

9826

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. HSB-5-2-79.....
Office No..... H-9826.....

LOCALITY

State Maryland.....
General Locality Chesapeake Bay.....
Locality Approach to Patuxent River.....

19 79

CHIEF OF PARTY

T.W. Richards.....

LIBRARY & ARCHIVES

DATE Nov. 5, 1979.....

Ref. L-282(77)
Bp. 99357

Area 2
C...
11 12230
12-84
- 12260

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HYDROGRAPHIC TITLE SHEET

H-9826

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.

HSB-5-2-79

State Maryland

General locality ~~Solomons Island~~ Chesapeake Bay

Locality Approach to Patuxent River Entrance

Scale 1:5,000 Date of survey 21 May - 7 June 1979

Instructions dated 13 April 1979 Project No. S-E216-HSB-79

Vessel NOAA Launch 1283

Chief of party Lt. Cdr. Thomas W. Richards

Surveyed by Lt. Cdr. A. Y. Bryson; OIC, Lt. M. J. Bradley

Soundings taken by ~~echo sounder, hand lead, pole~~ Raytheon 719-B echo sounder

Graphic record scaled by RS, DE, JD, JO

Graphic record checked by RS, DE, JD, JO, MB

Protracted by N/A Automated plot by Field Sheet PDP8/e

Verification by AMC- Verification Branch AMC-Xynetics 12001
R. Hill Xynetics

Soundings in fathoms feet at MLW ~~XXXX~~

REMARKS: Change No. 1, 24 April 1979.

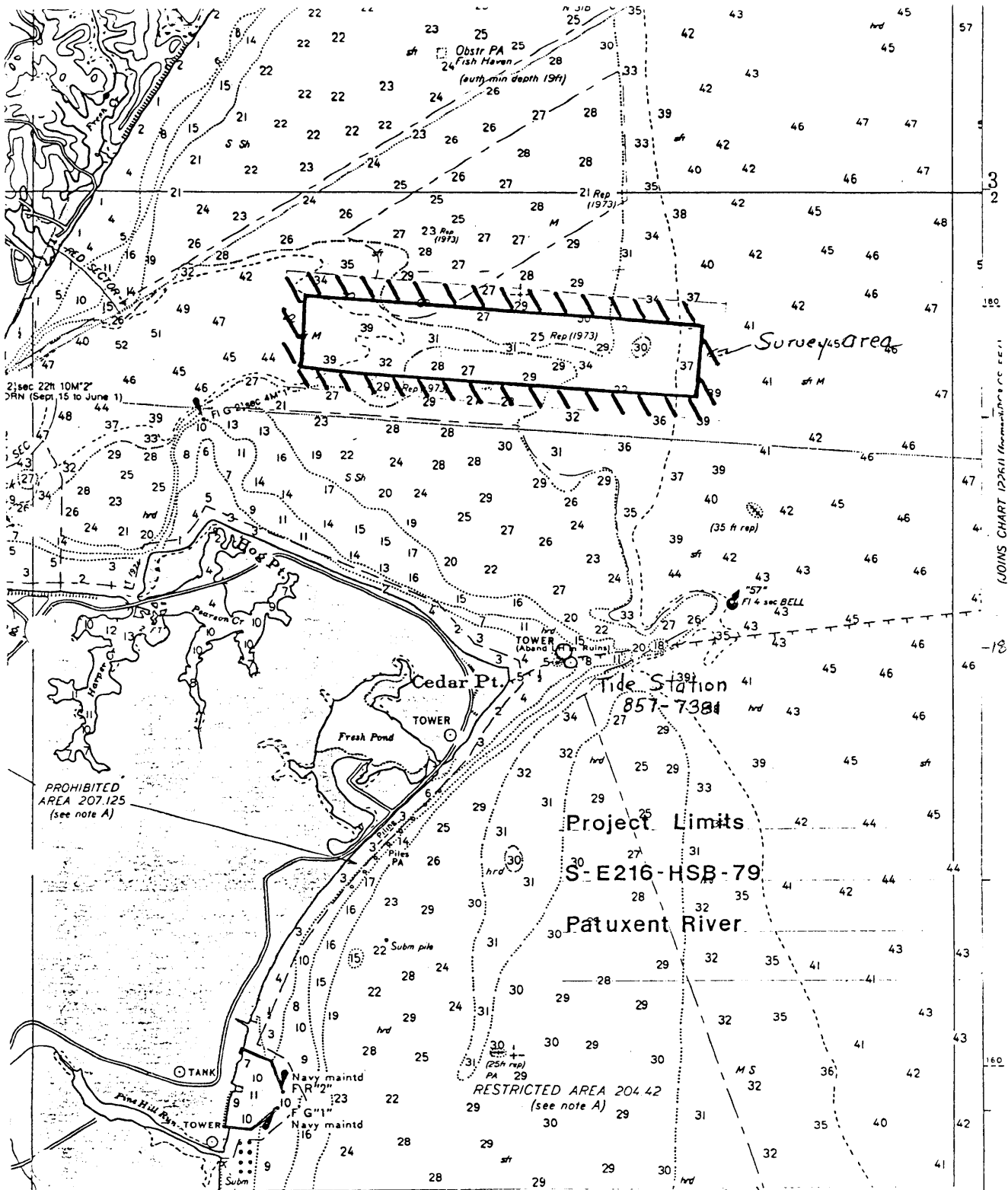
Marcella Bradley, Robert Snow, David Elliott, Jon Daniel,

John Oswald, A. Y. Bryson

Applied to stats 4/7/80

AWOS/SURF checked 12/10/85 SJV

(1.)



COAST AND GEOD. SURVEY CHART 12264 (formerly C&GS 553)

(Chesapeake Bay - Patuxent River and Vicinity)

12264

(formerly C&GS 553)

SOUNDINGS IN FEET - SCALE 1:40,000

25'

20'

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9826
HSB-5-2-79

Scale: 1:5,000

Chief of Party: LCDR Thomas W. Richards

Officers-In-Charge: LT Marcella J. Bradley

LCDR A. Y. Bryson

Hydrographic Surveys Branch, Hydrographic Field Party #3
Launch 1283

A. PROJECT

This project was accomplished under Project Instructions S-E216-HSB-79*, Patuxent River Entrance, Maryland, supplemented by Change No. 1, April 24, 1979. *dated April 13, 1979

B. AREA SURVEYED

This survey covers the entrance channel to the Patuxent River from the Chesapeake Bay near Solomons Island, Maryland. Dates of the survey were May 21 to June 7, 1979.

C. SOUNDING VESSEL

All soundings were obtained by NOAA Launch 1283, a 17-foot Monark with a 85 hp outboard engine.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All echo soundings were obtained using a Raytheon 719-B fathometer, SN 5881, with a calibrated velocity of sound through water of 800 fms/sec. The sounding transducer is mounted permanently through the hull of the sounding vessel. No faults in the equipment were observed which might have affected the accuracy of sounding. A transducer draft correction of 1.0 feet and all fathometer initial trace corrections (generally maintained at zero on line) have been applied to soundings on the field sheet and will be applied via the corrector tapes to the smooth sheet during processing at AMC. A settlement and squat test for Launch 1283 was conducted in October 1978 in the Delaware River, and on February 14, 1979 in Kings Bay, Georgia. Results of both ~~of~~ tests indicate a +0.2 foot correction at all survey speeds. No changes have been made to the configuration of Launch 1283 since these tests. Settlement and squat corrections will be applied via the TC/TI tape during smooth plotting at AMC and were not applied to the field sheets.

Velocity corrections and any residual instrument corrections were determined from standard direct comparison bar checks taken daily. Weather and sea conditions encountered routinely each afternoon made bar checks impractical in the

afternoons. As a result, an average of only one morning bar check per day could be obtained. Bar check correctors were observed to be consistent throughout the project and this lower number of bar checks does not degrade the adequacy of the survey data. These corrections were not applied to the field sheet and will be applied during smooth plotting at AMC via a velocity corrector table. The bar used by HFP-3 for bar checks has chain leads which were checked on JD 143, May 23, 1979.

E. HYDROGRAPHIC SHEETS

Field sheets were prepared in the field using HFP-3's PDP-8 computer and complot plotter. Field records will be sent to AMC for verification and smooth plotting.

Data was logged manually in sounding volumes then computer-reformatted and plotted using HFP's office trailer hydroplot system. Sheet 1 of 6 shows main scheme hydrography. Sheet 2 shows crosslines and item investigations by fathometer search. Sheets 3 and 4 show item investigations by bottom chain sweep from east to west. Sheets 5 and 6 show item investigations by bottom chain sweeps from west to east. The scale of sheets 3-6 is 1:1250.

F. CONTROL STATIONS

Cedar Point Lighthouse is a second order ^{AGS} NOAA station. Station MAI is a third order or better U.S. Navy Hydrographic Office triangulation station established by the Defense Mapping Agency. A copy of the DMA Geodetic Control Report is appended. A Del Norte remote unit, set-up on Drum Point Light 2, was used to assist the coxswain in running lines perpendicular to the channel. This station was not used for hydrographic position control.

G. HYDROGRAPHIC POSITION CONTROL

Sounding line position control for this survey was range/azimuth. The following control equipment was used:

<u>EQUIPMENT</u>	<u>S/N</u>
Wild T-2	12118
Del Norte Master "78"	278
Del Norte Remote "72"	256
Del Norte Trisponder (DMU)	429

Del Norte equipment was calibrated usually twice daily over a calibration baseline established by HFP-3 personnel using an AGA Model 76 geodimeter on May 21. Correctors were applied by corrector tapes to the field sheet and will be applied during smooth plotting at AMC.

H. SHORELINE

There ^{is} was no shoreline in the area of this survey.

I. CROSSLINES

Crosslines were run at 8% of main scheme hydrography. Agreement at crossings is good.

J. JUNCTIONS

There were no junctioning requirements for this survey.

K. COMPARISON WITH PRIOR SURVEYS

PRESURVEY REVIEW ITEMS

GENERAL NOTE: No indication of the shoal soundings investigated in Items 1-4 were located.

Concentrations of fish on and near the bottom, such as on J.D. 142, Pos. 282 or 295, could have erroneously been recorded during prior surveys as obstructions. A bottom chain sweep with a 160-foot towline and 110-feet of chain was made in two directions across the spike near Pos. 295 with no hangs or indications of an obstruction, and it is therefore considered disproved. ✓

Source (BP-96500 U.S. Navy Survey 1973) *Concur*
1. The 29-foot depth, rep (1973) shown in the project instructions at Lat. 38°19.14', Long. 76°22.98' was examined by a fathometer search at 25 meter spacing. No shoaling was apparent; therefore, no least depth leadline sounding could be taken. Recommend this area be charted as shown on the present survey, and the 29-foot sounding should be deleted from the chart. It should also be noted that when the chart was compiled, the 29-foot reported depth was placed 200 meters west of the source position given in the instructions. ✓ *Depth of 31.4 found*

Source (BP-96500 U.S. Navy Survey 1973) *Concur*
2. The 23-foot depth, rep (1973) charted at Lat. 38°19.84', Long. 76°22.88' was examined utilizing a fathometer search at 25 meter spacing. No shoaling was apparent; therefore, no least depth leadline sounding could be taken. Recommend this area be charted as shown on the present survey and the 23-foot sounding should be removed from the chart. ✓ *Depth of 27.4 found*

Source (BP-96500 U.S. Navy Survey 1973) *Concur*
3. The 21-foot depth, rep (1973) charted at Lat. 38°20.01', Long. 76°22.01' was investigated using a bottom chain sweep dragging in two directions an area greater than 100 meters around the charted sounding. 110 feet of 3/16 oval link chain was dragged behind Launch 1283 at 1500 rpms using small otter boards with 80-foot of towline. Small floats were connected to the otter boards with 50 feet of light line allowing a visual reference of the position of the boards while towing. The spread of the boards was measured after several trial runs.

The average spread using this configuration and speed was determined to be 40 feet. Drag lines were run with 10 meter spacing. There are no splits remaining. Hangs that occurred at Positions 457, 459, 461, 471, 559, and 705 are on the same object located with D.P. position 472. This object was investigated with fathometer and leadline. No indication of the object would be detected with the fathometer. Repeated leadline casts struck a small metallic object on the bottom with little or no height. High current prevented obtaining an accurate leadline sounding. This object requires no further investigation, is not a danger to navigation, and should not be charted.*

* The referenced metallic objects are smooth plotted as obstructions. Chart as considered appropriate. *Concur*

Hangs that occurred at positions 463, 498, and 532 are on the same object located with D,P. pos. 499. This object was investigated with fathometer and leadline. No indication of the object could be detected with the fathometer. Repeated leadline casts struck a small metallic object on the bottom with little or no height. High current prevented obtaining an accurate leadline sounding. A small clump of metal and wiring was pulled up when recovering the drag from hang at Pos. 532. Sweeps from pos. 557-559 and 608-610 crossed the object without hanging indicating that most, if not all the object has been removed. This object requires no further investigation, is not a danger to navigation and should not be charted.* PSR Item #3 has been adequately investigated and disproved. Recommend this sounding be deleted and the area charted as shown by the present survey. *Concur*

4. The 25-foot rep, (1973) charted at Lat. 38°19.37', Long. 76°22.29' was investigated using a bottom chain sweep dragging in two directions an area greater than 100 meters around the charted sounding. 110-feet of 3/16 inch oval link chain was dragged behind Launch 1283 at 2000 rpms using small otter boards with 60-feet of towline. Small floats were connected to the otter boards with 50 feet of light line allowing a visual reference of the position of the boards while towing. The spread of the boards was measured after several trial runs. The average spread using this configuration and speed was determined to be 65 feet. Drag lines were run with 15 meter spacing. There were no splits remaining. No hangs occurred. PSR Item #4 has been adequately investigated and disproved. Recommend this area be charted as shown by the present survey. *Source (BP-96500 U.S. Navy Survey 1973) Concur*

L. COMPARISON WITH THE CHART

This survey was compared with Chart 12264, 17th Edition, March 25, 1978, 1:40,000. Soundings based on predicted tides generally agreed within 1 to 2 feet. *Depth of 31,4032 ft were found
Concur with charting recommendations
see Verifier's Report*

M. ADEQUACY OF SURVEY

This survey is complete and adequate to warrant its use to supersede prior surveys for charting. *See Verifier's Report*

N. AIDS TO NAVIGATION

No aids to navigation are located in the area of this survey.

O. STATISTICS

Number of positions	715
Nautical Miles of Sounding Line	33.3
Square nautical miles of hydrography	0.8
Nautical miles of chain drag	16.1
Square nautical miles of chain drag	0.1

M. MISCELLANEOUS

None

Q. RECOMMENDATIONS

See Section K.

R. AUTOMATED DATA PROCESSING

RK201	Grid, Signal & Lattice Plot	7-10-78
RK212	Visual Station Load & Plot	7-10-78
RK216	Range-Azimuth Non Real Time Plot	7-10-78
RK300	Utility Program	2-26-76
RK330	Data Check & Reformat	4-1-76
AM500	Predicted Tide Generator	12-9-77
AM602	Elinore	7-10-78

S. REFERRAL TO REPORTS

DMA Geodetic Control Report (DMATC-GS (52220), Nov. 14, 1977.

Respectfully submitted,

Robert Lewis
For/ A. Y. Bryson
LCDR, NOAA

FIELD TIDE NOTE
H-9826 (HSB-5-2-79)

Field tide reduction of soundings was based on predicted tides from Solomons Island, Maryland corrected to Cedar Point, Maryland with correctors specified by the project instructions. All times of both predicted and recorded tides from the HFP3 gage are GMT.

A standard Fischer/Porter ADR tide gage was installed near Cedar Point Lighthouse.

<u>SITE</u>	<u>LOCATION</u>	<u>PERIOD</u>
Cedar Point, MD #857-7381	38° 17.9'N 76° 22.4'W	leveled in and operated 5/16/79 - 6/7/79 leveled out 6/7/79 - No shift in staff elevation

Atlantic Marine Center
Hydrographic Surveys Branch
439 W. York Street
Norfolk, Virginia 23510

June 13, 1979

CAM11/TWR

TO: Chief, Tides Branch
FROM: Lt. Cdr. Thomas W. Richards
Chief, Hydrographic Surveys Branch
SUBJECT: Request for TidesData

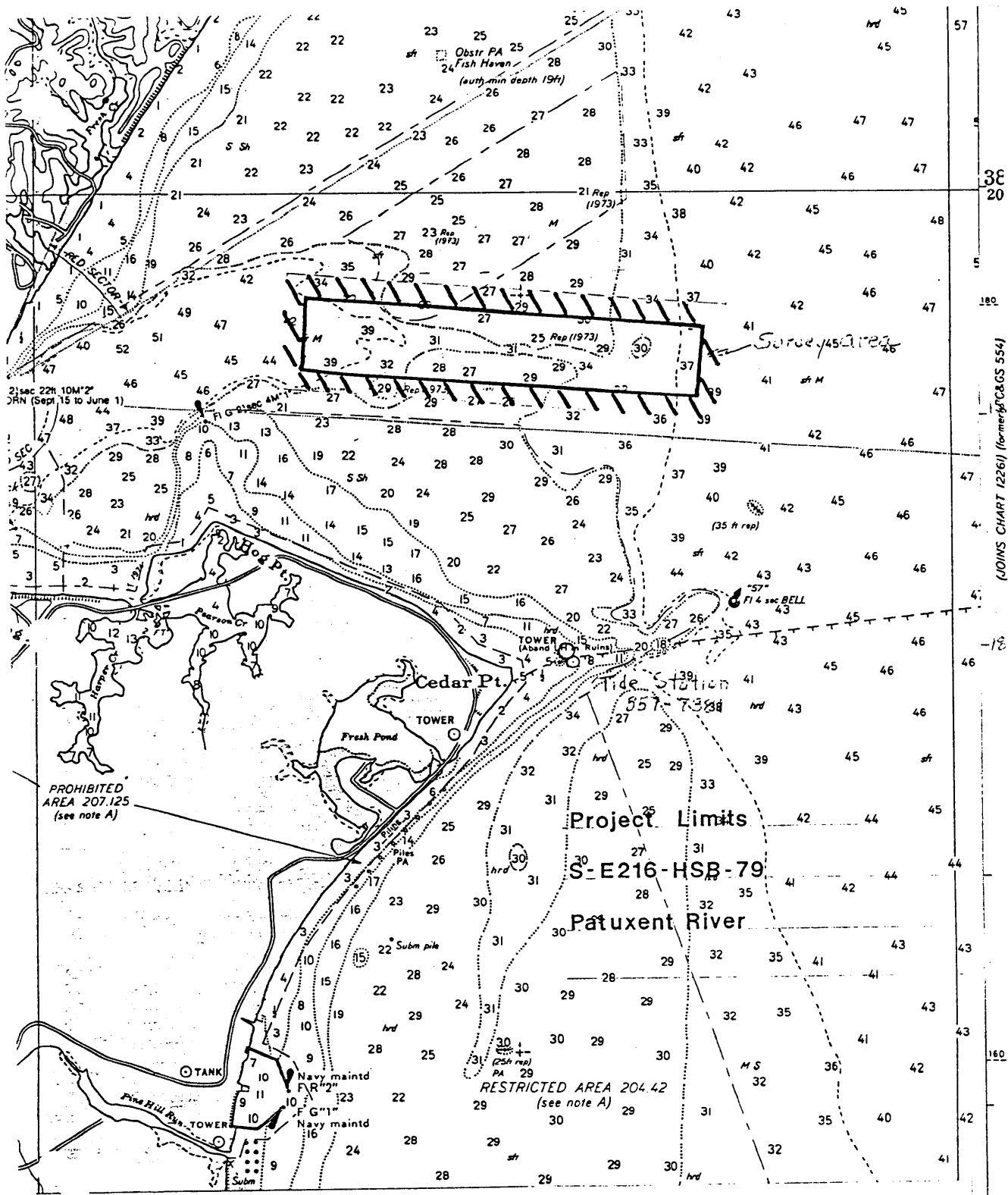
Please furnish smooth tide correctors and zoning information to AMC Processing Division, CAM3, for Survey H-9826 (HSB-5-2-79), Project S-E216-HSB-79.

Field tide reduction of soundings were based on predicted tides from Solomons Island, Maryland, corrected to Cedar Point, Maryland.

Smooth tide correctors should be obtained from tide station #857-7381.

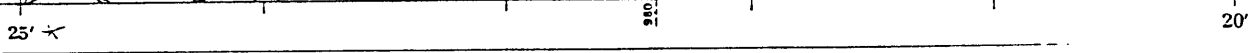
The following times of hydrography include two hours before and after actual times:

<u>Julian Day</u> 79	<u>Hydro Begins</u> GMT	<u>Hydro Ends</u> GMT
141	1304	2200
142	1201	2107
143	1145	2001
149	1223	2036
150	1225	2126
156	1152	2218
157	1218	2128
158	1345	1218



(JOINS CHART 12261) (formerly C&GS 554)

(Chesapeake Bay - Patuxent River and Vicinity) (12.) 12264
 SOUNDINGS IN FEET - SCALE 1:40,000 (formerly C&GS 553-)



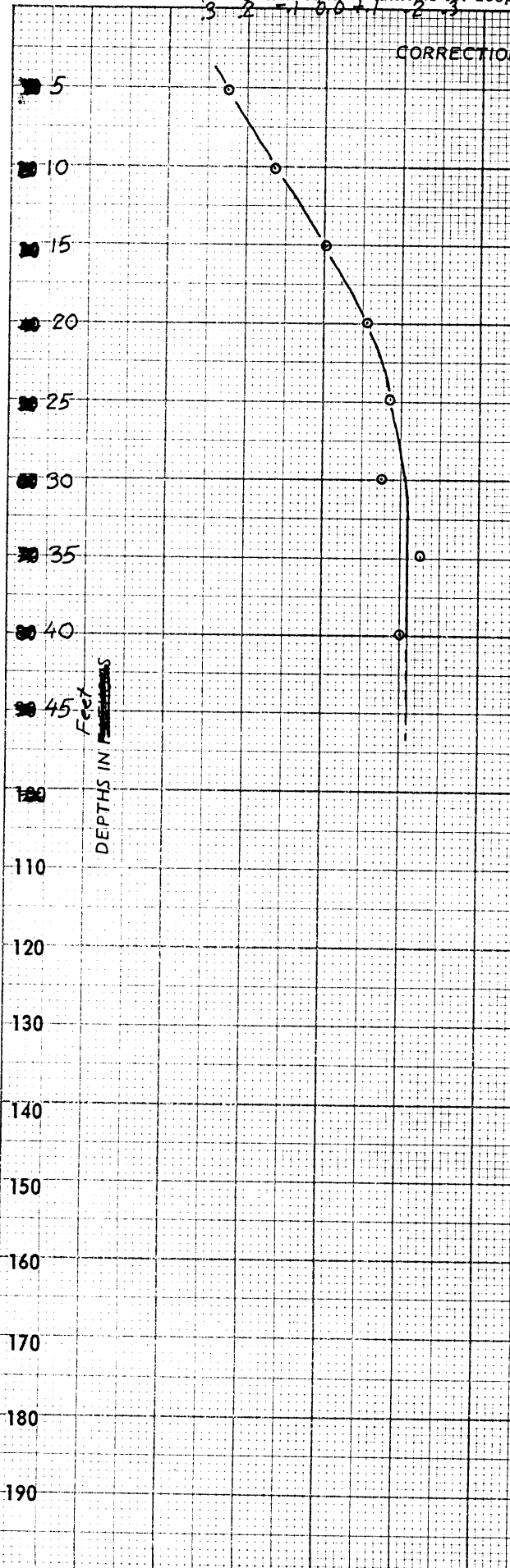
(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

Table #1

CORRECTIONS IN FEET, ~~DEPTH~~

NOAA FORM 75-21 (10-72)	U.S. DEPARTMENT OF COMMERCE NOAA NATIONAL OCEAN SURVEY
VELOCITY CORRECTIONS	
Ship <u>Launch 1283</u>	
Comd. <u>T.W. Richards, LCDR, NOAA</u>	
These corrections are to be used	
between <u>21 May</u> 19 <u>79</u> and <u>7 June</u> 19 <u>79</u>	
in the locality <u>Patuxent River</u> <u>Maryland</u>	
for hydrographic surveys Nos. <u>H-9826</u>	

(For deep water add a 0 to these figures)



depth (ft.)	Corr. (ft.)
to 11.0	-0.2
19.4	0.0
100.0	+0.2

drawn & Tab. RL
✓ KR

(15.)

NOAA FORM 75-21 (10-72)
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEAN SURVEY

VELOCITY TABLE

H-9826

HSB-5-2-79

000110	1	0002	0001	000	128300	009826
000194	0	0000				
001000	0	0002				
999999	0	0000				

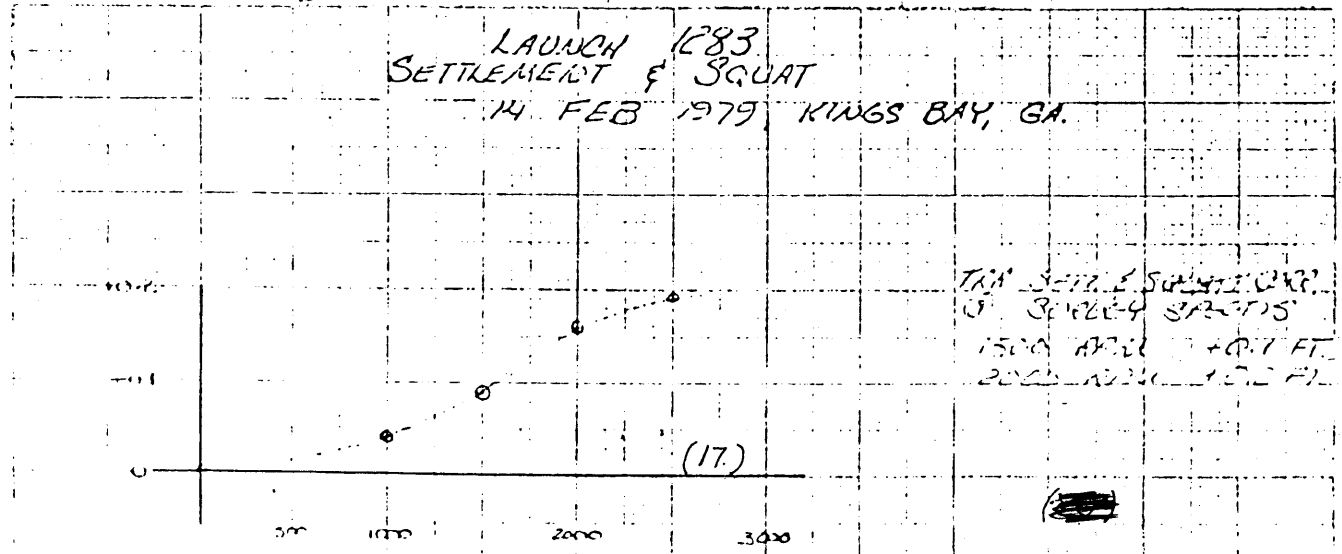
TIME	RPM	LEVEL	DIFF
1708	0	11.255	
1710	1000	11.326	
	0*	11.298	0.028
1711	1500	11.413	
	0*	11.319	0.094
1712	2000	11.505	
	0*	11.341	0.164
1713	2500	11.582	
	0*	11.362	0.220
1715	0	11.405	
1716	1000	11.481	
	0*	11.434	0.047
1717	1500	11.548	
	0*	11.463	0.085
1718	2000	11.672	
	0*	11.492	0.180
1719	2500	11.705	
	0*	11.521	0.184
1720	0	11.550	
1721	1000	11.625	
	0*	11.578	0.047
1722	1500	11.695	
	0*	11.607	0.088
1723	2000	11.781	
	0*	11.635	0.146
1724	2500	11.835	
	0*	11.664	0.171
1725	0	11.692	

RPM	DIFF	TRA CORR
0	0	0
1000	0.028	
	0.047	
	0.047	✓
	AVG.	+0.04
1500	0.094	
	0.085	
	0.088	✓
	AVG.	+0.09
2000	0.164	
	0.180	
	0.146	✓
	AVG.	+0.16
2500	0.220	
	0.184	
	0.171	✓
	AVG.	+0.19

* INTERPOLATED

M.B.
JLD

LAUNCH 1283
SETTLEMENT & SQUAT
14 FEB 1979, KINGS BAY, GA.



SIGNAL LIST

H-9826 (HSB-5-2-79)

001	6	38	18	06997	076	22	49592	250	0006	000000	MAI, 1977 *
002	6	38	17	57397	076	22	04924	139	0012	000000	CEDAR PT. LIGHTHOUSE, 1897 **
003	1	38	19	07800	076	25	16830	243	0007	000000	DRUM PT. LIGHT, 1975 ***

5

*This is a third order or better station located by USN Hydrographic Office.

** NGS second order.

*** This station was scaled from chart (not used for control - used only to assist coxswain in running lines.)

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY

- HYDROGRAPHIC PARTY
- GEODETIC PARTY
- PHOTO FIELD PARTY
- COMPILATION ACTIVITY
- FINAL REVIEWER
- QUALITY CONTROL & REVIEW GRP.
- COAST PILOT BRANCH

(See reverse for responsible personnel)

REPORTING UNIT
(Field Party, Ship or Office)

HSB-HFP3

STATE

Maryland

LOCALITY

Cedar Point,

DATE

5/21/79

The following objects HAVE HAVE NOT been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.

OPR-S-E216

JOB NUMBER

H-9826

DATUM

NA 1927

DESCRIPTION

(Record reason for deletion of landmark or aid to navigation.
Show triangulation station names, where applicable, in parentheses)

Cedar Pt. Lighthouse, 1897

TOWER
-LIGHTHOUSE
(Aband. Lt. in Sectors)

POSITION

LATITUDE

° / ' "

D.M. Meters

57.397

LONGITUDE

° / ' "

D.P. Meters

04.924

METHOD AND DATE OF LOCATION
(See instructions on reverse side)

OFFICE

FIELD

Triang. Rec.
5/21/79

CHARTS
AFFECTED

12264

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	LCDR. A.Y. BRYSON
POSITIONS DETERMINED AND/OR VERIFIED	LCDR. A.Y. BRYSON
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'
 (Consult Photogrammetric Instructions No. 64.)

OFFICE	FIELD (Cont'd)
<p>1. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75</p> <p>FIELD</p> <p>I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection</p> <p>A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75</p> <p>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</p>	<p>B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982</p> <p>II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75</p> <p>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75</p> <p>**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.</p>

HORIZONTAL CONTROL DATA

QUAD 380762 NW STATION 4020
 MD-VA 38° 00' TO 38° 30'
 LONGITUDE 76° 00' TO 76° 30'
 DIAGRAM NJ 18-4 WASHINGTON

by the
 National Ocean Survey
 NORTH AMERICAN 1927 DATUM

NO ORIGINAL TEXT
 CEDAR POINT LIGHTHOUSE (County, Md., 1897)
 Station not visited but used in connection with
 triangulation in Far Bay.

(F.P., 1942)--This station is located on a small sandy island,
 east of Cedar Point proper, which is bulkheaded and on which are
 several other buildings.
 The lighthouse is not occupied and seems in poor condition.

(L.S., 1943)--This station was recovered and was found to
 be in good condition. The reservation in which the lighthouse is
 located is deserted and in a poor state of repair, but the build-
 ings in which the light is housed appears strong.
 This station had not previously been described in detail. It
 is in St. Marys County.

CEDAR POINT LIGHTHOUSE (St. Marys County, Md., D.B.V., 1897;
 J.F.C., 1955)
 Station recovered in poor condition as described by R.L.S. in
 1943.

CEDAR POINT LIGHTHOUSE (St. Marys County, Md., D.B.V., 1897;
 L.V.S., 1956)
 Although the station was not visited, it was used to estab-
 lish a third-order station in a checked three-point fix. Apex of
 the tower on the dwelling was observed on. The lighthouse has
 been abandoned, and the tower is now listed as Cedar Point Day-
 beacon in the 1955 Light List.

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY
RECOVERY NOTE, TRIANGULATION STATION

RECOVERY NOTE, TRIANGULATION STATION
 NAME OF STATION: **CEDAR POINT LIGHTHOUSE**
 ESTABLISHED BY: Year: 1897 State: Maryland
 RECOVERED BY: Year: 1960 County: St. Marys
 NAME OF STATION: L.F.3.
 Based statement as to the fitness of the original description; including marks found, changes made, and other pertinent facts
 Station recovered. The lighthouse is now abandoned and the entire structure
 is in poor condition.

INTERSECTION
RECOVERY NOTE, INTERSECTION STATION

NAME OF STATION: **Cedar Point Lighthouse**
 ESTABLISHED BY: Year: 1897 State: Md. BENCH MARK(S) ALSO
 RECOVERED BY: Year: 1975 County: St. Marys
 NAME OF STATION: C.L. Novak
 BEARING AND DIRECTION FROM NEAREST TOWN: At Cedar Point.

Based statement as to the fitness of the original description; including marks found, remains, changes made, and other pertinent facts
 The station was not visited at this date, however it was intersected
 from triangulation station BARREDA 2 1952. It appeared to be in fair
 condition. The windows in the building below the station appeared to
 be broken and some wood removed.

U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SURVEY
 O.S.L. S.P. 4. 1974-769-564/263 REG. 4

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: **CEDAR POINT LIGHTHOUSE** SECOND -ORDER
 STATE: **MARYLAND** YEAR: 1897

LOCALITY: FIELD BATCH:
 SOURCE: **G- 5270**
 GEOGRAPHIC LATITUDE: **38° 17' 57.397** ELEVATION: **SCALED**
 GEOGRAPHIC LONGITUDE: **76° 22' 04.924**

STATE COORDINATES (NAD)			
STATE & ZONE	CODE	X	Y
MD	1900	981,370.08	170,313.29
			ELEVATION: 0 METERS FEET

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE ϕ (OR Δ) + ϕ FORMULA NEGLECTING THE SECOND TERM	
TO STATION OR OBJECT	GEODETIC AZIMUTH (From north)
	PLANE AZIMUTH (From north)
	CODE

NB 039

APPROVAL SHEET
SURVEY H-9826 (HSB-5-2-79)

The hydrographic records transmitted with this report are complete and adequate to supersede prior surveys for charting within the common areas. In addition the four item investigations on reported depths are all considered adequate to disprove their existence and they should no longer be charted.

Direct daily supervision was not given by me during the field work.

Approved and forwarded,



Thomas W. Richards

Lt. Cdr., NOAA

Chief, Hydrographic Surveys Branch

August 17, 1979

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

Tide Station Used (NOAA Form 77-12): 857-7381, Cedar Point, MD

Period: May 21 - June 7, 1979

HYDROGRAPHIC SHEET: H-9826

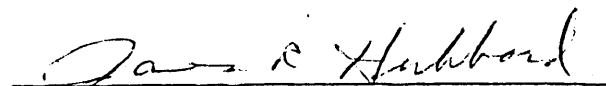
OPR: S-E216-HSB-79

Locality: Mouth of Patuxent River, Maryland

Plane of reference (mean ~~lower~~ low water): 2.73 ft.

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

REMARKS: Zone direct


Chief, Datums and Information Branch

H-9826

GEOGRAPHIC NAMES

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

Chesapeake Bay											1
Drum Point											2
Fishing Point											3
Hog Point											4
Gedar Point											5
PATUXENT RIVER											6
											7
											8
											9
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											22
											23
											24
											25

Approved:

Char. E. Harrington
Chief Geographer - C3x5

16 Nov 1979

(13.)

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		8 & 0	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POSSEARC, EXCESS		3	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			1- Smooth			
CAHIERS	1- with printouts & misc. data					
VOLUMES	3					
BOXES						

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) 1- Cht. mark - up

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			715
POSITIONS CHECKED		20	
POSITIONS REVISED		0	
SOUNDINGS REVISED		40	
SOUNDINGS ERRONEOUSLY SPACED		4	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)		3	
VERIFICATION OF CONTROL		2	
VERIFICATION OF POSITIONS		13	
VERIFICATION OF SOUNDINGS		10	
COMPILATION OF SMOOTH SHEET		10	
APPLICATION OF TOPOGRAPHY		0	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		0	
COMPARISON WITH PRIOR SURVEYS & CHARTS		20	
VERIFIER'S REPORT		10	
OTHER		14	
TOTALS		82	82

Pre-Verification by D. Mason, M. Hickson

Beginning Date 07/17/79

Ending Date 08/22/79

Verification by R. Hill

Beginning Date 09/11/79

Ending Date 09/12/79

Verification Check by B.J. Stephenson

Time (Hours) 2

09/13/79

Marine Center Inspection by Hydrographic Inspection Team (AMC)

Time (Hours) 4

09/14/79

Quality Control Inspection by R. W. Wellman

Time (Hours) 14

Date 11-15-79

Requirements Evaluation by D. J. Hill

Time (Hours) 4

Date 1/17/80

D. Myers 12/20/79 zhus

REGISTRY NO. _____

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. H-9826

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9826

FIELD NO. HSB-5-2-79

Maryland, Chesapeake Bay, Approach to Patuxent River

SURVEYED: May 21 through June 7, 1979

SCALE: 1:5,000

PROJECT NO.: S-E216-HSB-79

SOUNDINGS: Raytheon 719-B
Depth Recorder

CONTROL: Del-Norte
(Range-Azimuth)

Chief of Party T.W. Richards
Surveyed by M.J. Bradley
..... A.Y. Bryson
..... R. Snow
..... D. Elliott
..... J. Daniel
..... J. Oswald
Automated Plot by XYNETICS 1201 Plotter (AMC)
Verified and Inked by R.R. Hill
Date September 12, 1979

1. Introduction

During verification of this survey no unusual problems were encountered. All red notes in the Descriptive Report were made by the verifier. The area of chain drag was plotted on a secondary position overlay.

2. Control and Shoreline

a. The source of control is adequately described under Sections F. and G. of the Descriptive Report.

b. There is no shoreline within the limits of the present survey.

3. Hydrography

a. Depths at crossings are in good agreement.

b. The standard depth curves, along with a 36-foot supplementary curve were adequately delineated.

c. The development of the bottom configuration and investigation of least depths were considered adequate with the exception of several shoal indications where it would have been desirable to at least reduce the line spacing by one-half. The indications are as follows:

<u>Latitude</u>	<u>Longitude</u>	<u>Shoalest Depth</u>	<u>General Depths</u>
38°19'08.0"	76°21'38.5"	31 ft.	34 to 37 ft.
38°19'22.3"	76°21'35.2"	32 ft.	33 to 36 ft.
38°19'24.8"	76°21'39.5"	31 ft.	33 to 36 ft.
38°19'20.5"	76°21'43.3"	32 ft.	34 to 35 ft.
38°19'12.3"	76°21'47.1"	32 ft.	34 to 35 ft.
38°19'19.6"	76°21'53.8"	31 ft.	33 to 34 ft.
38°19'24.0"	76°21'52.5"	31 ft.	32 to 33 ft.
38°19'20.6"	76°21'59.3"	31 ft.	32 to 33 ft.
38°19'23.0"	76°22'04.5"	30 ft.	32 ft.
38°19'21.8"	76°22'12.0"	31 ft.	32 to 33 ft.
38°19'09.8"	76°22'13.7"	30 ft.	32 to 33 ft.

The lack of development of the above shoal indications is considered deficient because of section 1.1 and 2.4 of the Project Instructions which describes a need for defining safe navigable depths for a 29-foot vessel and to reduce spacing for shoaling indications.

4. Condition of Survey

The smooth sheet and accompanying overlays, hydrographic records; and reports are adequate and conform to the requirements of the Hydrographic Manual, with the following exception:

a.1. The hydrographer failed to delineate numerous shoal indications as prescribed by section 2.4 of the Project Instructions and the maximum line spacing was also frequently exceeded.

b.2. A copy of the Descriptive Report for Special Investigation SP-AMC-8-AHP-76 identified as provided to the field unit in the Project Instructions was not forwarded to this office.

c. (See Q.C. Report-item 1)

5. Junctions

There were no junctioning requirements for this survey and there were no surveys in the area suitable for junctioning. The charted depths surrounding this survey are in adequate harmony for charting purposes.

6. Comparison With Prior Surveys

	H-6684	(1941)	1:10,000
a.	H-6876	(1944)	1:10,000
	H-7094	(1945-46)	1:20,000

The above surveys taken together provide the most recent registered hydrographic survey coverage of the area. A comparison reveals these surveys to be variably from 2-feet shoaler to 3 feet deeper than the present survey. Isolated differences of up to 6 feet deeper and 2 feet shoaler exist between the present and prior surveys. The general bottom configuration appears to be some what changeable due to natural causes. The natural channel in the survey area has ~~shifted~~ ^{widened} approximately ~~100~~ ⁵⁰ meters to the north.

A single 30-foot depth from H-7094 (1945-46) in latitude 38°19'19", longitude 76°21'42", falls in present survey depths of 32 to 35 feet. Due to the generally deeper depths noted in this area on this present survey, it is doubtful that this shoal depth still exists.

In the northeastern portion of the present survey area, shoal soundings of 31 and 32 feet were found at latitude 38°19'24.8", longitude 76°21'39.4", and latitude 38°19'22.3", longitude 76°21'35.2". These depths fall in the vicinity of prior survey depths of 34 and 35 feet, from H-7094 (1945-46). These differences are attributed to the less detailed hydrography of the prior survey, and to natural changes.

b. SP-AMC-8-AHP-76 {L-282(77)
BP. 99357

This special investigation provides coverage for a portion of the present survey area. A comparison between the present survey and this special investigation reveals minor depth differences of 1 to 2 feet. Agreement along the 30-foot contour is very good, except in the vicinity of latitude 38°19'18", longitude 76°22'15". These differences are attributed to natural changes in the bottom configuration.

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

7. Comparison With Chart #12264 (17th Edition, March 25, 1978)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys, with the exception of the following depths:

29 ft.	latitude 38°19'19"	longitude 76°21'54"
29 ft.	latitude 38°19'15"	longitude 76°22'09"
31 ft.	latitude 38°19'19"	longitude 76°22'23"

The source for these charted depths was not readily determined at this time; however the present survey is considered adequate to supersede these charted depths within the common area.

The disposition of Presurvey Review Items located within the limits of this survey, and which originates with a 1973 U.S. Navy survey (BP-96500), were adequately discussed under Section K. of the Descriptive Report.

(See Q.C. Report-item 3)

b. Aids to Navigation

There are no charted aids to navigation within the limits of this survey; however, it is recommended that in the future aids be provided to insure safe navigation of the narrow channel shown on this survey.

8. Compliance With Instructions

This survey adequately complies with the Project Instructions excepts as indicated in section 3c and 4 of this report.

9. Additional Field Work

This is an adequate basic survey and no additional field work is recommended.

APPROVAL SHEET
FOR
SURVEY H-9826

- 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.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 9-19-77


Signed: 

Title: Chief, Verification Branch


Inspection Report
H-9826

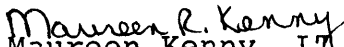
Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.


Examined and Approved:
Hydrographic Inspection Team
Date:


Robert A. Trauschke, CDR, NOAA
Chief, Processing Division

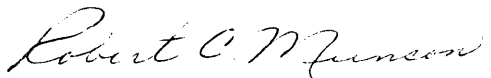
Absent
David W. Yeager, Lt. Cdr., NOAA
Field Procedures Officer
Operations Division


R. D. Sanocki
Technical Assistant
Processing Division


Maureen R. Kenny, LT, NOAA
Chief, Electronic Data
Processing Branch


Robert G. Roberson
Team Leader
Verification Branch

Approved/Forwarded


Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center



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

OA/C352:KWW

November 15, 1979

TO: Glen R. Schaefer
Chief, Hydrographic Surveys Division *GRS*

THRU: Chief, Quality Control Branch *qmw*

FROM: K. W. Wellman *K.W. Wellman*
Quality Evaluator

SUBJECT: Quality Control Report for H-9826 (1979), Maryland, Chesapeake Bay, Approach to Patuxent River

A quality control inspection of H-9826 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, decisions and actions by the verifier and cartographic presentation of data.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as discussed in the Verifier's Report, the HIT Report, and as follows:

1. Section 4 of the Verifier's Report is supplemented by the following:

c. Section A of the Descriptive Report is deficient in that the date of the project instructions is not included. (See section 5.3.4(A) of the Hydrographic Manual--Fourth Edition.)

2. Reference section 6 of the Verifier's Report:

Prior survey H-6684 (1941) was not included in the comparisons effected during verification. A comparison between the present survey and H-6684 was accomplished during quality control inspection and the referenced section of the Verifier's Report has been appropriately annotated.

3. Reference section 7-a of the Verifier's Report:

The referenced section of the Verifier's Report formally supersedes only three of the charted soundings within the common area. The remaining chart hydrography is not formally designated as superseded. (See section 6.6(12-a) of the Hydrographic Manual--Fourth Edition.



Section 7-a of the Verifier's Report is supplemented by the following:

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

cc:

OA/C35

OA/C351



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

MAR 19 1980

OA/C351:DJ

TO: OA/CAM - Richard H. Houlder

FROM: *J. F. Lanier* OA/C3 - Roger F. Lanier

SUBJECT: H-9826 (1979), S-E216-HSB-79, Maryland, Chesapeake Bay, Approach to Patuxent River, Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. In addition to the Quality Control Report, dated November 15, 1979 (copy attached), and the Hydrographic Survey Inspection Team Report, dated September 14, 1979, the following is submitted:

1. Even though this survey employed a Del Norte system to provide steering arcs, problems caused by unfavorable weather and river currents were apparently significant enough to cause frequent deviation from prescribed line spacing. This problem may have been reduced by decreasing the line spacing by 5 percent or more in accordance with paragraph 4.5.1 of the Hydrographic Manual.

2. The triangulation recovery information reported on Form 76-40, Non-floating Aids or Landmarks for Charts, was considered incomplete. The hydrographer has reported Cedar Point Lighthouse, 1897, to be charted as a lighthouse. NGS recovery notes indicate the structure was abandoned and in a state of disrepair as recently as 1975. This information supports the presently charted representation of the landmark. Form 76-40 must reflect accurately the presently charted name or clearly indicate that revisions are recommended. Clarifying notes have been added to the form and the 1975 recovery note inserted into the Descriptive Report.

3. The location of the horizontal control calibration point was not included in the Descriptive Report as required by section 2.8 of the project instructions.

4. The geodetic position of each detached position should be included in the Descriptive Report in accordance with paragraph 4.4.6 of the Hydrographic Manual.

Except as noted, the survey is complete and adequate for the purposes intended and is in compliance with Project Instructions S-E216-HSB-79, dated April 13, 1979.

Attachment

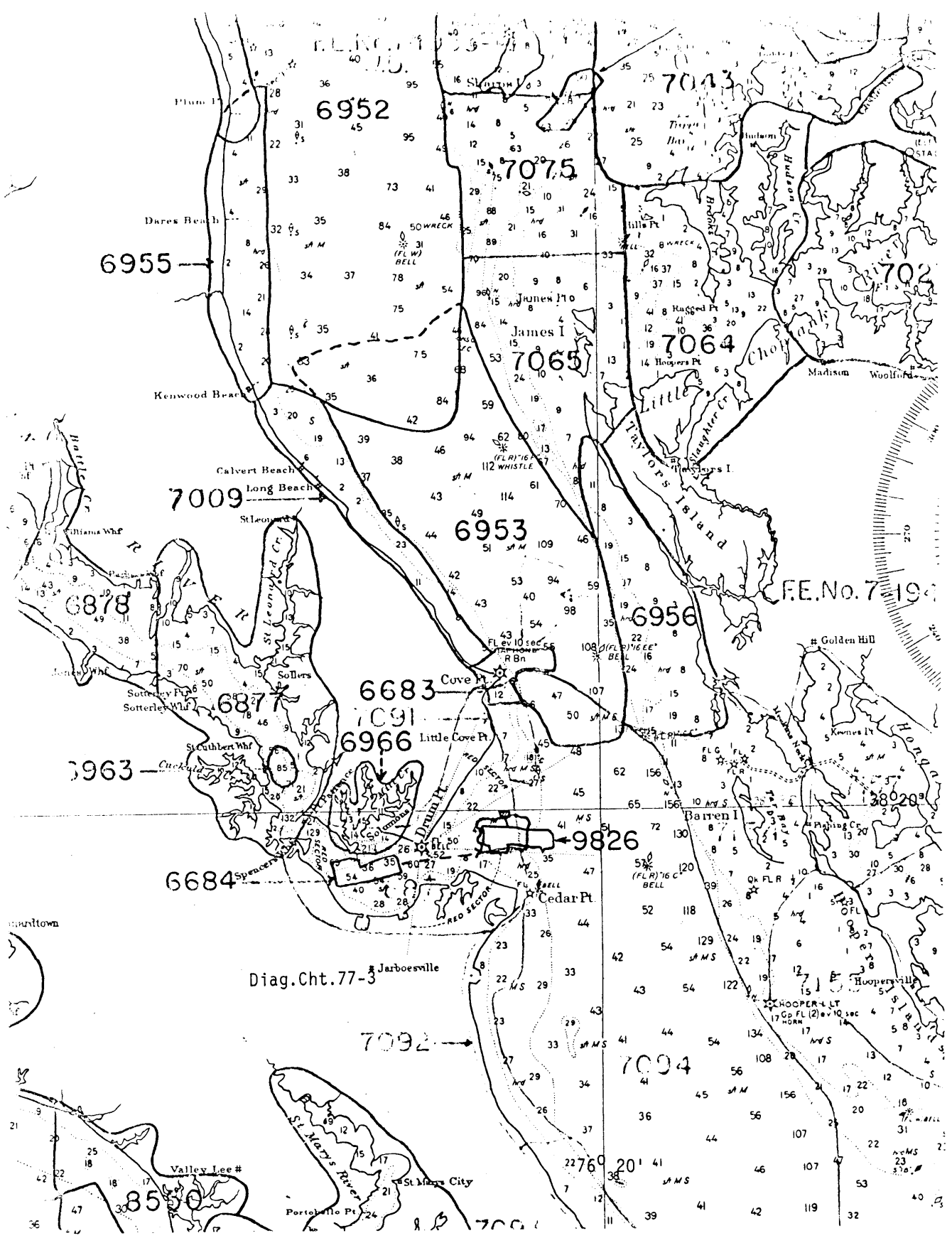
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OA/C352 w/o att.



10TH ANNIVERSARY 1970-1980

National Oceanic and Atmospheric Administration

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FLORIDA

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7075

7043

702

6955

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F.E.No. 7-19

6878

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6683

687

6966

6963

9826

68020

6684

Diag. Cht. 77-3

7092

7094

8550

700

Plum Pt

Darek Beach

Kenwood Beach

Calvert Beach

Long Beach

St Leonard

Williams Whf

James Whf

Sotterley Pt

Sotterley Whf

St Aubert Whf

Cuckold

Spencer

Cove Pt

Little Cove Pt

Cedar Pt

Jarboesville

St Marys City

Portobello Pt

James I

Little

Taylor's Island

Baren I

Golden Hill

Hooper's Island

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