

6473

6473

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Topographic }
Hydrographic } Sheet No. H-6473

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

SEP 28 1940

Acc. No. _____

State Massachusetts

LOCALITY

Nantucket Sound

Monomoy Point

1939

CHIEF OF PARTY

F. L. Gallen

212

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. H 6473

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. 1006

H6473

REGISTER NO. H 6473

State Massachusetts

General locality Nantucket Sound

Locality Monomoy Point

Scale 1/10,000 Date of survey Aug. 15 - Sept. 29, 1939

Vessel Skiff and Launch 75

Chief of Party F. L. Gallen

Surveyed by E. B. Brown

Protracted by Alfred Kaupa

Soundings penciled by Alfred Kaupa

Soundings in ~~1000~~ feet

Plane of reference Mean low water

Subdivision of wire dragged areas by

Inked by G. B. Littlepage

Verified by do

Instructions dated April 1 and July 1, 1939

Remarks: Protracted and soundings penciled at the Norfolk Processing Office under the supervision of John H. Brittain.

Smooth Sheet No. H-6473 (Field No. 1006)

Prepared in Washington office January 17, 1940

Projection on ruling machine by S. Kass.

Shoreline transferred in projector from ozalid copy of air photo
survey ~~T-5737~~ by J. P. Dunich. North of $41^{\circ} 36.5'$
~~TS737~~ ~~CS-192~~

Shoreline checked in projector by R. E. Elkins.

Air Photographic signals transferred in projector and checked with
proportional dividers scaling from the ozalid copy of ~~T-5737~~. (1938)
~~CS-192~~ North of $41^{\circ} 36.5'$
TS737

Triangulation stations have not been plotted.

Sent to field with shoreline in pencil.

Please make this a part of the descriptive report.

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheet H-6473 (1939)

INSTRUCTIONS

April 1, 1939 and July 1, 1939, instructions to Commanding Officer of Launch MIKAWA and instructions of 1938 to Commanding Officer of M.V. GILBERT. Project HT-217.

SURVEY METHODS

The triangulation stations were located in 1875, 1886 and 1902 and were reduced to North American 1927 Datum for plotting on the sheet. The topographic signals shown in red on the sheet were located by plane-table on an aluminum sheet. All air photographic signals were relocated. The shoreline south of Lat. 41° 36.5' was rodded in on the topographic sheet. The topographic sheet was 90% destroyed by fire on the Launch MIKAWA, before the signals and shoreline was transferred to the smooth sheet. It was, therefore, necessary to transfer the signals and shoreline from the boat sheet to the smooth sheet. The hydrographic signals shown in blue were located on a sextant traverse between Clubhouse Flagstaff, 1902 and signal Ale. The traverse was plotted on the back of the topographic sheet and transferred to the boat sheet then plotted on the sheet. The shoreline north of Lat. 41° 36.5' was drawn on the sheet from map drawings. The projection for this sheet was made in Washington with the ruling machine.

TS737
~~TS737~~
CS-192

The sounding lines were controlled by three point sextant fixes and where possible were run on ranges. It was necessary on part of this sheet to use compass courses. The soundings were taken with a hand lead line from a 16 ft. skiff propelled with outboard motors at 3 to 4 knots. The offshore lines were taken from Launch 75, a 35 ft. gasoline motor launch.

DISCREPANCIES

No discrepancies are known to exist, except, due to lack of control and overlap of photographs it was necessary to rod in the shoreline south of Lat. 41° 36.5' and to relocate the photographic signals.

The junction of the hydrography on this sheet and that of the NATOMA in 1931 is not very good. This is a changeable area. It was not possible to continue to a better junction on this sheet.

DANGERS

There are many shoals in the area to the westward of Monomoy Point. The shoalest are 3½ ft. and are at Lat. 41° 32.4', Long. 70° 01.7'; see positions 61 and 63 w day. On w day 51 minutes time was spent feeling around in this vicinity.

At Lat. 41° 32.9', Long. 70° 01.5', a narrow neck of the 12 ft. curve

extends to the eastward into deep water. The shoalest sounding of 10 feet on position 82w was obtained by feeling around for 10 minutes.

At Lat. $41^{\circ} 33'.7$, Long. $70^{\circ} 01'.8$, a 10 ft. shoal was developed with splits and cross lines. See positions 118u to 162u and 1w to 21w.

A shoal flat extends offshore about $1\frac{1}{2}$ miles in the vicinity of Lat. $41^{\circ} 37'$. Several parts of this flat are bare at low water.

A 12 ft. shoal point extends offshore about 1 mile in the vicinity of Lat. $41^{\circ} 35'.5$.

The bottom is generally hard sand on this sheet and no rocks are known to exist.

CHANNELS

There are no marked channels on this sheet. Fishing vessels of 3 to 7 ft. draft generally cruise on courses that will clear the flats that extend off shore and the shoals that lie to the westward of Moncmoy Point.

COMPARISON WITH PREVIOUS SURVEYS

The soundings are in good general agreement with those of the previous surveys. On the shoals changes up to 3 feet have occurred. However, on the changeable shoal to the westward of Moncmoy Point considerable change has taken place since the surveys of the Natoma in 1931.¹⁴ In some places the changes are as much as two fathoms. It is recommended that this area be marked on the chart "changeable area".

At Lat. $41^{\circ} 33'.2$, Long. $70^{\circ} 02'.6$, a charted 6 ft. shoal was investigated by feeling around for 20 minutes in the vicinity. A temporary buoy was placed by this party at position 53w and the area to southward and westward was thoroughly investigated. No soundings shoaler than those shown on the sounding lines in the vicinity were found. It is recommended that this shoal sounding be deleted from the chart.

The entrance to the Powder Hole is changeable and is now to the southward of the position shown on the chart. It is reported that the charted position is the normal position of this entrance but that it is changed to other positions by storms.

NOTE

The hydrography accomplished was by Lieutenant (j.g.) Edward B. Brown, Jr. Mr. Brown was transferred from this party before the smooth copy of this report was prepared and this report is, therefore, submitted without his signature.

Approved and forwarded,

F. L. Gallen
F. L. Gallen
H. & G. Engineer
Chief of Party

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6473**

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

Number of positions on sheet	2139
Number of positions checked	30
Number of positions revised	8
Number of soundings recorded	11840
Number of soundings revised	82
Number of soundings erroneously spaced	47
Number of signals erroneously plotted or transferred	✓

Date: 11/14/40

Verification by *[Signature]*

Time: 71 hrs

Review by *Harold W. Murray*

Time: 16 hrs.

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H

Verified and Inked by

E. B. Lattinpage

Date 11/14/40

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. ✓
14. The reduction and plotting of doubtful soundings were checked. ✓

Remarks.

Decisions

	Remarks.	Decisions
1		415700 USG B
2		U.S. G-B.
3		415699 II
4		415700
5		415700
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M 234		

15. The transfer of contemporary topographic information was carefully examined. ✓
16. All junctions were transferred. *Junction with H-6534 (1939) on the west and H-6472 (1939) on the north will be made when these sheets are verified. ✓
No junction was made with H-5141 (1931)*
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. *All topographic station descriptions (6) accompanying CS-182-M are filed under H-6473 (Form 524).*
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) ⁷⁵⁷³⁷ *The shoreline north of 41° 36.8' was taken from 75737 (1928) using the boat sheet and notes in the sounding vols as a guide. ✓*
27. Depth curves were satisfactory except as follows: ✓

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

29. Junctions with contemporary surveys were satisfactory except as follows:

*The junction of this sheet with H-5141 (1931) was so poor ✓
that none was made*

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:

Poor selection of shoal soundings at crossings

33. Notes to reviewer:

- TS 937*
CS 792 (1934)
- 1- *The shoreline of ~~75737~~ (1934) should be corrected to agree ✓
with the smooth sheet*
 - 2- *Location of buoys for H-6472 (1939) are recorded ✓
in the back of Vol 4 of H-6473 (1939)*
 - 3- *In re-stigation of a 6ft spot shown on chart 1209 Lat. 41°35.5' Long 70°00' ✓
shoalest depth found 10ft see page 27 Vol 6 pos 118R-137R.*
- ✓ *H- There is a 9ft sounding Lat 41°32.6' Long 70°02.2' between pos 24-25C
there is probably an error of one fathom and is referred to the reviewer ✓
Retained.*

HYDROGRAPHIC SURVEY NO. H6473

Smooth Sheet One

Boat Sheet One

Records; Sounding 8 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) -----

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) -----

Special Chart for Lighthouse Service June 14, 1940
(Circular Nov.30, 1933)

Hydrography: Total Days 21 ; Last Date Sept. 29, 1939

Remarks _____

GEOGRAPHIC NAMES
 Survey No. **H6473**

Name on Survey	Source of Name										No.
	A	B	C	D	E	F	G	H	K		
<u>Monomoy Point</u>											1
<u>Nantucket Sound</u>											2
<u>Monomoy I.</u>											3
<u>Rodgers Shoal</u>											4
<u>Powder Hole</u>	Names underlined in rec approved										5
	by L. Heck on 12/4/40										6
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											27

H6473

STATISTICS SHEET H-6473 (Field No. 1006)

PROJECT HT - 217

<u>DATE</u>	<u>Day</u>	1939 <u>Statute Miles</u>	<u>Soundings</u>	<u>Positions</u>
Aug. 15	a	11.3	470	74
16	b	10.8	445	76
17	c	15.2	640	112
18	d	12.0	503	96
21	e	6.4	266	41
23	f	17.2	690	109
24	g	19.9	846	127
28	h	18.4	800	142
29	j	9.0	391	69
Sept. 1	k	12.7	529	89
5	l	9.1	378	58
8	m	10.9	445	84
12	n	16.2	701	104
13	p	18.6	783	149
14	q	12.6	573	101
19	r	25.7	977	192
20	s	21.0	607	101
21	t	8.7	238	45
22	u	31.3	952	196
28	v	12.3	378	81
29	w	8.5	228	93
TOTALS		307.8	11,840	2,139

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H **H6473**
~~XXXX~~

received **Sept. 28, 1940**
registered **Oct. 4, 1940**
verified
reviewed
approved

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	✓	HSC	Pages 1 and 2
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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✓ TBR

KAC
HLE

TIDE NOTE FOR HYDROGRAPHIC SHEET

October 9, 1940

Division of Hydrography and Topography:

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

Plane of reference approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 6473

Locality Monomoy Point, Nantucket Sound

Chief of Party: F. L. Gallen in 1939
Plane of reference is mean low water reading
2.5 ft. on tide staff at Monomoy Point
17.1 ft. below B. M. 4

Height of mean high water above plane of reference is 3.7 feet.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

DIVISION OF CHARTS

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6473 (1939) FIELD NO. 1006

Massachusetts, Nantucket Sound, Monomoy Point
Surveyed in August - September 1939, Scale 1:10,000
Instructions dated April 1, 1939 and July 1, 1939 (MIKAWA)
January 17, 1938 (GILBERT)

Soundings:
Hand Lead

Control:
Three point fixes on shore signals.

Chief of Party - F. L. Gallen.
Surveyed by - E. B. Brown.
Protracted by - Alfred Kaupa.
Soundings plotted by - Alfred Kaupa.
Verified and inked by - G. B. Littlepage.
Reviewed by - Harold W. Murray, November 26, 1940.
Inspected by - H. R. Edmonston.

1. Shoreline and Signals.

The origin of the shoreline and signals is given in the descriptive report, page 1.

2. Sounding Line Crossings.

Agreement of sounding line crossings is excellent. An uninvestigated 9 foot sounding (pos. 24-25c) in lat. 41°32.7', long. 70°02.2', falling in depths of 16 feet may be a leadsman's error of 1 fathom but is being accepted since it is just outside the 12 foot curve.

3. Depth Curves.

The usual depth curves may be satisfactorily drawn.

4. Junctions with Surveys.

- a. The junctions on the north and west with contemporary surveys H-6472 and H-6534 of 1939 will be considered in the reviews of those surveys.
- b. The present survey overlaps a portion of H-5141 (1931) on the southeast. General agreement of depths is very poor because of changes in bottom and also in the fact that the shoreline of Monomoy Point has protruded into the water area. The maximum differences in depth noted are 23 feet. A few spots, however, such as the deeper areas (depths of 30 to 40 feet) agree quite closely. Because of

the differences noted, no junction is being shown at the present survey limits. (Additional comparative details are given in par. 5c below).

5. Comparison with Prior Surveys.

a.	H-387 (1853)	H-1149 (1872)	H-1195a (1873)
	H-1243 (1874)	H-1284 (1875)	H-1727 (1886)
	H-1948 (1889)	H-1949 (1889)	H-2043 (1890)
	H-2225 (1895)	H-2603 (1902)	

These surveys on scales varying from 1:10,000 to 1:40,000 each cover portions of the present survey. General agreement within about 3 feet exists throughout most of the common area. Larger differences are noted in areas south of latitude 41°34'. The outstanding differences, however, are in the vicinity of Monomoy Point and in the sides of the deeper channel just westward. Monomoy Point, as shown on H-387 was formerly about 1/2 mile further north of the present survey location.

Specific mention is made of several charted soundings (Chart 250), originating with H-1948. These are the 9 in latitude 41°33.4', long. 70°03.0' falling in depths of 15 feet on the present survey; the 6 in latitude 41°33.2', long. 70°02.6' falling in depths of 13 feet; and the 6 in latitude 41°35.5' long. 70°00.1' falling in depths of 10 feet. These shoal soundings are single soundings obtained on line and are confirmed by adjacent soundings obtained just before and after the sounding in question. They fall in depths varying 4 to 7 feet deeper on the present survey. Since the present survey clearly indicates that the common area has deepened several feet, it seems quite probable that the charted depths have also deepened and they are therefore not being carried forward.

The present survey, within the area covered, supersedes the above surveys.

b. H-2603a (1912), scale 1:40,000.

Several soundings from this survey fall within the present survey limits on the southeast and vary about 9 feet deeper than the present survey depths. The present survey supersedes these soundings.

c. H-5141 (1931) scale 1:20,000.

This survey overlaps the present survey in the area southeastward of lat. 41°33.6', long. 70°01.9'. As

previously noted in par. 4b, Junctions; agreement of this survey is very poor because of changes in bottom. The southwest tip of Monomoy Point has extended about 350 m. further offshore where depths up to 17 feet formerly existed. The greatest change in bottom of about 23 feet is in lat. $41^{\circ}33.0'$, long. $70^{\circ}01.5'$, where the present survey depths of 13 to 16 feet fall in former depths of 24 to 37 feet. Other changes in bottom of lesser extent are noted on the west side of the channel, both to the northward and to the southward. The descriptive report, page 2, states that because of the changeable character of the bottom on the west side of Monomoy Point, it is recommended that the notation "changeable area" be shown on the chart. This notation is particularly appropriate on the east and west side of the deep channel.

✓ A charted 9 foot sounding originating with this survey (line 43-44a, blue) in lat. $41^{\circ}33.0'$, long. $70^{\circ}01.6'$, falls in depths of 16 feet, on even bottom on the present survey. The 9 is a single sounding on line obtained between depths of 14 and 24 feet. The 9 is quite likely a leadsman's error of 1 fathom as this change would make the sounding agree within one foot with the present survey depths. The 24 foot sounding obtained after the 9 was marked "OK" in the records (this spot has shoaled 8 feet). This notation, however, only signifies that the hydrographer was aware of an abrupt difference existing between the 9 and 24 after the 24 was obtained. An inspection of this spot on the more recent prior surveys also fails to reveal any depths comparable to the 9. This 9 foot sounding should be disregarded.

Because of the differences noted, the present survey supersedes this survey in the common area.

6. Comparison with Charts 250 (New Print dated May 3, 1940)
1209 (New Print dated July 2, 1940)

a. Hydrography.

✓ Hydrography shown on the chart originates with surveys discussed in the preceding paragraphs and no further consideration is necessary.

b. Aids to Navigation.

No aids to navigation are charted within the hydrographic limits of the present survey.

7. Condition of Survey.

- a. The sounding records are neat and legible and conform to the requirements of the Hydrographic Manual.
- b. The descriptive report is clear and satisfactorily covers all items of importance.
- c. The field protracting and plotting of soundings is very good.
- d. Measurement of the projection on the smooth sheet indicates that the sheet has shrunk approximately 3-1/2 meters per 1000.

8. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the Instructions for the Project.

9. Additional Field Work Recommended.

This is an excellent survey and within the present survey limits no additional field work is necessary.

The southern limits of the present survey is a changeable area and it was not possible to effect a satisfactory junction with H-5141 (1931) as required in the Instructions. (See descriptive report, page 2, par. 5). The descriptive report, page 2 also states that the entrance to Powder Hole is quite changeable. "It is reported that the charted position is the normal position of this entrance but that it is changed to other positions by storms". The depths within the entrance are quite shoal, about 1 to 3 feet.

10. Superseded Surveys.

H-387	(1853)	in part	H-1949	(1889)	in part
H-1149	(1872)	" "	H-2043	(1890)	" "
H-1195a	(1873)	" "	H-2225	(1895)	" "
H-1243	(1874)	" "	H-2603	(1902)	" "
H-1284	(1875)	" "	H-2603a	(1912)	" "
H-1727	(1886)	" "	H-5141	(1931)	" "
H-1948	(1889)	" "			

Examined and approved:

Thos. B. Reed

Thos. B. Reed,
Chief, Section of Field Records.

J. S. Borden

Chief, Division of Charts.

Raymond P. Egan

Chief, Section of Hydrography

G. H. Hude

Chief, Div. of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. *H-6473*

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
<i>1-10-47</i>	<i>257</i>	<i>R.H. Andrews</i>	Before After Verification and Review <i>Completely</i> <i>Applied.</i>
			Before After Verification and Review
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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.

Applied to Chart 250 -	7/29/41	P.B.L.
" " " 1209	Aug 1941 -	D.D.S.
" " " 1107	" "	J.M.A.
" " " 70	" "	J.M.A.
" " " 1108	July 1943	G.H.S.