9093

Diag. Cht. No. 1212-2.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WH-10-1-69 Office No. H-9093

LOCALITY

State Connecticut

General locality Long Island Sound

Locality Falkner Island

19 69

CHIEF OF PARTY

CDR Wayne L. Mobley, USESSA

9093

FORM C&GS-537 (5-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9093

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. WH 10-1-69

State: CONNECTICUT

General locality: LONG ISLAND SOUND

Locality: Vicinity of FAULKNER ISLAND

Scale: 1:10,000   Date of survey: 9/6/69 to 10/15/69

Instructions dated: June 3, 1969   Project No. OPR-474

Vessel: USC&GS SHIP WHITING

Chief of party: WAYNE L. MOBLEY

Surveyed by: C.W. TIGNOR, G.J CINPINSKI & S.T. REITER

Soundings taken by echo sounder, hand lead, pole: DIGITAL ECHO SOUNDER

Graphic record scaled by: DIGITAL ECHO SOUNDER

Graphic record checked by: SHIP PERSONNEL

Protracted by: GERBER DIGITAL PLOTTER, PACIFIC MARINE CENTER

Soundings penciled by: " " " , " " "

Soundings in fathoms feet at MLW MLLW

REMARKS:

Notice to Mariners written on shoal adge.

WMB

USCOMM-DC 8272-P62

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY H-9093
FIELD NO. WH-10-1-69
FALKNER ISLAND
LONG ISLAND SOUND

Scale 1:10000
Ship WHITING
Surveyed by:
CDR Wayne L. Mobley
LT George C. Chappell
LT Jack L. Wallace
LTJG Clarence W. Tignor
LTJG Lynn T. Gillman
ENS Gerald J. Cinpinski

A. PROJECT

The authorization for this project is contained in amended instructions for OPR-474, Long Island Sound dated June 3, 1969. The area involved was surveyed at 1:5000 to facilitate the analysis of two-man launch hydrography and to monitor the accuracies of the system. The smooth sheet will be plotted to a scale of 1:10,000.

B. AREA SURVEYED

The location encompassed consists of the following area bounded by the respective latitudes and longitudes:

41°12'00"N to 41°13'30"N
72°40'40"W to 72°38'30"W

Hydrography commenced September 6, 1969 and ceased October 15, 1969. Contemporary Survey - WH-20-4-69 (H-9088)

C. SOUNDING VESSELS

The following vessels were employed in the process of completing the above mentioned survey. They were:

VESSEL	ATTACHED TO
LAUNCH #II	WHITING
LAUNCH # I	WHITING

After running the main system of lines, splits were run for everything under 20.0 ft. Any area which indicated possible shoaling was well developed to find the most shallow spots. Generally speaking by drawing tangents from the north and south tips of Goose Island to the north and south tips of Falkner Island respectively, one would essentially enclose the area of soundings under 20.0 ft.

D. SOUNDING EQUIPMENT

The soundings collected in this survey were gathered with the use of the following devices:

VESSEL	SOUNDING DEVICE
LAUNCH #II	Raytheon Fathometer DE-723D S/N = 37019
LAUNCH # I	Raytheon Fathometer DE-723O S/N = 37018

Velocity corrections for Launch #II and Launch #I were determined by means of daily measurements using a device manufactured by Martek Instruments.

In addition leadline comparisons were also made during the surveying of Falkner Island.

For more information, consult WHITING 1969 Long Island Sound Fathometer Report and TDC Report.

E. SMOOTH SHEET

The smooth sheet will be plotted by the processing office at the Pacific Marine Center.

Aboard the WHITING, the computer plotter system was employed to facilitate editing of daily work. As mentioned before, the survey is a 1:10000 scale survey. However, Falkner Island was done on 1:5000 scale in order to provide the clarity and accuracy needed in surveying this small area and in proving the automated system.

F. CONTROL

Hydrography was accomplished through the use of Hi-Fix where the frequency of operation was 1799.6 KHZ. The geographic location of the master and the two slave stations was as follows:

STATION	LATITUDE	LONGITUDE
MASTER	41°14'39.00"	72°52'39.35"
SLAVE #1	40°57'54.40"	72°46'24.98"
SLAVE #2	41°15'42.93"	72°23'16.71"

Calibrations of the hi-fix were done daily in order to determine the differences between observed and theoretical readings. Visual control was established in order to calibrate the hi-fix. Signals were located by traverse and triangulation. The geographic location of the signals was as follows:

STATION	LATITUDE	LONGITUDE	
600	41°12'48.81"	72°39'14.98"	N. tip Falkner Island
601	41°12'43.17"	72°39'18.15"	Coast Guard Crane
602	41°12'38.12"	72°39'18.77"	S. tip Falkner Island
603	41°12'42.14"	72°39'13.36"	SE. Falkner Island
604	41°12'45.96"	72°39'12.94"	NE. Falkner Island
605	41°12'30.71"	72°40'25.67"	Goose Island
606	41°12'42.70"	72°39'14.61"	Falkner Island L. H.

G. SHORELINE

All shoreline was transferred from the following manuscript:

SHEET NO.	DATE
T-12136 ? This # is for Puerto Rico Northeast Coast Punta Uvero	7-2-69

This manuscript was constructed from photos. Because of the lack of control, it seems that the accuracy of the manuscript leaves much to be desired.

H. CROSSLINES

Seven percent of the sounding lines were run as crosslines. The agreement between sounding line and crossline was found to be quite satisfactory.

I. JUNCTIONS

The only junction of interest would be that involving WH-20-4-69 (H-9088). Comparison was made in the overlapping area which consists of hydrography done by both the WHITING launches and C&GS #1257. It was found that comparative soundings on each survey were in good agreement.

J. COMMENTS ON PRE-SURVEY REVIEW

ITEM 14: This item concerns the sand bar extending northward from Falkner Island. This area was covered extensively. Both

shoreline and several lines over the sand bar were run in the development. The information gathered does indicate the limits of the reef and also the highest points found in the process.

ITEM 15: This item involved searching for a 23 ft. sounding at LAT. 41°13.45', LONG. 72°39.01'. The area around this location was covered thoroughly. However no 23 ft. sounding was found. It definitely appears that the location of the 23 ft. sounding was misplotted on the chart.

K. COMPARISON WITH THE CHARTS

C&GS Chart #216 (Duck Island to Madison Reef), 6th Edition, August 16, 1965
C&GS Chart #217 (Guilford Harbor to East Haven River), 6th Edition, July 29, 1968

A comparative analysis was made and it was found that agreement between the survey and the chart was excellent. Differences between respective soundings was never any greater than 2.0 ft.

L. ADEQUACY OF SURVEY

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

M. AIDS TO NAVIGATION

Two floating aids to navigation are situated within the limits of the survey.

The location of these buoys was found to be as follows:

BUOY DESIGNATION	LATITUDE	LONGITUDE
BUOY #15 G	41°13'25.88"	72°39'15.31" Posn. 434
BUOY #1061	41°12'05.25"	72°40'27.25"

Not on this survey - It is on H-9088

No unofficial aids to navigation were found within the survey area.

N. STATISTICS

The data concerning the number of positions and nautical miles of sounding line for craft employed in this survey is as follows:

VESSEL	POSITION NUMBERS	MILES OF SOG. LINE
LAUNCH #II	687	78.0 N.M.
LAUNCH # I	71	6.0 N.M.

The total area surveyed on this sheet encompasses 2.4 sq. miles. The total number of bottom samples collected on this sheet was 6.

Smooth tides for this work were zoned from data obtained at the following gages:

1. Sachem Head, Connecticut
2. Duck Island, Connecticut

P. RECOMMENDATIONS

Since the area around Falkner Island is a fishing ground, anchorage and is charted at 1:20,000, it is recommended that this area be smooth plotted at 1:10000 rather than 1:20,000 as originally planned.

Q. REFERENCES TO REPORTS AND RECORDS

1. Computer Plotter Report, OPR-474
   Long Island Sound, USC&GSS WHITING
2. Fathometer Report, OPR-474
   Long Island Sound, USC&GSS WHITING
3. TDC Report, OPR-474
   Long Island Sound, USC&GSS WHITING
4. Hi-Fix Report, OPR-474
   Long Island Sound, USC&GSS WHITING
5. Listing and Fathograms for the following days:
   249, 250, 251, 253, 254, 262, 288
6. Zoned Tides
7. Velocity Correctors
8. Hi-Fix Correctors

Respectfully submitted

Gerald J. Cinpinski

Gerald J. Cinpinski

FORM # 2
PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

(1) Project No. OPR 474 (4) Requested by _____

(2) H No. 9093 (5) Ship or Office _____

(3) Field No. WH 10-1-69 (6) Date Required _____

(7) Visual [XXX] Pt.(0) or Fathoms (1) [0] (8) Electronic [XXXX] (fill out form #3)

(10) XKN (SP 5) Distance from CMER to East Edge (NYX = 1) or West Edge (NYX = 0). (Origin) 1398.1 Meters

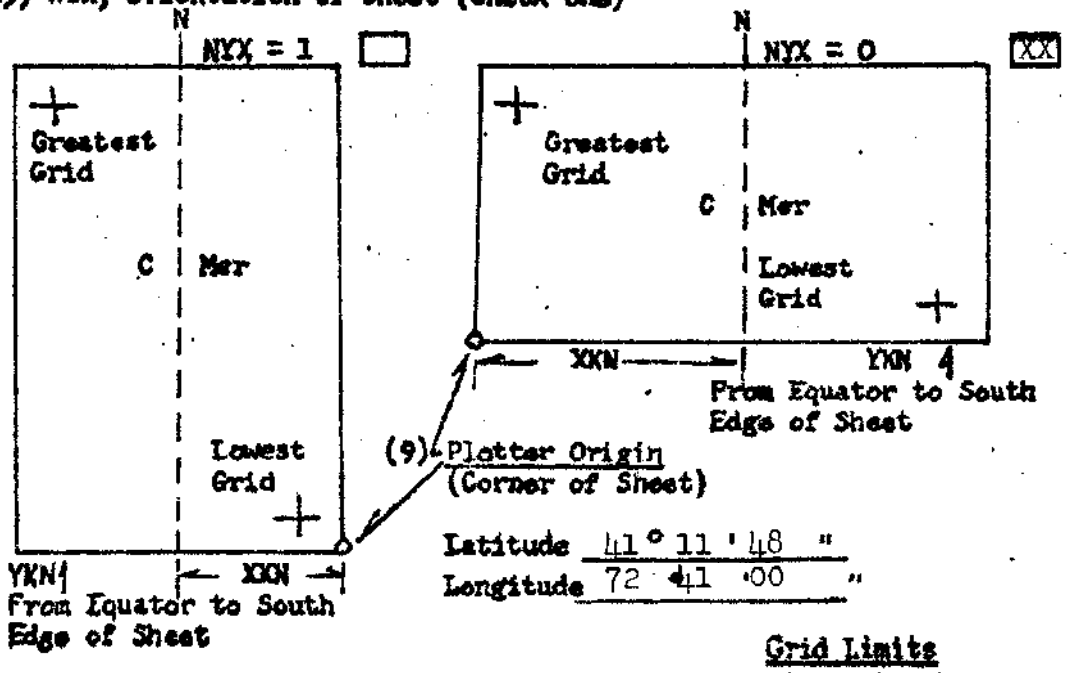
(11) YKN (SP 241) Distance from Equator to South Edge of Sheet. (Origin) 4,562,201.94 Meters

(12) Central Meridian 72 ° 40 ' 00 "

(13) Survey Scale 1:10000

(14) Size of Sheet (Check one) 36x60 [XXX] 42x60 [ ]

(15) NYX, Orientation of sheet (Check one)



Grid Limits

(16) Greatest Latitude 41 ° 14 ' 00 "
(17) Lowest Latitude 41 ° 12 ' 00 "
(18) Difference 2 ' 00 "

(Projection Line Interval Page 4 Hydro Manual)
(19) 30 "
(20) 4 YSN

(21) Greatest Longitude 72 ° 40 ' 30 "
(22) Lowest Longitude 72 ° 38 ' 00 "
(23) Difference 2 ' 30 "

(24) 30 "
(25) 5 XSN

USC&GSS WAINWRIGHT

Velocity Corrections
Launch I & II

Long Island Sound (1969)

Table 4

Days 248 thru 277 1969 OPR-474

0 to 5.2	0.0
10.1	0.2
15.3	0.4
20.9	0.6
26.4	0.8
31.9	1.0
37.1	1.2
42.1	1.4
47.1	1.6
51.9	1.8
57.3	2.0
63.1	2.2
68.8	2.4
74.6	2.6
80.4	2.8
86.2	3.0
92.0	3.2
97.8	3.4
103.6	3.6
109.4	3.8
115.2	4.0

Velocity Corrections
Launch I & II
Long Island Sound (1969)

Table 5

Days 278 thru 290 1969 OPR-474

0 to 4.6	0.0
10.6	0.2
16.5	0.4
22.4	0.6
28.4	0.8
34.4	1.0
40.1	1.2
45.9	1.4
51.8	1.6
57.6	1.8
63.4	2.0
69.0	2.2
74.7	2.4
80.3	2.6
86.0	2.8
91.7	3.0
97.4	3.2
103.1	3.4
108.8	3.6
114.5	3.8
120.2	4.0

TC/TI TAPE
WH 10-1-69

Launch I & Launch II

000000 0 0005 0004 249 000000 000000
000000 0 0005 0005 288 000000 000000
000000 0 0005 0005 999 000000 000000

FORM C&GS-733M (6-23-60) FALKNER ISLAND WH-20-4-69

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
WHITING (USCHI)	474	1969	LONG Island Sound		

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE	SAMPLE POSITION LONGITUDE	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)		OBS. INIT.
	254					Time						
✓ 1467	SEPT. 11	41-12-26.43	72-39-48.47	45.6	5 lbs	105837			BLACK MUD	138.40	230.20	
✓ 1468	Sept. 11	41-13-01.00	72-38-50.72	23.1	"	110647			BLACK MUD	130.97	230.01	
✓ 1472	Sept. 11	41-13-02.22	72-39-32.81	22.8	"	120106			BLACK MUD	126.90	218.47	
✓ 1473	Sept. 11	41-12-23.03	72-39-32.59	39.1	"	121018			BLACK MUD	135.14	218.19	
✓ 1474	Sept. 11	41-12-18.00	72-40-29.13	23.1	"	122916			SHELLS	131.10	202.85	
✓ 1475	Sept. 11	41-13-00.44	72-40-27.03	42.8	"	123853			BLACK MUD	122.11	203.56	

Use more than one line per sample if necessary.

USCOMM-DC 8220-P62

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

TO : Chief, Tide Section

DATE: 27 February 1970

In reply refer to: CFN2

FROM : Chief, Processing Division

SUBJECT: Tide Approval and Zoning

Attached are the tide corrections determined by computer for Falkner Island OPR-474 Sheet WH 10-1-69 (H-9093).

Also attached is the documentations and flow chart for the methods used to determine the corrections for this survey (WH 10-1-69) and also for Sheets WH 20-3-69, WH 20-4-69 and WH 20-5-69. These corrections will be forwarded at a later date.

Approval is herewith requested for Sheet WH 10-1-69 (H-9093).

Wayne L. Mobley
Wayne L. Mobley
CDR USESSA

Enclosures

FORM C&GS-712
(10-67)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 2, 1970

[redacted]: Atlantic Marine Center

Plane of reference approved [redacted] for Tide Tape Printout

HYDROGRAPHIC SHEET 9093

Locality: Falkner Island, Long Island Sound

Year
[redacted] 1969

Plane of reference is mean low water

Tide Station Used (Form C&GS-681):

Sachem Head, Connecticut

at the working grounds

Height of Mean High Water above Plane of Reference is as follows:

5.4 feet

Remarks

J. M. Symons
Chief, Tides and Currents Branch

FALKNER ISLAND
SMOOTH TIDES
WH-10-1-69
H-9093

EST TIME	Conn yr. ± ft	JULIAN DAY	
084040	0 1040	0000 249 000000 000000	Reference Tide Stations at: Sachem Head, Conn. and Westbrook, Conn.
085000	0 1038		
091500	0 1036		
092500	0 1034		
092900	0 1032		
090200	0 1046	0000 250 000000 000000	
092200	0 1044		
094000	0 1042		
095100	0 1040		
100700	0 1038		
101400	0 1036		
114540	0 1024		
115600	0 1022		
121800	0 1020		
123400	0 1018		
125900	0 1016		
143300	0 1014		
150700	0 1016		
151540	0 1018		
170700	0 1034		
171700	0 1036		
173120	0 1038		
174200	0 1040		
175540	0 1042		
180700	0 1044		
182600	0 1046		
183120	0 1048		
130300	0 1022	0000 251 000000 000000	
131640	0 1020		
133430	0 1018		
140750	0 1016		
143320	0 1014		
144210	0 1012		

080100 0 1038 0000 253 000000 000000
081600 0 1040
082740 0 1042
084400 0 1044
090200 0 1046
091650 0 1048
093900 0 1050
102940 0 1052
105604 0 1050
115300 0 1042
120200 0 1040
121800 0 1038
122600 0 1036
124300 0 1034
124900 0 1032
130240 0 1030
131920 0 1028
132400 0 1026
132540 0 1024

083400 0 1040 0000 254 000000 000000
084700 0 1042
085700 0 1044
091031 0 1046
091700 0 1048
092900 0 1050
094400 0 1052
101700 0 1054
103800 0 1056

074230 0 1028 0000 262 000000 000000
075700 0 1026
081420 0 1024
082440 0 1022
084300 0 1020
084700 0 1018
093731 0 1014
103050 0 1012

123300 0 1058 0000 288 000000 000000
125600 0 1060
134940 0 1062
142000 0 1060
143140 0 1058
151210 0 1050
152050 0 1048
153030 0 1046
153530 0 1044

Tides and Currents Branch
4/1/70

AUTOMATED TIDAL ZONING

BY
LTJG LYNN T. GILLMAN

Because of the arrangement of our tide gages and the nature of the survey, a new method of tidal zoning was used by the WHITING and LAUNCH 1257 in Long Island Sound (OPR-474) in 1969.

There were five tide gages used, two on the Connecticut side of the sound, and two on the Long Island side. These gages were arranged in such a way as to bracket our survey area.

X
SACHEM HEAD, CONN.

X
WESTBROOK, CONN.

S U R V E Y A R E A

X
HORTON BEACH, L. I.

X
NORTHVILLE, L. I.

X
MATTITUCK, L. I.

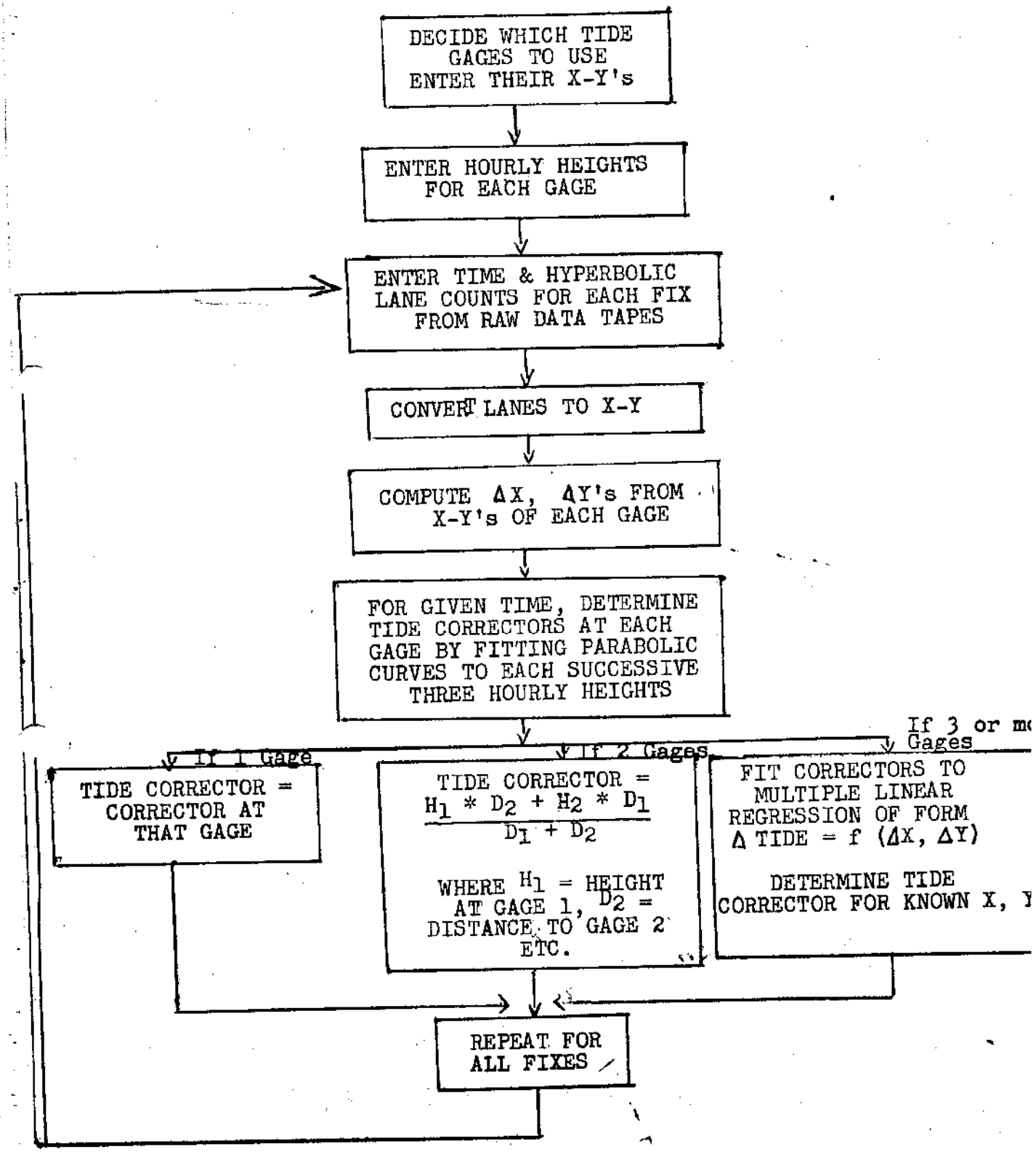
It was observed that, at any given time, the differences in the hourly heights at these gages could be as great as 1.5-2.0 feet. Because Launch 1257 was crossing the sound in relatively short time intervals, it was undesirable to have it pass from one tide zone into another at a discreet time and have a sizeable jump in tide correctors at that point. And since all of the 1969 WHITING hydrography junctioned with that of Launch 1257, it was decided to use one method of tidal zoning for both vessels.

The method decided upon was to determine the tide at any point on the survey as a junction of the relative distances from all tide gages used. The tide at the nearest gage has the greatest weight, the next nearest gage has the next most weight, and so forth to the farthest gage, which has the least effect.

The actual method used to determine these weights differed depending on whether we had tide data from one, two, or three or more stations, as is illustrated by the following flow diagram. This was necessary because we did not have tidal data from all gages for all days which we ran hydrography. For example, the Horton Beach tide gage was not even installed until late in the season when we got near that area. Comparisons were made using data from one to five gages, and the resulting correctors did not differ appreciably except in the case of one gage, where we had no choice but to use data from that gage as absolute. As a general rule we utilized all data available to us for a given day.

See the accompanying flow diagram for details of the system. This system was programed and run on the WHITING's PDP-8 computer, and each part tested separately. The method of determining correctors by fitting parabolas to successive sets of three hourly heights compared almost exactly with points picked off a curve by hand. And the linear extrapolation of tides appeared to be quite reasonable. While this method may have some weaknesses, it appears to be better than using only one gage in each discreet area, and we would propose to use the same or an improved method on future surveys.

APPENDIX A


DECIDE WHICH TIDE GAGES TO USE ENTER THEIR X-Y's
ENTER HOURLY HEIGHTS FOR EACH GAGE
ENTER TIME & HYPERBOLIC LANE COUNTS FOR EACH FIX FROM RAW DATA TAPES
CONVERT LANES TO X-Y
COMPUTE ΔX, ΔY's FROM X-Y's OF EACH GAGE
FOR GIVEN TIME, DETERMINE TIDE CORRECTORS AT EACH GAGE BY FITTING PARABOLIC CURVES TO EACH SUCCESSIVE THREE HOURLY HEIGHTS
If 1 Gage
TIDE CORRECTOR = CORRECTOR AT THAT GAGE
If 2 Gages
TIDE CORRECTOR = H1 * D2 + H2 * D1 / D1 + D2
WHERE H1 = HEIGHT AT GAGE 1, D2 = DISTANCE TO GAGE 2 ETC.
If 3 or m Gages
FIT CORRECTORS TO MULTIPLE LINEAR REGRESSION OF FORM Δ TIDE = f (ΔX, ΔY)
DETERMINE TIDE CORRECTOR FOR KNOWN X, Y
REPEAT FOR ALL FIXES

2-1-...

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

1. Project No. OPR 423
2. Reg. No. H-9093
3. Field No. WH-10-1-69
4. Requested By Verification Branch
5. Ship or Office AMC
6. Date Required ASAP

7. Polyconic [x] Modified Transverse Mercator [ ]
8. Central Meridian of Projection 72 ° 40 ' 00 "
9. Survey Scale: 1: 10,000
10. Size of Sheet (check one):

30 x 54 [ ] 36 x 60 [x] Other [ ] Specify _____

11. Sheet Orientation (check one):

NYX = 1 [ ] NYX = ∅ [x]

N

CMER

N

CMER

12. Plotter Origin S.W. Corner of Sheet (not necessarily a grid intersection)

Latitude 41 ° 11 ' 48 "

Longitude 72 ° 41 ' 00 "

13. G.P.'s of triangulation and/or signals attached [ ]
14. Material Desired: Tracing Paper [ ] Mylar [x]

Smooth Sheet [ ] Other [ ] Specify Smooth Overlay

15. Remarks: Master 41° 11' 39.000" 72° 52' 39.350" Slave 1 40° 57' 54.400" 72° 46' 24.980" Slave 2 41° 15' 42.930" 72° 23' 16.710" Hi-Fix frequency 1799.6 kc

APPROVAL SHEET
H-9093
WH 10-1-69

Daily supervision was made on this survey. The development of the WHITING system included new instrumentation and new methods.

New methods employed include:

1. Automated launch with 2-man crew.

2. Separation of fathometer corrections into component parts (i.e., velocity, draft, settlement, and squat).

3. Tidal zoning by computer program (i.e., this survey based on data from two gauges).

The data on the survey is herewith approved and is adequate for charting.

There are two charted depths, 30 feet each, which this survey failed to confirm. Their source positions and depths should be investigated as they are believed not to exist in their charted positions. They are located at:

30' at 41° 12' 09", 72° 40' 24"

30' at 41° 12' 19", 72° 39' 17"

A rock (0') charted at 41° 12' 48", 72° 39' 58" was not located by this survey. The least depth obtained was 3 feet. This rock may exist, but would require wire drag to obtain confirmation. If the source information is reliable, the rock should be carried forward.

Wayne L. Mobley

Wayne L. Mobley
CDR, USESSA

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-9093

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	
Falkner Island										1
Goose Island										2
Long Island Sound										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
					PREPARED BY					21
										22
					CARTOGRAPHIC TECHNICIAN					23
					Frank M. Pickett					24
					APPROVED BY					25
					A. Joseph Wraight					26
					CHIEF GEOGRAPHER					27

FORM C&GS-948
(REVI 11-65)
(PRESC. BY
HYDROGRAPHIC
MANUAL 20-2,
6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY
NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9093 (WH-10-1-69)

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS	None
DESCRIPTIVE REPORT	1	OVERLAYS	~~None~~ 4

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	~~None~~					
CANIERS	1		~~None~~ 1			
VOLUMES						
BOXES			1			

T-SHEET PRINTS (Lint) T-12134

SPECIAL REPORTS (Lint)
See paragraph Q, page 5

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				758
POSITIONS CHECKED		40		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED		23		
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		4		
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		16		
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		95		
TOTALS		115		

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY		
VERIFICATION BY F. Bean, H.R. Smith, Gif. Trefethen	4-16-70	7-15-70
REVIEW BY		

FORM C&GS-946A
(REV. 11-65)
(PRES. BY HYDROGRAPHIC MANUAL, 8-94)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

VERIFIER'S REPORT

HYDROGRAPHIC SURVEY, H 9093 (WH-10-1-69)

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems.		
1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None	✓	
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None	✓	
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None	✓	
Part II - SHORELINE AND SIGNALS		
4. Source of shoreline signals T-12136 Remarks Required: -- List all surveys		
a. Give earliest and latest dates of photographs Sept. Oct. 1968	✓	
b. Field inspection date		
c. Field Edit date		
d. ~~Reviewed~~ Unreviewed		
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.	✓	
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None	✓	
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still undescribed.	✓	
Part III - JUNCTIONS		
Note: Make a cursory comparison preliminary to inking soundings in area of overlap.		
8. All junctions of contemporary or overlapping sheets were transferred in colored ink and were, in, curves were made identical. Remarks Required: -- None	✓	
9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None	✓	

Part III - JUNCTIONS (Continued)	CL	R
10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.	✓	
Part IV - VOLUMES		
11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None	✓	
12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:		
(a) rocks		
(b) line turns		
(c) position values of beginning and ending of lines	✓	
(d) bar check or velocity correctors		
(e) time recording		
(f) notes or markings on fathograms		
(g) was reduction of soundings accurately done ?		
(h) was scanning accurate?		
(i) were peaks at uneven intervals missed?		
(j) were stamps completed?		
(k) references to adjacent features		
Part V - PROTRACTING		
13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None	✓	
14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None	✓	
15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None	✓	

Fig. 20 (cont'd.)
Form 946 A (back of form)

Part V - PROTRACTING (Continued)	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refer to protracting geometrical except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓	
Part VI - SOUNDINGS		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓	
20. The [illegible] recorded in the [illegible] was closely followed. Remarks Required: -- None	✓	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning. See notes to the addendum about soundings from Pts. 1-20	✓	
Part VII - CURVES		
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the pencilled curves inspected. WWF	✓	
24. The lowwater line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓	

Part VIII - AIDS TO NAVIGATION	CL	R
26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	✓	
27. All floating aids to be in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	✓	
Part IX - BOAT SHEET		
28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. No Boat sheet Remarks Required: -- None		
29. Heights of [illegible] were correctly reduced and compared with topographic information. Remarks Required: -- None except conflicts with topographic information.	✓	
Part X - GENERAL		
30. All information on the sheet is shown in accordance with figures 82 and 84 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
Part XI - NOTES TO THE REVIEWER		
34. Unresolved discrepancies and questionable soundings.	✓	
35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	✓	
36. Supplemental information.	✓	

Verified by: F. Bean, H. R. Smith & G. F. Trefethen - Date: 7-15-70

FORM CAGS-946A (11-62)

USCOMM-DC 34272-P63

H-9093
(WH-10-1-69)

Fig. 18.

DESCRIPTIVE REPORT DATA RECORD			
PART I SMOOTH SHEET PREPARATION		PREPARED BY/OPERATOR	DATE
A. PLOTTER OPERATOR		EDAT	
B. DISTORTION MARKS PLOTTED		EDAT	
C. PROJECTION INTERSECTIONS PLOTTED		EDAT	
D. POINTS OF ELECTRONIC CONTROL ARCS PLOTTED			
E. OVERLAYS PREPARED BY		EDAT	
1. POSITION NUMBER		EDAT	
2. EXCESS SOUNDINGS		EDAT	
3. PRELIMINARY SMOOTH PLOT		EDAT	
4. LIST OTHERS			
A.			
B.			
F. SOUNDING SELECTION BY		EDAT	
G. PLOTTER INPUT	PREPARED	EDAT	
H.	CHECKED	EDAT	
I. DESCRIPTIVE REPORT ADDENDUMS			
PART II SMOOTH SHEET COMPLETION			
		CARTOGRAPHER	DATE
A. DISTORTION SCALE TICKS IDENTIFIED BY NOTE		GFT	7-14-70
B. PROJECTION INTERSECTIONS VERIFIED BY		HRS	6-5-70
C. PROJECTION LINES RULED BY		HRS	6-5-70
D. ELECTRONIC CONTROL ARCS RULED AND LOCATION VERIFIED		Arc overlays will be furnished when plotter at AMC becomes operational	
E. OVERLAYS COMPLETED BY			
1. POSITION NUMBER LEADERS ADDED		GFT	7-15-70
2. EXCESS SOUNDING OVERLAY COMPARED		GFT	5-1-70
3. PRELIMINARY SMOOTH PLOTS COMPARED		GFT	5-4-70
4. OTHERS UTILIZED			
A.			
B.			
F. DESCRIPTIVE REPORT ADDENDUM		GFT	5-15-70
G. CONTROL STATIONS VERIFIED			
H. POSITIONS MANUALLY PLOTTED		FB	4-16-70
I. MANUAL PLOT VERIFIED		GFT	4-30-70
J. SHORELINE APPLIED		GFT	7-6-70
K. BOTTOM CHARACTERISTICS ADDED		GFT	7-15-70
L. NOTES AND DEPTH CURVES ADDED		GFT	7-9-70

H- 9093

A. Additions and corrections have been furnished the plotter center by the verification unit. Except those to be forwarded by Review

Signed [signature]

Date July 20, 1970 Title Chief, Verification Br.

B. Additions and corrections have been added to the survey records and the final smooth sheet forwarded to the ~~verification~~ Review unit.

Signed [signature]

Date July 20, 1970 Title Chief, Verification Br.

C. The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the verifier's report).

Signed [signature]

Date July 20, 1970 Title Chief, Verification Br.

D. Smooth sheet and records forwarded to Rockville, Maryland Office.

Date July 21, 1970.

VERIFIER: Guy F. Trefethen

Norfolk, Va.
May ~~29~~ 12, 1970

AMC PLOTTER NOTE TO EDAT
SURVEY H-9093

This office has completed the verification of the preliminary sounding overlay and we are returning the position and sounding card printouts with applicable correction marked in both in red pencil.

It is requested that we be furnished a smooth plot of this survey; how-ever, adjustment will have to be made to the sheet layout. The original projection parameter furnished you was in error causing the surveyed area to fall in the extreme Southwest portion of the sheet. In order to correct this condition, it is suggested that you add 2000 Gerber units to the Eastward and to the Northward of the point of origin. This action will move the surveyed area to the Northeastward and place it in proper relation to the edges of the paper.

Hugh L. Proffitt
Chief, Hydro Branch, AMC

VERIFICATION NOTES
SURVEY H-9093

GENERAL

With minor exceptions, as listed below, this appears to be an excellent basic survey. Soundings are in good agreement at crossings and depth curves follow normal configurations in a fairly irregular bottom.

SHORELINE

Due to the interest in this two man survey, shoreline was transferred to the smooth sheet from T-12136 which was given an "Advance" status without benefit of field inspection. No problems or conflicts with the hydro data were experienced, how-ever, the three rocks located by the hydrographer between Goose and Faulkner Islands were adjusted to the air-photo positions as no bearings or distances from the Launch positions were furnished. One each copies of Incomplete and Advance manuscripts T-12136 are being forwarded with the records.

SOUNDING DISPLACEMENT

Soundings on positions 1 thru 20 on the East side of the survey are slightly displaced from position points because of a plotter malfunction.

DISCREPANCIES

See Commanding Officer's Approval Sheet for charted items which were neither confirmed nor disproved.

Hugh L. Proffitt
Chief, Verification Br., AMC

Norfolk, Va.
July 20, 1970

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LOGICAL EOT

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FILE 21

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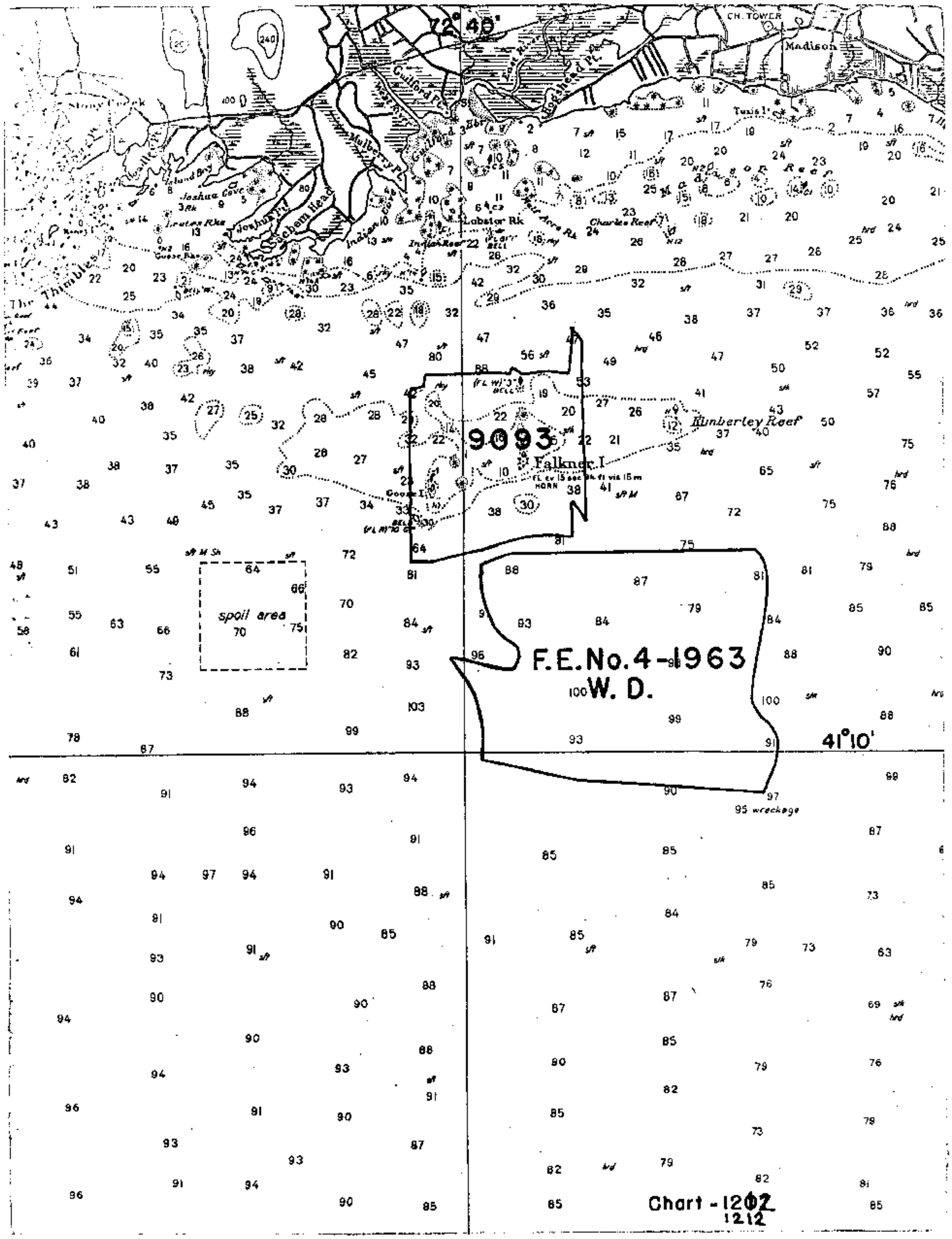
#6

4-9-93


72°40'
CH. TOWER
Madison
Guilford
Sachem Head
The Thimbles
Lobster Rk
Falkner I
Goose I
Kimberley Reef
9093
spoil area
F.E.No.4-1963
W. D.
41°10'
95 wreckage
Chart - 1202
1212

(3-25-69) NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9093

INSTRUCTIONS

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

CHART	DATE	CARTOGRAPHER	REMARKS
1217	11-17-70	Oscar Chapman	~~Full~~ Part ~~Before~~ After Verification Before Review Inspection Signed Via
			Drawing No. 42 (proof)
216	3-19-70	Scott McKellar	~~Full~~ Part ~~Before~~ After Verification Before Review Inspection Signed Via
			Drawing No. 16
116SC	9-20-71	H. Radke	~~Full~~ Part ~~Before~~ After Verification before Review Inspection Signed Via
page E			Drawing No. Applied Critical Corr only
			Part thru Chart 216 76 and part directly
217	2-14-72	K GEAN	~~Full~~ Part ~~Before~~ After Verification before Review Inspection Signed Via
			Drawing No. 21
217	8-16-74	J. Bailey	~~Full~~ Part ~~Before~~ After Verification before Review Inspection Signed Via
			Drawing No. 22 X Re-Pro'd. Applied critical corrs.
			Added and revised several sndgs.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-978. USCOMM-DC 8555-P68