

6642

Diag. Cht. No. 1207-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. 1005 Office No. H-6642

LOCALITY

State Massachusetts

General locality Boston Harbor

Locality Hingham Bay and Nantasket Beach

1940

CHIEF OF PARTY

F.L. Peacock

LIBRARY & ARCHIVES

DATE

6642

DESCRIPTIVE REPORT
to accompany
Sheet Field Number 1005 H-6642 (1940)

INSTRUCTIONS

This survey was executed under authority of the Director's Instructions dated February 17, 1940, for Project HT-246. ✓

LOCALITY

This survey covers the area east of Nantasket Beach and the northern part of Hingham Bay in Boston Harbor. The rest of the area shown on the sheet layout was not reached by the hydrographic survey this season. ✓

CONTROL AND SIGNALS

Signals consisted mostly of natural objects, tanks, stacks, cupolas, houses, etc. Few signals had to be built by the hydrographic party.

Sources of principal control and signal locations are: 1934 triangulation survey of Boston Harbor Area, air-photo compilations Nos. T-5775 and T-5776, Graphic Control Sheet A (1940), field inspection by hydrographic party using compilations, and sextant fixes. Signal RED from T-5775 was found in error and was reinspected by the hydrographic party and relocated on smooth sheet 1006. Triangulation stations shown on the sheet were recovered by the air-photo field inspection party of L. W. Swanson in preparation for the current hydrographic surveys. These stations were identified by the hydrographic party in the field but no additional recovery notes were made. ✓

? also shore line from T-5777 ←

H 6643 (1940)

Aleutian Islands (ca. 9123)

SURVEY METHODS

The usual visual control method of 3-point fixes was used throughout. The shoal water portable recording fathometer, type 808, was used for soundings. During the early part of the season, considerable difficulty was experienced with the speed of the fathometer motor, but, after a new motor was installed on July 15th, excellent results were obtained. Difficulties with the motor speed were noted by the Officer in Charge in a letter to the Chief, Division of Coastal Surveys, dated July 9, 1940, and in Fathometer Questionnaire submitted September 1, 1940. The constancy of the speed of the mechanical unit can be measured by the speed of the paper, which has a normal speed of two inches per minute. Percentages were measured using a celluloid template prepared by the field party. In applying corrections for percentage variation in speed, if the speed is fast the soundings are too deep and the corrections minus, and if too slow the soundings are shoal and the corrections are plus. Mr. Turner of the Submarine Signal Company, designer of the machine, states that it will give results within one percent, plus or minus, of the true depth. Therefore, it is possible to have crossing differences of two percent of the depth when the fathometer is working within limits of design. ✓

The following correctinns were applied to the soundings scaled from the fathometer records:

1. Speed percentage corrections for mechanical fluctuations in speed of motor of fathometer. This was entered to July 15th when a new constant speed motor was installed. The speed percentage corrections were scaled from successive positions on the recorder record and entered in the sounding record as a percentage factor, (sixth column, form 275). The correction was then entered in the fifth column in feet and tenths.
2. The initial correction fluctuated on "B" day RODGERS, only. The correction was entered in the sixth column in feet and tenths. During the rest of the season the fathometer initial was kept set at the depth of submergence of the plates of the transceiver unit and there was no initial correction.
3. Corrections as determined by bar tests were used in lieu of usual temperature, salinity and pressure corrections. Bar tests were averaged for each day. The corrections were entered in feet and tenths in the fifth column of the sounding record.
4. The usual tide reducers were entered in half feet in the seventh column.

The main system of lines was run in an east and west direction and normal to the trend of the shore line except along Nantasket Beach where it was found best to run the inshore lines parallel with the beach because the shore line is not broken and is comparatively free from rocks.

DISCREPANCIES

The foul areas indicated by the air-photo compilation party were found to be in good agreement with the field conditions and no discrepancies were found.

The only discrepancy in soundings are as follows:

1. Latitude $42^{\circ} 16.8'$, Longitude $70^{\circ} 51.8'$, between positions 128 and 129, "c" day, a shoal sounding of 2 feet, surrounded by depths of 5, 6 and 8 feet. This spot was later developed thoroughly on "f" day. The shoal sounding was again found but could not be verified with the lead line. The water was very clear and no obstruction could be seen. This condition has been studied carefully and no definite reason could be arrived at. This same thing was experienced twice when the fathometer was mounted on the RODGERS but it so happened that no positions were taken as the launch was turning at the ends of sounding lines. The record was corrected to $5\frac{1}{2}$ feet, the depth shown as a dark line below questioned shaded echo.

2. On "g" day, between positions 11 and 12, Latitude $42^{\circ} 17.8'$, Longitude $70^{\circ} 54.0'$, two shoal soundings were scaled. These were later investigated with hand lead but could not be verified. This area has a thick growth of kelp on the bottom and the echo from the kelp was apparently scaled.

Accepted
Disregard
shoal edge
readings.

3. Latitude 42° 17.5', Longitude 70° 54.1', between positions 152 and 153, "h" day, and positions 185 and 186, "h" day, shoal soundings were scaled. These could not be verified with the hand lead. This area has a thick growth of kelp on the bottom so apparently the echo from that was recorded. The sounding record has been corrected to the depth shown by the dark line below the questioned sounding. Accepted
Disregard
shoal
readings.

4. Latitude 42° 18.2', Longitude 70° 51.7', between positions 98 and 99, "B" day, a shoal sounding of 16 feet reduced was scaled in surrounding depths of 22 to 26 feet. The record was faint so the sounding is uncertain. This area was covered with the wire drag but as the processing office does not have access to that sheet the 16 ft. sounding was plotted on the smooth sheet. 16 ft accepted

COMPARISON WITH PREVIOUS SURVEYS

Shoal indications which are plotted on the sheet east of Nantasket Beach were investigated by the wire drag party. See wire drag sheet No. 1005 for least depths obtained. ✓

H 6608 (1946) WD

Comparison was made with Surveys H-2163 and H-2167. In general the agreement between the depth curves on this survey and the previous surveys is very good. The principal discrepancies in soundings are as follows: ✓
See Review, par. 5b.

Latitude and Longitude		Depths	
°	'	This sheet	Previous surveys
42	18.15		
70	51.07	10½ feet	-3 feet <i>RA wash - H6608 (1946) WD bare 1 ft. MLW</i>
42	17.82	34	
70	51.95	35 "	24 " <i>No development</i>
42	18.30	17	
70	51.98	21 "	16 " <i>15 ft. H6609 (1946) WD</i>
42	17.7 (Strawberry Ledge)		
70	52.1	24 "	17 " <i>17 ft - H6608 (1946) WD</i>
42	17.7	14	
70	52.3	15½ "	16½ " <i>H6608 (1946) WD</i>

DANGERS

~~No new obstructions or dangers were found on this sheet.~~ Small boats should navigate with caution when approaching the shore line as there is always danger of striking a submerged rock. ✓

CHANNELS

No channels were developed on this sheet. ✓

ANCHORAGES

Hingham Bay affords an excellent anchorage for shallow draft boats. ✓

GEOGRAPHIC NAMES

The area is adequately covered by the photo compilation field inspection party. The only point of confusion is in the name of Hingham Bay. This is covered in a separate report by the officer in charge of the party. ✓

JUNCTION WITH CONTEMPORARY SURVEYS

The junction with sheet ^{H 6643 (1940)} Field No. 1996 will be covered in the descriptive report for that sheet. ✓

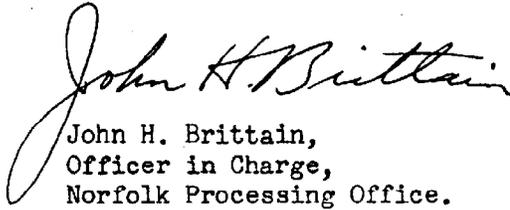
MISCELLANEOUS

This sheet was surveyed by H. E. Finnegan and J. C. Bull. ✓

The descriptive report has been prepared in the Norfolk Processing Office from notes by J. C. Bull and F. R. Gossett. ✓

Copy of the projection data note by the Washington Office is attached. ✓

Respectfully submitted,


John H. Brittain,
Officer in Charge,
Norfolk Processing Office.

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H **H6642**

Verified and Inked by *G. F. Jordan*

Date *June 4, 1941*

1. The descriptive report was consulted and appropriate action taken. ✓ ✓
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude. ✓ ✓
3. All references to survey sheets mentioned in the descriptive report include the registry number and year. ✓ ✓
4. Geographic names of hydrographic features are in slanting lettering and of topographic features in vertical lettering. ✓
5. All items effecting 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. ✓ ✓
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. ✓ *fathometer - ✓
X no development
with leadline
except on K' Cay (blue)*
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. ✓ —
17. The notation "JOINS H " was added for all contemporary adjoining or overlapping sheets now registered. ✓ ✓
18. The depth curves have been drawn to include the significant depths. ✓ ✓
19. All triangulation stations and transfer of topographic and hydrographic signals were checked by the field party. ✓ ✓
20. Heights of rocks were checked against range of tide. ✓
21. Rocks transferred from topographic survey have a dotted curve where shown thereon. ✓ ✓
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 (see letter of October 20, 1934). ✓ ✓
25. Degree and minutes values and symbols have been checked. ✓ ✓
26. Source of shoreline and signals (When not given in report). ✓ ✓
27. Depth curves were satisfactory except as follows:
Review , par. 3.

28. Sounding line crossings were satisfactory ~~except as follows:~~ ✓

29. Junctions with contemporary surveys were satisfactory except as follows: ✓
H 6643 (1440) not verified
H 6604 (1440) WD " "

30. Condition of sounding records was satisfactory ~~except as follows:~~ ✓ ✓

31. The protracting was satisfactory ~~except as follows:~~ ✓ ✓

32. The field plotting of soundings was satisfactory ~~except as follows:~~ ✓ ✓

33. Notes to reviewer:

1. Two rocks awash from T-5776 on north shore Sheep Island at ^{Air photo rocks removed. Hydro more reliable. Rev., par. 8.} Lat. $42^{\circ}16.90$ Long. $70^{\circ}55.56'$ were not referred to by hydro. party.
2. No references were made to topo. location of rocks by hydro. party.
3. Note paragraphs 2 and 3 under discrepancies. Investigations on "k" day by leadline, of shoals indicated in the graphic record on "g" and "h" days, in the northeastern section of Hingham Bay, and consequent rejection of these scaled shoal soundings as being kelp; and an ~~entire~~ examination of the entire graphic records for these days; lends a degree of uncertainty as to the existence of shoals or rocks inside the 12ft curve. The intensity of the echo from kelp appears as strong as from the bottom itself.

(next page)

4. In addition to the questioned sounding cited in paragraph 4, under discrepancies, are the following uncertain least depths scaled from the graphs of the area off Nantasket Beach.

Lat. 42° 17.35'	Long 70° 49.90'	- pos. 99-100C	- 38 ft and 37 ft sags.	
" 42° 17.43'	" 70° 51.00'	- " 92-93C	- 33 ft	Retain all of these depths.
" 42° 17.43'	" 70° 50.80'	- " " "	- 27 ft	
" 42° 17.79'	" 70° 52.32'	- " 38-39C	- 18 ft	
" 42° 18.24'	" 70° 51.68'	" 98-99B	- 16 ft	
" 42° 17.05'	" 70° 50.18'	- " 106-107E	- 25 ft	

5. The scaling of the graphic records was checked by Dennis and Stinn. ✓

Geographic Names

Name	Chart #246	T- 5776		Remarks
White Head Flats	✓	✓		
Worlds End	✓			
Walton Cove	✓	✓		
Button Island	✓	✓		
Eastern Neck	✓			
Weymouth Back River	✓			
Stodders Neck	✓			
Hewitts Cove	✓			
Crow Point	✓			
Otis Hill	✓			
Ragged Island	✓	✓		
Langlee Island	✓	b		b - Langley Island
Sailor Island	✓	b		b - Sarah Island
Gull Point	✓			
Hole Point	✓			
Strawberry Hill	✓			
Atlantic	✓			
Nantasket Channel		✓		
Bass Rock	✓	✓		

Geographic Names.

Name	Chart # 246	T- 5776		Remarks
Upper Neck Cove	✓	✓		
Nut Island	✓			
Nantasket Roads	✓			
West Cut	a	✓		a - Nantasket Gut
Windmill Point	✓			
Nantasket Hill	✓			
Hull	✓			
Point Allerton	✓			
Hangman Island	✓			
Peddocks Island	✓			
Prince Head	✓			
Hingham Bay	✓	✓		
Hingham Channel		✓		
Hog Island	✓			
Strawberry Ledge	✓			
Harding Ledge	✓			
Quincy		✓		
Blacks Creek	✓	✓		
Halfmoon Island	✓			
Veazie Rocks		✓		
Quincy Great Hill	✓			
Houghs Neck	✓			
Sheep Island	✓			
Grape Island	✓	✓		
Slate Island	✓	✓		
Bumkin Island	✓	✓		

Geographic Names

Name	Chart #246	T- 5776		Remarks
Hingham Harbor	✓	✓		
Planters Hill	✓			
Martins Well	✓	✓		
Green Hill	✓			
Quincy Point	✓			
King Cove		✓		
North Weymouth	✓			
Hingham	✓			
Bent Creek		✓		
Whitehead	✓			
Weir River	✓	✓		
Nantasket Beach	✓			
Nantasket	✓			
Sagamore Head	✓			
Hampton Hill	✓			
Cat Island	✓			
Town River Bay	✓	✓		
Sailors Snug Harbor	✓			
Germantown	✓			
Rock Island Cove	✓	✓		
Rock Island Head	✓			
Weymouth Fore River	✓	✓		
Raccoon Island	✓	✓		
Weymouth Great Hill	✓			
Eastern Neck	✓			
Lower Neck	✓			
Upper Neck	✓			

GEOGRAPHIC NAMES

Survey No. **H6642**

Name on Survey	Source										
	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			
Martens Well											1
Nantasket											2
Nantasket Beach											3
Nantasket Channel											4
Nantasket Hill											5
Nantasket Roads											6
North Weymouth											7
Otis Hill											8
Peddocks Island											9
Planters Hill											10
Point Allerton											11
Quincy											12
Quincy Great Hill											13
Prince Head											14
Quincy Point											15
Raccoon Island											16
Ragged Island											17
Rock Island Cove											18
Rock Island Head											19
Sagamore Head											20
Sailor Island											21
Sailors Snug Harbor											22
Sheep Island											23
Slate Island											24
Stodders Neck											25
Strawberry Hill											26
Strawberry Ledge											27

GEOGRAPHIC NAMES

Survey No. **H6642**

Name on Survey	Source									
	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		
Atlantic										1
Bass Rock										2
Bent Creek										3
Blacks Creek										4
Bumpkin Island										5
Button Island										6
Cot Island										7
Crow Point										8
Eastern Neck										9
Germantown										10
Grape Island										11
Green Hill										12
Gull Point										13
Halfmoon Island										14
Hampton Hill										15
Hangman Island										16
Harding Ledge										17
Hingham										18
Hingham Bay										19
Hingham Channel										20
Hingham Harbor										21
Hog Island										22
Hole Point										23
Hull										24
Houghs Neck										25
King Cove										26
Langlee Island										27

Remarks

Decisions

	Remarks	Decisions
1		
2		
3		422708 USG.B
4		
5		
6		
7		
8		
9		422709 U.S.G.B
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		422709
24		
25		
26		
27		422708
M 234		

Remarks

Decisions

1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		423709
15		
16		422709
17		422709
18		422709
19		423709 U.S.G.B
20	Location of one bidestalt. ott sheet.	
21	For title only	
22		
23		
24		
25		
26		
27		
M 234		

80-AB

H-6642

10302
#

August 5, 1941.

To: The District Engineer,
U. S. Engineer Office,
31 St. James Avenue,
Boston, Massachusetts.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Existence of Inner Seal Rock.

There is being forwarded to you under separate cover a photostat of a section of hydrographic survey H-6642 partially completed in 1940 and on which we were unable to continue work this year.

Inner Seal Rock (shown as a 1-foot sounding) was not seen or located in 1940 but was carried forward on H-6642 from a position obtained by a survey party in 1915. The 1915 position of the rock practically coincides with the 1940 position of the buoy marking the north side of the 12-ft. channel dredged in 1919 to the U. S. Engineers' wharf on Hog Island. The rock was noted in 1915 as being about 20 feet in diameter.

Information is requested as to whether Inner Seal Rock has been removed or is still in existence.

(Signed) J. H. HAWLEY

Acting Director.

Remarks

Decisions

	Remarks	Decisions
1		
2		
3		
4		
5		422708 U.S.G.B
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		423708 U.S.G.B
18		
19		422709
20		
21		
22		423708 U.S.G.B
23		
24	Also location of one tidestaff	423709
25		
26		
27		
M 234		

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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.

Field No. 1005

REGISTER NO. **H6642**

State Massachusetts
General locality Atlantic Coast Boston Harbor
Locality Boston Harbor - Hingham Bay and Nantasket Beach
Scale 1/10,000 Date of survey May-September, 1940
Vessel Sub-party of Ship OCEANOGRAPHER
Chief of Party Fred. L. Peacock
Surveyed by H. E. Finnegan and J. C. Bull
Protracted by S. C. Diliberto
Soundings penciled by L. L. Lawrence
Soundings in ~~fathoms~~ feet
Plane of reference Mean Low Water
Subdivision of wire dragged areas by See wire drag Sheet 1005
Inked by G. F. Jordan
Verified by G. F. Jordan
Instructions dated February 17, 1940
Remarks: All of area included in limits of sheet layout not completed.

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY DESCRIPTIVE REPORT PHOTOSTAT COPY	}	No. H Next	H6642	{	received Mar. 13, 1941 registered Apr. 15, 1941 verified reviewed approved
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This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
----	------------

✓ JBR

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Hydrography and Topography:

May 9, 1941

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
12 volumes of sounding records for

HYDROGRAPHIC SHEET 6642

Locality Hingham Bay and Nantasket Beach, Boston Harbor

Chief of Party: Fred. L. Peacock in 1940
Plane of reference is mean ~~low~~ low water reading
2.9 ft. on tide staff at Hull
13.6 ft. below B. M. 1
3.7 ft. on tide staff at Cohasset Harbor
18.3 ft. below B. M. 1

Height of mean high water above plane of reference is 9.2 feet at Hull;
8.8 feet at Cohasset Harbor.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

80

ADDRESS REPLY TO
THE DISTRICT ENGINEER
U. S. ENGINEER OFFICE
3D FLOOR, PARK SQUARE BUILDING
31 ST. JAMES AVENUE
BOSTON, MASS.

WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE

3D FLOOR, PARK SQUARE BUILDING
31 ST. JAMES AVENUE
BOSTON, MASS.

REFER TO FILE No. 1388 Misc.

31 AUG 14 PM 3

August 13, 1941

acknowledged Aug. 15, 1941
Jove

The Director
U. S. Coast and Geodetic Survey
Washington, D. C.

Dear Sir:-

Reference is made to your letter of August 5, 1941, your reference No. 80-AB, Subject: Existence of Inner Seal Rock, and reply of this office thereto under date of August 8, 1941, in which it was stated that a visual examination would be made at a later date to determine whether this rock was still in existence.

On August 11, 1941, the condition of the tide being favorable, a representative of this office made a visual inspection at the locality and found that Inner Seal Rock is still in existence, being located approximately 75 to 100 feet north of Can Buoy No. 1. At the time of inspection the rock was about two feet under water.

For the District Engineer:

Very truly yours,

W. G. Van Allen
1st Lieut., Corps of Engineers
Executive Assistant

80

ADDRESS REPLY TO
THE DISTRICT ENGINEER
U. S. ENGINEER OFFICE
2D FLOOR, PARK SQUARE BUILDING
31 ST. JAMES AVENUE
BOSTON, MASS.

WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE
3D FLOOR, PARK SQUARE BUILDING
31 ST. JAMES AVENUE
BOSTON, MASS.

REFER TO FILE NO. 1320 Misc.

August 8, 1941

See letter dated Aug 13, 1941.

To: Director
U. S. Coast and Geodetic Survey
Washington, D. C.

1941 AUG - 11 - AM

Dear Sir:-

Reference is made to your letter of August 5, 1941, your reference No. 80-AB, Subject: Existence of Inner Seal Rock.

This office has no present information as to whether or not Inner Seal Rock is still in existence. It has never been removed by this department, inasmuch as it is located outside of the Federal channels in the vicinity, and this office has no knowledge of its having been removed by any other agency.

It is expected that a representative of this office will be in the vicinity of the reported location of Inner Seal Rock on August 25, 1941, when the predicted tide is given as -1.5, and at that time a visual examination of the area will be made, and you will be further advised.

For the District Engineer:

Very truly yours,

W. G. Van Allen
1st Lieut., Corps of Engineers
Executive Assistant

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO.H6642

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

Number of positions on sheet	.1965.
Number of positions checked	..225
Number of positions revised0
Number of soundings recorded	14588
Number of soundings revised	...49
Number of soundings erroneously spaced8
Number of signals erroneously plotted or transferred

Date: June 4, 1941

Verification by {G.F. Jordan
C.E. Dennis
A.R. Spence}

Review by J.A. McCormick 7/14/41

Time: {103
24
20} 167½ hrs.

Time: 45 hrs.

HYDROGRAPHIC SURVEY NO. H6642

Smooth Sheet One

Boat Sheet One

Records; Sounding 12 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Not approved by Chief of Party

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service Yes (chart #246)
(Circular Nov.30, 1933)

Hydrography: Total Days 24 ; Last Date Sept. 24, 1940

Remarks (15) rolls Graphic Fathometer Recordings (Sub. Signal Co.)

HYDROGRAPHIC SHEET DATA

SHEET 1005. Printed from a reproduction of T-5776. Detail beyond limits of T-5776 (Lat. 42° 17'; Long. 70° 51') obtained as follows: Projection extended by hand. Shore line, topographic and hydrographic stations transferred in projector from T-5775. Transfer of detail checked in the projector. Triangulation stations not plotted. Shore line left in pencil for inking in the field. ✓

Note: The above is a copy of data sheet furnished by the Office. ✓

H6642

STATISTICS, HYDROGRAPHIC SHEET NO. 1005 H-6642

<u>DATE</u>	<u>LETTER</u> <u>DAY</u>	<u>VOL.</u>	<u>POSITIONS</u>	<u>SOUNDINGS</u>	<u>MILES,</u> <u>STATUTE</u>	<u>BOAT USED</u>
6/ 7/40	a	1	169	1690	19.3	Surf Boat
11	b	1	16	16		" "
13	c	1	83	732	12.2	" "
13	c	2	59	531	8.6	" "
7/15/40	d	2	104	700	6.0	" "
16	e	2	138	959	9.8	" "
16	e	3	34	204	3.0	" "
17	f	3	94	700	10.3	" "
23	g	3	65	520	10.0	" "
26	h	3	108	600	14.0	Launch "4C126
26	h	4	114	600	13.7	" "
30	j	4	253	1400	30.5	" "
8/ 7/40	k	5	32	7		" "
9/18/40	l	6	3	159		" "
24	m	6	15	92	1.7	" "
5/ 7/40	A	7	32	129	6.0	Rodgers
8	B	7	132	1311	28.3	"
15	C	8	114	1344	32.0	"
29	D	9	11	132	2.7	"
6/ 4/40	E	9	140	1540	36.0	"
5	F	10	87	1044	22.7	"
7/ 8/40	G	10	18	17		Rodgers Dinghy
9	H	10	30	29		" "
8/17/40	A	11	19	19		Marindin
6/14/40	a	12	55	55		Dinghy
7/ 9/40	b	12	36	36		"
7/12/40	c	12	3	1		"
9/24/40	d	12	1	21		"
Totals - - -			1965	14588	266.8	

DIVISION OF CHARTS

SURVEYS SECTION

REVIEW OF HYDROGRAPHIC SURVEY NO. 6642 (1940) FIELD NO. 1005

Massachusetts; Boston Harbor; Hingham Bay and Nantasket Beach
Surveyed in May - September 1940, Scale 1:10,000
Instructions dated February 17, 1940 (OCEANOGRAPHER)

Soundings: Type 808
Recorder, Hand Lead

Control: Sextant Fixes on
Shore Signals

Chief of Party - F. L. Peacock
Surveyed by - H. E. Finnegan, J. C. Bull
Protracted by - S. C. Diliberto
Soundings plotted by - L. L. Lawrence
Verified and inked by - G. F. Jordan
Reviewed by - J. A. McCormick, July 14, 1941
Inspected by - Harold W. Murray

1. Shoreline and Signals

Shoreline and signal sources are listed in the Descriptive Report, page 1.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

Additional lines would be necessary in several places if depth curves were to be drawn in as much detail as was done on the older surveys.

4. Junctions with Contemporary Surveys

The junction with H-6643 (1940) on the north will be considered in the review of that survey. Areas on the south and west will be surveyed as part of the present project. New surveys are not contemplated on the east at the present time.

5. Comparison with Prior Surveys

- a. H-221 (1846-48), 1:20,000; H-1960 (1817-48),
1:20,000; H-1961 (1817), 1:20,000

These surveys can be dismissed as early reconnaissances lacking the detail attained on later projects.

- b. H-2146 (1892), 1:10,000; H-2163 (1893), 1:10,000;
H-2167 (1893), 1:10,000; H-3406 (1912), 1:5,000

The old surveys are thoroughly modern as regards control and development. In some instances the present survey has obtained shoaler depths but in several others the older surveys show shoal depths which the development of the present survey is inadequate to disprove. Outstanding examples of the latter are:

- (1) 5 feet (charted) in Lat. $42^{\circ} 18.08'$, Long. $70^{\circ} 54.13'$ on H-2163; 8 feet on present survey. The 5 was a depth on the outer end of a shoal spit through which a 12-ft. cut was dredged in 1919. The area has changed but the present survey does not disprove present existence of the 5.
- (2) 16 feet (charted) in Lat. $42^{\circ} 17.27'$, Long. $70^{\circ} 55.29'$ on H-2163; 20 feet on the present survey. *Superseded by Rps 38871*
- (3) Rock covered 1 foot (charted) in Lat. $42^{\circ} 17.18'$, Long. $70^{\circ} 54.38'$ on H-2163; 6 feet on present survey. *= 3 ft on Rps 38870*
- (4) 14 feet (charted) in Lat. $42^{\circ} 17.3'$, Long. $70^{\circ} 55.6'$ on H-2163; 19 feet on the survey but with 17 feet 100 meters southwest. *(14 cleared by 2-16 1/2 fms on H-7719 (1948) W.D. but retain 14 ft. G.P.M.)*
- (5) 34 feet (charted 31 feet) in Lat. $42^{\circ} 17.71'$, Long. $70^{\circ} 50.87'$ on H-2167; 42 feet on the present survey.
- (6) 24 feet (charted) in Lat. $42^{\circ} 17.81'$, Long. $70^{\circ} 51.99'$ on H-2167; 34 feet on the present survey.

A 12-ft. depth (charted) in Lat. $42^{\circ} 18.28'$, Long. $70^{\circ} 52.68'$ on H-2146 was found to be the result of an erroneous reduction. The correct depth was 18 feet which is in good agreement with the present survey.

Rather than carry forward soundings in areas which eventually will be re-examined, the reviewer recommends that the present survey be used only to supplement the information now charted until such re-examination can be made.

6. Comparison with Wire Drag Surveys

H-3780 (1915), W.D., H-6608 (1940) W.D., H-6609 (1940) W.D.

The drag work, particularly that of 1940, was very effective in locating several shoals with depths materially less than those found on the regular system of lines of the present survey. Conflicts between drag depths and hydrography have been satisfactorily adjusted. Inner Seal Rock, covered 1 foot at MLW, in Lat. $42^{\circ} 17.89'$, Long. $70^{\circ} 54.58'$ on H-3780 falls in 11 to 15 feet on the present survey. The rock's position was strongly fixed by three angles and is unquestioned. The position practically coincides with that of the buoy marking the north side of a 12-foot cut dredged by the U. S. Engineers to their own wharf on Hog Island in 1919 (Chart Letter 332 of 1922). The District Engineer at Boston, Massachusetts, has been asked to advise this office as to whether or not the rock was removed. In the meantime the rock should be retained on the charts but corrected in position. The present charted position is from Chart Letter 377 of 1915 and is about 60 meters too far to the north.

Rock
verified
by U.S.
Engineers.
See
attached
letter.
J.A.M.
8/15/41.

7. Comparison with Chart 246 (New Print of March 26, 1941)
Chart 1207(" " " Sept. 17, 1940)a. Hydrography

Most of the hydrography charted in the area is from surveys discussed in the foregoing paragraphs. The 31 charted in Lat. $42^{\circ} 17.71'$, Long. $70^{\circ} 50.87'$ and the 10 in Lat. $42^{\circ} 17.70'$, Long. $70^{\circ} 52.32'$ are erroneous applications of depths of 34 and 16 feet, respectively, on H-2167 (1893). The 16 is satisfactory but the 34, falling in 42 feet on the present survey, should be investigated (see also par. 5b-5).

The part of Hingham Bay just east of Peddocks Island is charted mostly from U. S. Engineers' B.P. 33164 of 1939. The shoal spit with depths of 5 and 7 feet in Lat. $42^{\circ} 17.2'$, Long. $70^{\circ} 55.5'$ on the blueprint has the appearance of erroneous plotting but should be retained on the charts until disproved. There are no indications of such a spit on the present survey, depth curves being fairly uniform and 22 feet being shown at the plotted position of the 7. As in the case of prior Bureau surveys, the present survey should be used to supplement the Engineers' survey.

The wreck of a five-masted schooner charted in Lat. 42° 16.6', Long. 70° 51.8' inside low water line apparently has broken up. Lieut. H. E. Finnegan reports no prominent wreckage in this vicinity.

b. Aids to Navigation

Survey positions of fixed aids are in excellent agreement with those charted. Floating aids differ by varying amounts particularly in Weymouth Fore River but the differences are mostly along the channel axes and do not constitute any serious problems to safe navigation.

8. Condition of Survey

Satisfactory as to field plotting, Descriptive Report, etc. It will be noted that the reviewer has removed two rocks transferred from T-5776 in Lat. 42° 16.90', Long. 70° 55.56' in favor of a strong hydrographic determination made at minus tide (verifier's report, par. 33).

9. Compliance with Instructions for the Project

Completion of the survey was prevented by closing of the 1940 field season. See following paragraph.

10. Additional Field Work Recommended

In addition to extending the limits of the survey, particular efforts should be made to verify or disprove depths discussed in par. 5b(1) to 5b(6), inclusive, par. 6 and par. 7 (shoal spit in Hingham Bay). Development of an*18-ft. graphic reading in Lat. 42° 17.96', Long. 70° 55.26' also is desirable.

* 15 ft on H-7158WD(1940)-(C.R.D.-7/25/49)

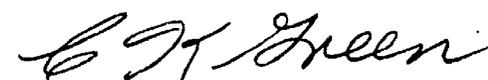
11. Superseded Surveys

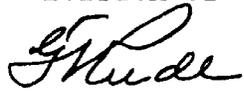
H- 221 in part
H-1960 " "
H-1961 " "

Examined and approved:


Chief, Surveys Section


Chief, Division of Charts


Chief, Section of Hydrography


Chief, Division of Coastal Surveys

Applied to Chart Correction 50 March 10, 1943 T.H.W.

Partially applied to Cht. 246 3/20/43 G.R.

" " " " 1207 9/9/44 J.A.M.

" " " " 1207 3/20/43 G.R.

Applied to reconstruction cht. 246 1/10/45 G.H.S.

cht. 1207 compared with cht. 246 (82%) for critical changes F.H.G. - Oct. 48

Chart 1207 - ~~will~~ fully applied thru chart #246 Helmer 3/23/60