

7061

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Form 504 U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE DESCRIPTIVE REPORT	
<i>Type of Survey</i> HYDROGRAPHIC	
<i>Field No.</i> GI-503	<i>Office No.</i> H-7061
LOCALITY	
<i>State</i> MASSACHUSETTS	
<i>General locality</i> Boston Harbor	
<i>Locality</i> Chelsea River	
<hr/> 194 5	
CHIEF OF PARTY Ronald R. Moore	
LIBRARY & ARCHIVES	
<i>DATE</i> FEB 7 1946	

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H7061

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-7061

Field No. GI-503

State MASSACHUSETTS

General locality Boston Harbor

Locality Chelsea River

Scale 1:5,000 Date of survey 19 June 1945 - 3 July 1945

Instructions dated 17 February 1940

Vessel Ship GILBERT

Chief of party Ronald R. Moore

Surveyed by James D. Thurmond

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

Protracted by M. T. Miller

Soundings penciled by P. J. Auld

Soundings in fathoms feet at MLW MLLW

REMARKS: This sheet was processed in the Hydrographic Section of the S.E.

District, Norfolk, Va.

DESCRIPTIVE REPORT

TO ACCOMPANY

H-7061

HYDROGRAPHIC SURVEY

FIELD NO. GI 503

USC&GSS GILBERT

Ronald R. Moore, Comdg.

PROJECT CS-246

SCALE 1:5,000

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 February 17, 1940.

B. ----- This survey is of the Chelsea River from the Meridian St. Bridge to the head of navigation near the Forbes Lithographic Co. Plant. The sheet joins the hydrographic sheet H-6995a executed by the Launch FARIS in September 1944. Field work was accomplished between 19 June and 3 July 1945.

C. ----- The field work was accomplished with Motor Launch 316, a 26-foot diesel powered launch, loaned to the USC&GSS GILBERT by the U. S. Army Mine Service, and fitted out for surveying purposes, including the installation of an 808A Submarine Signal Depth Recorder No. 53 by the ship's personnel. This instrument was used for all soundings, giving a continuous profile of the bottom, except for some of the detached positions, when an accurately graduated leadline was used.

D. ----- A portable tide gage No. H-299 was established at the Chelsea St. Bridge in Lat. $42^{\circ} 23.05''$ N, Long. $71^{\circ} 01.4'$ W. This gage operated satisfactorily during the period of operation. MLW corresponds with a reading of 3.6 feet on the staff as computed by the Washington Office from two weeks observation.

F. ----- The triangulation control for this sheet was accomplished by various chiefs of party, from 1916 to 1934. As all of the stations used were stacks and tanks, no recovery cards were submitted. The topographic stations were located by air-photographic methods in 1940 and 1943. *T-5771*

Sheet T-5771-1943 is the source of signals. It was necessary to supplement these signals by hydrographic signals which were located by sextant fixes at the signal, or by cuts from adjacent signals. The location of the signals will be found in a separate volume. *the sounding*

G. ----- The shore line and topographic detail was transferred from sheet No. T-5771-1943 and was found to be correct.

The detail around the docks should be taken from T-5771-1943, but no changes or improvements have been made as yet, although it is contemplated in the future.

The docks and marine railways between the two bridges are filled with boats tied up or wrecks of ship's and barges and it was impossible to obtain any soundings in these areas.

The low water is defined almost entirely by minus soundings obtained at high tide.

H. -----All depths, except those noted, were taken with a type 808A Depth Recorder. The echo soundings were corrected for bar checks taken to the deepest depths sounded for any day. 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.

The launch was tested for settlement and squat, and the average fer speeds attained on this sheet would be 0.05 feet which is negligible.

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

Curves filed with bathograms

I. ----- The horizontal control was by sextant angles on the triangulation, topographic and hydrographic points located as described in paragraph F above. A list of signals used is included in this report.

J. ----- With exception of areas noted in paragraph G above the survey is complete and adequate to supersede prior surveys for charting. No holidays or excessive differences exist between soundings obtained on this survey.

K. ----- With the exception of some diagonal lines, no system of cross lines was attempted as the area was too restricted. The average crossing is satisfactory on the boat sheet. The tide reducers as computed from the actual tide will eliminate a large percentage of slight differences. In case of any remaining differences, the shoal soundings should be charted in all cases.

L. ----- No prior surveys of recent date were available for comparison. The junction with H-6995A executed by the Launch FARIS in 1944 is in close agreement.

M. ----- Comparison with Chart 248. Print date 5/16/44. The survey is in close agreement with Chart 248.

N. ----- Dangers and Shoals. There are no changes on shoals that are not already charted.

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

P. ----- There are no fixed aids to navigation in the area covered by this survey. ✓

FLOATING AIDS TO NAVIGATION

DESIGNATION	LATITUDE LONGITUDE	DEPTH	POSITION	DATE
Chelsea River Buoy 2	$42^{\circ} 23'.30''$ $71^{\circ} 01'.17''$	28	Vol. 1, P. 3	6/18/45
4	$42^{\circ} 23'.45''$ $71^{\circ} 01'.06''$	24	do.	
5	$42^{\circ} 23'.52''$ $71^{\circ} 01'.07''$	32	do.	
6	$42^{\circ} 23'.67''$ $71^{\circ} 01'.00''$	32 ²	P. 4	
9	$42^{\circ} 23'.78''$ $71^{\circ} 00'.98''$	31 ⁰	do.	
10	$42^{\circ} 23'.85''$ $71^{\circ} 00'.88''$	30	do.	
11	$42^{\circ} 23'.90''$ $71^{\circ} 00'.90''$	31	do.	

Note: Depth taken off ^{boat} sheet. No lead line in launch the day the buoys were located. While sounding, launch was alongside some of the buoys.

Q. ----- The landmarks as reported by the field inspection party and indicated on the compilations were found to be adequate. ✓

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 Meridian Street Bridge during the period covered by this survey. Mean low water corresponded with a height of 3.6 feet on the staff. The tide reducers are entered to 0.2 foot.

STATISTICS FOR HYDROGRAPHIC SURVEY H-7061

USC&GSS GILBERT

Launch M 316

<u>VOLUME NUMBER</u>	<u>DAY LETTER</u>	<u>DATE</u>	<u>NUMBER OF SOUNDINGS</u>	<u>NUMBER OF POSITIONS</u>	<u>STATUTE MILES SOUNDINGS</u>
1	a	6-19-45		45	4.3
1	b	21		72	5.0
1	c	22		40	3.7
1	d	25		60	4.1
2	e	26		38	3.0
2	f	28		77	4.7
2	g	29		61	2.8
2	h	7-3-45		<u>68</u>	<u>4.4</u>
			Totals	461	32.0

Area 0.5 square mile

BAR CHECKS

There are no corrections to be applied to the soundings on this sheet due to either bar checks or squat.

The curves from bar checks are incorporated with this report. *Curves filled with fathograms*

SIGNALS USED

USC&GSS GILBERT

PROJECT CS-246

CHELSEA RIVER

SHEET NO. GI-502

* * * * *

TRIANGULATION STATIONS

NAV Chelsea Naval Tank, 1934

LIT Chelsea Forbes Lithographic Co. Stack (1934)

REV Revere Gas Co. Stack (1934)

BED Charlestown U. S. Gypsum Co. Tank (1916, 1934, 1940)

* * * * *

TOPOGRAPHIC STATIONS

T-5771

CUP
HAR
HOT

LOW
POT
RAN
SUM

TEX
WOP
YEL

* * * * *

HYDROGRAPHIC SIGNALS

NUT LIT 41° 01'
HAR
RAN 85° 39'
REV-LIT 04° 00'

WIN LIT 30° 10'
HAR
RAN 97° 55'
REV-LIT -00-

* * * * *

APPROVAL SHEET

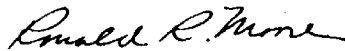
No. H-7061

The records and boat sheet for Survey No. GI-503 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 and adequate and no other additional work is recommended.

The Supervisor, N. E. District, informed me to consider, at all times, this survey as basic, and the field work was accomplished with this end in view.

RRM:wn



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

A D D E N D U M

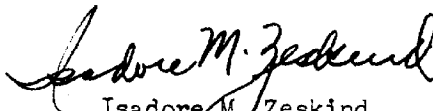
to accompany

HYDROGRAPHIC SHEET H-7061 (Field No. Gi-503)

Buoy - BC #5 Latitude $42^{\circ} 23.52'$ and Longitude $71^{\circ} 01.07'$

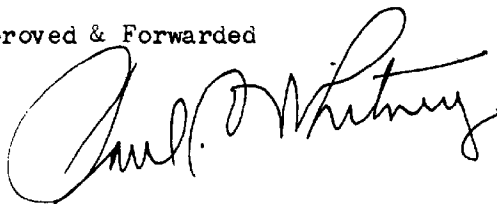
This buoy ~~erroneously~~ plots in mid-channel. Its ^{charted} ~~charted~~ position is about ~~100~~₂₅ meters northwest of that shown on the smooth sheet. ✓

Respectfully submitted,


Isadore M. Zeskind
Cartographic Engineer

Norfolk, Va.
Feb. 5, 1946

Approved & Forwarded



Paul C. Whitney
Supervisor SE District

GEOGRAPHIC NAMES

Survey No.

H7061

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)						U.S.G.B.	1
<u>Boston Harbor</u>			" "							2
<u>Chelsea River</u>			" "						U.S.G.B.	3
<u>Chelsea</u>										4
<u>East Boston</u>										5
										6
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										27

Names underlined in red approved by L. Heck on 5/15/46

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. **H7061**.....

Records accompanying survey:

Boat sheets **1**....; sounding vols. **2**...; wire drag vols.;
bomb vols.; graphic recorder rolls **3**....;
special reports, etc.
.....

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

Number of positions on sheet	.....	461
Number of positions checked	.....	63
Number of positions revised	.....	2
Number of soundings revised (refers to depth only)	.....	46
Number of soundings erroneously spaced	.....	17
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	3 hrs.
Junctions	Time	2 hrs.
Verification of soundings from graphic record	Time	10 hrs.

Verification by *Charles P. Reed*..... Total time **.70 hrs.** Date **5-2-46**.

Reviewed by *R.H. Castles*..... Time **22**... Date **5/15/46**

Ham

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 15, 1946

~~Division of Hydrography and Topography.~~

Division of Charts: H. W. MURRAY

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 7061

Locality Chelsea River, Massachusetts.

Chief of Party: R. R. Moore in 1945
Plane of reference is mean low water, reading
3.6 ft. on tide staff at Chelsea St. Bridge, Boston
15.1 ft. below B. M. 1

Height of mean high water above plane of reference is 9.6 feet.

Condition of records satisfactory except as noted below:

Ham
By Chief, Division of Tides and Currents.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 7061

FIELD NO. GI-503

Massachusetts, Boston Harbor, Chelsea River
Surveyed in June - July 1945 Scale 1:5,000
Project No. CS-246

Soundings:

Control:

Leadline
808 Fathometer

Sextant fixes on shore signals

Chief of Party - R. R. Moore
Surveyed by - J. D. Thurmond
Protracted by - M. T. Miller
Soundings plotted by - R. J. Auld
Verified and inked by - C. F. Reed
Reviewed by - R. H. Carstens, May 14, 1946
Inspected by - H. W. Murray

1. Shoreline and Signals

The shoreline and signals originate with T-5771 (1938-43). Fixes for supplementary hydrographic signals are recorded in the sounding volumes.

Shoreline changes shown in green are from air photographs Acc. No. 2021 which will subsequently be incorporated in T-5771.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves and Bottom Configuration

The usual depth curves were satisfactorily drawn.

Depths in the dredged area are fairly uniform except in the vicinity of lat. 42° 23.8', long. 71° 00.85' where the bottom is lumpy.

4. Adjoining Surveys

A satisfactory junction was effected with H-6995a (1944) on the west. No other hydrographic surveys join the present survey.

5. Comparison with Prior Surveys

H-850 (1861) 1:10,000
H-1955 (1861) 1:10,000
H-1960 (1860) 1:20,000
H-2156 (1892-93) 1:10,000

The channel has been dredged to depths as much as 25-ft. deeper than prior depths. The present survey supersedes these prior surveys within the common area.

6. Comparison with Chart 248 (Latest print date 6/30/45)

A. Hydrography

The charted hydrography originates principally with U.S.E. blueprints 29822 (1936), 29833 (1935), 30263 (1937), 34054 and 34055 of 1939. Within the common area, the present survey is adequate to supersede these blueprints.

B. Aids to Navigation

The survey position of buoy C-5 in lat. 42° 23.52', long. 71° 01.07' is 25 meters southeast of the charted position. To mark the maximum width of the navigable channel, the buoy should be moved to agree with the charted position. The present survey positions of other buoys differ with the charted positions by as much as 50 meters but they still satisfactorily mark the features intended.

C. Controlling Depths

The controlling depth in the charted 30-ft. channel is 29 ft. at the time of the present survey. However, the limiting depth through the Chelsea St. Bridges is about 25 ft. *(Now dredged to 30 ft. see Bp 41160 6/7/46) LAH*

7. Condition of Survey

The field plotting was satisfactory except that descriptive notes regarding control stations were not inked on the smooth sheet in accordance with paragraph 781 (d) of the Hydrographic Manual.

The sounding records and Descriptive Report were complete and comprehensive.

8. Compliance with Instructions for the Project

The survey satisfactorily complies with the Instructions except that no bottom characteristics were taken.

9. Additional Field Work Recommended

This is a basic survey and no additional work is recommended. (See par. 8 above).

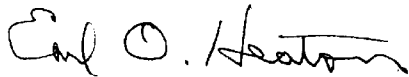
Examined and approved:



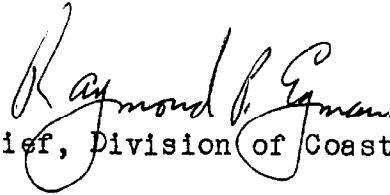
Chief, Nautical Chart Branch



Chief, Chart Division



Chief, Section of Hydrography



Chief, Division of Coastal Surveys

