

8414

8414

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-10257 Office No. H-8414

LOCALITY

State Massachusetts

General locality Georges Bank

Locality North of Georges Bank

19 57-58

CHIEF OF PARTY

Walter J. Chovan - Gilbert R. Fish

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DATE SEP 1 1958

COMM-DC 61300

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-8414

Field No. HY-10257

State Massachusetts

General locality Georges Bank

Locality North and East of Georges Shoal

Scale 1:100,000 Date of survey 5 May - 6 October 1957
24 - 28 April 1958

Instructions dated 28 November 1956, Supplemental 28 February 1957

Vessel HYDROGRAPHER

Chief of party Walter J. Chovan, G.R. Fish

Surveyed by G. W. Moore, W. R. Kachel, W.D. Barbee, D. L. Campbell, R. F. Shoolbred

Soundings taken by V. C. Ahlrich, C. E. Fuller, J. J. McCoy, J. R. Schwartz, P. L. Rotondo
~~Asynometer, graphic recorder, ~~XXXXXX/XXXX/XXXX~~~~

Fathograms scaled by Ship's Personnel

Fathograms checked by Ship's Personnel

Protracted by W. D. Barbee, C. E. Fuller, P. L. Rotondo

Soundings penciled by W. D. Barbee, R. F. Shoolbred

Soundings in fathoms ~~100~~ at MLW ~~XXXXXX/XXXX/XXXX~~

REMARKS: Offshore survey

2500

DESCRIPTIVE REPORT

To Accompany Hydrographic Survey H-8414 (Field No. HY-10257)

Georges Bank

North and East of Georges Shoal

1957 - 1958

Ship HYDROGRAPHER

Scale 1:100,000

Walter J. Chovan, Gilbert R. Fish

Chiefs of Party

A. PROJECT

Project No. CS-401. Original Instructions dated 28 November 1956. Supplemental Instructions dated 28 February 1957.

B. SURVEY LIMITS AND DATES

This survey covers the area along the edges of Georges Bank that lies to the north and east of Georges Shoal. The approximate limits of the field work done in 1957 are: Lat. 41-26N to Lat. 42-09N, Long. 66-39W to Long. 67-34W. The small portion of the sheet from Lat. 41-46N to 41-55N, Long. 67-48W to 68-12W was accomplished in 1958. Field work on this sheet was done from 5 May to 6 October 1957, and from 24 April to 28 April 1958. During the 1957 field season junction was made with the following prior surveys:

<u>Number</u>	<u>Scale</u>	<u>Year of Survey</u>
H-5272	1:100,000	1931
H-5112a & c	1:100,000	1930
H-5167	1:100,000	1931
H-5173	1:100,000	1931
H-8200	1:120,000	1955
H-5112b	1:40,000	1931

Junction is made with the following contemporary surveys:

H-8403 (HY-4157)
H-4804 (HY-4357)

8404

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) is 80 to 120 meters, depending upon the prevailing wind and current. 808J type portable depth recorders were used for this entire survey. Depth recorder numbers 153SPX and 156SPX were used in 1957, and numbers 195SPX and 57-31 were used in 1958.

D. TIDE AND CURRENT STATIONS

Tide reducers for this survey are referenced to the standard tide gage at Boston, Massachusetts. Time difference of minus one hour and ratio of ranges of 0.5 was furnished by the Washington Office. No current stations were observed on this sheet.

E. SMOOTH SHEET

The smooth sheet projection and the EPI and Raydist arcs were ruled by the Washington Office. This is an offshore survey and contains no shoreline or topographic detail.

F. CONTROL STATIONS

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

R₂ (also EPIA) at Southwest Harbor, Maine

Lat. 44-14'-47.65N

Long. 68-17'-37.61W

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

R₁ (also EPIB) at Wellfleet, Cape Cod, Mass.

Lat. 41-56'-31.426N

Long. 69-59'-11.303W

The GP of this station was determined by K. S. Ulm, Boston District Officer, in 1957. It is the same as R.M. 1 of triangulation station FRAZIER, 1957.

G. SHORELINE AND TOPOGRAPHY

No shoreline or topography is shown on this sheet, as it is an offshore survey.

H. SOUNDINGS

All depths were measured using 808J type fathometers. These fathometers are old, and proved rather unreliable at times. However, adequate checks and tests were made to verify the accuracy of the soundings. For further information, see separate reports on Velocity and Fathometer Corrections for both the 1957 and 1958 seasons.

I. CONTROL OF HYDROGRAPHY

EPI and Raydist control was used for all work on this sheet. The first trip to the working grounds in 1957 was used to accomplish EPI hydrography on the eastern part of this sheet. After the conclusion of this trip a Raydist system was installed and the remainder of the hydrography was controlled principally with Raydist with EPI being used at night after the Raydist failed due to sky wave interference.

The EPI was calibrated east of Boston prior to the first trip at sea. After arriving at Georges Bank a buoy (A-1957) was planted and positioned by EPI readings. Later on this buoy was located by Raydist and the Raydist position was used to determine calibration values for the EPI sets used to obtain the EPI position on the first trip to sea.

EPI calibration values for hydrography accomplished after the first trip were determined at buoys positioned by Raydist. The EPI did not appear to be too stable and some adjustments had to be made.

On the first trip the EPI set which was used to obtain the distance from EP1B at Wellfleet to Buoy A failed and the spare set at Wellfleet had to be used. Since this set had not been used to obtain a reading at Buoy A it was not possible to obtain a calibration value for this set on the working grounds. At the conclusion of the first trip this spare set was calibrated east of Boston and a change of about 7 microseconds from the value obtained at the beginning of the trip was indicated. This change in calibration values is the cause of the extensive shift of sounding lines on the boat sheet. On the smooth sheet an attempt has been made to use the most probable values for the corrections but undoubtedly inaccuracies still exist.

All Raydist positions are based on the Texas Tower (Southwest leg) location of R₁-4068.6, R₂-6267.2.

*Electronic control adjustment
made in automated logging.*

J. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting. That portion of the survey east of Longitude $67^{\circ}00'W$ is controlled by EPI. This portion of the survey is not controlled with the same high accuracy as the Raydist portion of the sheet. Speed, time and course could not be made entirely compatible with the EPI fixes. About 15% of the EPI distances (mainly from the Southwest Harbor station) were rejected. The Wellfleet EPI arc and the ship's speed were the factors most rigidly adhered to in the smooth plot, with a lesser weight given to the Southwest Harbor EPI station and course changes. In all cases where the EPI fix is reasonable, the fix was plotted as recorded and corrected.

K. CROSSLINES

Crosslines were run to about 9% of the total hydrography.

Crossings were good, with the following exceptions:

Positions 173D-174D and the soundings between are very nearly super-imposed on a like length of line at 15J. The soundings on J day (Raydist controlled) are about 3 fathoms deeper than the soundings on D day (EPI controlled). This discrepancy is about 10% of the total depth. The bottom in this area is extremely rough, and because of the abrupt relief and the small scale of this survey it is difficult to determine if there is, in fact, an error in crossing. A shift in either of the lines of an amount barely plottable would correct the discrepancy. On the smooth sheet in this area, the depths of the peaks were taken from the shoaler (D day) hydrography, and the depths in the valleys were taken from the deeper (J day) hydrography. Soundings not plotted were so noted in the volumes.

A discrepancy of about 5% (2 fathoms) exists on a crossing between 105-106D and 155-156B day. This discrepancy is apparently due to EPI control on B day. (A westward shift of about 200 meters would satisfy the anomaly) Since any shift in this line would be more or less arbitrary, it is being left to the discretion of the verification section.

The hydrography on positions 2-11A day (EPI controlled) does not agree with adjacent hydrography. It is apparently about 500 meters too far east. Depth discrepancies are about 2 fathoms, 6% of the total depth.

Compare line on sheet to east

L. COMPARISON WITH PRIOR SURVEYS

Comparison was made with the following prior surveys:

<u>Number</u>	<u>Scale</u>	<u>Date</u>
H-5112a & c	1:100,000	1930
H-5112b	1:40,000	1930
H-5167	1:100,000	1931
H-5173	1:100,000	1931
H-5272	1:100,000	1931
H-8200	1:120,000	1955

Comparison of individual soundings or sounding lines was good on all sheets. There was much more detail on the present survey than on any of the 1930 or 1931 surveys, and in areas of considerable relief, this greater detail has made an apparent change in the bottom configuration. Since this is a modern electronically controlled survey, using close line spacing and continuously recording fathometers, it is recommended that data from this sheet govern.

H-8200 is a modern survey. The present survey made junction with H-8200, and the junction was adequate. Depth curves can be drawn.

For shoaler depths found on this survey, see paragraph N.

M. COMPARISON WITH CHART

Comparison was made with C&GS Charts No. 3075 and 3076, scale 1:220,000. The comparison was good, although the changes in configuration noted in paragraph L also apply to this comparison. The present survey developed soundings on many shoals which were shoaler than those charted.

N. DANGERS AND SHOALS

There are no dangers to surface navigation within the limits of this survey. The shoalest depth recorded was 11.5 fathoms, in Latitude 41-48, Longitude 67-12. This shoal is on the junction with contemporary survey H-8403. Like depths were recorded on H-8403.

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 located within the limits of this survey.

R. GEOGRAPHIC NAMES

No investigation of geographic names was made.

Z. TABULATION OF APPLICABLE DATA

To Wash. Off.

Season's Report	12/9/57
Raydist Report	12/9/57
Addendum to Raydist Report	12/9/57
Fathometer & Velocity Correction Report	12/10/57
Oceanographic Report & Records	12/9/57
Water Samples From Oceanographic Stations	10/14/57

Season's Report, Raydist Report, Fathometer and Velocity Correction Report, and Oceanographic Report and data will be submitted for the 1958 season after season's end.

Separates attached:

1. Statistics
2. Tide Notes
3. Approval Sheet
4. Raydist Corrections, 1957
5. EPI Corrections, 1957
6. Raydist Corrections, 1958
7. Tabulation of Fathometer Corrections, 1957
8. Velocity Corrections, 1957
9. Velocity Corrections, 1958

Respectfully submitted,

William D. Barbee
 William D. Barbee
 LT, C&GS

STATISTICS FOR HYDROGRAPHIC SURVEY H-8414 (HY-10257)

USC&GSS HYDROGRAPHER

1957

PROJECT 14010 (CS-401)

<u>Day Letter</u>	<u>Vol. No.</u>	<u>Date</u>	<u>No. of Positions</u>	<u>Nautical Miles of Sounding</u>
<u>EPI CONTROLLED</u>				
A	1	5 May 1957	144	128.5
B	1 & 2	6 May	250	245.3
C	2	7 May	240	231.7
D	3	8 May	250	210.5
E	3 & 4	9 May	170	151.7
H	5	9 Sept.	7	6.0
K	6	11 Sept.	38	37.0
L	7	12 Sept.	33	28.5
M	8	21 Sept.	32	33.0
N	8	22 Sept.	60	57.5
EPI Total			1224	1129.7

STATISTICS FOR HYDROGRAPHIC SURVEY H-8414 (HY-10257)--Cont.

<u>Day Letter</u>	<u>Vol. No.</u>	<u>Date</u>	<u>No. of Positions</u>	<u>Nautical Miles of Sounding</u>
<u>RAYDIST CONTROLLED</u>				
F	5	12 July 1957	39	33.0
G	5	26 August	32	50.7
H	5	9 Sept.	50	64.0
J	5 & 6	10 Sept.	123	133.2
K	6	11 Sept.	178	179.2
L	7	12 Sept.	96	118.5
M	7	21 Sept.	75	80.5
N	8 & 9	22 Sept.	126	170.0
P	9	23 Sept.	88	107.0
Q	10	5 Oct.	64	68.0
R	10	6 Oct.	15	23.0
Raydist Total			886	1027.1
1957 Totals:			2110	2156.8
<u>1958 SEASON</u>				
S	XI	24 April 1958	55	45.8
T	XI	25 April	143	128.1
U	XI	28 April	78	50.0 0
1958 Totals:			276	223.9
GRAND TOTALS:			2386	2380.7

821.7 SQ. NAUTICAL MILES

TIDE NOTE

To Accompany

Hydrographic Survey H-8414

Standard Tide Station: Boston (Commonwealth Pier) Massachusetts

Location: Lat. $42^{\circ} 21' N$; Long. $71^{\circ} 43' W$

Plane of Reference: Mean Low Water 3.3 on tide staff.

Time Correction: Minus one hour.

Height Correction: Ratio of Ranges 0.5

Area Covered: Entire Survey

The above time and height corrections furnished by Washington Office.

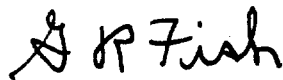
The hourly heights were furnished from the Washington Office.

APPROVAL SHEET

The field work accomplished on this survey after 1 August 1957 was under my immediate supervision. Daily inspections of the records, fathograms, 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.

This survey is complete, and adequate for charting.



G. R. Fish
CAPT, C&GS
Comdg., Ship HYDROGRAPHER

and EPI

RAYDIST CORRECTIONS FOR SHEET HY-10257

Date	Day	Positions	Field Corr		Final Corrections			As Cor	Total R2	EPI Sets A-#3; B- No. No
			R1-A	R2-B	A	B	R1			
May 5	A	2 - 29	-6.4	-3.3	(a) -5.5	(b) -3.4				
		30 - end	-4.8	-2.3	-5.5	-3.4				
6	B	ALL	-4.8	-2.3	-5.5	-3.4				
7	C	1 - 61	-4.8	-2.3	-5.5	(c) -3.4				
		62 - end	-4.8	-2.3	-5.5	-7.5				Change to Set ID 31 at B
8	D	ALL	-4.8	-2.3	-5.5	-7.5				
9	E	ALL	-4.8	-2.3	-5.5	-7.5				
July 12	F	ALL	1.2	1.0			-3.3	1.2	-1.4	-0.2
Aug 26	G	ALL	-0.1	1.2			-4.6	-1.6	-1.4	-3.0
Sept 9	H	1 - 24	1.0	1.2			-4.4	-0.7	-1.4	-2.1
		25 - 39	-3.5	1.1			-7.2	+0.7	-1.4	-0.7
		40 - 47	-3.5	1.2			-7.2	-0.3	-1.4	-1.7
		48 - 49	-3.5	1.0			-7.2	-2.3	-1.4	-3.7
		50	-3.5	1.2			-7.2	-0.3	-1.4	-1.7
					(a) -8.4	(c) -4.0				
10	J	51 - 57	-8.9	-1.5			-4.7	-3.7	-1.4	-5.1
		1 - 5	-1.0	-1.1			-4.7	-3.7	-1.4	-5.1
		6 - 74	10.0	-3.9			-4.7	-3.7	-1.4	-5.1
		75 - 86	-1.0	-1.1			-3.7	-1.6	-1.4	-3.0
		87 - 105	0.0	1.0						

Added 1 lane in R2
Added 2 lanes in R2
Lost 2 lanes in R2
EPI Sets
A-ID 32; B-No. No

Recalibrated

Date	Day	Positions		Field Corr		Final Corrections			As		Total	
		R ₁ -A	R ₂ -B	R ₁	R ₂	A	B	R ₁	R ₂	Corr		
Sept 10	J	106	-109	0.0	0.0			-3.7	40.4	-1.4	-1.0	Lost 2 lanes in R ₂
		110	-120	0.0	0.0			-3.7	-0.6	-1.4	-2.0	Added 1 lane in R ₂
		121	-123	0.0	43.0			-3.7	40.4	-1.4	-1.0	-1.0
11	K	1	-10	0.0	43.0			-3.7	40.4	-1.4	-1.0	Lost 1 lane in R ₂
		11	-48	-7.2	-4.9	(d)	(e)					EPI Sets
		49	-69	-1.3	40.8	-8.4	-4.6	-5.0	-1.8	-1.4	-3.2	-3.2
12	L	70	-103	410.0	-2.0			-5.0	-1.8	-1.4	-3.2	
		104	-121	-1.3	40.8			-5.0	-1.8	-1.4	-3.2	
		122	-128	410.0	-2.0			-5.0	-1.8	-1.4	-3.2	
12	L	129	-140	-2.1	-2.0			-5.0	-1.8	-1.4	-3.2	
		141	-148	410.0	-3.0			-5.0	-1.8	-1.4	-3.2	
		149	-216	-1.3	40.8			-5.0	-1.8	-1.4	-3.2	
21	M	1	-12	-1.3	40.8			-5.0	-1.8	-1.4	-3.2	
		13		-2.3	43.8			-6.0	41.2	-1.4	-0.2	
		14		-3.3		(e)	(e)	-7.0				
22	M	15	-47	-2.5	42.4	-3.5	41.2					
		48	-129	-0.9	41.5			-4.6	-1.1	-1.4	-2.5	
		1	-57	40.9	-0.2			-3.6	-3.0	-1.4	-4.4	
22	M	58	-75	40.3	-4.1			-3.7	-6.4	-1.4	-7.8	
		76	-78	-8.0	-1.5	(f)	(g)					Recalibrate after
		79	-88	-8.0		-9.2	-2.5					Calibrate EPI
22	M	89	-98	-8.0	-1.1	-9.2	-2.1					
		99	-104	-8.0	-0.7	-9.2	-1.7					
		1	-12	-8.0	-0.2	-9.2	-1.3					
22	M	13	-22	-8.0	40.2	-9.2	-0.9					
		13	-22	-8.0	40.2	-9.2	-0.5					

Date	Day	Positions	Field Corr		Final Corrections			As Corr	Total R ₂	
			R ₁ -A	R ₂ -B	A	B	R ₁			R ₂
Sept	P	23 - 33	-8.0	+0.7	-9.2	-0.1				
		34 - 45	-8.0	+1.1	-9.2	+0.3				
		46 - 55	-8.0	+1.6	-9.2	+0.7				
		56 - 59	-8.0	+2.0	-9.2	+1.0				
		60 - 185	-0.5	+1.8	-9.2		-4.6	-1.2	-1.4	-2.6
23		1 - 88	-0.5	+1.8			-4.6	-1.2	-1.4	-2.6
Oct	Q	1 - 3	+0.7	+16.5			-3.7	+13.3	-1.4	+11.9
		4 - 59	+12.2	+12.2			-3.7	+13.3	-1.4	+11.9
		60 - 64	+0.7	+15.1			-3.7	+13.3	-1.4	+11.9
6	R	1 - 15	-5.4	+14.2			-5.3	+13.2	-1.4	+11.8

EPI CALIBRATION SHEET 10257

Date Time	Locality	Set Nos.		Zero Check		Raydist Lanes		Micro Seconds		Mn Dial Rtns		Corr.'s.	
		A	B	A	B	R ₁	R ₂	A	B	A	B	A	B
May 1	Buoy #5	#3	ID 32	No. No 1998.6	1998.0	-	-	1960.1	581.7	1965.0	584.1	-4.9	-2.4
1430	"	"	"	ID 31 1998.6	1998.0	-	-	1960.1	581.7	1963.4	584.2	-3.3	-2.5
5	Buoy A	#3	ID 31	No. No 1999.3	1997.3	4492.6	5971.6	1820.1	1369.6	1827.0	1373.9	-6.9	-4.3
10	Buoy #5	#3	ID 31	1998.3	9997.4	-	-	1960.1	581.7	1964.6	589.0	-4.5	-7.3
10	"	"	"	No. No 1998.3	9997.5	-	-	1960.1	581.7	1966.1	584.1	-6.0	-2.4
Sept 9	Buoy D	ID 32	ID 32	No. No 1998.8	1998.8	5873.7	5113.3	1790.0	1558.8	1798.9	1561.5	-8.9	-2.7
10	"	"	"	No. No 1999.6	1998.3	5873.7	5113.3	1790.0	1558.8	1797.3	1564.0	-7.3	-6.2
10	"	"	"	No. No 1998.8	1998.1	5873.7	5113.3	1790.0	1558.8	1798.2	1562.4	-8.1	-3.6
11	"	"	"	No. No 2000.3	1998.8	5873.7	5113.3	1790.0	1558.8	1799.3	1563.1	-9.3	-4.3
12	"	"	"	No. No 2000.4	1998.8	5873.7	5113.3	1790.0	1558.8	1793.5	1557.6	-3.5	1.2
21	Buoy E	ID 32	ID 32	No. No 1999.1	1998.9	6274.8	5107.5	1912.2	1557.3	1921.1	1559.8	-8.9	-2.5
22	"	"	"	No. No 1998.8	1997.0	6274.8	5107.5	1912.2	1557.3	1921.6	1556.3	-9.4	1.0

EPI BASE LINE CROSSINGS

4 May, 2130 Min. Sum = 1946.4; 1946.4 - 5.5(a) - 3.4(b) = 1937.5;
 1937.5 - 1940.2 = -2.7 Error on Set Nos, A - #3; B - No. No
 Zero Check A - 1998.6; B - 1998.1

10 May, 0220 Min. Sum = 1954.8; 1954.8 - 5.5(a) - 7.5(b) = 1941.8;
 1941.8 - 1940.2 = 1.6 Error on Set Nos, A - #3; B - ID 31;
 Zero Check, A - 1999.4; B - 998.8

(a) Set #3 Correct Calib at Buoy 5 to Zero Check of 98.6 and
 corrected to Z.C. of 98.6 mean, then average this
 value with calibration at Buoy A.

$$\frac{[-4.9(98.6) - (4.5/0.3)(98.3)]}{\pm 2} = -4.8;$$

$$\frac{[-4.8 - (6.9 - 0.7)(99.3)]}{\pm 2} = \underline{-5.5}$$

(b) Set No. No Correct calib at Buoy 5 to Z.C. of 97.6, mean and
 then average with calib at Buoy A corrected to Z.C.
 of 97.6

$$\frac{[-(2.4 - 0.4)(98.0) - (2.4/1)(97.5)]}{\pm 2} = -2.2;$$

$$\frac{[-2.2 - (4.3/0.2)(97.4)]}{\pm 2} = \underline{-3.4}$$

(c) Set ID 31 Use calib at Buoy A corrected to Zero Check of 97.6
 - (7.3/0.2)(97.4) = -7.5

(d) Set ID 32 Use mean of calibrations from 9 Sept.(1830) to 11
 Sept. $\frac{[-8.9 - 7.3 - 8.1 - 9.3]}{\pm 4} = -8.4$
 Set No. No $\frac{[-2.7 - 5.2 - 3.6 - 4.3]}{\pm 4} = -4.0$

(e) Use corrections of 12 Sept. #0610
 Set ID 32 = -3.5; set No. No = 1.2

(f) Use mean of corrections for 21 & 22 Sept. for Set
 ID 32 $\frac{[-8.9 - 9.4]}{\pm 2} = -9.2$

(g) For Set No. No (B) vary corrections from
 -2.5 to 1.0, calib of 21 & 22 Sept.

RAYDIST CORRECTIONS FOR SHEET HY-10257 (1958 SEASON)

Date	Day	Positions	Field Corr.		Final Corr.		Remarks
			R ₁	R ₂	R ₁	R ₂	
24 April	S	1-53	-1.1	3.2	-5.6	0.4	
		54-55	-1.1	5.2	-5.6	2.4	R ₂ lost 2 lanes
25 April	T	1-31	2.8	-2.6	-2.1	-5.2	
		32-44	1.4	-1.4	-3.1	-4.2	R ₁ gained 1 lane, R ₂ lost 1 lane.
		45-143	2.4	-2.4	-2.1	-5.2	R ₁ lost 1 lane, R ₂ gained 1 lane.
28 April	U	1-78	0.9	-2.5	-1.3	10.4	

Tabulation of Instrument corrections for ship hydrography as entered in Sounding Records (This correction is the algebraic sum of the Instrument, Draft, Settlement and Squat and Phase Corrections):

FDO #205

(Used only for Position 151 thru 175 J day HY-1157
10 July)

-1.8 fms. all soundings

808 #132

Used only for Launch work.

808 #105

Used only the following days

<u>Date</u>	<u>Positions</u>	<u>Sheet No.</u>
26 July	1R - 66R	HY-4357
11 August	1S - 347S	HY-1157
13 August	1T -11T	HY-1157
13 August	1A - 256A	HY-2157
14 August	1G - 27G	HY-4257
14 August	1U - 179U	HY-1157

Corrections for the above days:

A scale	∕0.1 fm.
B scale	-0.4 fm.
C scale	-1.2 fm.

Inst. Corrections for Ship Hydrography Cont.

808 #153

<u>Trip No.</u>	<u>Period</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 18 June	0.0	1.2	1.2	1.2
	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	1.2
	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	1.2
	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	1.2
	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	1.2
	1500 10 August	-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	1.2
	1200 25 August to end	-0.1	1.1	1.1	1.0
<u>Trip No. 8</u>	<u>3-13 September</u>				
	Begin to 1500 11 September	-0.1	1.1	1.1	1.0
	1500 11 September to end	-0.2	1.0	1.0	0.0
<u>Trip No. 9</u>	<u>18-27 September</u>				
	Begin to 1800 20 September	0.0	1.2	1.2	1.2
	1800 20 September to end	-0.1	1.1	1.1	1.0
<u>Trip No. 10</u>	<u>30 Sept - 7 Oct.</u>				
	Begin to 1600 4 October	0.0	1.2	1.2	1.2
	1600 4 October to end	-0.1	1.1	1.1	1.0

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	+4.2 ³
	0700 6 May to end	-0.2	+2.6	+4.6	+4.2
<u>Trip No. 2</u>	<u>31 May-¹² 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	-0.1	+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
1958 Field Season

Trip Number	Dates	Fath. Number	Scales			
			A	B	C	D
I thru III	22 April -	57-31	-0.2	/0.2	/1.0	/1.6
	27 May	153	-0.2	/0.8	/0.8	/0.4
IV	4 June -	57-31	-0.2	/0.2	/1.0	/1.6
	1200 11 June	153	-0.2	/0.8	/0.8	/0.4
	1200 11 June	57-31	-0.4	0.0	/0.8	/1.4
	- 13 June	153	-0.4	/0.6	/0.6	/0.2
V and VI	20 June -	57-31	-0.2	/0.2	/1.0	/1.6
	17 July	153	-0.2	/0.8	/0.8	/0.4
VII thru XII	21 July -	57-31	-0.2	/0.2	/1.0	/1.6
	7 Oct.	153	0.0	/1.0	/1.0	/0.6

These instrument correctors are the algebraic sum of the Fathometer instrument error, phase, draft, and settlement and squat corrections.

VELOCITY CORRECTIONS (All in fms.)

Table I

H-8414

1st. Trip 1 - 10 May

<u>HY-10257</u>	<u>HY-10157</u>	<u>All other sheets</u>
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	-0.4 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 2 31 May - 12 June

Same as Trip 1

Trip 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.)

Trip 4 6 - 14 July

H-8414

HY-10157

HY-10257 Table 2

All other sheets

Same as Trip 3

0.0 to 29.8
 -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

0.0 to 21.9
 -0.2 to 40.2

Trip 5 19 - 29 July

Same as Trip 3

Same as Trip 4

0.0 to 30.0
 -0.2 to 40.2
 -0.4 to 50.8
 -0.6 to 61.8
 -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

H-8414

Trip 6 5 - 15 August

Table 3

0.0 to 12.5
 -0.2 to 22.5
 -0.4 to 32.7
 -0.6 to 42.9
 -0.8 to 52.5

0.0 to 16.4
 -0.2 to 30.7
 -0.4 to 41.0
 -0.6 to 51.2
 -0.8 to 61.7
 -1.0 to 72.0
 -1.2 to 82.3
 -1.4 to 92.7
 -1.6 to 103.0
 -1.8 to 113.0

0.0 to 10.9
 -0.2 to 20.0
 0.0 to 25.2
 -0.2 to 30.7
 -0.4 to 41.0
 -0.6 to 51.2

VELOCITY CORRECTIONS (Cont.)

	Trip 7 20 - 27 August	
	<i>H-8414</i>	
<u>HY-10157</u>	<u>HY-10257</u>	<u>All other sheets</u>
Same as Trip 6	Same as Trip 6	0.0 to 9.2 0.2 to 20.0
	<i>H-8414.</i>	
	Trip 8 3 - 13 September	
	<i>Table 4</i>	
0.0 to 18.0	0.0 to 25.0	0.0 to 24.6
-0.2 to 30.5	-0.2 to 39.5	-0.2 to 39.5
-0.4 to 42.7	-0.4 to 51.0	-0.4 to 51.0
-0.6 to 54.7	-0.6 to 62.5	
-0.8 to 66.0	-0.8 to 74.0	
-1.0 to 88.0	-1.0 to 86.5	
	-1.2 to 100.0	
	-1.4 to 115.0	
	-1.6 to 130.0	
	Trip 9 18. - 27 September	
Same as Trip 8	Same as Trip 8	Same as Trip 8
	Trip 10 30 September - 10 October	
Same as Trip 8	Same as Trip 8	Same as Trip 8

VELOCITY CORRECTIONS (All in Fms.)

NY-10257, 1958 Season

Table 5

<u>Depth</u>	<u>Correction</u>
0 - 2.4 fms	0.0 fms
to 11.6	-0.2
to 21.6	-0.4
to 30.2	-0.6
to 39.8	-0.8
to 49.0	-1.0
to 58.8	-1.2

ABSTRACT FOR SURVEY # 08414

<u>Volume #</u>	<u>VESSEL</u>	<u>Block of #'s Allocated</u>
1-11	Hydrographer	0001-2361

Hydrographer

		<u>Manual</u>	<u>Automated</u>	
<u>Day</u>		<u>Position #s</u>	<u>Julian Day</u>	<u>Position #s</u>
"A" Day	05/05/57	1-143A	125	0001-0143A
"B" Day	05/06/57	1-249A (2R)	126	0144-0390A
"C" Day	05/07/57	1-239A (11R)	127	0391-0618A
"D" Day	05/08/57	1-249A	128	0619-0867A
"E" Day	05/09/57	1-170	129	0868-1037
"F" Day	07/12/57	1-039 (6R)	193	1038-1070
"G" Day	08/26/57	1-032	238	1071-1102
"H" Day	09/09/57	1-056	252	1103-1158
"J" Day	09/10/57	1-122A	253	1159-1280A
"K" Day	09/11/57	1-215A (1R)	254	1281-1494A
"L" Day	09/12/57	1-129	255	1495-1623
"M" Day	09/21/57	1-107A (1M)	264	1624-1731A
"N" Day	09/22/57	1-185A	265	1732-1916A
"P" Day	09/23/57	1-088	266	1917-2004
"Q" Day	10/05/57	1-064	278	2005-2068
"R" Day	10/06/57	1-015	279	2069-2083
"S" Day	04/24/58	1-055 (1M)	114	2084-2139
"T" Day	04/25/58	1-143 (1M)	115	2140-2283
"U" Day	04/28/58	1-078	118	2284-2361

CROSS REFERENCE FOR SURVEY # 08414

<u>Volume #</u>	<u>Vessel</u>	<u>Position #s</u>
1	Hydrographer	0001-0312
2	"	0313-0618A
3	"	0619-0951
4	"	0952-1037
5	"	1038-1255
6	"	1256-1494A
7	"	1495-1699A
8	"	1700-1803
9	"	1804-2004
10	"	2005-2083
11	"	2084-2361

H-8414

Tape 1 (EPI)

Volume 1, page 9 - Volume 4, page 20
A-Day (Position 1) - E-Day (Position 1037)
Volume 5, page 40 - Volume 5, page 41
H-Day (Position 1153) - H-Day (Position 1158)
Volume 6, page 17 - Volume 6, page 28
K-Day (Position 1291) - K-Day (Position 1327)
Volume 7, page 9 - Volume 7, page 16
L-Day (Position 1509) - L-Day (Position 1541)
Volume 8, page 3 - Volume 8, page 22
M-Day (Position 1700) - N-Day (Position 1790)

Tape 2 (Raydist)

Volume 5, page 3 - Volume 5, page 40
F-Day (Position 1038) - H-Day (Position 1152)
Volume 5, page 48 - Volume 6, page 16
J-Day (Position 1159) - K-Day (Position 1290)
Volume 6, page 29 - Volume 7, page 9
K-Day (Position 1328) - L-Day (Position 1508A)
Volume 7, page 17 - Volume 7, page 70
L-Day (Position 1542) - M-Day (Position 1699A)
Volume 8, page 22 - Volume 11, page 62
N-Day (Position 1791) - U-Day (Position 2361)

GEOGRAPHIC NAMES

Survey No. H-8414

Name on Survey	Source of Information										
	A	B	C	D	E	F	G	H	K		
											1
											2
											3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
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											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8414...

Records accompanying survey: Smooth sheets ..1..;
 boat sheets ..1..; sounding vols. .11..; wire drag vols.;
 Descriptive Reports .1....; graphic recorder envelopes ~~7~~ Envelopes
 special reports, etc. .1. ~~Cahier-EPI. Plotting Abstracts,~~
 .12. Envelopes Brush and Print-out Tape Records.....

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
Special adjustments	Time

Verification by Total time Date

Reviewed by Time Date

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8414

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.

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:

22 October 1958

Plane of reference approved in
11 volumes of sounding records for

HYDROGRAPHIC SHEET 8414

Locality Georges Bank, Atlantic Coast

Chief of Party: W. J. Chovan)
G. R. Fish) in 1957-58

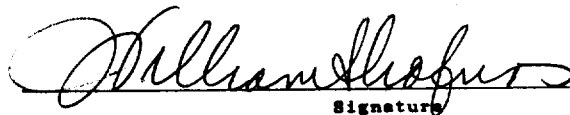
Plane of reference is mean low water

ft. on tide staff at

ft. below B.M.

Height of mean high water above plane of reference is 4.2 feet.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch

