

6862

Diag'd. on Diag. 1207-2

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. GI-2145 Office No. H-6862

LOCALITY

State MASSACHUSETTS

General locality Massachusetts Bay

Locality Approaches to Boston Harbor

1945

CHIEF OF PARTY

Ronald R. Moore

LIBRARY & ARCHIVES.

DATE MAR 4 1946
AUG 12 1946

6862

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-6862

Field No. GI-2145

State MASSACHUSETTS

Massachusetts Bay

General locality Boston Harbor

Approaches to Boston Harbor

Locality Outer Boston Harbor

Scale 1:20,000 Date of survey August - October 1945

Instructions dated 17 February 1940 and 23 July 1945

Vessel USC&GSS GILBERT

Chief of party Ronald R. Moore

Ship's Officers

Surveyed by Ronald R. Moore

Soundings taken by fathometer, graphic recorder, hand lead, wire

Protracted by Betsy Jones Replotted by - L.L. Lawrence

Soundings penciled by Betsy Jones Repenciled by - L.L. Lawrence

Soundings in fathoms feet at MLW MLLW

REMARKS: This sheet was processed in the Hydrographic Section of the S.P. District, Norfolk, Va.

Due to a faulty protractor, this sheet was replotted at the J.E. Dist.

IM Zaskind

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY
USC&GSS GILBERT

FIELD NO. GI-2145 H-6862
Ronald R. Moore, Comdg.

Project CS-246

Scale 1:20000

A----- This survey is a part of Project CS-246. It was executed under Instructions from the Director to the Commanding Officer, Steamer OCEANOGRAPHER, dated 17 February 1940 and supplemental Instructions dated 23 July 1945.

B. ----- This survey is the approaches to Boston Harbor from the northeast and east in compliance with the supplemental instructions covering the area between the present chart No. 246, Scale 1:20000, and the contemplated future one, Scale 1:25000. This survey extends those executed by the Ship OCEANOGRAPHER in 1940 to the northern limit of $42^{\circ} 43' 15''$ and an eastern limit of $70^{\circ} 44' 18''$. This sheet joins hydrographic surveys H-6643⁽¹⁹⁴⁰⁾ and H-6644⁽¹⁹⁴⁰⁾ completed by the Str. OCEANOGRAPHER in 1940, and H-6863 completed in 1945.

C. ----- The field work was accomplished by the Ship GILBERT. An 808A Submarine Signal Depth Recorder No. 53 was used for all soundings except when vertical casts were taken for comparisons, then an accurately graduated leadline was used up to depths of 90 feet and the sounding machine for the greater depths.

D. ----- A portable tide gage No. H-159 was installed at Deer Is. by the W. D. party of Lt. Comdr. G. L. Anderson and was used for reducing soundings. This machine performed excellently and transferred to the GILBERT when the Wire Drag party left for the south.

F. ----- The triangulation control for this sheet was executed by various chiefs of parties from 1834 to 1943. As all of the stations used were lighthouses, tanks, standpipes, or military installations no recovery cards were submitted.

Certain military installations were used, the positions of which were obtained from the U S Engineer's Department at Boston and are so noted in the List of Stations.

Military installations used as signals are listed separately as confidential material.

G. ----- There is no shore line on the sheet, all of the work being offshore.

H. ----- All depths except those noted were taken with a type 808A Depth Recorder. As the range of depths was beyond "A" scale of the Recorder, and also beyond the length of the Bar Check the procedure for obtaining Fathometer corrections was as follows: In an area in which the depth could be recorded on two scales, the bar was lowered to 25 feet and fathometer set to read 25 feet on A scale; then ^{the} bar was lowered to 60 feet and a comparison obtained for B scale. Then a comparison by leadline or machine of the bottom depth was made on the two scales. The corrections so obtained were plotted and a mean correction ^{curve} for each scale was obtained.

In the northeast corner of the area there are a few soundings over the limit of D scale. The phasing device on the fathometer was adjusted to the position ~~of~~ where E scale should be, and these soundings obtained on the foot scale instead of using the fathom scale. *This procedure increased the range of the fathometer by one phase*

The greatest differences from the mean curves of the different scales are as follows:

"B" scale	-1.4' @ 87'	1.2' @ 80'
"C" "	-1.5' @ 75'	2.2' @ 79'
"D" "	-0.3' @ 115'	0.6' @ 155'
"E" "	-0.8 @ 153'	0.7' @ 161'

It should be pointed out that these comparisons were made on the open water with varying conditions of wind and sea with ship rolling and pitching and it is thought that the mean curves are very close to the actual.

slight play in phasing head is indicated by comparative readings on adjacent phases

Three sets of observations were made for salinity and the theoretical corrections computed, however it is thought enough comparisons had been made for computing the corrections and the salinity observations were disregarded.

The recorder was operated with the middle reed vibrating. The speed was checked against time signals as sent out by radio station WWV, Bureau of Standards, Washington, D. C. The speed was found to be in error less than 0.4 of 1 percent.

A list of the corrections used is attached to this report in addition to the original bar check curves from which they were computed.

I. ----- The horizontal control was by sextant angles on triangulation stations as described in Paragraph F above.

A list of signals used is included in this report.

J. ----- The survey is complete and adequate to supersede prior surveys for charting as far as the work has been completed to date. No holidays or excessive differences exist between soundings.

K. ----- Crosslines were run, and they are in close agreement except in a few cases. The smooth plotting, using bar corrections and the actual tides, should smooth out what discrepancies there are now on the boat sheet. The percentage of crosslines is about 7%. As this sheet is still in progress additional crosslines could be run when work is resumed.

Additional crosslines recommended in review.

L. ----- No prior surveys of recent date were available for comparison. The junction with H-6643 and H-6644 executed by the Str. OCEANOGRAPHER in 1940 is in close agreement.

M. ----- Comparison with USC&GS Chart 1207, print date 7 July 1945.

The soundings transferred from the above chart agree very closely with those of this survey with the following exceptions:

51' sounding in Lat. $42^{\circ} 23.0''$, Long. $70^{\circ} 47'.37''$.
Shoalest found in this area 68.5'.

51 and 72 originating with H-516 were plotted in error on that survey.

72' sounding in Lat. $42^{\circ} 23'.1''$, Long. $70^{\circ} 48'.0''$.
Shoalest found in this area 105'.

Disregard. See Para 5A of Review of present survey.

These soundings were searched for by running additional lines over the area but were not found. They may have been wrecks that have disappeared by this time.

The bottom in this area is so rocky that the few soundings on present chart 1207 give a poor indication of what the depths actually are.

N. ----- There are no dangers or shoals in the area thus far surveyed. Enroute to working grounds on 17 October 1945, the SS JOSHUA W. ALEXANDER was observed aground near the Graves Lighthouse. On examination, she was found to be aground on NE Graves, with the rock bare alongside at low water. She was floated free during that night.

Q. ----- Coast Pilot. The description of this area in the present Coast Pilot is adequate.

P. ----- The following floating aid is in this area.

Boston Lighted	42° 21'.80"	78.5'	Pos. 63 J	10/10/45
Bell Buoy #1	70° 48'.92"			

The buoy had just been placed on station a few days previously.

Q. ----- The landmarks as shown on the chart are adequate.

The military installations noted in the list of signals, would be good landmarks, but their positions are in all probability as yet secret.

Military installations removed from list of signals

R. ----- The Geographic Names as reported by the field inspection party were found to be adequate.

TIDAL NOTE

A portable automatic tide gage was maintained at the dock at Deer Island. Mean low water corresponds to a reading of 2.3 on the staff. This gage was established by the wire drag party of Lt. Comdr. G. L. Anderson and was transferred to this party when the drag party left for the Norfolk area.

The times and heights were used without correction as they would be less than one half of one percent.

STATISTICS FOR HYDROGRAPHIC SURVEY H-

Field No. GI-2145

Volume Number	Date	Day Letter	Number of Soundings	Number of Positions	Statute Miles of Soundings
			HL		
1	8/27/45	A	2 *	134	39.6
1 & 2	8/29/45	B	3 *	76	21.8
2	9/4/45	C	3 *	144	37.5
2	9/5/45	D	1 *	22	4.1
2 & 3	9/20/45	E	4 *	143	38.1
3 & 4	9/27/45	F	2 *	179	51.9
4	10/1/45	G	1 *	102	23.5
4 & 5	10/4/45	H	1 *	184	50.4
5 & 6	10/10/45	J	1 *	179	48.0
6	10/11/45	K	1 *	84	22.0
6	10/17/45	L	<u>1 *</u>	<u>137</u>	<u>31.0</u>
			20	1389	367.9

(*) Continuous profile

Area in square miles: 18.4

FATHOMETER CORRECTIONS

The corrections for the fathometer are derived from a composite mean curve from all observations, ^(bar check and lead line) taken as described under Para. H and are listed below.

Two salinity observations were made on 29 Aug. and 17 Oct. 1945, and the theoretical curves computed for each date and also a mean curve of the two observations. ^{for July 1945} T & S curve ^{is also shown on accompanying graph but not used in composite as it predates survey.}

The data for each is attached hereto:

CORRECTIONS (from bar check and lead line comparisons)

"B" Scale

2.0' 35' to 90'

"C" Scale

1.5' 70' to 92'
2.0' 92' to 125'

"D" Scale

-1.5' 105' to 116'
-1.0 116' to 127'
-0.5 127' to 138'
0.0 138' to 149'
0.5 149' to 160'

"E" Scale

-3.5' 140' up

SQUAT CORRECTION

The squat correction as determined during 1944 for full speed was found to be 0.4. This value was used and added to fathometer corrections. The combined correction being entered under "ECHO" correction. ✓

APPROVAL SHEET

H- 6862

The records and boat sheet for survey No. GI-2145 are herewith approved. It should be borne in mind that this descriptive report was written prior to the plotting of the smooth sheet and is subject to revision, as indicated by the notes attached to this report by the Norfolk Processing Office.

The records and boat sheet were subjected to frequent inspections as the work progressed and I consider the survey complete except for additional crosslines when work is resumed on the project.

crosslines
acceptable



Ronald R. Moore,
Lieut. Comdr., C&GS
Chief of Party

RRM/wm

10
A D D E N D U M

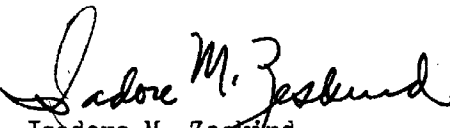
to accompany

HYDROGRAPHIC SURVEY H-6862 (Field No. Gi-2145)

Additional field work is required to complete this survey.

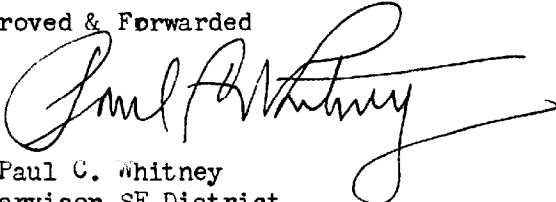
This work was processed in the Hydrographic Section of the Southeastern District, Norfolk, Virginia.

Respectfully submitted,


Isadore M. Zeskind
Cartographic Engineer

Norfolk, Va.
Feb. 28, 1946

Approved & Forwarded


Paul C. Whitney
Supervisor SE District

[REDACTED]

The following signals shown on the smooth sheet are military installations located by triangulations and are confidential. The positions can be obtained from the U. S. Engineers, Boston, Massachusetts.

<u>Signal</u>	<u>Triangulation Stations</u>
OUT	Outer Brewster Island, SCR (1943)
ALL	Allerton, SCR (1943)
TOW	Heath (1943)
RUK	RUCK B $\frac{4}{2}$ S $\frac{4}{2}$ (1943)
NOR	B $\frac{3}{9}$ S $\frac{3}{9}$ B $\frac{5}{6}$ S $\frac{5}{6}$ G 6 (1943)
GUN	G 70P B $\frac{5}{5}$ S $\frac{5}{5}$ B $\frac{5}{3}$ S $\frac{5}{3}$ (1943)

SIGNALS USED

USC&GSS GILBERT
Approaches to
Boston Harbor

PROJECT CS-246
Sheet No. GI-2145

All the signals used on this sheet had been located by triangulation.

TRIANGULATION STATIONS

MIN Minot's Ledge Lt. Ho. (1915)
HULL Hull Strawberry Hill Standpipe (1915)
BOS Boston Lt. Ho. (1834)
GAL Gallups Id. Water Tank (1941; 1943)
ON Deer Id. Black Cupola (1908)
WIN Winthrop Standpipe (1915)
HAN Nahant Standpipe (1915)
CAT Nahant Catholic Church Cupola (1894)
RAV The Graves Lt. Ho. (1909)
OUT
ALL
TOW
RUK
NOR
GUN

FATHOMETER SALINITY CORRECTIONS
 USCGSS GILBERT Sheet No. GI 2145
 Project CG 246

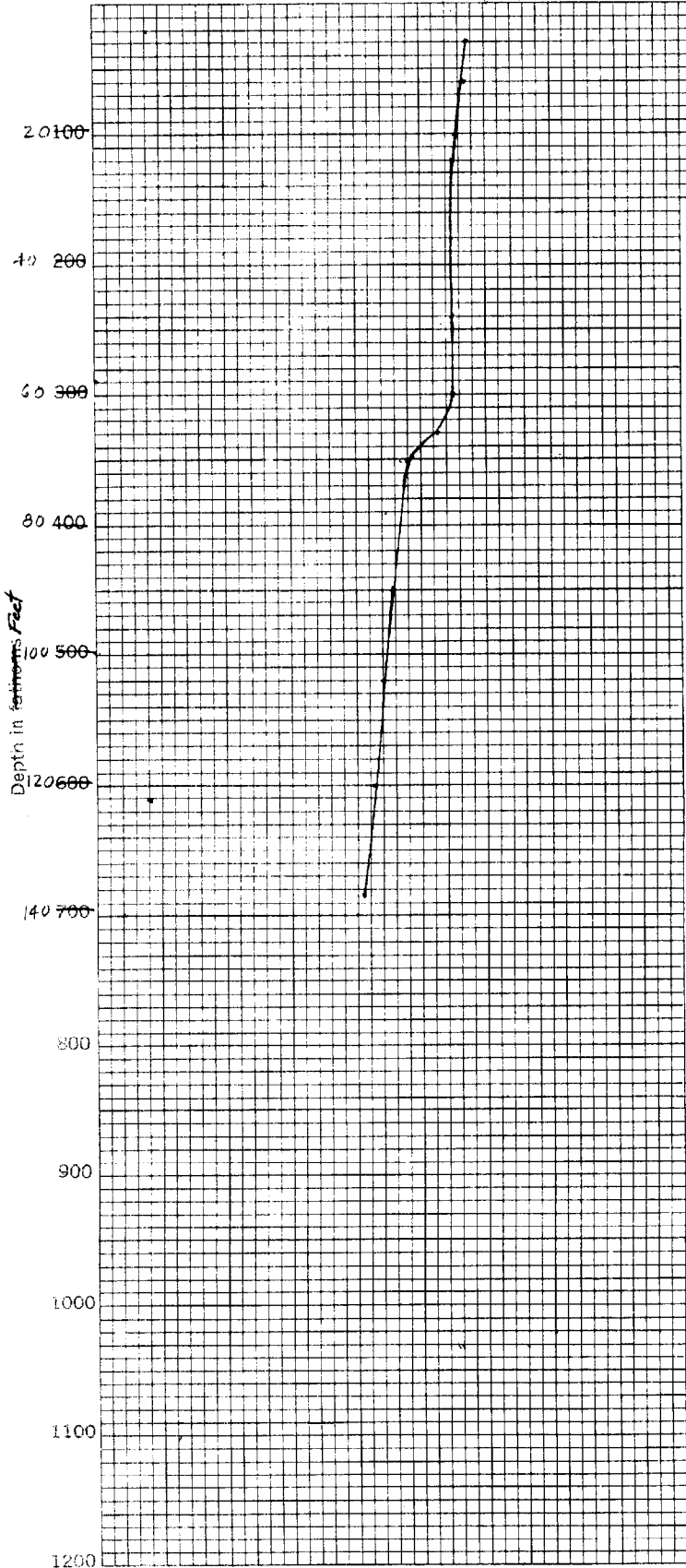
29 August 1945				17 October 1945				
FATH. RDG.	CORR.	DEPTH	FATH. RDG.	CORR.	DEPTH	FATH. RDG.	CORR.	DEPTH
5	0	5.00	85	-.080	84.705	5	0	5.00
10	.025	10.025	90	-.085	89.620	10	-.035	9.965
15	.020	15.045	95	-.085	94.535	15	-.035	14.930
20	.020	20.065	100	-.090	99.445	20	-.035	19.895
25	.020	25.085	105	-.095	104.350	25	-.040	24.855
30	.020	30.105	110	-.095	109.255	30	-.040	29.815
35	.020	35.125	115	-.095	114.160	35	-.040	34.775
40	.015	40.140	120	-.100	119.060	40	-.040	39.735
45	.00	45.140	125	-.100	123.960	45	-.040	44.695
50	-.025	50.115	130	-.100	128.860	50	-.040	49.655
55	-.020	55.095	135	-.100	133.760	55	-.040	54.615
60	-.050	60.045	140	-.100	138.660	60	-.040	59.575
65	-.055	64.990	145	-.100	143.560	65	-.040	64.535
70	-.060	69.930	150	-.100	148.460	70	-.060	69.475
75	-.070	74.860	155	-.100	153.360			
80	-.075	79.785	160					

** Corrections additives unless preceded by minus sign.

GRAPH OF WATER TEMPERATURES AND SALINITIES

Degrees Centigrade

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32



U. S. COAST AND GEODETIC SURVEY
Ship *Gilbert*

Date *1907/1/25* Com'd'g. *R.R. Moore*

Locality *Boston Outer Harbor*

Position: Lat. *42° 21.2' N*

Long. *70° 46.0' W*

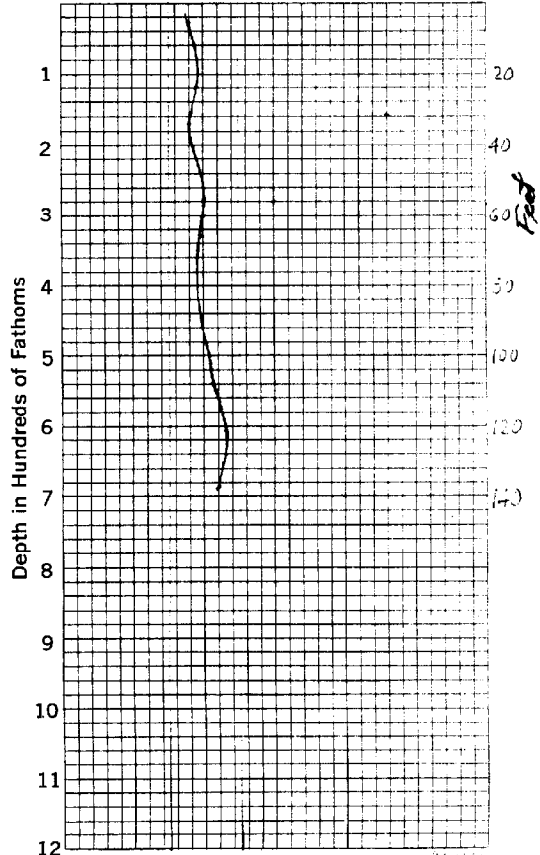
Salinities by: Titration
(Cross out) Hydrometer.
ones not used) Both.

Thermometer No. *380253*

Hydrometer No. *H-1004*

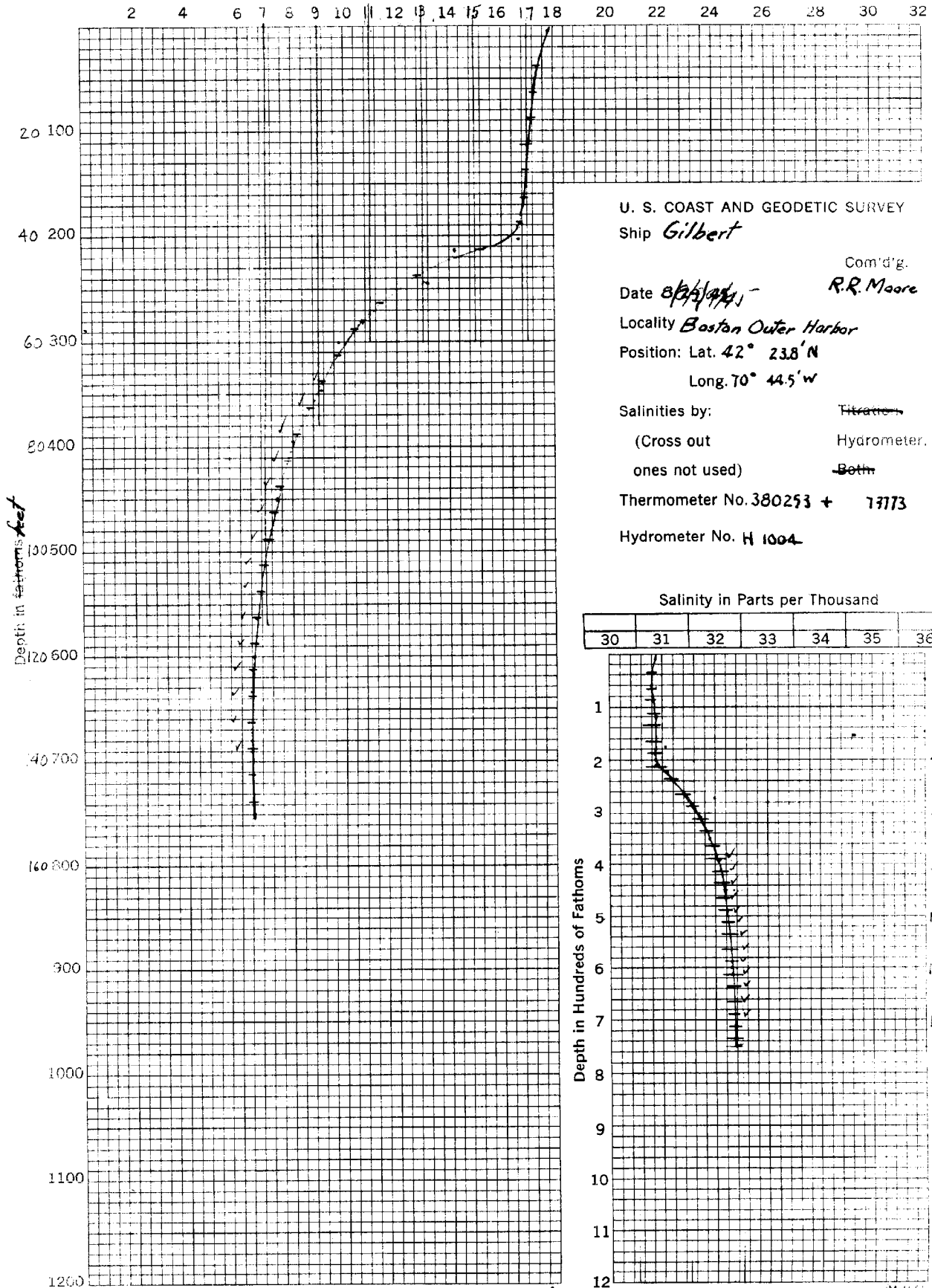
Salinity in Parts per Thousand

30	31	32	33	34	35	36
----	----	----	----	----	----	----



GRAPH OF WATER TEMPERATURES AND SALINITIES

Degrees Centigrade



U. S. COAST AND GEODETIC SURVEY

Ship *Gilbert*

Com'd'g.

Date *8/25/1911*

R.R. Moore

Locality *Boston Outer Harbor*

Position: Lat. *42° 23.8' N*

Long. *70° 44.5' W*

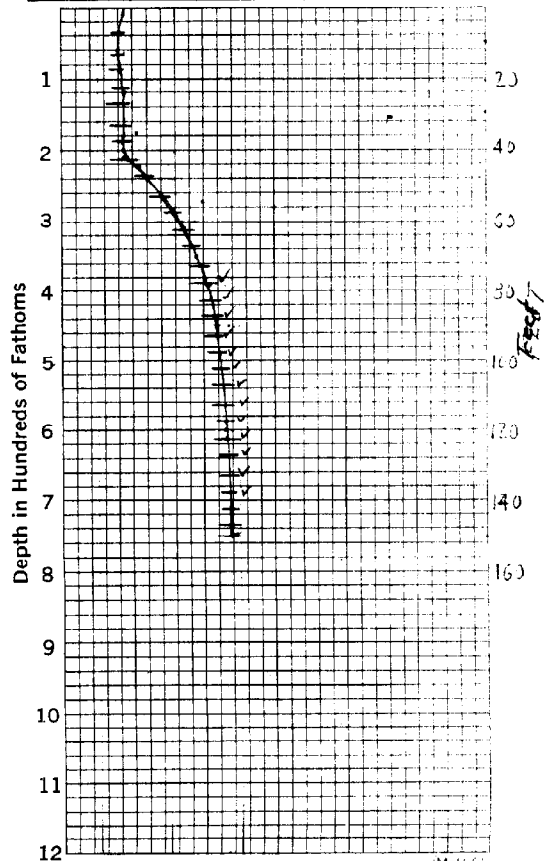
Salinities by: Titration
 Hydrometer.
 ones not used Both

Thermometer No. *380253 + 1773*

Hydrometer No. *H 1004*

Salinity in Parts per Thousand

30	31	32	33	34	35	36
----	----	----	----	----	----	----



RECORD OF TEMPERATURES, SALINITIES, AND THEORETICAL VELOCITIES

Ship or party GILBERT FR Moore Chief of party. 29 August, 1941
 Locality Harc. Bay Project CS-246 Survey No. _____

Date	Time	Latitude and Longitude	*Depth Fathoms	TEMP. AT DEPTH		SURFACE SALINITY		AIR TEMP.		† Salinity	Velocity at temp. M./Sec.	CORRECTIONS			Therm. No.	Hydro. No.	Remarks (weather, bottom, etc.)
				Obs.	Cor.	Obs.	Cor.	Obs.	Cor.			M./Sec.	Sal.	Temp.			
8/29	10 32	42.23 N 78.44 W	150	7.0	-4.5	1.02249		12.0		32.9				38053	H1004	Rev. Ther. 73773	
			120	7.0	-4.5	1.02246		12.0		32.8						Sand & Shell	
			90	7.8	-4.2	1.02246		11.5		32.7						Clear & hazy	
			60	10.2	-3.6	1.02240		14.8		32.4						Sea smooth	
			78	8.4	-4.0	1.02244		13.8		32.6						Air Temp. 75°F	
			69	9.5	-3.8	1.02242		14.0		32.4							
			48	13.5	-2.7	1.02232		16.5		31.7							
			54	11.0	-3.4	1.02240		16.2		32.5							
			42	17.0	-	1.02225		17.2									
			36	17.0	-2.0	1.02224		19.0		31.4						Min Air Temp 77	
			30	-	-	1.02224		19.2								20°	
			24	17.3	-1.8	1.02224		19.0		31.4							
			18	-	-			19.2									
			12	17.5	-1.9	1.02222		19.6		31.3							
			2	18.0	-1.5	1.02222		20.0		31.4							
			45	14.5	-2.5	1.02226		19.0		31.6							
	11 50		42	16.7	-2.1	1.02226		18.2		31.4						Air Temp 80°	

* If depth recorded is bottom indicate thus: 965 B
 † Express in parts/1000. If by titration indicate thus: 34.16 T

RECORD OF TEMPERATURES, SALINITIES, AND THEORETICAL VELOCITIES

SHEET No. _____

Ship or party GILBERT R. R. Moore, Chief of party. October 17, 1945
 Locality CHILTON HARBOR Project CS-246 Survey No. _____

Date	Time	Latitude and longitude	Depth Feet	TEMP. AT DEPTH		SPECIFIC GRAVITY		AT TEMP.		Salinity	Velocity at temp. M./Sec.	CORRECTIONS			Velocity (theoretical) M./Sec.	Therm. No.	Hydro. No.	Remarks (weather, bottom, etc.)
				Obs.	Cor.	Obs.	Cor.	Obs.	Cor.			Ball.	Pres.					
1945	25	m.																
	13 54		422242	132.8	8.2	-05	1.0253	8.4		32.7								Dark Swine
	13 59		70146.0	120	8.5	-04	1.0252	9.6		32.8								Sea Smooth
	14 03			108	8.8	-03	1.0250	10.5		32.7								Temp 59.0 F
	14 08			90	9.1	-02	1.0248	10.5		32.5								12.2 C
	14 14			72	11.5		1.0246	11.5										Bottom -
	14 15			60	11.0	+03	1.0246	11.8		32.5								Very dark
	14 18 1/2			48	11.0	+03	1.0246	11.8		32.5								Ed. 7m. 7m
	14 22 1/2			36	11.0	+03	1.0245	11.8		32.3								
	14 25			24	11.0	+03	1.0245	12.0		32.4								
	14 30			12	11.4	+05	1.0245	12.3		32.4								
	14 35			72	9.6	-01	1.0246	11.5		32.4								
	14 40			66	10.5	0.00	1.0246	12.1		32.5								
	14 45			6	11.5	+05	1.0244	12.0		32.3								

* If depth recorded is bottom indicates thus: 966 B
 † Express in parts /1000. If by titration indicate thus: 34.16 T

+0.2 +0.1

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

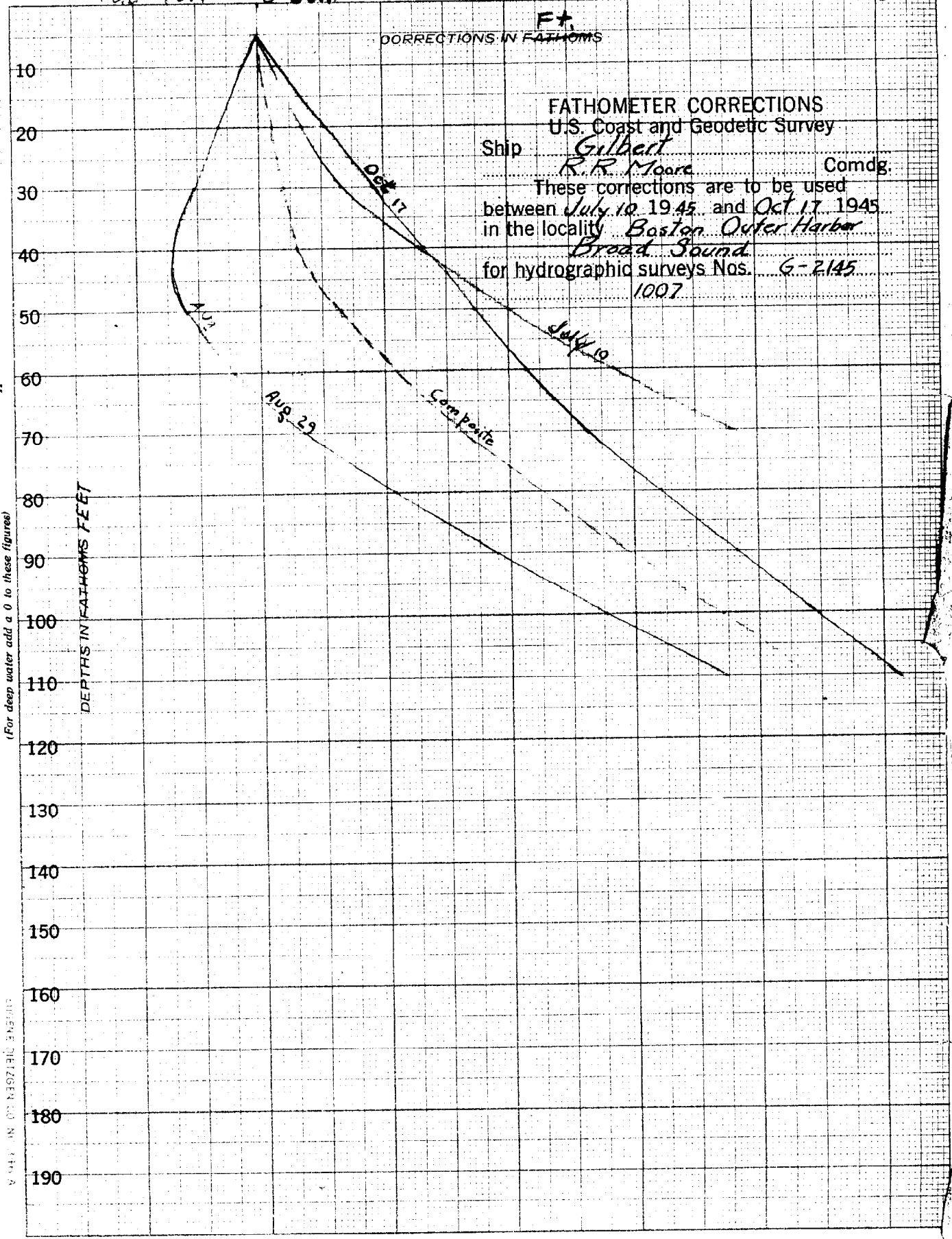
-1.0 F

Ft.
CORRECTIONS IN FATHOMS

FATHOMETER CORRECTIONS

U.S. Coast and Geodetic Survey

Ship *Gilbert* Comdg. *R. R. Moore*
These corrections are to be used
between *July 10, 1945* and *Oct 17, 1945*
in the locality *Boston Outer Harbor*
Broad Sound
for hydrographic surveys Nos. *G-2145*
1007



(For deep water add a 0 to these figures)

CHAS. H. NICHOLS CO. NEW YORK

7400m

839

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography:~~

28 March 1946

Division of Charts: H. W. MURRAY

Plane of reference approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 6862

Locality Approaches to Boston Harbor, Mass.

Chief of Party: R. R. Moore in 1945
Plane of reference is mean low water, reading
2.3 ft. on tide staff at Deer Island
14.8 ft. below B. M. 1

Height of mean high water above plane of reference is 9.3 feet

Condition of records satisfactory except as noted below:

Tide reducers erroneously entered for "G" and "H" days (Oct. 1 and Oct. 4)
owing to change of time from daylight saving to standard.

Chief, Division of Tides and Currents.

GEOGRAPHIC NAMES

Survey No.

6862

Name on Survey

	A	B	C	D	E	F	G	H	K	
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
<u>Massachusetts</u>		(for title)							VSB	1
<u>Massachusetts Bay</u>		(" ")								2
<u>Boston Harbor</u>		(" ")								3
<u>Broad Sound</u>										4
<u>The Graves</u>									"	5
										6
										7
										8
										9
										10
										11
										12
<u>Deer Island</u>		(tide staff location)								13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red approved
by L. Heck on 9/11/47

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. **6862.**

Records accompanying survey:

Boat sheets 1....; sounding vols. ..**6**..; wire drag vols.;
 bomb vols.; graphic recorder rolls **11**..;
 special reports, etc.

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

Number of positions on sheet		1389 ..
Number of positions checked		.. 22 ..
Number of positions revised		.. 2 ..
Number of soundings revised (refers to depth only)		.. 6 ..
Number of soundings erroneously spaced		.. 3 ..
Number of signals erroneously plotted or transferred		.. 0 ..
Topographic details	Time	.. 1 .hr.
Junctions	Time	.. 8 .hr.
Verification of soundings from graphic record	Time	.. 195 .hr.

Verification by ^{R.H. Carstens} *Stephen Rose* Total time ²⁵ **204** hr. Date **April 29, '47**

Reviewed by *R.H. Carstens* Time **37** hr Date **June 11, 1947**

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-6862

FIELD NO. GI-2145

Massachusetts, Massachusetts Bay, Approaches to Boston Harbor
Surveyed in August - October, 1945 Scale 1:20,000
Project No. CS-246

Soundings:

Control:

808 Fathometer

Sextant fixes on shore signals

Chief of Party - R. R. Moore
Surveyed by - R.R. Moore, J. D. Thurmond and L. Lewis
Protracted by - L. L. Lawrence
Soundings plotted by - L. L. Lawrence
Verified and inked by - S. Rose
Reviewed by - R. H. Carstens, June 11, 1947
Inspected by - H. W. Murray

1. Shoreline and Signals

No shoreline is shown on this offshore survey.

The signals originate with this Bureau's triangulation of 1834 to 1943 and with geographic positions of the U. S. Engineers.

2. Sounding Line Crossings

Depths at crossings are in very good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated. Additional curves in brown have been added to emphasize the bottom configuration.

The bottom is very irregular. Numerous ridges and knolls, probably of glacial origin, are covered by 45 to 75 ft. of water and rise from depths of 85 to 115 ft.

4. Junctions with Contemporary Surveys

The present survey adequately joins H-6863 (1945) on the northwest, H-6644 (1940) on the west, and H-6643 (1940) on the southwest. Surveys are in progress on the south.

On the north and east, charted information is generally in good agreement with the present survey.

5. Comparison with Prior Surveys

A.	H-211 (1846-48)	1:20,000
	H-413 (1853-54)	1:20,000
	H-516 (1854-55)	1:80,000
	Misc. 97 (1863-64)	1:10,000
	H-2129 (1892)	1:10,000
	<u>H-2146 (1892)</u>	<u>1:10,000</u>

H-211 covers the entire area of the present survey. The other surveys overlap chiefly, the area west of long. 70° 51', except H-516 which overlaps the eastern part of the present area.

Depths on the earlier surveys differ with present depths in some instances by as much as 2 to 3 fms., probably because of displacement in the horizontal position of soundings over a very irregular bottom. Depths on the 1892 surveys generally agree within 2 to 4 ft. with the present depths.

The following soundings (chart 1207) originating with H-516 are from a line of soundings plotted in error on that survey and should be superseded by present depths:

<u>Charted Sounding</u>	<u>Present Depth</u>	<u>Lat.</u>	<u>Long.</u>
72	108	42° 23.1'	70° 47.98'
51	72	42° 23.0'	70° 47.32'
72	81	42° 22.85'	70° 46.90'
72	85	42° 22.63'	70° 46.42'

The present survey contains all the essential hydrographic information and is adequate to supersede these prior surveys within the common area, except for supplementary bottom characteristics.

B.	H-3780 W.D. (1915),	1:25,000
	<u>H-3951 W.D. (1916)</u>	<u>1:25,000</u>

Present depths do not conflict with the effective drag depths of these wire drag surveys.

6. Comparison with Chart 240 (Latest print date 3/3/47)
Chart 1207 (Latest print date 7/13/46)

A. Hydrography

The charted hydrography originates principally with the previously discussed surveys which need no further consideration.

The 60-to 72 ft. soundings (chart 240) in the vicinity of lat. $42^{\circ} 24.0'$, long. $70^{\circ} 50.8'$, originate with Chart Letter 527 (1912) which shows soundings taken from U. S. Engineers surveys of 1905-12. Seven of the nine soundings charted differ from present depths by 20 to 32 ft. Such great differences in depths are considered unlikely and it is concluded that these prior soundings are out of position or otherwise unreliable and should be disregarded for charting purposes as the present survey is adequate.

The 41 ft. charted in lat. $42^{\circ} 23.73'$, long. $70^{\circ} 51.77'$ is the least depth reported over the wreck S. S. Romance (L. H. Notice to Mariners 24 of 1937). The present survey does not specifically develop or disprove the 41 and the sounding should, therefore, be retained on the chart.

B. Aids to Navigation

The present survey positions of aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended.

7. Condition of Survey

The smooth sheet was originally protracted with a faulty protractor and was returned to the Processing Office for replotting. The sheet is now plotted accurately.

The sounding records and Descriptive Report are complete and comprehensive.

8. Compliance with Project Instructions


The present survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

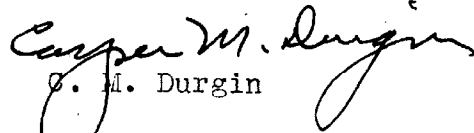
This is an excellent basic survey.

The 41-ft. depth (see par. 6A, above) over the S. S. Romance, charted in lat. $42^{\circ} 23.73'$, long. $70^{\circ} 51.77'$ should, however, be investigated by wire drag at some future period.

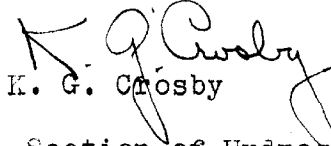
Examined and approved:


I. E. Rittenburg

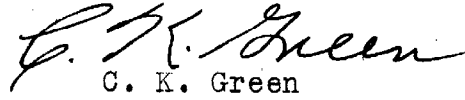
Chief, Nautical Chart Branch


C. M. Durgin

Chief, Division of Charts


K. G. Crosby

Chief, Section of Hydrography


C. K. Green

Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. 6862

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3/20/46	1106	B. Pisegari	<i>Exam. for critical depths only.</i> Before After Verification and Review <i>Partially Applied.</i>
4/5/46	240	" "	<i>Exam. for crit. depths only - no correction.</i> add "a few pages" of "Notes"
5/19/47	reconst. 246	H. F. Reisman	Before After Verification and Review <i>before review</i>
6-13-47	240 reconst.	J. M. Albert	Before After Verification and Review <i>before inspection</i>
6-20-47	1207	M. Anderson	" " " " <i>Partially applied</i>
28 June 47	50	Nichols	Before After Verification and Review <i>Part. applied</i>
Oct. '48	1207	J. M. Albert	<i>Thru 1207 compared with chart 246 (48-76) for critical changes.</i> Before After Verification and Review
4/19/50	1207	B. Pisegari	" " " " <i>Completely appld.</i>
4/14/50	246	B. Pisegari	Before After Verification and Review <i>Completely applied</i>
7/21/50	1106	" "	" " " " <i>Completely appld.</i>
			Before After Verification and Review
5/28/53	1107	J. A. McGowan	Before After Verification and Review
			Before After Verification and Review
Nov. 53	1000	H. F. Reisman	Before After Verification and Review <i>thru ch 1106</i>
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.