

8197

Diag. Cht. No. 1000-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HY-4155 Office No. H-8197

LOCALITY

State Maine

General locality Gulf of Maine

Locality Northwestern Part-Browns Bank

194 55

CHIEF OF PARTY

Walter J. Chovan

LIBRARY & ARCHIVES

DATE March 22, 1956

B-1870-1 (1)

8197

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-8197

Field No. HY-8155

State Maine

General locality Gulf of Maine, ^{we} Northeastern Part

Locality Browns Bank

Scale 1:40,000 Date of survey 7 - 26 August 1955

Instructions dated 7 January 1955

Vessel HYDROGRAPHER

Chief of party Walter J. Chovan

Surveyed by W. N. Martin, C. A. George, H. W. Keith, J. D. Hodges, M. B. Miller

Soundings taken by fathometer, graphic recorder, ~~hand level~~

Fathograms scaled by L. C. Smith, D. H. Straughan, J. J. Curley, L. J. Shillem

Fathograms checked by D. Moscopulos

Protracted by E. K. McCaffrey

Soundings penciled by E. K. McCaffrey

Soundings in fathoms ~~XXXX~~ at MLW ~~XXXX~~ and are true depths.

REMARKS: Offshore survey

J.M.

Descriptive Report
to accompany

Hydrographic Survey H-8197 (HY-⁴8155)

7 August to 26 August 1955

Ship HYDROGRAPHER

Scale 1:80,000

Walter J. Chovan
Chief of Party

A. Project:

This survey was accomplished under instructions 22-SRO, S-2-HY for Project 1376 dated 7 January 1955 from the Director to the Commanding Officer, Ship HYDROGRAPHER.

B. Survey Limits and Dates:

This is a survey of Browns Bank in the Gulf of Maine. Its northern and southern limits are latitude $42^{\circ}-52'$ and latitude $42^{\circ}-44'$ respectively. Its eastern and western limits; longitudes $66^{\circ}-02'$, and $66^{\circ}-22'$.

Field work on this sheet was begun 7 August and terminated 26 August 1955.

This survey is a large scale insert of sheet H-8201 (HY-12455) making a junction on all four sides with that sheet. ⁽¹⁹⁵⁵⁾ Not Smooth plotted
BP 52677

C. Vessel and Equipment:

All work in this survey was accomplished by the Ship HYDROGRAPHER. The Ship's turning radius at sounding speed was 80-120 meters depending upon wind and current conditions. The "Settlement and Squat Report", forwarded 2 November 1950 shows no corrections need be applied to soundings on the fathom scale, and there have been no changes in the ship's hull or trim since that date.

Two 808J type depth recorders were used as sounding units on this survey. All soundings are in fathoms. The installation of the two 808J recorders was such that either could be used at will and neither are considered standby units.

Instrumental corrections are obtained from a number of simultaneous fathometer comparisons, with each other, and with vertical casts by a sounding machine and accurately calibrated sheave.

D. Tide and Current Stations:

No tide or current stations were occupied within the limits of this survey.

Hourly Heights for the reduction of soundings were furnished by the Washington Office from the standard automatic gage at Bar Harbor, Maine. Height and time differences are shown in the appended tidal note.

E. Smooth Sheet:

The sheet projection and EPI arcs were hand ruled by the Norfolk Processing Office. The survey was smooth plotted by the writer of this report.

This is an offshore sheet and contains no shoreline or topographic details.

F. Control Stations:

All the hydrography on this survey was controlled by EPI system. The EPI stations were located as follows: EPI-A, Southwest Harbor, Maine, latitude $44^{\circ} - 14' - 47.65''$; longitude $68^{\circ} - 17' - 37.61''$; EPI-B, Cape Ann, Massachusetts, latitude $42^{\circ} - 41' - 21.79''$; longitude $70^{\circ} - 38' - 07.48''$.

The station sites were selected by the Washington Office and their geographic positions determined by F. B. Quinn, Boston District Officer, in 1955 and forwarded by him to the Norfolk Processing Office for use in the construction of the boat and smooth sheets.

G. Shoreline and Topography:

This is an offshore survey.

H. Soundings:

All soundings on this survey were taken with two 808J type depth recorders, numbers 153 SPX and 132 SG. The maximum depth attained on this survey did not exceed 70° fathoms. The paper speed travel and length of the stylus arms for these machines was checked in accordance with HM 5554. During the field season, simultaneous comparisons were made between the two recorders. Frequent stylus arm speed counts

were also made. Fathometer and vertical cast comparisons were made during the field season.

Vertical casts, bottom samples and oceanographic samples were taken with ship's sounding machine number 90 mounted on the port side and using registering sheaves numbers H-374 and H-376. Stranded wire was used, and the sheaves calibrated over a 100 fathom base in accordance with HM 4641. The respective factors were found to be 1.00482 and 1.00518; and are recorded in the sounding records.

No hand lead soundings were taken in the progress of this survey.

I. Control of Hydrography:

The intersection of the two EPI arcs was not less than 30° for any portion of this survey. Because of the nature of this survey (close development of the shoal on a 1:80,000 field sheet for later smooth plotting on a 1:40,000 sheet) lines were run only in periods of optimum EPI reception. When it appeared that reception was erratic or static-obscured, work was discontinued on this sheet and continued on a smaller scale sheet adjoining.

P76
Review

EPI calibrations were made at the beginning and end of each trip to the working grounds. Calibrations were obtained at the site of a visually located buoy planted by this party.

All EPI correctors are entered in the sounding volumes, and a list of these correctors is attached to this report.

J. Adequacy of Survey:

This survey is considered complete and adequate to supersede prior surveys. All crossings and junctions with contemporary survey H-8201 (HY-12455) are satisfactory. *H-8201 not in Wash Office 8-3-56 (1955) by*

The depth curves are continuous at the junctions, no non standard curves were penciled on the smooth sheet. *(see paragraph above)*

K. Crosslines:

Crosslines were run to the extent of 7.8% of the total system of sounding lines. No excessive discrepancies at crossings were noted.

P76
Review

L. Comparison with Prior Surveys:

The prior survey in this area was H-1532. This was a reconnaissance survey accomplished in 1882. Because of the nature and age of this

survey, its position accuracy is questionable and it is not considered for comparison purposes.

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M. Comparison with Chart:

This survey was compared with chart 71, print date 8/10/53, corrected to 3/26/55.

The 30 fathoms charted in latitude 42-48.3, longitude 66-04.1 occurs in regular bottom, in depths of 33-36 fms. from the present survey.
34-35

The 22 fathoms charted in latitude 42-47.8, longitude 66-15.5 was not found. The present survey showed the least depth in the immediate area to be 26 1/2 fms. Position 140B and position 19H 1/2 minutes.

The 35 fathoms charted in latitude 42-49.3', longitude 66-13.7' falls within the 30 fm. curve of the present survey. It occurs in depths of 24-27 fathoms.

The 43 fathoms charted in latitude 42-46.3, longitude 66-09.2 falls just beyond the present 30 fm. curve. The 1955 survey shows regular bottom in depths of 31-38 1/2 fathoms.

Lat. 42-47.0; Long. 66-12.0'

Item No. 1 (14 fathoms) of the preliminary review dated February 1955 was not found. Its charted location lies in depths of 26-28 fathoms by the present survey. The shoalest sounding of this survey is 16 fathoms (position 85G 1/3 minutes, 16.7 fms) located 2.7 nautical miles NNW of the charted 14. The 16 was verified by a sounding of 16.8 fms. (position 57G 1/2 minutes) occurring 200 meters east. It is recommended that the 14 fathom sounding be retained as the least depth on the shoal located by the 1955 survey and referred to above.

TP6 Review
Delete 14 fms. from chart.

In general, there is little agreement between the present survey and the charted soundings. The charted soundings and the 30 fathom curve appear to be 2-3 miles south of similar features of the 1955 survey. This is probably due to weakness of the position control of the early surveys. It is recommended that the chart be corrected by the addition of representative soundings from the present survey.

TP6 Review

N. Dangers and Shoals:

No new dangers or shoals were found within the limits of this survey.

O. Coast Pilot Information:

This is an offshore survey. During the survey the ship HYDROGRAPHER was based at the U. S. Naval Reserve Base at South Portland, Maine. No Coast Pilot revisions are recommended for Portland Harbor

and eastern approaches.

P. Aids to Navigation

There are no fixed or floating aids to navigation in this portion of the survey.

Z. Tabulation of Applicable Data:

The EPI Report, Velocity Report, Fathometer Report, and Settlement and Squat Report, for the entire project will be forwarded under separate cover. Copies will be furnished the processing office. The list of applicable correctors for this survey are attached.

E. K. McCaffrey
E. K. McCaffrey
LTJG, C&GS

FORWARDED:

J. C. Partington
J. C. Partington, CAPT, C&GS
Chief of Party

TIDE NOTE

Tide Station: Bar Harbor, Maine
Latitude: 44°-25.5' N
Longitude: 68°-12.3' W
Plane of Reference: Mean Low Water = 3.4 feet on tide staff
(Director's letter of 6 June 1955;
36-275-982h)
Area Covered: Entire area of this survey
Time Correction: 1 hour (From 75th Meridian Time)
Height Correction: 0.7 Ratio of Range

This station is a standard automatic tide gage and was last inspected by the East Coast Tide Party, August 1955. It was previously inspected by an officer of this ship at the start of the field season to insure its proper operation. The time and height corrections were furnished by the Washington Office.

Statistics

to accompany Survey H-8197 (HY-8155)

Date (1955)	Day Letter	Volume	No. Pos.	Stat. Mi. Sdg.
7 Aug	A	1	130 ✓	89.8
8 Aug	B	1 & 2	146	132.3
9 Aug	C	2	196	162.7
12 Aug	D	2	18	15.0
23 Aug	E	2 & 3	148	105.8
24 Aug	F	3 & 4	256	203.7
25 Aug	G	4 & 5	188 ✓	139.3
26 Aug	H	<u>5</u>	<u>94</u> ✓	<u>69.3</u>
Totals:		5	1176	917.9


No. of oceanographic stations: 1

Area surveyed: 131.34 square statute miles

APPROVAL SHEET

The field work on this survey was accomplished under my supervision. Daily inspections were made of the records, fathograms and boat sheet as the survey progressed.

The plotting of the smooth sheet was under my supervision. It has been inspected frequently as the work progressed and is approved. The survey is considered complete and adequate and no additional field work is recommended.


Walter J. Chovan
CDR, C&GS
Comdg., Ship HYDROGRAPHER

PROJECT 1376

1956

ABSTRACT OF EPI COLLECTIONS

<u>Trip No.</u>	<u>Dates</u>	<u>EPIA</u>	<u>EPIB</u>	<u>Remarks</u>
1	4-13 May	-5.5	-6.0 -4.3*	*Positions 79 to 91 Sheet H-8202 only, Set No. 11
2	19-27 May	-3.5	-5.1	
3	6-15 June	-7.5	-6.3	
4	20-29 June	-6.1	-5.8	
5	7-15 July	-3.8	-3.5	
6	22-30 July	-4.9	-4.7	
7	5-14 August	-4.1	-3.8	
8	22-31 August	-3.1	-4.6	
9	6-16 Sept.	-2.5	-4.9	
10	22-30 Sept.	-2.4	-4.5	

*These are means of test
taken during noted periods.*

CHKD. HJK

ABSTRACT

INSTRUMENTAL & PHASE CORRECTIONS

800 Fathometers

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<u>Scale</u>	<u>0.2 corr.</u>	<u>0.5 corr.</u>
A Scale	0.0	
B Scale	-0.8	
C Scale thru June	-1.0	+1.0
C Scale July on	-2.0	+2.0
D Scale thru June	-0.6	+0.5
D Scale 1 thru 23 July	-1.6	+2.0
D Scale 24 July on	-2.6	+2.5

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A Scale	0.0	
B Scale	+1.2	
C Scale thru 9 September	+1.2	+1.0
C Scale 10 September on	+0.6	+0.5
D Scale thru 9 September	-0.2	-0.5
D Scale 10 September on	-0.8	-1.0

ABSTRACT
VELOCITY CORRECTIONS

1955

Sheet H-8197

808

<u>Fm.</u>	<u>Corr.</u>
8 - 17	-0.1
17 - 26	-0.2
26 - 31	-0.3
31 - 43	-0.4
43 - 57	-0.6
57 - 70	-0.8
70 - 83	-1.0
over 83	-1.2

Comp: HWK
Chkd: ERM

RHG

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DIVISION OF COASTAL SURVEYS~~

9 May 1956

Division of Charts: R. H. Carstens

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8197

Locality Gulf of Maine

Chief of Party: W. J. Chovan in 1955
Plane of reference is mean low water, reading
3.4 ft. on tide staff at Bar Harbor
17.5 ft. below B. M. 6 (1911)

Height of mean high water above plane of reference at the
working grounds is 7.3 feet.

Condition of records satisfactory except as noted below:



~~Chief~~, Division of Tides and Currents.

GEOGRAPHIC NAMES

Survey No. H-197

Name on Survey												
	A	B	C	D	E	F	G	H	K			
<u>Maine</u>												1
<u>Gulf of Maine</u>												2
<u>Brown's Bank</u>											BGN	3
												4
												5
												6
												7
												8
												9
												10
<u>Bar Harbor</u>												11
												12
												13
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												27

for title

Names approved
4-26-56. L. Heck

(Tide Station)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 197.....

Records accompanying survey:

Boat sheets 1....; sounding vols. 5....; wire drag vols.;
 bomb vols.; graphic recorder rolls ~~3~~-Envelopes
 special reports, etc. 1-~~Descriptive report~~, 1-~~Smooth sheet~~, and.....
1-~~EPI Abstract~~, 1-~~Overlay tracing~~.....

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

Number of positions on sheet	.....	1176
Number of positions checked	.....	237
Number of positions revised	.....	195
Number of soundings revised (refers to depth only)	.....	75
Number of soundings erroneously spaced	.....	-
Number of signals erroneously plotted or transferred	.....	NONE
Topographic details	Time	NONE
Junctions	Time	2 hrs
Verification of soundings from graphic record	Time	5 hrs

Verification by *E. Thomas*..... Total time 28 1/2 hrs Date 7/6/56
 Reviewed by *W. J. Skid*..... Time 25 Date 8-3-56

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8197

FIELD NO. HY-4155

Maine, Gulf of Maine, N. W. Part Browns Bank

Project No. 1376

Surveyed - August, 1955

Scale 1:40,000

Soundings:

Control:

808 Fathometer

E P I

Chief of Party - W. J. Chovan

Surveyed by - W. N. Martin, C. A. George, H. W. Keith,
J. D. Hodges and M. B. Miller

Protracted by - E. K. McCaffrey

Soundings plotted by - E. K. McCaffrey

Verified and inked by - E. Thomas

Reviewed by - I. M. Zeskind 8-3-56

Inspected by - R. H. Carstens

1. Shoreline and Control

No shoreline is shown on this offshore survey.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

The sounding line crossings are in adequate agreement after adjustments were made as mentioned in item 7b.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated.

This is a survey of the northwest portion of Browns Bank which is located in the Gulf of Maine. The bottom is very irregular and ranges in depth from 16 to 83 fathoms.

4. Junctions with Contemporary Surveys

The present large-scale survey is joined on all sides by H-8201 (1955) which has not as yet been received in the Washington Office. The junction will be considered in the review of H-8201.

5. Comparison with Prior Surveys

H-1305 (1853-74), 1:400,000
 H-1532 (1880-83), 1:2,400,000

Although these small-scale reconnaissance surveys cover the area of the present survey only 2 soundings on H-1305 fall within the common area. Because of the paucity of soundings and the dead reckoning control of the prior surveys, a comparison between the prior and present surveys is deemed of no practical value.

The present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 71 (latest print date 6-6-56)
Chart 1106 (latest print date 6-18-56)A. Hydrography

The charted hydrography originates with Bp. 26334, chart letter 793 (1954) showing soundings from a survey by the Woods Hole Oceanographic Institute, chart letter 652 (1955) containing advance information of the present survey, and unidentified miscellaneous sources extending prior to 1895. A comparison between the charted information and the present survey reveals differences in depths of as much as 11 fms., and marked differences in the position and shape of the 30-fm curve on chart No. 71. The 14 fms. charted in lat. $43^{\circ}47.0'$, long. $66^{\circ}12.0'$, from an unidentified source appears on the first edition of chart No. 6 in 1895. The development of the area on the present survey reveals no indication of a shoal at this position, but places the shoalest portion of Browns Bank about 2.5 miles north-northwestward of the charted 14. The present survey adequately reveals the bottom configuration and least depths in this area and the charted 14 should be disregarded.

The present survey is the first accurately controlled survey covering this portion of Browns Bank and is adequate to supersede the charted information.

B. Aids to Navigation

There are no aids to navigation within the area of the present survey.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. Unnatural protrusions and indentations in depth curves and crossing discrepancies amounting to 5 - 10 fms. were eliminated during verification by adjusting about two-thirds of the sounding lines. These adjustments were necessitated by several periods of erratic E P I returns during the course of the survey. Those sounding lines whose E P I positions were within one microsecond with respect to plotting by time and course were held as a base. The fixes affected by greater erratic operation were shifted to agree with dead reckoning and the sounding lines selected as a base.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

The survey is considered basic and no additional field work is recommended. ✓

Examined and Approved:



H. R. Edmonston
Chief, Nautical Chart Branch



Charles A. Schanck
Chief, Chart Division



J. C. Bull
Chief, Hydrography Branch



Samuel B. Grenell
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H-2197

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
5/15/56	70	H.B. Haysman	Before After Verification and Review <i>Partial application 2 edges revised.</i>
6/28/56	1000	J. G. McGinn	Before After Verification and Review <i>Examined.</i> <i>gma</i>
7-2-56	71	F B E	Before After Verification and Review <i>Partially</i>
10-3-56	70	Benson	Before After Verification and Review <i>Fully applied</i>
12-26-56	71	C.R. Wittmann	Before After Verification and Review <i>Fully Applied</i>
28 Dec '57	1106	H. E. Egan	Before After Verification and Review <i>Fully applied</i>
3/4/60	1000	Svendsen	Before After Verification and Review <i>Fully app. thru</i> <i>Chart # 70.</i> Project
			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.