

8453

Diag. Cht. Nos. 1000-3 and 1107.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey **HYDROGRAPHIC**

Field No. **HY-4158** Office No. **H-8453**

LOCALITY

State **MASSACHUSETTS**

General locality **GEORGES BANK**

Locality **SOUTHWEST OF GEORGES SHOAL**

19 58

CHIEF OF PARTY

GILBERT R. FISH

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DATE

8453

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER NO. H-8453

Field No. HY-4158

State MASSACHUSETTS

General locality GEORGES BANK

Locality SOUTHWEST OF GEORGES SHOAL

Scale 1:40,000 Date of survey 5 June - 4 October 1958

Instructions dated 28 Nov. 1956, Supplementals: 28 Feb. 1957, 23 Oct. 1957,
29 April 1958, 17 July 1958

Vessel U.S.C. & G. S. S. HYDROGRAPHER

Chief of party GILBERT R. FISH

Surveyed by D. M. Whipp, W. R. Kachel, W. D. Barbee, D. L. Campbell, J. T. Flynn,
D. I. Wolsk, L. S. Brown, D. W. Moncevicz

Soundings taken by ~~XXXXXXXX~~, graphic recorder, ~~XXXXXXXX~~

Fathograms scaled by Ship's Personnel

Fathograms checked by Ship's Personnel

Protracted by Donald W. Moncevicz

Soundings penciled by Donald W. Moncevicz

Soundings in fathoms 1/2 at MLW ~~XXXXXXXX~~

REMARKS: Off Shore Survey

WLS

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY H-8453

FIELD NO. HY-4158

1958

GEORGES BANK - SOUTHWEST OF GEORGES SHOAL

Ship HYDROGRAPHER
Gilbert R. Fish

Scale 1:40,000
Chief of Party

A. PROJECT:

Project No. CS-401, Original Instructions dated 29 November 1956, Supplemental Instructions dated 28 February 1957, 23 October 1957, 28 April 1958 and 17 July 1958.

B. SURVEY LIMITS AND DATES:

This survey covers an area southwest of Georges shoal on Georges Bank in the Gulf of Maine. The approximate limits of the sheet are: Latitude $41^{\circ} 13' N$ to $41^{\circ} 30' N$ and Longitude $67^{\circ} 41' W$ to Longitude $68^{\circ} 22' W$.

Field work on this sheet began 5 June 1958 and ended 4 October 1958.

This survey makes a junction with the following prior surveys:

H-5170	1:100,000	1931
H-5195	1:40,000	1931
H-5269	1:40,000	1932
H-5270	1:40,000	1932

This survey makes a junction with the following contemporary surveys:

H-8451	1:20,000	1958	(HY-2158)
H-8452	1:40,000	1957	(HY-4257)
-----	1:40,000	1958	(HY-4258)
H-8404	1:40,000	1957	(HY-4357)
-----	1:100,000	1958	(HY-10158)

C. VESSEL AND EQUIPMENT:

The hydrography on this survey was accomplished by the Ship HYDROGRAPHER.

The turning radius at sounding speed (120 RPM or approximately 10 knots) of the HYDROGRAPHER is 80 to 120 meters depending upon the prevailing wind and current.

808 J type fathometers were used for this entire survey. The following serial numbers were used:

153 - SPX

57 - 31

D. TIDE AND CURRENT STATIONS:

Tide reducers for this survey are referenced to the Standard Tide Gage at Boston, Massachusetts. Time differences of minus one hour and minus one half hour and a ratio of ranges of 0.5 were furnished by the Washington Office.

There were no current stations on this sheet.

E. SMOOTH SHEET :

The smooth sheet projection and Raydist arcs were ruled by the Washington Office.

F. CONTROL STATIONS:

All hydrography on this sheet was controlled by Raydist using two stations as follows:

R₂, (also EPIA), at Southwest Harbor, Maine, Latitude 44° 14' 47.65" North, Longitude 68° 17' 37.61" West.

The G.P. of this station was determined by F.B. Quinn, Boston District Officer, in 1955.

R₁, (also EPWB), at Wellfleet, Cape Cod, Massachusetts, Latitude 41° 56' 31.426" North, Longitude 69° 59' 11.303" West.

The G.P. of this station was determined by K.S. Ulm, Boston District Officer, in 1957. It is the same as R.M.I. of Triangulation Station FRAZIER, 1957.

G. SHORELINE AND TOPOGRAPHY:

No shoreline or topography is shown on this sheet as this is an off-shore survey.

H. SOUNDINGS:

All depths were measured using 808 J type fathometers. Adequate checks and tests were made to verify the accuracy of the soundings obtained with the fathometers (see separate report on velocity and fathometer corrections).

I. CONTROL OF HYDROGRAPHY:

Raydist control was used throughout the work on this sheet. The Raydist dials were set at Texas Tower #2 and at survey buoys located by runs from T.T. #2. The Raydist corrections for this sheet are appended to the end of this report. A complete explanation of Raydist control and calibration is included in separate Raydist Reports submitted 9 December 1957, 15 August 1958 and 28 October 1958. Raydist stations were located as indicated in Section F of this report.

The proper corrections have been applied to the Raydist distances in the Volumes and the smooth sheet is plotted correctly (on the North American 1927 Datum Provisional).

An additional correction may have to be applied to the entire project due to (1) a change in lane width of the R₂ lane during the 1958 season and (2) an error in the Texas Tower position in R₂ distance discovered near the close of the 1958 season.

not significant

These discrepancies are discussed in the Raydist Report for 1958 and the Addendum to the 1958 Raydist Report previously submitted to the Washington Office and also personal contact between Captain G. R. Fish, Chief of Party, and the Division of Coastal Surveys.

J. ADEQUACY OF SURVEY:

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

Junctions with adjoining surveys have been inspected and are satisfactory.

Depth curves can be adequately drawn at the junctions.

A 15 and 25 fathom depth curve was added to the smooth sheet in addition to the standard depth curves to aid in delineating rough bottom in the vicinity of shoals.

K. CROSSLINES:

Crosslines were run to approximately 5 - 10% of the regular system of sounding lines.

L. COMPARISON WITH PRIOR SURVEYS:

This survey was compared with the following prior surveys:

H-5170	1:100,000	1931
H-5195	1:40,000	1931
H-5269	1:40,000	1932
H-5270	1:40,000	1932

In general, the comparisons are very good. Many of the isolated shoal soundings shown on the old surveys are now proved to be parts of continuous ridges and shoals. The bottom contours are changed quite a bit due to the closer line spacing and use of continuously recording fathometers. The depths are in good agreement however.

It is recommended that the new depths and contours obtained by this modern, electronically controlled, survey, be used.

The development of various shoals was more complete on this new survey. Some of the shoalest soundings found are tabulated in Sections M & N of this report.

M. COMPARISON WITH CHART:

This survey was compared with Chart No. 3076, scale 1:220,000, the largest scale survey of the area available. The comparison was good, considering the difference in scale between the chart and the smooth sheet.

The 3-3/4 fathom sounding at Latitude 41° 23.0' N, Longitude 68° 12.1' W was not verified. Several 4.0 fathom spots were found on a ridge in this vicinity. This particular 3-3/4 fathom spot should probably be kept, as only wire drag would disprove it in this rough bottom.

retained on 1107, 71, 76 LAM

A shoaler sounding of 7.0 fathoms was found at Latitude 41° 22.2' N, Longitude 67° 56.7' W. The shoalest sounding indicated on this chart in this area is 7 1/2 fathoms. ✓

A shoaler sounding of 7.2 fathoms was found at Latitude 41° 28.5' N, Longitude 68° 00.6' W. The shoalest sounding indicated on the chart in this area is 7 1/2 fathoms. ✓

The 7 1/2 fathom sounding at Latitude 41° 29.3' N, Longitude 68° 03.0' W was not verified. The shoalest sounding found in this vicinity was 8.2 fathoms. ✓

Other comparisons were made between specific areas and the agreement in depth and position was very good. The closer line spacing and more accurate Raydist control gives a much more

comprehensive and accurate delineation of bottom characteristics than previous surveys.

It is recommended that the depths found on the new survey be accepted.

N. DANGERS AND SHOALS:

The following shoal soundings are in addition to those mentioned in Sections L & M of this report.

Least Depth (fm)	Latitude	Longitude
8.0	41° 30.3'	67° 52.3' ✓
8.2	41 28.5	67 57.7 ✓
8.0	41 28.1	68 06.0 ✓
8.6	41 23.1	68 04.6 ✓
7.6 ✓	41 18.9 ⁴	68 02.9 ✓
7.4 ✓	41 19.8	68 06.6 ✓

All charted dangers and shoals were found as charted or shoaler depths were obtained except as noted in Section L, M, and N.

O. COAST PILOT INFORMATION:

None

P. AIDS TO NAVIGATION:

No fixed or floating aids to navigation are located within the limits of this survey.

Q. LANDMARKS FOR CHARTS:

No landmarks for charts are within the limits of this survey.

R - Y. NOT APPLICABLE

Z. TABULATION OF APPLICABLE DATA:

Seasons Report - 1958 Season	28 October 1958
Raydist Report - 1958 Season	15 August 1958
Annual Statistical Report	30 June 1958
Fathometer & Velocity Correction Report	28 October 1958
Oceanographic Activities Report	10 November 1958
Addendum to Raydist Report	28 October 1958
Bathythermograph Slides	10 November 1958
Oceanographic Log Sheets "A"	10 November 1958
Oceanographic Log Sheets "B"	10 November 1958
Shipboard Wave Observation Logs	10 November 1958
Water Samples (sent direct to Hydrographic Office)	18 November 1958

Abstracts of the various corrections used in this survey are attached to the end of this report.

Donald W. Moncevicz
Donald W. Moncevicz
ENS, C&GS

STATISTICS FOR HYDROGRAPHIC SURVEY

H-8453 (HY-4158)

U.S.S.^{C.} & G.S.S. HYDROGRAPHER

1958

PROJECT CS - 401

<u>Day Letter</u>	<u>Volume Number</u>	<u>Date</u>	<u>No. of Positions</u>	<u>Naut. Mi. Soundings</u>
A	1	5 June 1958	14	9.8
B	1	14 July 1958	115	107.0
C	1	15 July 1958	13	9.9
D	1	16 July 1958	55	39.1
E	2	23 July 1958	58	42.3
F	2	30 July 1958	59	40.0
G	2	21 Aug. 1958	10	8.0
H	2	22 Aug. 1958	16	11.0
J	2	23 Aug. 1958	55	38.7
K	2 & 3	24 Aug. 1958	108	81.4
L	3	25 Aug. 1958	159	109.2
M	3 & 4	26 Aug. 1958	44	30.7
N	4	27 Aug. 1958	113	83.3
P	4	28 Aug. 1958	113	73.2
Q	5	5 Sept. 1958	182	124.3
R	5 & 6	6 Sept. 1958	236	184.4
S	6 & 7	7 Sept. 1958	289	210.7

STATISTICS FOR HYDROGRAPHIC SURVEY (CONT.)

H-8453 (HY-4158)

U.S.C. & G.S.S. HYDROGRAPHER

1958

PROJECT CS-401

<u>Day Letter</u>	<u>Volume Number</u>	<u>Date</u>	<u>No. of Positions</u>	<u>Naut. Mi. Soundings</u>
T	7 & 8	8 Sept. 1958	264	176.7
U	8 & 9	9 Sept. 1958	348	205.8
V	10	10 Sept. 1958	221	122.7
W	10 & 11	17 Sept. 1958	176	101.0
X	11	18 Sept. 1958	87	37.4
Y	11 & 12	19 Sept. 1958	115	68.9
Z	12	20 Sept. 1958	128	77.9
AA	12 & 13	21 Sept. 1958	196	112.4
BA	13	22 Sept. 1958	160	90.8
CA	13 & 14	23 Sept. 1958	211	139.9
DA	14	24 Sept. 1958	36	18.1
EA	14	2 October 1958	17	12.4
FA	14	3 October 1958	129	67.5
GA	15	4 October 1958	<u>43</u>	<u>21.0</u>
		Total	3,770	2,445.7

TIDE NOTE

To Accompany

Hydrographic Survey H-8453

STANDARD TIDE STATION: Boston (Commonwealth Pier) Massachusetts

LOCATION: Latitude $42^{\circ} 21'$ North; Longitude $71^{\circ} 03'$ West

PLANE OF REFERENCE: Mean Low Water 3.3 feet on tide staff

TIME CORRECTION: Minus one hour (1 hr.) East of Longitude
 68° (approximate) Minus one half hour ($\frac{1}{2}$ hr.)
West of Longitude 68° (approximate)

HEIGHT CORRECTION: Ratio of Ranges 0.5

AREA COVERED: Entire sheet

The above time and height corrections furnished by the
Washington Office

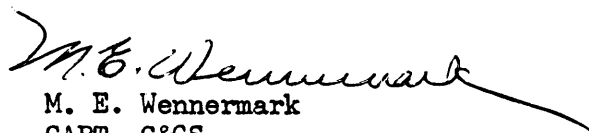
The hourly heights were furnished by the Washington Office.

APPROVAL SHEET

The field work accomplished on this survey was under the supervision of G. R. Fish, CAPT, C&GS, Comdg., Ship HYDROGRAPHER. Daily inspection of the records, boat sheet, and smooth sheet were made as the survey progressed.

The records, boat sheet, and smooth sheet as submitted to the Washington Office have been reviewed and are approved by me.

The survey is complete and adequate and no additional field work is recommended.


M. E. Wennermark
CAPT, C&GS
Comdg., Ship HYDROGRAPHER

FINAL RAYDIST CORRECTIONS FOR SHEET HY-4158

Date	Day Ltr.	Positions	Final Corr.		Remarks
			R ₁	R ₂	
5 June	A	1 - 14	-4.4	-1.3	
14 July	B	1 - 143	-0.4	0.5	
14 July	B	144 - 151	-0.4	2.5	R ₂ lost 2 lanes
15 July	C	1 - 13	-1.8	-0.3	
16 July	D	1 - 55	-1.2	-0.6	
23 July	E	1 - 58	0.0	-0.5	
30 July	F	1 - 99	-0.4	-1.2	
21 August	G	1 - 10	0.7	-0.1	
22 August	H	1 - 16	1.9	-0.6	
23 August	T J	1 - 9	0.5	-2.1	
23 August	TJ	10 - 13	0.5	-1.1	R ₂ lost 1 lane
23 August	TJ	14 - 43	0.5	0.9	R ₂ lost 2 lanes
23 August	TJ	44 - 95	0.5	-3.1	R ₂ gained 4 lanes
24 August	K	1 - 73	0.5	-3.1	
24 August	K	74 - 80	1.0	-1.1	
24 August	K	81 - 83	1.0	-5.1	R ₂ gained 4 lanes
24 August	K	84 - 108	1.0	-3.1	R ₂ lost 2 lanes
25 August	L	1 - 199	-1.6	7.5	Mn. of Calibration at K & L R ₂ lost 8 lanes after Calibration
26 August	M	1 - 28	-1.9	-2.5	
26 August	M	29 - 38	-1.0	-1.1	Recalibrate
26 August	M	39 - 44	-1.0	-2.1	R ₂ gained 1 lane
27 August	N	1 - 107	0.2	-0.2	
27 August	N	108 - 109	0.2	-2.2	R ₂ gained 2 lanes
27 August	N	110 - 113	0.2	-3.2	R ₂ gained 1 lane
28 August	P	1 - 113	-1.3	-0.2	
5 September	Q	1 - 150	-0.4	1.0	
5 September	Q	151 - 168	-0.4	2.0	R ₂ lost 1 lane
5 September	Q	169 - 182	-0.4	1.0	R ₂ gained 1 lane
6 September	R	1 - 4	-0.4	+18.0	
6 September	R	5 - 8	-0.4	0.0	R ₂ gained 1 lane
6 September	R	9 - 19	-0.4	2.0	R ₂ lost 2 lanes
6 September	R	20	-0.4	1.0	R ₂ gained 1 lane
6 September	R	21 - 236	0.9	-0.2	Recalibrated
7 September	S	1 - 38	0.9	-0.2	
7 September	S	39	0.9	-2.2	R ₂ gained 2 lanes
7 September	S	40 - 63	0.9	-6.2	R ₂ gained 4 lanes
7 September	S	64	0.9	-7.2	R ₂ gained 1 lane
7 September	S	65	0.9	-6.2	R ₂ lost 1 lane

FINAL RAYDIST CORRECTIONS FOR SHEET HY-4158 (Cont.)

7 September S	66	$\neq 0.9^m$	-7.2	R ₂ gained 1 lane
7 September S	67 - 81	$\neq 0.9^m$	-8.2	R ₂ gained 1 lane
7 September S	82 - 289	$\neq 0.9^m$	-0.5	R ₁ mn. of 2 Calibrations ($\neq 0.9$ & $\neq 0.7$)
8 September T	1 - 32	$\neq 0.9^m$	-0.5	
8 September T	33	$\neq 0.9^m$	$\neq 3.5$	R ₂ lost 4 lanes
8 September T	34 - 264	$\neq 0.9^m$	-0.8	Recalibrated
9 September U	1 - 29	$\neq 0.9^m$	-0.8	
9 September U	30 - 67	$\neq 0.9$	-2.8	R ₂ gained 2 lanes
9 September U	68 - 77	$\neq 0.9$	-1.8	R ₂ lost 1 lane
9 September U	78 - 348	$\neq 0.9$	-1.9	Recalibrated
10 September V	1 - 31	$\neq 0.9$	-1.9	
10 September V	32 - 36	$\neq 0.9$	-5.9	R ₂ gained 4 lanes
10 September V	37 - 221	$\neq 0.9$	-1.9	Recalibrate
*NOTE: Use Mn. R ₁ corr. of $\neq 0.9$ from 21R thru 221V as R ₁ dials were not reset during this period				
17 September	W 1 - 11	-0.3	$\neq 0.6$	
17 September	W 12 - 173	$\neq 0.9$	$\neq 2.7$	Recalibrated- lost Raydist
17 September	W 174	$\neq 0.9$	$\neq 4.7$	R ₂ lost 3 lanes
17 September	W 175	$\neq 0.9$	$\neq 5.7$	R ₂ lost 1 lane
17 September	W 176	$\neq 0.9$	$\neq 2.7$	R ₂ gained 3 lanes
18 September X	1 - 57	-0.4	$\neq 2.7$	
18 September	X 58 - 87	$\neq 2.9$	-0.7	Recalibrated
19 September	Y 1 - 49	$\neq 0.7$	0.0	
19 September	Y 50 - 115	-0.3	-0.8	Recalibrated
20 September	Z 1 - 128	-0.2	$\neq 0.8$	
21 September	AA 1 - 195	-0.8	-1.5	
21 September	AA 196	-0.8	$\neq 2.5$	R ₂ lost 4 lanes
22 September	BA 1 - 16	-0.3	-1.2	
22 September	BA 17 - 158	-0.4	-1.2	Recalibrated
22 September	BA 159	-0.4	-3.2	R ₂ gained 2 lanes
22 September	BA 160	-0.4	-4.2	R ₂ gained 1 lane
23 September	CA 1 - 121	-1.1	-0.1	
23 September	CA 122 - 145	-1.1	-1.1	R ₂ gained 4 lanes (Power failure)
23 September	CA 146 - 163	-1.2	-6.1	R ₂ gained 2 lanes
23 September	CA 164-211	-1.1	-2.1	R ₂ lost 4 lanes
24 September	DA 1	-1.1	-2.1	
24 September	DA 2 - 36	-0.1	-0.9	
2 October	EA 1 - 12	$\neq 2.0$	-38.1	
2 October	EA 13 - 17	0.0	$\neq 0.8$	Recalibrated
3 October	FA 1 - 105	-0.7	-0.1	
3 October	FA 106-129	-2.1 ^{0.7}	-2.1	R ₂ gained 2 lanes
4 October	GA 1 - 43	$\neq 2.1$	$\neq 2.0$	

NOTE: Ship's head correction applied according to azimuth of arcs. Tabulation of corrections is included in addendum to Raydist R₁ part.

FINAL RAYDIST CORRECTIONS FOR SHEET HY-4258

Date	Day Ltr.	Positions	Final Corr.		Remarks
			<u>R₁</u>	<u>R₂</u>	
3 October	A	1 - 8	-0.7	-0.1	
3 October	A	9 - 49	-0.7	-2.1	R ₂ gained 2 lanes
5 October	B	1 - 124	1.3	-0.1	

NOTE: Ship's head corrections applied according to azimuth of arcs. Tabulation of corrections is included in addendum to Raydist Report.

SHIP'S HEAD CORRECTORS (THEORETICAL) IN PAYDIST LANES

AT TEXAS TOWER

ON HY-4158 & HY-10158

<u>Ship's head</u>	<u>R₁</u>	<u>Ship's head</u>	<u>R₂</u>	<u>Ship's head</u>	<u>R₁</u>	<u>Ship's head</u>	<u>R₂</u>
000 - 005	0.0	344 - 002	-0.6	356 - 013	-0.1	358 - 056	-0.6
- 020	0.1	- 038	-0.7	- 031	0.0	- 070	-0.5
- 036	0.2	- 054	-0.6	- 046	0.1	- 083	-0.4
- 063	0.3	- 068	-0.5	- 069	0.2	- 094	-0.3
- 107	0.4	- 079	-0.4	- 136	0.3	- 103	-0.2
- 138	0.3	- 088	-0.3	- 178	0.2	- 112	-0.1
- 156	0.2	- 097	-0.2	- 193	0.1	- 122	0.0
- 173	0.1	- 105	-0.1	- 205	0.0	- 131	0.1
- 188	0.0	- 119	0.0	- 229	-0.1	- 142	0.2
- 204	-0.1	- 123	0.1	- 247	-0.2	- 150	0.3
- 222	-0.2	- 131	0.2	- 337	-0.3	- 162	0.4
- 249	-0.3	- 141	0.3	- 356	-0.2	- 176	0.5
- 291	-0.4	- 152	0.4			- 232	0.6
- 318	-0.3	- 165	0.5			- 249	0.5
- 336	-0.2	- 183	0.6			- 261	0.4
- 351	-0.1	- 216	0.7			- 272	0.3
- 005	0.0	- 233	0.6			- 282	0.2
		- 249	0.5			- 290	0.1
		- 260	0.4			- 300	0.0
		- 269	0.3			- 311	-0.1
		- 277	0.2			- 319	-0.2
		- 286	0.1			- 330	-0.3
		- 294	0.0			- 342	-0.4
		- 303	-0.1			- 358	-0.5
		- 311	-0.2				
		- 321	-0.3				
		- 331	-0.4				
		- 344	-0.5				

VELOCITY CORRECTIONS (All in fms)

1957

FIELD SEASON

1st. Trip 10 May

HY#10257	HY-10157	All other sheets
0.0 to 3.3	0.0 to 8.0	0.0 to 7.0
-0.1 to 8.8	-0.2 to 20.0	-0.1 to 11.0
-0.2 to 16.8	-0.2 to 29.5	-0.2 to 25.5
-0.4 to 27.0	-0.6 to 39.0	-0.4 to 44.5
-0.6 to 38.0	-0.8 to 47.5	-0.6 to 62.5
-0.8 to 48.0	-1.0 to 56.0	-0.8 to 80.5
-1.0 to 59.0	-1.2 to 65.0	-1.0 to 98.5
-1.2 to 69.0	-1.4 to 74.0	
-1.4 to 80.0	-1.6 to 82.5	
-1.6 to 92.0	-1.8 to 91.0	
-1.8 to 106.0	-2.0 to 100.0	
-2.0 to 120.0	-2.2 to 109.0	
	-2.4 to 118.0	

Trip No. 2 31 May-12 June

Same as Trip No. 1

Trip No. 3 19-28 June

None	-0.6 to 8.8	0.0 to 12.5
	-0.8 to 18.6	-0.2 to 69.0
	-1.0 to 25.8	-0.4 to 122.0
	-1.2 to 37.4	-0.6 below
	-1.4 to 47.0	
	-1.6 to 56.0	
	-1.8 to 65.4	
	-2.0 to 74.4	
	-2.2 to 83.8	
	-2.4 to 93.4	
	-2.6 to 103.0	
	-2.8 to 113.0	
	-3.0 to 123.0	

VELOCITY CORRECTIONS(Cont)

1957

Trip No. 4 6-14 July

<u>HY-10157</u>	<u>HY-10257</u>	<u>All other sheets</u>
Same as Trip No. 3	0.0 to 29.8	0.0 to 21.9
	-0.2 to 40.2	-0.2 to 40.2
	-0.4 to 50.8	
	-0.6 to 61.2	
	-0.8 to 71.8	
	-1.0 to 82.2	
	-1.2 to 92.3	
	-1.4 to 105.6	
	-1.6 to 110.0	

Trip No. 5 19-29 July

Same as Trip No. 3	Same as Trip No. 4	0.0 to 30.0
		-0.2 to 40.2
		-0.4 to 50.8
		-0.6 to 61.2
		-0.8 to 71.8
		-1.0 to 82.2
		-1.2 to 92.8
		-1.4 to 105.6
		-1.6 to 110.0

Trip No. 6 5-15 August

0.0 to 12.5	0.0 to 16.4	0.0 to 19.9
-0.2 to 22.5	-0.2 to 30.7	-0.2 to 20.0
-0.4 to 32.7	-0.4 to 41.0	0.0 to 25.2
-0.6 to 42.9	-0.6 to 51.2	-0.2 to 30.7
-0.8 to 52.5	-0.8 to 61.7	-0.4 to 41.0
	-1.0 to 72.0	-0.6 to 51.2
	-1.2 to 82.3	
	-1.4 to 92.7	
	-1.6 to 103.0	
	-1.8 to 113.0	

INSTRUMENT CORRECTIONS FOR SHIP HYDROGRAPHY

1957

FIELD SEASON

808 #156

<u>Trip No.</u>	<u>Date</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>Trip No. 1</u>	<u>1-10 May</u>				
	Begin to 0700 6 May	-0.1	2.7	4.7	4.3 ³
	0700 6 May to end	-0.2	2.6	4.6	4.2
<u>Trip No. 2</u>	<u>31 May-6 June</u>				
	Begin to 1800 8 June	-0.1	2.7	4.7	4.3
	1800 8 June to end	-0.2	2.6	4.6	4.2
<u>Trip No. 3</u>	<u>19-28 June</u>				
	Begin to 0000 20 June	0.0	2.8	4.8	4.4
	0000 20 June to 0000 27 June	-0.1	2.7	4.7	4.3
	0000 27 June to end	-0.2	2.6	4.6	4.2
<u>Trip No. 4</u>	<u>6-14 July</u>				
	Begin to 1200 11 July	-0.1	2.7	4.7	4.3
	1200 11 July to end	-0.2	2.6	4.6	4.2
<u>Trip No. 5</u>	<u>19-29 July</u>				
	Begin to 1500 20 July	-0.2	2.7	4.7	4.3
	1500 20 July to end	-0.2	2.6	4.6	4.2
<u>Trip No. 6</u>	<u>8-15 August</u>				
	Begin to 1500 10 August	-0.1	2.7	4.7	4.3
	1500 10 August to end	-0.2	2.6	4.6	4.2
<u>Trip No. 7</u>	<u>20-27 August</u>				
	Begin to 1200 25 August	-0.1	2.7	4.7	4.3
	1200 25 August to end	-0.2	2.6	4.6	4.2

INSTRUMENT CORRECTIONS FOR SHIP HYDROGRAPHY

1957

FIELD SEASON

808 #156 Cont.

<u>Trip No.</u>	<u>Date</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>8</u>	<u>3-13 September</u>				
	Begin to 1500 11 September	-0.2	2.6	4.6	4.2
	1500 11 September to end	-0.3	2.5	4.5	4.1
<u>9</u>	<u>18-27 September</u>				
	Begin to 1800 20 September	-0.1	2.7	4.7	4.3
	1800 20 September to end	-0.2	2.6	4.6	4.2
<u>10</u>	<u>30 Sept.-7 October</u>				
	Begin to 4 October	-0.1	2.7	4.7	4.3
	1600 4 October to end	-0.2	2.6	4.6	4.2

INSTRUMENT CORRECTION FOR SHIP HYDROGRAPHY

1957

FIELD SEASON

808 #153

<u>Trip No.</u>	<u>Date</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>Trip No. 1</u>	<u>1-10 May</u>				
	Begin to 0700 6 May	0.0	1.2	1.2	1.2
	0700 6 May to end	-0.1	1.1	1.1	1.0
<u>Trip No. 2</u>	<u>31 May-12 June</u>				
	Begin to 1800 8 June	0.0	1.2	1.2	1.0
	1800 8 June to end	-0.1	1.1	1.1	1.0
<u>Trip No. 3</u>	<u>19-28 June</u>				
	Begin to 0000 20 June	1.0	1.3	1.3	1.3
	0000 20 June to 0000 27 June	0.0	1.2	1.2	1.0
	0000 27 June to end	-0.1	1.1	1.1	1.0
<u>Trip No. 4</u>	<u>6-14 July</u>				
	Begin to 1200 11 July	0.0	1.2	1.2	1.0
	1200 11 July to end	-0.1	1.1	1.1	1.0
<u>Trip No. 5</u>	<u>19-29 July</u>				
	Begin to 1500 20 July	0.0	1.2	1.2	1.0
	1500 20 July to end	-0.1	1.1	1.1	1.0
<u>Trip No. 6</u>	<u>8-15 August</u>				
	Begin to 1500 10 August	0.0	1.2	1.2	1.0
	1500 10 August to	-0.1	1.1	1.1	1.0
<u>Trip No. 7</u>	<u>20-27 August</u>				
	Begin to 1200 25 August	0.0	1.2	1.2	1.0
	1200 25 August to end	-0.1	1.1	1.1	1.0

INSTRUMENT CORRECTIONS FOR SHIP HYDROGRAPHY

1957

FIELD SEASON

808 # 153 Cont.

<u>Trip No.</u>	<u>Date</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>8</u>	<u>3-13 September</u>				
	Begin to 1500 11 September	-0.1	1.1	1.1	0.1
	1500 11 September to end	-0.2	1.0	1.0	0.0
<u>9</u>	<u>18-27 September</u>				
	Begin to 1800 20 September	0.0	1.2	1.2	0.2
	1800 20 September to end	-0.1	1.1	1.1	0.1
<u>10</u>	<u>30 Sept - 7 Oct</u>				
	Begin to 1600 4 October	0.0	1.2	1.2	0.2
	1600 4 October to end	-0.1	1.1	1.1	0.1

FINAL VELOCITY CORRECTIONS (FMS)
1958

Trip 1 (23-29 April 1958)

<u>HY-4157</u>	0.0 to 2.5	<u>HY-10257</u>	0.0 to 2.4
	-0.2 to 12.4		-0.2 to 11.6
	-0.4 to 22.3		-0.4 to 21.6
	-0.6 to 30.2		-0.6 to 30.2
	-0.8 to 39.8		-0.8 to 39.8
	-1.0 to 49.0		-1.0 to 49.0
	-1.2 to 58.8		-1.2 to 58.8

Trip 2 (6-15 May 1958)

<u>HY-4157, HY-4257, HY-4357</u>		<u>HY-10157</u>	
	0.0 to 2.8		0.0 to 3.4
	-0.2 to 14.0		-0.2 to 15.0
	-0.4 to 22.0		-0.4 to 23.7
	-0.6 to 31.3		-0.6 to 31.6
	-0.8 to 40.4		-0.8 to 39.5
	-1.0 to 50.0		-1.0 to 47.6
	-1.2 to 59.5		-1.2 to 56.5
	-1.4 to 69.0		-1.4 to 65.5
	-1.6 to 78.2		-1.6 to 75.5 *
	-1.8 to 88.5		-1.8 to 85.5 *
	-2.0 to 97.0		-2.0 to 95.5 *
			-2.2 to 105.5 *
			-2.4 to 115.5 *
			-2.6 to 125.5 *

* Extrapolated

Trip 3 (20-28 May 1958)

<u>HY-4157, HY-4357</u>		<u>HY-10157</u>	
	0.0 to 3.5		Same as Trip 2
	-0.2 to 17.2		
	-0.4 to 25.6		
	-0.6 to 35.0		
	-0.8 to 45.0		
	-1.0 to 54.8		
	-1.2 to 64.5		
	-1.4 to 74.5		
	-1.6 to 84.0		
	-1.8 to 95.2		
	-2.0 to 109.4		

FINAL VELOCITY CORRECTIONS (FMS) 1958—Continued:

Trip 4 (4-13 June 1958)

HY-4257, HY-4357, HY-2158,
HY-4158, HY-10158

HY-10157

0.0 to 4.6
-0.1 to 11.0
-0.2 to 20.0
-0.4 to 30.2
-0.6 to 40.1
-0.8 to 49.8
-1.0 to 59.2
-1.2 to 69.4
-1.4 to 79.8
-1.6 to 90.8
-1.8 to 102.7
-2.0 to 109.4

Table 1

Same as Trip 2

Trip 5 (19-28 June 1958)

HY-2158, HY-4257

HY-10157

0.0 to 4.7
-0.1 to 13.7
-0.2 to 22.0
-0.4 to 31.2
-0.6 to 40.4
-0.8 to 49.4
-1.0 to 58.5
-1.2 to 68.5
-1.4 to 78.6
-1.6 to 89.6
-1.8 to 102.0
-2.0 to 115.8

0.0 to 7.6
-0.1 to 11.0
-0.2 to 18.7
-0.4 to 27.0
-0.6 to 35.1
-0.8 to 43.6
-1.0 to 52.8
-1.2 to 62.7
-1.4 to 72.9
-1.6 to 83.5
-1.8 to 94.0 *
-2.0 to 104.5 *
-2.2 to 115.0 *

* Extrapolated

Trip 6 (7-17 July 1958)

HY-4257, HY-4158, HY-10158

HY-10157

0.0 to 10.0
-0.1 to 11.0
-0.2 to 25.0
-0.4 to 30.2
-0.6 to 39.9
-0.8 to 50.2
-1.0 to 60.0

Table 2

0.0 to 13.7
-0.2 to 26.0
-0.4 to 35.9
-0.6 to 45.5
-0.8 to 55.0
-1.0 to 64.5
-1.2 to 74.0 *
-1.4 to 83.5 *
-1.6 to 93.0 *

* Extrapolated

FINAL VELOCITY CORRECTIONS (FMS) 1958—Continued:

Trip 7 (22-31 July 1958)

HY-4158, HY-10158

0.0 to 19.0
-0.2 to 50.0

Table 3

HY-10157

No hydro this trip

Trip 8 (5-15 August 1958)

Oceanographic trip - no hydro.

Trip 9 (20-29 August 1958)

HY-4158, HY-10158

0.0 to 30.0
-0.2 to 43.0

Table 4

HY-10157

0.0 to 8.4
-0.1 to 11.0
-0.2 to 17.4
-0.4 to 26.0
-0.6 to 34.7
-0.8 to 45.5
-1.0 to 56.7
-1.2 to 65.3
-1.4 to 72.0 *
-1.6 to 79.5 *
-1.8 to 87.0 *
-2.0 to 94.5 *

* Extrapolated

Trip 10 (4-11 September 1958)

HY-4158

0.0 to 30.0
-0.2 to 43.0

Table 5

HY-10157

0.0 to 10.2
-0.1 to 11.0
-0.2 to 23.0
-0.4 to 32.5
-0.6 to 41.5
-0.8 to 50.5
-1.0 to 60.7
-1.2 to 70.8 *
-1.4 to 81.0 *
-1.6 to 91.2 *
-1.8 to 101.4 *
-2.0 to 111.6 *

* Extrapolated

FINAL VELOCITY CORRECTIONS (FMS) 1958--Continued:

Trip 11 (16-25 September 1958)

HY-4158, HY-10158

0.0 to 30.0
-0.2 to 43.0

Table 6

HY-10157

Same as Trip 10.

Trip 12 (1-6 October 1958)

HY-4158, HY-4258, HY-10158

0.0 to 30.0
-0.2 to 35.0
-0.4 to 40.0
-0.6 to 45.3

Table 7

HY-10157

0.0 to 17.0
-0.2 to 34.7
-0.4 to 46.7
-0.6 to 57.5
-0.8 to 68.0
-1.0 to 78.5 *
-1.2 to 89.0 *
-1.4 to 99.5 *
-1.6 to 110.0 *
-1.8 to 120.5 *

* Extrapolated

TABULATION OF FINAL INSTRUMENT CORRECTIONS IN FATHOMS FOR 1958

This final correction is the algebraic sum of the instrument, phase, draft and settlement and squat corrections.

TRIP NOS.	DATES	FATH NO.	A	SCALES		
				B	C	D
I thru III	22 April thru 27 May	57-31	-0.2	f 0.2	f 1.0	f 1.6
		153	-0.2	f 0.8	f 0.8	f 0.4
IV	4 June thru 1200 11 June	57-31	-0.2	f 0.2	f 1.0	f 1.6
		153	-0.2	f 0.8	f 0.8	f 0.4
	1200 11 June thru 13 June	57-31	-0.4	0.0	f 0.8	f 1.4
		153	-0.4	f 0.6	f 0.6	f 0.2
V and VI	20 June thru 17 July	57-31	-0.2	f 0.2	f 1.0	f 1.6
		153	-0.2	f 0.8	f 0.8	f 0.4
VII thru XII	21 July thru 7 Oct.	57-31	-0.2	f 0.2	f 1.0	f 1.6
		153	0.0	f 1.0	f 1.0	f 0.6

GEOGRAPHIC NAMES

Survey No. 8453

Name on Survey										
	A	B	C	D	E	F	G	H	K	
Massachusetts		(title)							BGN	1
Georges Bank		"							"	2
Georges Shoal		"								3
										4
										5
										6
										7
Tide Station off sheet:										8
Boston										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names approved 5-1-59

L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8453...

Records accompanying survey:

Boat sheets .1...; sounding vols. .15...; wire drag vols.;
 bomb vols.; graphic recorder rolls .10Envelopes
 special reports, etc. 1-Smooth sheet, 1-Descriptive report,.....
 1 Cahier-Plotting Abstracts.
 .30-Envelopes, Brush, Recorder Tapes.....

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

Number of positions on sheet
Number of positions checked
Number of positions revised
Number of soundings revised (refers to depth only)
Number of soundings erroneously spaced
Number of signals erroneously plotted or transferred
Topographic details	Time
Junctions	Time
Verification of soundings from graphic record	Time

Verification by.....Total time Date

Reviewed by..... Time Date

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-8453

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.
3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.
4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.
5. 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.
6. All positions verified instrumentally were check marked in the sounding records.
7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.
8. The metal protractor has been checked within the last three months.
9. The protracting and plotting of all bad crossings were verified.
10. All detached positions locating critical soundings, rocks or buoys were verified.
11. The boat sheet was compared with the smooth sheet.

- 12 The spacing of soundings as recorded in the records was closely followed.
13. The bottom characteristics were shown on outstanding shoals.
14. The reduction and plotting of doubtful soundings were checked.
15. The transfer of contemporary topographic information was carefully examined.
16. All junctions were transferred and overlapping curves made identical.
17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
18. The depth curves have been inspected before inking.
19. All triangulation stations and transfer of topographic and hydrographic signals were checked.
20. Heights of rocks were checked against range of tide.
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
22. Unnecessary pencil notes have been removed.
23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.
24. The low water line and delineation of shoal areas have been properly shown.
25. Degree and minutes values and symbols have been checked.
26. Questionable soundings have been checked on the fathograms.

- E-8453
27. Source of shoreline and signals (when not given in report).
 28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.
 29. All aids located, with those on contemporary topographic sheets, have been shown on survey.
 30. Depth curves were satisfactory except as follows:
 31. Sounding line crossings were satisfactory except as follows:
 32. Junctions with contemporary surveys were satisfactory except as follows:
 33. Condition of sounding records was satisfactory except as follows:
 34. The protracting was satisfactory except as follows:
 35. The field plotting of soundings was satisfactory except as follows:
 36. Notes to reviewer:

Verified by

Date

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

28 May 1959

Plane of reference approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET 8453

Locality Georges Bank, Atlantic Ocean

Chief of Party: G. R. Fish in 1958

Plane of reference is mean low water

ft. on tide staff at

ft. below B.M.

Height of mean high water above plane of reference is 4.9 feet.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch

