre-survey review item #1 be removed from charts 549 and 1226.

Pre-survey Review

Item #2 Described as, "obstruction" reported PA on chart 549 in Lat. $39^{\circ} 18.11'$, Long. $76^{\circ} 20.83'$.

The obstruction was searched for with a wiredrag survey of the area. Nothing was found except deteriorated tree stumps. See overlay

Some local people believe it was the same object as Pre-survey Review Item #4 and because of strong SW winds the wreck moved to the location off Weir Point.

The only things found in the wiredrag survey were tree stumps most of which were not more than 0.8 foot above the bottom. These stumps and limbs could be a hazard to small outboard motor boats in periods of extreme low water when only 2.5 feet of water would be in the area.

It is recommended that this area remain charted as an obstruction. Possible it should be investigated in the future to determine if the stumps and tree limbs have deteriorated.

Pre-survey Review

See overlay

Item #3 described as "obstruction on chart 549 in Lat. $39^{\circ} 17.75'$, Long. $76^{\circ} 19.45'$."

A wire drag survey was performed. To the west of the area stones of 1 to $1\frac{1}{2}$ feet in diameter were found. Water depth reduced to a 2.0 feet at MLW. To the east of the area tree stump remains were found. The least depth determined was 2.0 feet.

It is recommended that the obstruction should still be charted.

The following indicate the positions of the stones and tree stumps.

Stones at Lat. $39^{\circ} 17.70'$, Long. $76^{\circ} 19.60'$

Tree Stumps Lat. $39^{\circ} 17.70'$, Long. $76^{\circ} 19.40'$

The charted position of the obstruction adequately describes it as found on chart 549.

Pre-survey Review

See overlay

Item #4 Described as "Obstruction PA covers by 1/2 foot at MLW at Lat. $39^{\circ} 18.2'$, Long. $76^{\circ} 20.1'$ on chart 549".

A wiredrag investigation was performed. Approximately 8 hours was spent dragging for the obstruction. Both the area of the charted obstruction and areas where local people claimed to have seen the wreck last year were investigated. No dangerous wreck was found, however pieces of the wreck were recovered which tends to support beliefs by some local people that the winter bay ice broke up the wreck last winter. No one has reported seeing the wreck this year. It is recommended that this object be deleted from the charts. *There is a subm. log plotted, Position 2643, in this vicinity, of reported obstr.*

*2 wk - 80m
south of
above pos.*

The unnumbered pre-survey review item at Lat. $39^{\circ} 17.9'$, Long. $76^{\circ} 19.0'$ was developed a least depth of 2.0 feet at MLW was found at Lat. $39^{\circ} 17.90'$, Long. $76^{\circ} 19.10'$. Position 2797, see overlay

This item presents a possible hazard to navigation due to its shallow depth.

K. Comparison with Chart

A comparison of this survey was made with Chart 1226, 24th Edition, Feb. 23, 1974. This survey appears to have good overall agreement with the chart.

One area which does not agree is between buoys #6 and #8. The chart indicates that a 12 foot curve practically connects these two buoys in a straight line when in fact a shoal of $7\frac{1}{2}$ to $6\frac{1}{2}$ feet can be found in the channel. See section P for recommendations.

L. Adequacy of Survey

This survey is complete and is adequate and should supersede prior surveys for charting. See Quality Control Report.

M. Aids to Navigation

Within the limits of this survey there are 5 floating aids to navigation and ~~no~~ fixed aids to navigation. * Maxwell Pt. Lt., not shown on this survey, was located by plane table traverse (see ch. Ltr. 27 (1975)). Unadjusted field pos. $\phi 39^{\circ}21'24.82''$ (76.5 m), $\lambda 76^{\circ}19'22.54''$ (539 m). All floating aids in this survey are adequately described in the Light List. Not all floating aids adequately serve the purposes for which they were established. See sections K and P of this report.

N. Statistics

<u>Launch 1260</u>	Total
Nautical Miles of Sounding Lines	194.2
Number of Positions	1182
<u>Launch 1270</u>	
Nautical Miles of Sounding Lines	38.1
Number of Positions	334
<u>Skiff 570</u>	
Nautical Miles of Sounding Lines	67.9
Number of Positions	870
Total square nautical miles	16.2
Total tide gages	3
Total Bottom Samples	29

✓
O. Miscellaneous

The most outstanding submarine features found during this survey were two valleys. Both are readily visible on the boatsheet by inspection of the depth curves. One area is southeast of Carroll Island and the other is southeast of Weir Point.

✓
P. Recommendations

It is recommended either one of the two following changes be applied to the area in the channel between buoys #6 and #8.

Buoy #8 should be moved to Lat. $39^{\circ} 18.28'$, Long. $76^{\circ} 19.33'$ to direct channel traffic north of the 5' foot shoal charted by this survey.

Or an additional red buoy should be placed at Lat. $39^{\circ} 18.28'$, Long. $76^{\circ} 19.33'$ between buoys #6 and #8.

✓
Q. References to Reports

The following reports or records are necessary for a complete report:

Report on Corrections to Echo Soundings by AHP Launch 1260.

Report on Corrections to Electronic Control by AHP Launch 1260.

Report on Horizontal Control by Photo Party 61.

Report on Tide Stations and Observed Tides by AHP Launch 1260.

APPROVAL SHEET
SURVEY H-9454 (AHP 10-4-74)

The hydrographic records transmitted with this report are complete and adequate.



F. T. Smith
Lt. Cdr., NOAA
Chief, AHP

CAN3-1
1/31/74

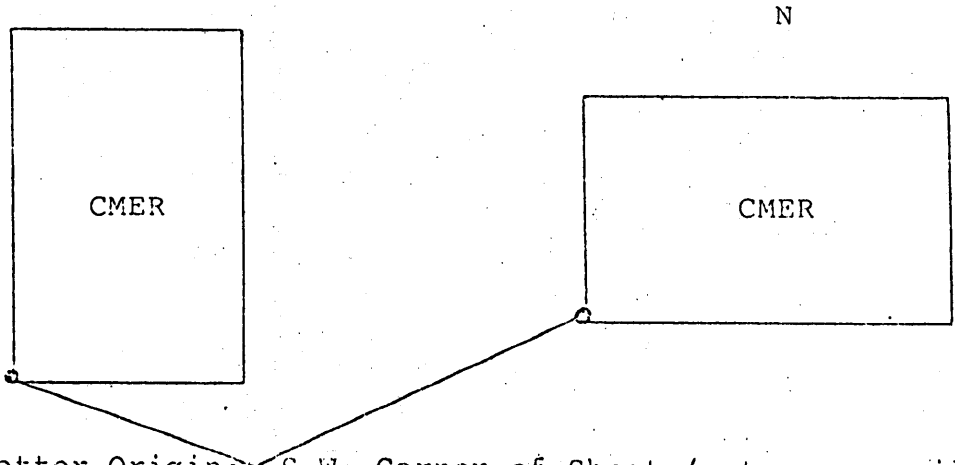
New Parameters

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR-510
- 2. Reg. No. H-9454
- 3. Field No. AHP-10-4-74
- 4. Requested By Verification Branch (FLS)
- 5. Ship or Office AMC
- 6. Date Required ASAP
- 7. Polyconic Modified Transverse Mercator
- 8. Central Meridian of Projection 76° 20' 00"
- 9. Survey Scale: 1: 10,000
- 10. Size of Sheet (check one):
 36 x 54 36 x 60 Other Specify 36 x 42
- 11. Sheet Orientation (check one):
 NYX = 1 NYX = 0
 N



- 12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)
 Latitude 39° 16' 48"
 Longitude 76° 23' 45"
- 13. G.P.'s of triangulation and/or signals attached
- 14. Material Desired: Tracing Paper Mylar
 Smooth Sheet Other Specify ~~Sounding overlay.~~
- 15. Remarks: _____

The following are filed with the Field Records of H-9454:

<i>Electronic control parameters</i>	<i>Velocity Tables</i>
<i>Position data sheets</i>	<i>Bottom sample data.</i>
<i>TC/TI Tape abstracts</i>	
<i>TRA correction abstracts</i>	

Del Norte Stations

<u>Signal Number</u>	<u>Latitude</u>	<u>Longitude</u>
17	39° 20' 9.750"	76° 19' 51.400"
19	39° 20' 8.800"	76° 17' 59.330"
20	39° 18' 54.930"	76° 19' 47.530"
21	39° 18' 6.420"	76° 17' 59.680"
24	39° 19' 29.590"	76° 20' 2.770"
25	39° 20' 20.410"	76° 20' 57.560"
26	39° 19' 58.430"	76° 21' 9.510"
27	39° 20' 16.400"	76° 21' 27.620"
28	39° 20' 1.850"	76° 20' 5.320"
29	39° 20' 29.550"	76° 21' 25.460"
32	39° 19' 55.100"	76° 21' 57.970"
33	39° 20' 8.800"	76° 21' 44.770"
35	39° 20' 24.660"	76° 22' 17.310"
40	39° 20' 13.930"	76° 22' 26.770"

SIGNAL LIST
H-9454 (AHP-10-4-74)

<u>Signal Number</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Name or Description</u>
18	39° 18' 45.960"	76° 19' 17.810"	CARROLL R.M.1, 1974
20	39° 18' 54.930"	76° 19' 47.530"	(post)
21	39° 18' 6.420"	76° 17' 59.680"	RICKETTS 1935-39
23	39° 21' 3.000"	76° 20' 46.000"	(microwave tower)
29	39° 20' 29.550"	76° 21' 25.460"	(temp.)
30	39° 20' 17.970"	76° 20' 56.710"	(temp.)
31	39° 19' 24.600"	76° 21' 55.930"	Baltimore G&E Co. Crane Sta. Stack, 1961
32	39° 19' 55.100"	76° 21' 57.970"	(at shore end of pier)
42	39° 19' 13.110"	76° 20' 20.590"	(microwave tower)
502	39° 20' 45.722"	76° 21' 32.442"	(duck blind)
504	39° 21' 6.356"	76° 21' 36.083"	(pile)
505	39° 21' 10.928"	76° 21' 33.745"	(cor. of pier)
508	39° 21' 0.195"	76° 21' 51.243"	(duck blind)
509	39° 20' 56.033"	76° 21' 59.916"	(duck blind)
510	39° 20' 54.542"	76° 22' 6.722"	(duck blind)
512	39° 20' 39.852"	76° 21' 58.455"	(duck blind)
513	39° 20' 33.724"	76° 21' 48.350"	(duck blind)
514	39° 20' 29.865"	76° 21' 35.365"	(gab. on white boho.)

This report is on corrections to echo soundings obtained during hydrographic surveys H-9453, (1:10,000), 1974 and H-9454, (1:10,000), 1974.

Daily bar checks were used to derive corrections to depths obtained from echo sounders. Corrections which differed more than 0.4 foot were not averaged.

During the surveys, frequent F-scale checks, speed counts and digital phase checks were obtained.

No major trouble was encountered with the echo sounding equipment during the surveys and no equipment was interchanged among sounding vessels.

Raytheon Fathometer No. 1888, DE-723, was used aboard Launch 1260 for all depths greater than 3 feet. Because the results of the bar checks were identical for both surveys, the same Velocity Table was used. Due to format differences, Velocity Table #1 will be used for H-9453 and Velocity Table #2 will be used for H-9454.

Raytheon Fathometer No. 1884, DE-723, was used aboard Skiff 570 for all depths greater than 3 feet. During this project, Skiff 570 was used mainly for pole soundings. The length of the sounding pole and markings on the pole was checked before and after this project. Because of the similar results obtained for the bar checks on both surveys, one correction to depth curve with Velocity Tables #3 and 4 will be used. Two velocity table printouts were made due to the format required.

Raytheon Fathometer No. 927, DE-723, was used on Launch 1270 for all depths greater than 3 feet. Launch 1270 was only used on survey H-9454.

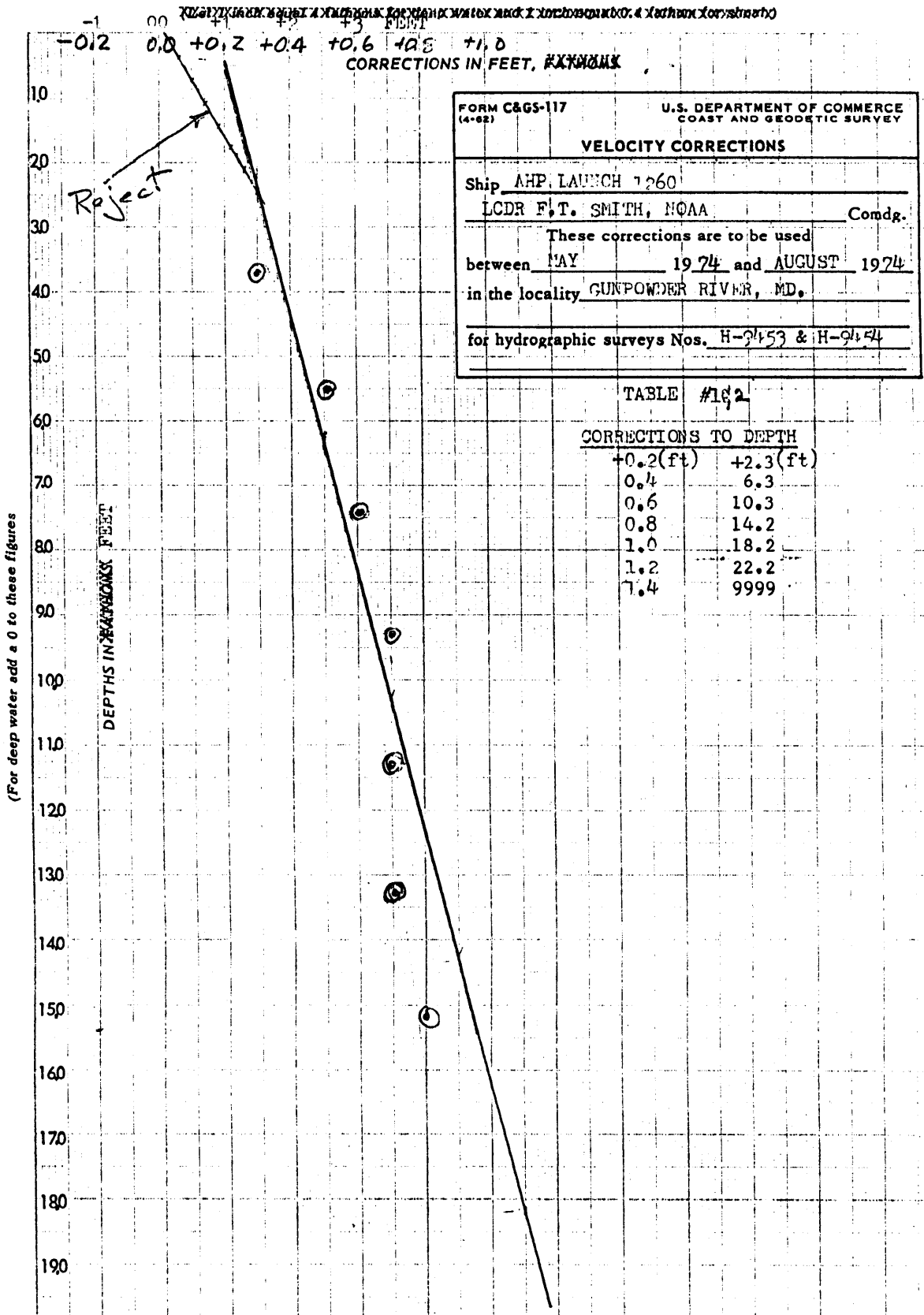
For Survey H-9453 the following Velocity Tables will be provided:

- Launch 1260 - Table #1
- Skiff 570 - Table #3
- Skiff 570 - Table #6

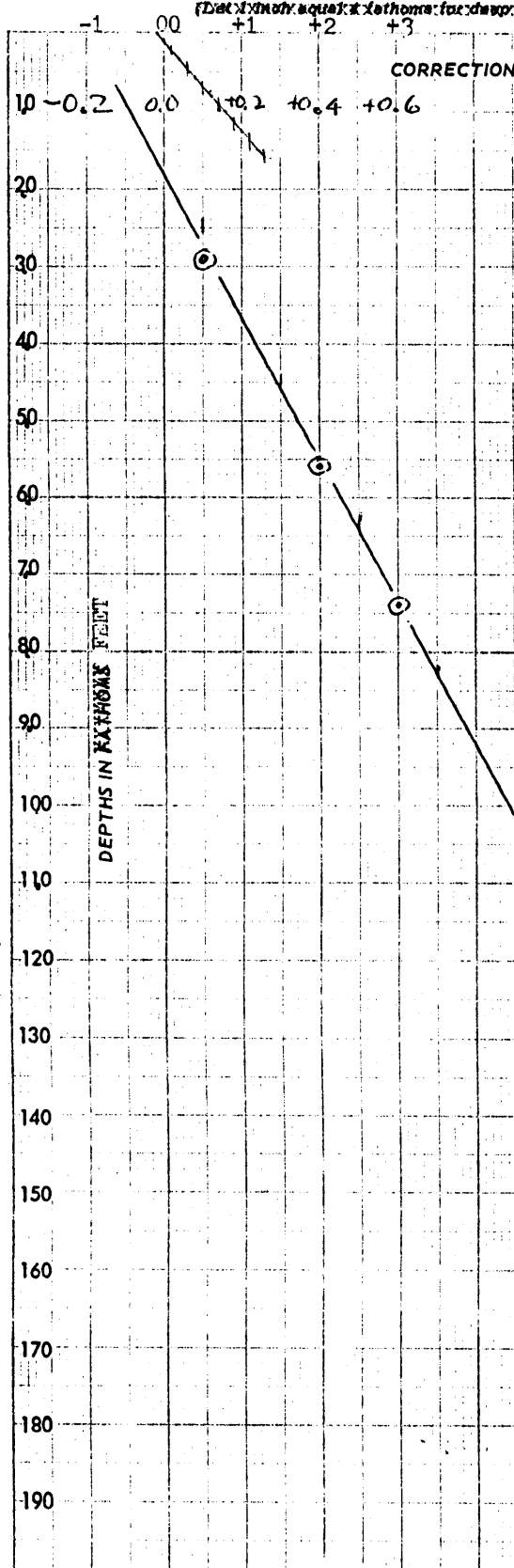
For Survey H-9454 the following Velocity Tables will be provided:

- Launch 1260 - Table #2
- Skiff 570 - Table #4
- Launch 1270 - Table #5
- Skiff 570 - Table #7

Abstracts of bar checks, velocity curves and velocity tables are included in the next section of this report. Each vessel has two velocity tables in order to show the boat sheet number.



(Data in inch, aqua; X fathoms for deep water and K inch = quad; Oct X fathoms for shaft.)



FORM C&GS-117 (4-62) U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship AHF-LAUNCH 1270
 LCDR F.T. SMITH, NOAA Comdg.

These corrections are to be used
 between JULY 19 74 and AUGUST 19 74
 in the locality GUNPOWDER RIVER, MD.

for hydrographic surveys Nos. H-9453 & H-9454

TABLE #5

CORRECTIONS TO	DEPTH
0.0 (ft)	2.4 (ft)
+0.2	4.6
0.4	6.4
0.6	8.3
0.8	10.1

(For deep water, add a 0 to these figures)

GUNPOWDER RIVER
OPR-510

Descriptive Tide Note:

This survey was supplied predicted tides based on Battery Point, Maryland, (Lat. $39^{\circ} 20'$, Long. $76^{\circ} 20'$) to be used for reduction of data, for boat sheet processing.

The following is a list of two tide gages and one tide staff established during OPR-510:

Gunpowder River Railroad Bridge -
Lat. $39^{\circ} 23.52'$, Long. $76^{\circ} 20.65'$, Bubbler type gage, installed on 28 May 1974, and removed on 28 August 1974. *used*

Not used Tolchester - Lat. $39^{\circ} 12.9'$, Long. $76^{\circ} 14.7'$, Bubbler type gage, installed on 24 May 1974, and removed on 29 August 1974. *Not used*

Not used Marshy Point - Lat. $39^{\circ} 20.1'$, Long. $76^{\circ} 21.38'$, tide staff, installed on 20 August 1974, and removed on 29 August 1974. *Not used*

All data from these gages was sent to ^{Rockville} ~~Washington~~ for processing on the smooth sheet.

ATLANTIC MARINE CENTER
VERIFICATION OF SMOOTH TIDES

SURVEY H- 9454

PLANE OF REFERENCE: MLW OR ~~MLLW~~
TIME MERIDIAN: GMT
HEIGHT DATUM ON STAFFS: 1. 0.7 2. _____ 3. _____ 4. _____

TIDE STATIONS	POSITION	TYPE GAGE	TIME CORR.		HEIGHT CORR.*	
			H.W.	L.W.	H.W.	L.W.
1. Gunpowder River, Md.	ϕ 39° 23.52' λ 76° 20.65'					
2.	ϕ λ					
3.	ϕ λ					
4.	ϕ λ					

HOURLY HEIGHTS: FROM ROCKVILLE OFFICE
 FROM FIELD MARIGRAMS VERIFIED BY: Rockville

TIDE ZONING: NOT APPLICABLE
 BY COMPUTER
 FROM TWO OR MORE GAGES

LIMITS AND DESCRIPTION OF ZONING METHODS:

TIDE CORRECTIONS COMPLETED: BY COMPUTER VERIFIED BY: GFT
 MANUALLY VERIFIED BY: _____

HEIGHT OF MHW ABOVE PLANE OF REFERENCE: 1.1

TIDE CORRECTIONS VERIFIED ON SOUNDING PRINTOUT BY: GFT

DATE OF VERIFICATION: 4-30-75

*OR RATIO

EXAMINED AND APPROVED

W. Jones

ATLANTIC MARINE CENTER

TIDE NOTE

*Not used, but
was plotted on
5000 ft sheet.*

- 1. Project No: OPR-510 2. Vessel/Field Unit: AHP-Launch 1260
- 3. Year: 1974 4. Meridian Time Zone: GMT
- 5. Tide Station Name: Marshy Point
- 6. Position: Lat. 39 ° 20.1 ' Long. 76 ° 21.38 '
- 7. Plane of Reference: MLW, MLLW corresponds to _____ feet on the tide staff for the period _____.
- 8. Hourly Heights: Standard Gauge, furnished from Rockville.
 Scaled and logged from field marigrams.
- 9. Tidal Zoning: Not applicable.
 By two or more gauges automatically zoned.
 By applying tidal differences and constants for the area(s): a. _____

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

b. _____

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

c. Include additional areas on separate sheet(s).

10. Remarks: Hourly Heights observed from Tide gage

(54)

Settlement and Squat Test

4 October 1974

J.D. 277

Launch 1270

Two runs were made at 1000 RPM's, 1500 RPM's, and 2000 RPM's. These speeds are the boats most suitable hydro speeds.

The procedure was to anchor a marker buoy with a short scope. Launch 1270 was then stopped alongside the marker buoy and the depth of water was measured with the echo sounder. Then the vessel was run past the marker buoy at normal sounding speeds, and another accurate echo sounding was taken when in the same position relative to the buoy. Changes in tidal heights were taken into consideration. The tests were repeated in a second location for comparisons. After a comparison of data was made, the average value for each hydro speed was determined. A curve constructed and a settlement and squat table was prepared.

The following data is respectfully submitted:

W. E. George, Lt.(jg), NOAA

Run #1

Note: At no time did the tide change more than 0.1 foot during each S & S run.

	<u>1000 RPM</u>	<u>1500 RPM</u>	<u>2000 RPM</u>	<u>2500 RPM</u>
Still	5.5'	5.5'	5.5'	5.5'
Underway	5.1'	5.0'	4.8'	4.5'
S&S Corr.	+0.4'	+0.5'	+0.7'	+1.0'

Run #2

	<u>1000 RPM</u>	<u>1500 RPM</u>	<u>2000 RPM</u>	<u>2500 RPM</u>	<u>3000 RPM</u>
Still	4.3'	4.3'	4.3'	R	R
Underway	3.9'	3.8'	3.7'		
S&S Corr.	0.4'	0.5'	0.6'		

1000 RPM	+0.4'	+0.4'	^{Mean} +0.4'
1500 RPM	+0.5'	+0.5'	+0.5'
2000 RPM	+0.7'	+0.6'	+0.65'
2500 RPM	+1.0	R	+1.0'

Settlement & Squat Curve for Launch 1270

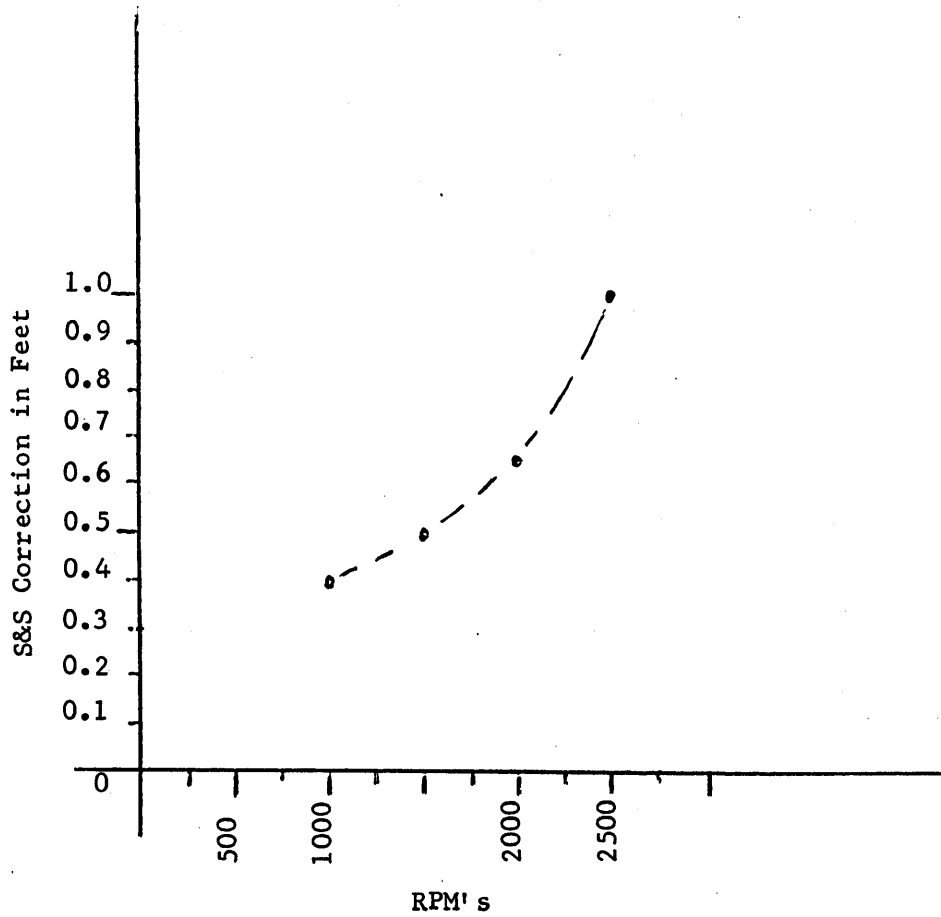


Table of S&S Correction

1000 RPM	+0.4 ft.
1500 RPM	+0.5 ft.
2000 RPM	+0.7 ft.
2500 RPM	+1.0 ft.

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H- 9454 .

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

Date: Oct 9, 1975

Signed: William J. Jones

Title: Chief, Verification Branch

- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: Oct 9, 1975

Signed: Jeffrey J. Carter

Title: Chief, Processing Division

3/27/75

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Gunpowder River, Md.

Period: May 29 - Aug. 28, 1974

HYDROGRAPHIC SHEET: H-9454

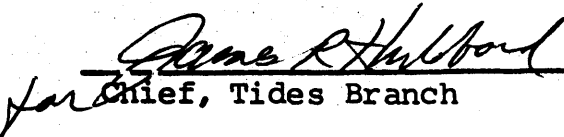
OPR: 510

Locality: Gunpowder River

Plane of reference (mean ~~lower~~ low water): 0.7 ft. - Gunpowder R.

Height of Mean High Water above Plane of Reference is 1.1 ft.

Remarks: Zone direct.



for Chief, Tides Branch

GEOGRAPHIC NAMES

H-9454

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST			
BATTERY POINT ✓											1
BENGIES POINT ✓✓											2
CARROLL POINT ✓											3
CHESAPEAKE BAY ✓											4
DAYS POINT ✓											5
DUNDEE CREEK ✓											6
GUNPOWDER NECK ✓											7
GUNPOWDER RIVER ✓											8
LOWER ISLAND POINT ✓											9
MARSHY POINT ✓											10
MAXWELL POINT ✓											11
RICKETT POINT ✓											12
SALTPETER CREEK ✓											13
SANDY POINT ✓											14
SPRY ISLAND SHOAL ✓											15
WEIR POINT ✓											16
WHITE OAK POINT ✓											17
											18
											19
											20
											21
											22
											23
											24
											25

Approved
 Chas. E. Harrington
 Staff Geographer - C51xZ
 2 Dec. 1975

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9454
AHP-10-4-74

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & 2-Overlays		1	BOAT SHEETS		2	
DESCRIPTIVE REPORT		1	OVERLAYS		3 ---	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
Accordion ENVELOPES	*		*			
CAHIERS	1		*			
VOLUMES	14					
BOXES			1			

T-SHEET PRINTS (List)

TP-00640, 00641, 00642, 00643

SPECIAL REPORTS (List)

OPR-510 Report on Corrections to Echo Soundings, Control Report

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				2415
POSITIONS CHECKED		250		
POSITIONS REVISED		145		
DEPTH SOUNDINGS REVISED		500		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		---		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		---		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		24		
JUNCTIONS		2		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		---		
SPECIAL ADJUSTMENTS		---		
ALL OTHER WORK		208		
TOTALS		234	6	240
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
J.T. Murphy, R.G. Cram	3-10-75		6-22-75	
VERIFICATION BY	BEGINNING DATE		ENDING DATE	
B.J. Stephenson	7-26-75		9-22-75	
REVIEW BY	BEGINNING DATE		ENDING DATE	
HIT	9-25-75		9-25-75	

QC D.R. Engle *Printed* 36 hrs RMC 12/11/75

H-9454

Items for Future Presurvey Reviews

The bottom in this survey area consists primarily of soft mud and is therefore subject to change. Movement of this mud has caused variable changes of 1 to 2 feet in the creeks and upper part of Gunpowder River. At the mouth of the river more notable changes have occurred. The shoreline has eroded about 50 meters. The presently charted Spry's Island Shoal, formerly an island, has further eroded to the extent that it is now covered by 2 to 4 feet of water according to the present survey. The adjacent natural channel continues to shoal and is presently 7 to 15 feet shoaler than on the earlier surveys.

The three shoal soundings discussed in paragraph 10 of the Quality Control Report should be investigated on any future survey of the area.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
391	0762	3	4	25 years
391	0763	3	8	25 years
392	0762	3	2	50 years
392	0763	3	1	50 years

HYDROGRAPHIC INSPECTION TEAM

ATLANTIC MARINE CENTER

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9454

FIELD NO. AHP-10-4-74

GENERAL LOCALITY and SPECIFIC LOCATION

Southern half of Gunpowder River, Saltpeter and Dundee Creeks, Maryland

SURVEYED: July 5, 1974 through August 28, 1974

PROJECT NO.: OPR-510-AHP-74

SCALE: 1:10,000

SOUNDINGS BY: Raytheon DE-723 Depth Recorder,
Sounding Pole and leadline

CONTROL: Electronic
(Del Norte)
Visual "See
boatsheet"

Automated Plot byCalcomp Plotter #618 (AMC)

Verified and Inked byB.J. Stephenson

1. Description of the Area

This survey covers the southern half of the Gunpowder River from Maxwell Point to approximately one mile south of Lower Island and Ricketts Points. The bottom slopes gradually and levels off and becomes fairly flat, with the exception of two valleys and two shoals located in the natural looking channel outlined on the sheet by the twelve foot curve. One valley and the two shoals are located just north of Lighted Buoy "6", the second valley is located in the vicinity of Lighted Buoy "8". The two valleys were mentioned in paragraph 0 of the Descriptive Report.

2. Control and Shoreline
Type-Source-Origin

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

The shoreline originates with the advanced manuscripts of TP-00640-00643. *Unreviewed Class I (1972-74)*

3. Hydrography

A. Crossings: Depths at crossings are in good agreement.

B. Depth Curves:

The standard depth curves are adequately delineated. The three foot curve was added to accentuate the bottom topography.

C. Low-Water Line:

The low-water line was not defined by the Hydrographer due to the small range in tide.

D. Developments:

The developments for the Pre-survey Review Items were enlarged to 1:2,500 and included in the Descriptive Report. Only the least depths and obstructions were plotted on the Smooth Sheet.

4. Condition of the Survey

The sounding records, automated plotting and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, supplemented by the Instruction Manual-Automated Hydrographic Surveys.

5. Junctions

An excellent junction was made with H-9453 (1974) to the North.

6. Comparisons

A. Prior Surveys:

Comparisons with prior surveys were not possible as none are available to the branch at this time. *See Quality Control Report.*

B. Wire Drag:

Wire drag sweeps were conducted to assist in locating the Pre-survey Review Items. Paragraph J of the Descriptive Report adequately describes the results.

C. Published Chart #(12273) 1226, 22nd Edition, dated 2/1/73, 26th Edition, dated 2/8/75.

(a) Hydrography

This survey's depths are in general agreement with the chart, with the exception of the shoal mentioned in paragraph K of the Descriptive Report.

This survey is adequate to supersede* the prior charted hydrography in the common area, and provides the necessary hydrographic data to construct an extension to charts 12224 and 12225 (formerly #572 and #572SC).

** See Quality Control Report*

(b) Attention is directed to the fact that:

There are many stakes, submerged rocks, trees and tree stumps located throughout this survey. The trees and stumps were probably washed down the rivers and creeks during hurricane Agnes in June 1972. The Detached Positions of the submerged trees and stumps have the depth of water covering the obstruction instead of the symbol, and are identified as snags on the Smooth Sheet. The enlarged overlays mention under developments of this report have both the symbols and depths covering the obstructions.

(c) Aids to Navigation

The aids to navigation and recommendations are adequately described in paragraphs K, M, and P of the Descriptive Report.


7. Compliance with Instructions


This survey does comply with the Project Instructions.

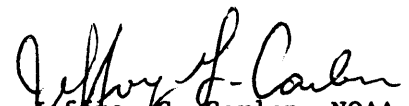
8. Additional Field Work

This is an excellent basic survey. Additional field work is not recommended.

Examined and Approved:
Hydrographic Inspection Team



CAPT. Ronald M. Buffington, NOAA
Chief, Operations Division


LT. Gregory R. Bass, NOAA
Chief, Electronic Data Branch


CDR. Jeffrey G. Carlen, NOAA
Chief, Processing Division


William L. Johns
Chief, Verification Branch

Approved/Forwarded


Alfred C. Holmes
RADM., NOAA
Director, Atlantic Marine Center



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C323

November 28, 1975

TO: M. J. Umbach, Acting Chief *MJU*
Marine Surveys Division

FROM: D. R. Engle
Quality Evaluator *D R Engle*

SUBJECT: Quality Control Report, H-9454 (1974), Gunpowder
River, Md.

A quality control inspection of H-9454 has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigational hazards, junctions, shoreline transfer, decisions and actions taken by the verifier, and cartographic presentation of data.

The following deficiencies are noted:

1. About ten topographic items, including piers, piling, stakes, duck blinds and a low water area, were omitted from the smooth sheet even though they were shown on the field sheet. The verified smooth sheet should reflect a complete and accurate delineation of the shoreline and all other topographic information outside the shoreline.
2. The dates of the applicable photogrammetric manuscripts were not given anywhere in the Descriptive Report. The manuscripts should be fully described for the chart compiler's benefit and as a matter of record. They should be identified by registry number, final or Class I, reviewed or unreviewed, and dates. First date should indicate the date of photography and the second the date of field edit, if accomplished.
3. Signals in water areas were not all described. If such signals are permanent or semipermanent, they should be described, such as (rock) (pile); if temporary or not identifiable features, they should be described as (temp.). This information is very important to the chart compiler.
4. Control stations which are recommended landmarks were not identified as such. Landmarks used as control stations should be labeled as specified in the Provisional Manual, paragraph 7.3.11.1.
5. Brown depth curves were not used to accentuate important soundings not delineated by standard curves. Examples on the present survey are the 7-, 8- and 9-foot soundings on the edge of the channel off Carroll Point.

6. Depth curves were shown around soundings on snags. Depths on objects such as snags, wreckage, obstructions, etc., lying on the bottom should not be encircled by a depth curve unless there is actually a rise in the bottom.

7. The 18-foot curve east southeast of Carroll Point had been drawn between 17- and 18-foot depths. Although the excess sounding overlay shows a deep between the 17- and 18-foot soundings, it is not good practice to show an extended curve unsupported by smooth sheet soundings. The excess overlay is eventually discarded.

8. The legend "rock awash" was used with the rock awash symbol. This is superfluous. If its elevation is known, "awash at MLW" or (0) would be appropriate. These legends and those identifying submerged objects such as wrecks, obstructions, and piles should be shown in slant lettering.

9. Incorrect scale was shown on PSR item 4 plot in the Descriptive Report, and depths on the overlays and the smooth sheet did not always agree. Smooth sheet depths are final.

10. Comparison of prior and present surveys was not accomplished in the Marine Center as required by the manual. Comparison was made during the quality control inspection with respect to charted hydrography. Two 6-foot soundings charted in latitude $39^{\circ}17.26'$, longitude $76^{\circ}20.05'$ and latitude $39^{\circ}17.80'$, longitude $76^{\circ}20.49'$ and an 11-foot sounding in latitude $39^{\circ}17.63'$, longitude $76^{\circ}20.31'$ from H-2335 (1897) are not considered disproved and have been carried forward to the present survey.

With the above exceptions, the survey is considered to be complete and adequate and to conform to the standards of the National Ocean Survey.

Attachment:
Descriptive Report

cc:
CAM3
Cdr. F. T. Smith

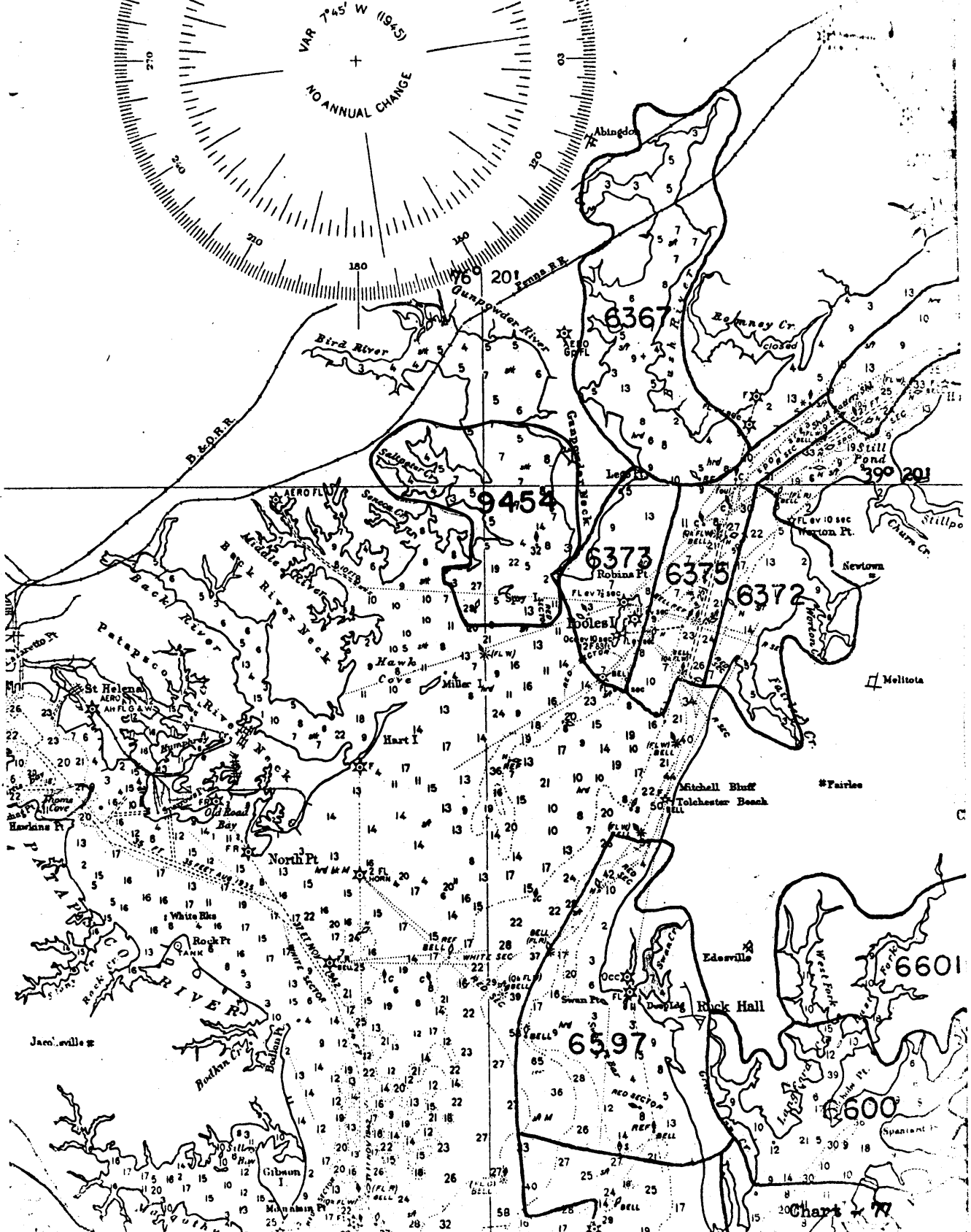
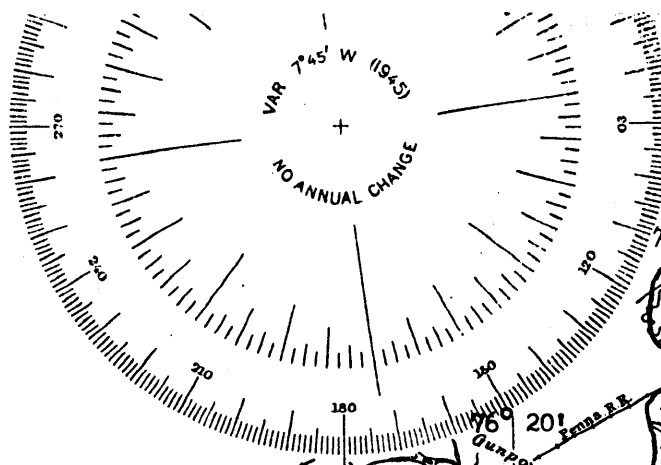


Chart 77

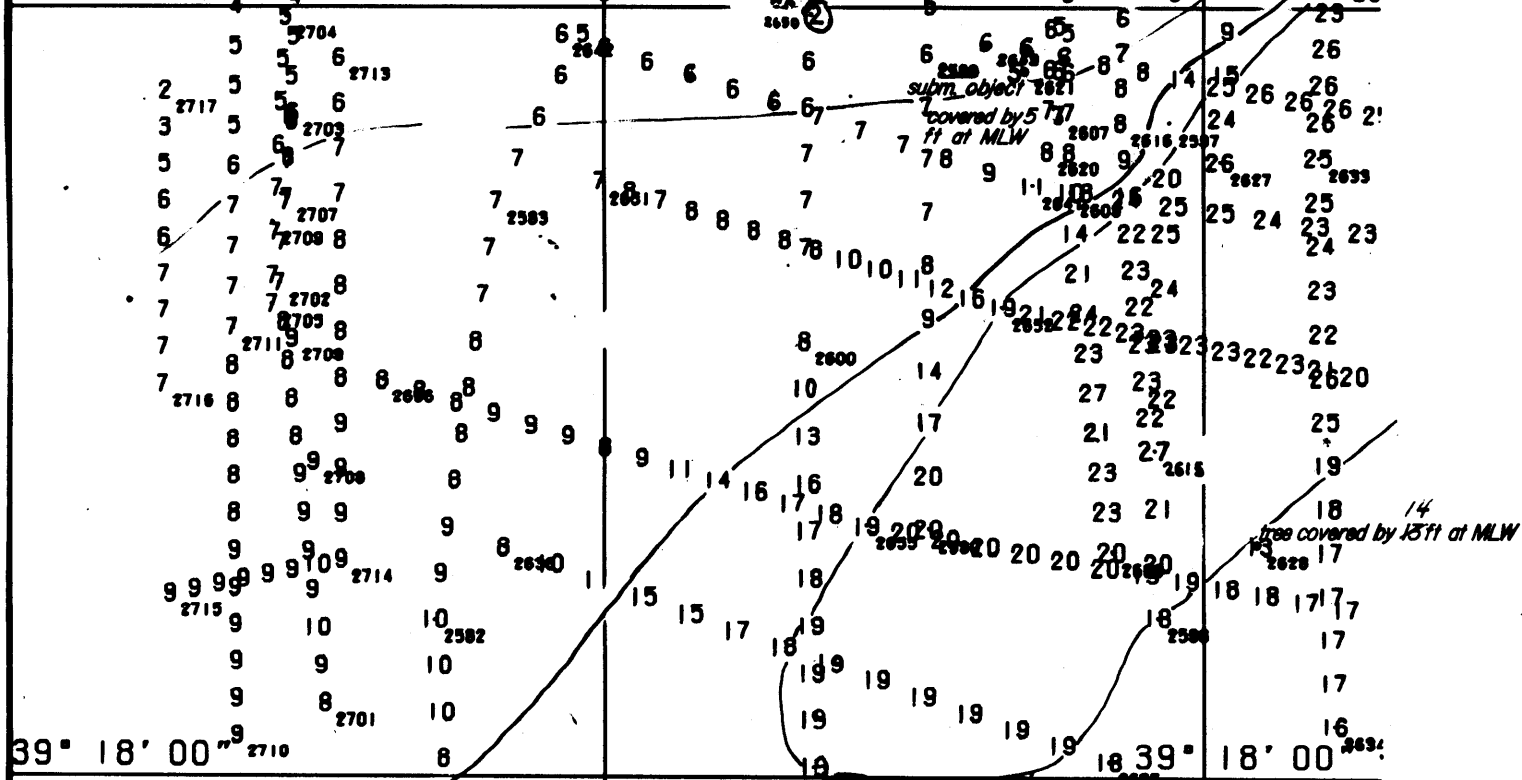
76° 20' 10"

76° 20' 00"

2644

log covered by 1ft at 2643 MLW

39° 18' 10" 2712 2706



39° 18' 00" 2710

18 39' 18' 00"

PRE-SURVEY ITEM No.4

LAT. 39° 18.2' LONG 76° 20.1'

Least depth found 1ft.

Position No. 2643, Day 218, Launch 1270

Sndg. Vol. 13 P.58

Position No. 2581 to Position No. 2717

Scale of development overlay 1:2,500
3,000

67.5%

76° 20' 10"

76° 20' 00"

76° 19' 15"

76° 19' 00"

76° 18'

39° 18' 15"

39° 18' 15"

39° 18' 00"

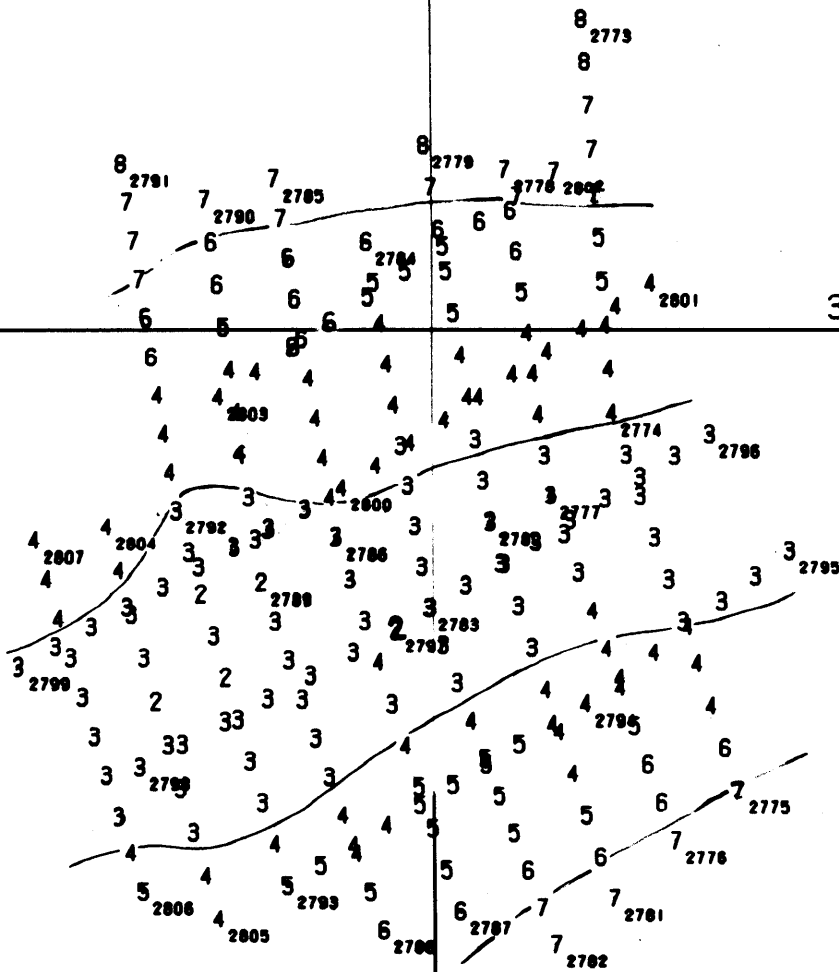
39° 18' 00"

39° 17' 45"

39° 17' 45"

76° 19' 00"

76° 18'



UNNUMBERED PRESURVEY ITEM
 LAT. 39° 17.9' LONG. 76° 19.0'
 Least depth found 2.4 ft
 Position No: 2797, Day 220
 Snd'g Vol. 14 p. 54
 Launch 1270
 Scale of this overlay 1:5,000
 Pos. No. 2773 to Pos. No. 2807

12.5%

