8008

Diag. Cht. 3[illegible]

ES-349

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ECSP-1152 *Office No.* H-8008

LOCALITY

State MASSACHUSETTS

General locality BOSTON HARBOR

Locality COHASSET & SCITUATE

19~~X~~52-53

CHIEF OF PARTY

C.R. Reed

LIBRARY & ARCHIVES

DATE May 1, 1953

B-1870-1 (1)

8008

Form 537
(Ed. June 1946)

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-8008 ~~H-8029~~

Field No. 25/152

State MASSACHUSETTS

General locality OUTER BOSTON HARBOR

Locality MINOTS LEDGE TO MARBLEHEAD

Scale 1:25,000 Date of survey 19 Aug.- 16 Oct. 1952

Instructions dated Project # CS-349, 5/9/52 & 6/27/52; Special Surveys, 7/9/52, # CS-246, 7/17/52

Vessel HILGARD

Chief of party J.C. Tribble

Surveyed by J.C. Tribble

Soundings taken by ~~echo sounder~~, graphic recorder, ~~hand lead, wire~~

Fathograms scaled by M.C.F., J.R.B. & A.K.P.

Fathograms checked by M.C.F., J.R.B. & A.K.P. B.T. Lewis

Protracted by Ben. T. Lewis

Soundings penciled by Ben. T. Lewis

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS: This survey was smooth plotted in the Hydrographic Section of the Norfolk Processing Office.

U. S. GOVERNMENT PRINTING OFFICE 777032

DESCRIPTIVE REPORT
TO ACCOMPANY

HYDROGRAPHIC SURVEY NUMBER ~~H-8029~~ H-8008
Field No. 25/152
OUTER BOSTON HARBOR

A. PROJECT:- # CS-349 dated 9 May 1952 & 27 June 1952; SPECIAL SURVEYS--BOSTON HARBOR, instructions dated 9 July 1952; SUPPLEMENTAL INSTRUCTIONS--PROJECT CS-246 dated 17 July 1952.

B. SURVEY LIMITS AND DATES:- This survey covers two narrow special survey areas (date and scales of prior surveys in this area was not furnished with instructions), one narrow area on eastern edge of Project # 246 (prior survey numbers are; H-516 (date 1854, scale 1:80,000), H-2133 (date 1892, scale 1:10,000), this survey also makes ajunction with the Atlantic Coast Shore Party Survey on the southern limit (field survey # ASCP-1152 of project # CS-349). } enlarged & made a part of H-8008

Field work on this survey began 19 August and was ended (Project # 246 incomplete) on 16 October 1952.

C. VESSEL AND EQUIPMENT:- The Ship HILGARD was used on this survey. Two portable recording fathometers were used on this survey, model 808a numbers 67 and 585. Depths varied from about 12 feet to slightly over 200 feet.

D. TIDE AND CURRENT STATIONS:- Tide reducers were furnished by the Washington Office from observed tides at Boston Light and the Boston primary tide station (see Acting Directors letter # 36-rcb, dated 12 November 1952).

No current observations were made on this survey.

E. This survey was plotted on a Transverse Mercator Projection. It was machine made in the Washington Office.

F. CONTROL STATIONS:- See attached list of signals for dates of Triangulation and initials offChief of Party. One signal was located by sextant cuts all others were located by Triangulation of at least third order accuracy.

G. Shoreline was not applied to this survey.

H. SOUNDINGS:- All soundings on this sheet were obtained by type 808A depth recorder, No. 67. Transceiver units were mounted inboard.

Corrections to soundings were obtained from bar checks and from temperature and salinity observations.

I. CONTROL OF HYDROGRAPHY:- All sounding lines were controlled visual three-point fixes.

J. ADEQUACY OF SURVEY:- The area surveyed is considered adequate and should supersede prior surveys for charting. All except the small areas on the eastern and southern limits of Project No. CS-246 require a basic Hydrographic survey for completion. Review, par. 5

Comparison of boat sheets of the East Coast Shore Party and the HILGARD showed a satisfactory junction. Depth curves were adequately drawn at the junctions.

K. About 8% cross lines were run. Examination of boat sheet indicated that discrepancies would be less than 1% of depth.

L. COMPARISON WITH PRIOR SURVEYS:- Boat Sheet comparison with prior survey numbers; 2200 (1894-5, 1:10,000), 2129 (1892, 1:10,000) and H-6862 (1945, 1:20,000) showed good general agreement. The above prior surveys are the only ones at hand and do not cover the entire area of the present survey. The present survey generaly showed slightly shoaler depths which is to be expected when using the contineous profile depth recorder. ** Review, par. 5

M. COMPARISON WITH CHART:- Boat Sheet comparison with Chart No. 1207, 52-6/9 showed the same general results as described in L. Review, par. 6.

** Prior survey No. H-2133 (1892, 1:10,000) was also used in making comparison. Review, par. 5

HILGARD

STATISTICS, SHEET 2.5/152

Boston Harbor, Projects CS-349, CS-246, & Special

Vol. No.	Date	Day Letter	Number of Positions	Statute miles sounding lines on Project: Special	*CS-349 & CS-246	TOTAL
1	8-19	A	120	17.5	29.8	47.3
1	8-20	B	99	2.3	30.0	32.3
1 & 2	8-21	C	141	42.5	14.4	56.9
2 & 3	9-4	D	165	22.8	37.2	60.0
3	9-5	E	86	13.9	14.9	28.8
3	9-10	F	60	22.5	3.2	25.7
3	9-12	G	22	7.2	1.0	8.2
3 & 4	9-16	H	104	32.2	15.1	47.3
4	9-17	J	132	37.7	14.6	52.3
4 & 5	9-18	K	98	23.2	14.9	38.1
5	9-23	L	110	17.7	23.7	41.4
5	9-24	M	28	0	9.9	9.9
5	9-25	N	82	20.2	6.7	26.9
6	10-1	P	117	31.0	6.5	37.5
6	10-6	Q	32	0	11.2	11.2
6	10-9	R	45	0	13.6	13.6
6 & 7	10-14	S	102	0	27.3	27.3
7	10-15	T	18	0	5.0	5.0
7	10-16	U	26	0	8.6	8.6
	TOTALS	19	1587	290.7	287.6	578.3

CS-246: 162.8
* CS-349: 124.8

* (Remainder of mileage on CS 349 is on sheet 1152)

Area in square statute miles:- 14.4

STATISTICS, SHEET 2.5/152

Boston Harbor, Projects CS-349, CS-246, & Special

Vol. No.	Date	Day Letter	Number of Positions	Statute miles sounding lines on Project: Special	*CS-349 & CS-246	TOTAL
1	8-19	A	120	17.5	29.8	47.3
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3	9-5	E	86	13.9	14.9	28.8
3	9-10	F	60	22.5	3.2	25.7
3	9-12	G	22	7.2	1.0	8.2
3 & 4	9-16	H	104	32.2	15.1	47.3
4	9-17	J	132	37.7	14.6	52.3
4 & 5	9-18	K	98	23.2	14.9	38.1
5	9-23	L	110	17.7	23.7	41.4
5	9-24	M	28	0	9.9	9.9
5	9-25	N	82	20.2	6.7	26.9
6	10-1	P	117	31.0	6.5	37.5
6	10-6	Q	32	0	11.2	11.2
6	10-9	R	45	0	13.6	13.6
6 & 7	10-14	S	102	0	27.3	27.3
7	10-15	T	18	0	5.0	5.0
7	10-16	U	26	0	8.6	8.6
	TOTALS	19	1587	290.7	287.6	578.3

CS-246: 162.8
* CS-349: 124.8

* (Remainder of mileage on CS 349 is on sheet 1152)

[redacted] STATIONS

CON CONCRETE MILITARY LOOKOUT TOWER, B9 89, 1943

LIST OF SIGNALS
To Accompany

HYDROGRAPHIC SURVEY H-8029 (Field No. Hi-25152)

TRIANGULATION STATIONS

WIN	WINTHROP HEAD, STANDPIPE, 1915-39
TON	BOSTON LIGHTHOUSE, 1834-1934
STAN	HULL, STRAWBERRY HILL, STANDPIPE, 1915-34
MIN	MINOT'S LEDGE LIGHTHOUSE, 1915-34
RAP	NANTASKET, TELEGRAPH HILL, TOWER, 1934
BAK	BAKER ISLAND LIGHTHOUSE, 1834-1940
HOT	HAYDEN'S HOTEL, OCEAN HOUSE, 1847
USE	THE GRAVES LIGHTHOUSE, 1909-34
MIG	MARBLEHEAD LIGHTHOUSE, 1914-36
MAR	MARBLEHEAD, YELLOW STANDPIPE, 1934
COT	SWAMPSCOTT, LARGER STANDPIPE, 1934-39
CUP	NAHANT, CATHOLIC CHURCH, CUPOLA, 1894-1934
PIP	NAHANT, STANDPIPE, 1915-34
HALL	HULL, TOWN HALL, CUPOLA, 1934-39
BOT	MARBLEHEAD, ABBOT TOWER, 1919-34
*TER	MANCHESTER, STANDPIPE, 1914-35
ROC	HIGH ROCK 3, 1934

HYDROGRAPHIC STATIONS

Han (Vol. 3, Pg. 43,46 & 48)

* Signal falls off the northern edge of sheet. Plotted on a temporary dog ear.

FLOATING AIDS TO NAVIGATION

H-8029

BUOY	LAT.	LONG.	DATE	POS.	DEPTH	CHARTS
The Graves Lighted whistle Buoy 5	42-22.85'	70-51.69'	9/10/52	54F	75'	246 & 120Ø

(not within present limits of smooth sheet)

VELOCITY CORRECTION ABSTRACT

Corrections from begining of Season to 19 August 1952:-

30 feet to 69.5 feet; correction zero.
69.6 feet and over; correction -0.5 feet

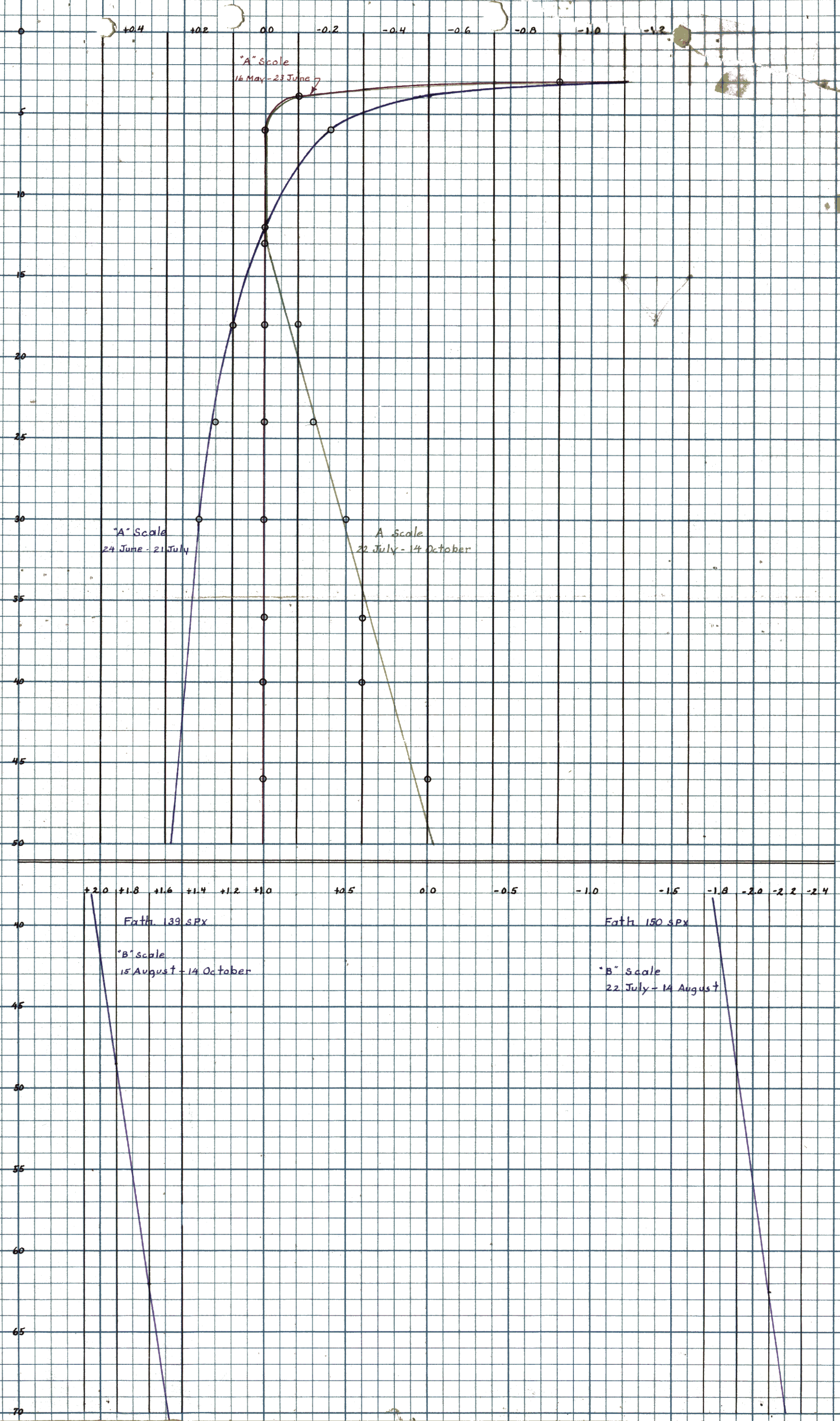
Corrections from 20 August end of season:-

30 feet to 59.5 feet correction zero.
59.6 feet and over; correction -0.5 feet

A velocity Correction Report will be submitted at a later date.

VELOCITY CORRECTIONS

East Coast Shore Party
16 May - 14 October 1952


+0.4
+0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
"A" Scale
16 May - 23 June
"A" Scale
24 June - 21 July
A Scale
22 July - 14 October
+2.0
+1.8
+1.6
+1.4
+1.2
+1.0
+0.5
0.0
-0.5
-1.0
-1.5
-1.8
-2.0
-2.2
-2.4
Fath. 139 SPx
"B" Scale
15 August - 14 October
Fath. 150 SPx
"B" Scale
22 July - 14 August

APPROVAL SHEET - HYDROGRAPHIC

SURVEYS H 8008 - H 8009 - H 8010

The records and boat sheets for Hydrographic surveys Numbered H-8008, H-8009 and H-8010 have been inspected by me and are approved. A separate report (in addition to the descriptive report) has been prepared by Ensign D.F.Romero for his work in connection with location of topographic features and signals on air photo topographic sheets in the a rea.

Clarence R. Reed

Clarence R. Reed
CDR, USC&GS
OinC, East Coast Shore Party

TIDE NOTE

TO ACCOMPANY DESCRIPTIVE REPORT

FOR HYDROGRAPHIC SURVEY NO. H-8029 FIELD NO. 25/152

OUTER BOSTON HARBOR

The portable tide station at Boston Light and the Boston primary tide station were used to obtain tide reducers throughout this survey. See attached copy of letter from the Acting Director No. 36-rcb, dated 12 November 1952.

Hourly heights were furnished from The Washington Office and are attached.

Boston Primary tide station:-	Latitude; 42 21' 17"
	Longitude; 71 03' 03"
Boston Light tide gage:-	Latitude; 42 19' 40"
	Longitude; 70 53' 33"

TIDE NOTE TO ACCOMPANY

HYDROGRAPHIC SURVEY SHEETS H-8008, H-8009, H-8010
(FIELD NOS. ECSP 1152, 05152, 05252)

Observations were obtained at two tide stations where portable tide gages were maintained. The gage at White Head (Cohasset Harbor) was used for reducing soundings on Sheets H-8008 and H-8009. The gage at Scituate was only used for reducing soundings on Sheet H-8010. No differences in time or height were applied to the observed tides. Planes of reference were furnished by the Washington office or computed from elevations of previous tidal bench marks.

STATIONS	LATITUDE	LONGITUDE	MLW ON STAFF
White Head (Cohasset Harbor)	42-14.88	70-47.04	3.0 Feet
Scituate	42-11.88	70-43.53	2.8 "

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast Survey~~ 19 May 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 16
volumes of sounding records for

HYDROGRAPHIC SHEET 8008

Locality Boston Harbor, Massachusetts

Chief of Party: J. C. Tribble, Jr.) in 1952
C. R. Reed)

Plane of reference is mean low water, reading
2.3 ft. on tide staff at Boston Light
25.5 ft. below B. M. 8 (1916)

2.8 ft. on tide staff at Scituate
16.5 ft. below B. M. 4 (USE)(1924)

3.0 ft. on tide staff at White Head, Cohasset Harbor
18.3 ft. below B. M. 1 (1940)

~~Condition of records satisfactory except as noted below:~~

Height of mean high water above plane of reference is as follows:

Boston Light	=	8.9 feet
Scituate	=	9.0 feet
White Head, Cohasset Harbor	=	8.8 feet

E. C. McKay
Section of Tides
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933

Form 537
(Ed. June 1946)

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-8008

Field No. ECSP-1152

State MASSACHUSETTS

General locality BOSTON HARBOR

Locality COHASSET-SCITUATE

Scale 1:10,000 Date of survey 12 Aug. to 29 Sept. 1952 and Oct. 1953

Instructions dated 9 MAY 1952

Vessel EAST COAST SHORE PARTY

Chief of party CLARENCE R. REED, J.S. Morton & E.B. Brown & J.C. TRIBBLE

Surveyed by H.S. FOOTE, & R.H. HOULDER, J.S. Morton & E.B. Brown & J.C. Tribble

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

Fathograms scaled by PARTY PERSONNEL

Fathograms checked by C.R. REED, H.S. FOOTE & R.H. HOULDER

Protracted by BEN T. LEWIS

Soundings penciled by BEN T. LEWIS

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ and are true depths

REMARKS: This survey was smooth plotted in the Hydrographic Section of the Norfolk rrocessing Office.

U. S. GOVERNMENT PRINTING OFFICE 777032

NOTES FOR
DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SHEETS H-8008, H-8009, H-8010 (FIELD NOS. ECSP 1152, 05152, 05252)

COHASSET AND SCITUATE HARBORS, MASSACHUSETTS

EAST COAST SHORE PARTY CLARENCE R. REED, CHIEF OF PARTY

PROJECT CS-349 1952 SCALES: 1:5000 & 1:10000

* * * * * * * * * * * * * * * *

PROJECT This survey was accomplished under instructions dated 9 May 1952 calling for a basic hydrographic survey of Cohasset and Scituate Harbors and in the immediate offshore vicinity.

North of Lat 42°16.3 sdgs originally on H-8029

SURVEY LIMITS AND DATES: The survey on Sheet H-8008 (1952-53) (FIELD NO. ECSP 1152) covers the area bounded by the shore line and longitude 70-46 on the west latitude 42-16.30 on the north, latitude 42-12.50 on the south and a line running from latitude 42-12.5 longitude 70-43 to latitude 42-16.30 longitude 70-46 on the east. Junctions were made with contemporary surveys shown on Sheet No. H-8009 (FIELD NO. ECSP 05152) on the west, Sheet No. H-8010 (FIELD NO. ECSP 05252) on the south. The field work began 12 August and was concluded 29 Sept. 1952. (additional work 10/16/53)

H-8029 was cancelled and portions of its work was transferred, which changes the limits of H-8008

The survey on Sheet H-8009 (FIELD NO. ECSP 05152) covers the area bounded by Cohasset Harbor on the south, longitude 70-48 on the west, latitude 42-16.58 on the north and longitude 70-46 on the east. Junctions were made with contemporary surveys shown on Sheet No. H-8006 (FIELD NO. ECSP 1252) on the west, Sheet No. H- (FIELD NO. HI-25/152) on the north and with Sheet No. H-8008 (FIELD NO. ECSP 1152) on the east. The field work began 24 July and was concluded 25 September 1952.

The survey on Sheet No. H-8010 (FIELD NO. ECSP 05252) covers the area bounded by Scituate Harbor on the west, latitude 42-12.50 on the north longitude 70-42.70 on the east and latitude 42-11.50 on the south. Junctions were made with contemporary surveys shown on Sheet No. H-8008 (FIELD NO. ECSP 1152) on the north and Sheet No. H-8008 (FIELD NO. HI 1152) on the east. The latter was performed by the ship Hilgard. The field work began 29 Sept. and was concluded 6 October 1952.

Not applicable to H-8008

VESSEL AND EQUIPMENT Aluminum Launch No. 168 was used for the survey. The launch operated from moorings at Cohasset and Scituate Harbors.

The launch has a turning radius of 15 meters while running at the sounding speed of 5 knots at 1500 R.P.M.

For Sheets H-8008 and H-8009, all echo soundings were obtained with Graphic Recorders Nos. 139 SPX and 150 SPX. For Sheet H-8010 all echo soundings were obtained with Graphic Recorder No. 139 SPX. (808 Fathometers)

The transducers were mounted inboard.

TIDES AND CURRENTS The tide note is attached to this report. No currents were observed.

SMOOTH SHEET The smooth sheet is to be plotted by the Norfolk Processing Office.

CONTROL STATIONS The control consisted mainly of triangulation stations and photogrammetric stations. The latter were transferred from Air Compilation Sheets T-9512, T-9512A, T-9513 and T-9513A. (1950) Where hydrographic stations were necessary, their positions were determined by sextant fixes at each station site. ✓

SHORELINE AND TOPOGRAPHY The shoreline and topographic details were transferred from Air Compilation Sheets T-9512, T-9513 and T-9513A. (1950) ✓

Any inaccuracies were resolved in the field and sketched directly on the boat sheet. T-9512A & RS-507 of 1952

SOUNDINGS The depths were measured with graphic recorders and hand leads. Bottom samples were obtained with armed hand leads. ✓

CONTROL OF HYDROGRAPHY The sounding lines of this survey were controlled by the three-point-sextant-fix method. There were no unusual jumps when changing control stations. Fixes were taken at 1 to 2 minute intervals. In the upper reaches of the harbors where hydrographic control was lacking, positions of sounding lines were referred to distinctive shore line details. Appropriate remarks were entered in the sounding volumes. ✓

ADEQUACY OF SURVEY This survey is complete and considered adequate to supersede prior surveys. The junctions with adjoining sheets are satisfactory as depth curves can be drawn and there are no holidays. Review, pars. 5 & 9.

CROSSLINES Sufficient crosslines were run as prescribed. ✓

COMPARISON WITH PRIOR SURVEYS A comparison of Sheet H-8008 and charts 246 and 1207 showed no major discrepancies. Those items mentioned in the Preliminary Review as prepared by the Divison of Charts were investigated and are listed below. Review, par. 5

A comparison of Sheet H-8009 and Chart 242 showed considerable variance in the location and description of shoals and rocks. The major discrepancies and those items listed in the Preliminary Review are listed below. Also noted was the great difference in the topographic features as shown on the chart and as shown on Air Photo Compilation Sheet T-9512A.

A comparison of Sheet H-8010 and Chart 232 showed no major discrepany; however it was noted that there was a wide variance between the topographic features as shown on the chart and those shown on Air Photo Compilation Sheet T-9513A.

Not applicable to H-8008

* Numerous shoal soundings + rocks now charted have not been clearly developed on the new survey and are not to be removed from the chart prior to review of survey sheet. with H.E. per 208

COMPARISON WITH CHART Chart Nos. 232, 242, 246, 1207

Latitude	Longitude	Chart	1952 Survey	Remarks
Sheet No. H-8008 (FIELD NO. ECSP 1152)				
42-16.03	70-45.30	28 ft.(246)	27 ft.	Shoalest Sounding
42-15.95	70-45.28	23 ft.(246)	36 ft.	Shoalest Sounding {Review par. 5A(1) Item 6 of Preliminary Review.
42-15.45	70-44.67	12 ft.(246)	14 ft.	Shoalest Sounding (Retain 12)
42-15.32	70-44.75	9 ft.(246)	8 7 ft.	Shoalest Sounding
42-14.17	70-44.18	10 ft.(1207)	11 ft.	Shoalest Sounding (Retain 10)
42-13.68 4	70-43.83	12 ft.(1207)	17 ft.	Shoalest Sounding (Retain 12)
42-14.04	70-45.24	10 ft. (246)	15 ft.	Shoal not fully investigated (Retain 10)
42-13.85 2	70-44.81	16 ft.(246)	18 ft.	Shoalest Sounding (Retain 16) Item 8 of Preliminary Review.
Sheet No. H-8009 (FIELD NO. ECSP 05152)				
42-15.64	70-47.68	---	---	Rock found as reported under Item 3 of Preliminary Review.
42-15.63	70-47.50	---	---	1½ ft. shoal found about 45 M. east of charted position.
42-15.54	70-47.51	---	---	Rock found as reported under Item 3 Preliminary Review.
42-15.55	70-47.34	---	---	Rock found as charted.
42-15.56	70-47.37	---	---	Delete, non existant.
42-15.49	70-47.35	---	---	Rock found as charted.
42-15.48	70-47.41	---	---	Uncharted rock covered 1 ft. at MLW.
42-15.56	70-47.05	---	---	Delete, non existant
42-15.53	70-47.07	---	---	Delete, non existant
42-15.49	70-47.08	---	---	Delete, non existant
42-15.05	70-47.01	---	---	Small rock found, shoalest sounding 5 ft. No 3 ft. sounding in channel.
42-14.75	70-47.16	---	---	5 ft. shoal in channel
42-16.24	70-47.45	51	33	Shoalest Sounding
42-16.18	70-47.56	50	17	Shoalest Sounding

Not applicable to present survey

COAST PILOT NOTES Line 43 on page 349 and line 16 on page 350 of the 1950 Edition of U.S.C.P. - Atlantic Coast - Section A should be deleted as the reported 2 ft. shoals are non-existant.

AIDS TO NAVIGATION ~~Aids to navigation are to be scaled from the smooth sheet.~~

LANDMARKS FOR CHARTS No landmarks not already charted are recommended.

GEOGRAPHIC NAMES No changes or additions were found.

MISCELLANEOUS * Detached positions located by sextant angles from an aluminum skiff were recorded in two sounding volumes numbered 1 and 2. The information contained in these two volumes pertains variously to sheets numbered H-8006, H-8008, H-8009 and H-8010. The index at the front of each volume relates the information to the proper sheet or sheets.

* (Those pertaining to H-8008 transferred to Vol. 9 of this survey)
(See Processing Office Addendum)

Approved and Forwarded

Clarence R. Reed

Clarence R. Reed
CDR, USC&GS
OinC, East Coast Shore Party

ADDENDUM
To Accompany

H-8008
HYDROGRAPHIC SURVEY H-8029 (Field No. Hi. -25152)

GENERAL

The control was complete and adequate.

No discrepancies occured in the hydrography and the depth curves were easily drawn.

Hydrography in the vicinity of Minot's Ledge Lighthouse was transferred to survey* H-8008 (ECSP-1152). A much clearer representation of the bottom may be obtained as the larger scale permitted the plotting of more soundings.

* see listing in front part of this Report for portions of work transferred

Respectfully submitted,

Hugh L. Proffitt
Cartographer.

Norfolk, Va.
10 March 1953

Approved & Forwarded;

Earle A. Deily
Supervisor, S.E. District.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
3 Nov. 1953

Ships WAINWRIGHT & HILGARD
U.S.Coast and Geodetic Survey
Room 418,P.O. Building
Norfolk, Va.

POST OFFICE ADDRESS:
TELEGRAPH ADDRESS:
EXPRESS ADDRESS:

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

Subject: Chart Letter, Massachusetts Bay

References: (a) Project Instructions CS-349, dated 3 Sept. 1953
(b) Boat Sheet ACSP-1252 (H-8008) item (a)
(c) Boat Sheet HI-2.5/152

A sounding of 24½ feet effective was obtained on 13 Oct.1953 by the HILGARD in a preliminary investigation, Lat. 42-16.40, Long. 70-47.80.

The wire drag hung at a n effective 23 feet and cleared the area a t an effective 21 feet,15 Oct. 1953, ships WAINWRIGHT and HILGARD, positions 1-10B.

A copy of a section of chart 246 is inclosed showing the results of the survey.

Charts affected a re 246 and 1207.

Harold J. Sea borg,
Officer in Charge,
Ship HILGARD

Wire drag volumes with H-8063 Additional correspondence with H-8063

SUPPLEMENTAL REPORT

ADDITIONAL WORK ON PROJECT CS-349
SCITUATE AND COHASSET HARBORS, MASSACHUSETTS

CHIEF OF PARTY E. B. BROWN

In accordance with instructions dated 3 September 1953 this work was begun on 13 October and was completed on 16 October 1953.

A total of 3.7 miles of wire dragging and 6.4 miles of hydrography were done by this party. The dragging was done with the WAINWRIGHT and HILGARD using skiff as a tender. The hydrography was done by the HILGARD and Launch 171.

The USC&GS Ship STIRNI, CDR J. S. Morton, Commanding, working in conjunction with this party, used launch 171 to accomplish all the hydrography except that done by the launch and the HILGARD on 16 October. The report of the work of the STIRNI is attached.

The following items were investigated by this party.

~~BOAT SHEET ACSP 1252~~ (H-8008) (1952-53)

(a) The work on the 26-foot sounding in latitude 42°16.40', longitude 70°47.80', was done on tracings of boat sheet HI-2.5/152. A hang at an effective 23.5 feet was obtained between positions 1-5B and a clear at an effective 20.5 feet between positions 6-10B. A detached sounging of 24.4 feet reduced on position 1A, (13 October) was obtained by the HILGARD. A.report of this hang was submitted on 3 November 1953. a copy of which is included in this report.

(b) The questionable 22-foot sounding from a prior survey in latitude 42°14.90' longitude 70°44.40' was disproved with a drag at an effective depth of 32 feet between positions 9-12B. Review par. 5C(3)

(c) The undeveloped* 21-foot sounding in latitude 42°14.60' longitude 70°44.20' was cleared with a drag set at an effective depth of 20 feet between positions ~~13-22A~~ 17-18A. On 16 October the HILGARD ran several sounding lines in this area and obtained a reduced sounding of 24 feet on position 37C indicating that the 21-foot sounding was correct.

* sndg. from H-8063 work listed in Guide launch of 1953 wire drag volumes

(d) The 21-foot sounding in latitude 42°14.45', longitude 70°44.25' was cleared with a drag set at an effective depth of 20 feet between positions ~~13~~ 18-22A.

(e) The 25-foot sounding in latitude 42°14.05', longitude 70°44.25', was cleared with a drag set at an effective depth of 22 feet between positions 24-30B.

(f) The 37-foot sounding in latitude 42°14.10', longitude 70°43.90', was cleared with a drag at an effective depth of 35 feet between positions 16-20B.

~~BOAT SHEET ACSP 1152 (H-8008)~~ 8063 (1952-53)

(a, b, c) This work was done by personnel of the Ship STIRNI, using launch 171 .

(d) The 18-foot sounding in latitude 42°12.95', longitude 70°42.73', was cleared with a drag set at an effective depth of 16 feet between positions 4-8A.

(e) The 19-foot sounding in latitude 42°12.95', longitude 70°43.99', was cleared with a drag set at an effective depth of 17 feet between positions 11-15B.

H-8063

(f) At latitude 42°12.67', longitude 70°42.65' a 16½ foot effective drag, positions 1-3A, hung in charted deeper water about 100 meters off a shoal point. This was cleared with an effective 16 at positions 31-35B.

~~BOAT SHEET ACSP-05152 (H-8009)~~ (1952-53)

(a & b) The reported rock with a 2-foot sounding and the submerged pipe were investigated by a 200 foot wire sweep using launch 171 and the WAINWRIGHT's skiff as suggested in the Directors letter dated 22 September 1953 (22/MEK S-1 W&H). This work was done under the immediate direction of Lieutenant (j.g.) Robert A. Parker. The Harbor-Master of Cohasset and some lobstermen in the area stated that these objects had been removed some time ago. The investigation indicates that the objects have been removed.

H-8009

A small rock was located in the vicinity of item (a) and the sweep hung on this spot. Position 2-3c. This rock was about 9 inches in diameter and 6 inches off the bottom in 4 to 5 foot depths. It was clearly visable from the launch and does not constitute a menace to navigation.

A pipe extending about 2 feet off the bottom was located with the aid of local lobstermen at latitude 42°15.00', longitude 70°47.06' position 1c in general depths of five feet on the west side of the Cohasset Harbor Channel. A report to this effect was submitted on 3 November 1953, a copy of which is included in this report.

H-8009

(c, d, e, f, & g) These items were done by the Ship STIRNI. This party ran splits on the southern part of the area specified in item e½ on the afternoon of 16 October 1953, using launch 171. Shoalest sounding obtained was 9½ feet between positions 14 and 15C at latitude 42°15.53', longitude 70°46.54'.

E. B. Brown
CDR USC&GS
Chief of Party

SUPPLEMENT TO DESCRIPTIVE REPORT FOR CS-349

In accordance with supplemental instructions to the Ships WAINWRIGHT and HILGARD, dated 3 September 1953, and in accordance with paragraph one of Sailing Orders to the Ship STIRNI, dated 30 September 1953, 21.7 statute miles of additional hydrography was accomplished and is listed below.

Boat Sheet ACSP-1252 (H-8008)

See Wire Drag work of Ships Wainwright and Hilgard.

Boat Sheet ACSP-1152 (H-8063)

(a) A minimum depth of 17.5 feet was obtained. Previous hydrography showed a minimum of 20 feet and chart 1207 shows a 24 footminimum sounding nearby.

(b) A minimum depth of 24 feet was obtained. Previous hydrography shows a minimum depth of 24 feet.

(c) 1. A minimum depth of 23 feet was obtained at Lat. 42° 12.16', Long. 70° 42.28'. Previous hydrography shows a minimum sounding of 16 feet.

2. A minimum of 24 feet was obtained about 100 meters NE of the above 16 foot soundings. Previous hydrography shows a minimum depth of 18 feet. 29 foot soundings fell on top of the 18 foot soundings of the previous surveys.

3. A minimum of 19 feet was obtained at Lat. 42° 12.19', Long. 70° 42.35'. Previous hydrography shows a minimum depth of 13 feet.

4. A minimum of 12 feet was obtained at Lat. 42° 12.25', Long. 70° 42.50'. Previous hydrography shows a minimum depth of 10 feet.

5. A minimum of 12 feet was obtained at Lat. 42° 12.26', Long. 70° 42.56'. A depth of 8 feet was determined by previous hydrography.

H-8063

Boat Sheet ACSP-05152 (H-8009)

(a) and (b) These items done by Wainwright and Hilgard.

(c) Additional hydrography was conducted in Lat. 42° 15' plus 542m, Long. 70° 47' plus 255m (the 100 meter square holiday on the west side of Sutton Rocks), but the minimum sounding at this spot was found to be 8 feet as compared with the 4 foot sounding shown on the chart 242. However, in this 100 meter area there was a 2 foot sounding obtained approximately 50 meters east of the above reported 4 foot undeveloped shoal.

(d) In Lat. 42° 15' plus 700m, Long. 70° 46' plus 1215m, additional sounding lines were run along the top of the ridge. The shoalest sounding obtained was 6 feet. The two 5 feet soundings shown on chart 242 were not found in this developement. At Lat. 42° 15' plus 700m, 70° 46' plus 1115m, where one 5 foot sounding is shown, the developement shows a minimum depth of 7 feet. At. Lat. 42° 15' plus 670m, Long. 70° 46' plus 1055m, where the other 5 foot sounding is shown, the developement shows a minimum depth of 7 feet.

H-8009

(e) In Lat. 42° 15' plus 970 m, 70° 47' plus 90 m, additional sounding lines were run along the narrow ridge to the east of Barrel Rock Beacon. A number of 5 foot shoals are shown on chart 242 along this ridge. The developement shows only one 5 foot shoal which lies approximately 35 meters east of Barrel Rock Beacon.

(e½) The northern portion of this area was developed by Launch No. 171. The minimum depth was 16 feet at Lat. 42° 15' plus 1130m, Long. 70° 46' plus 750m. The ships Wainwright and Hilgard completed the southern section of the area on the tracing.

(f) Additional sounding lines were run in the vicinity of Lat. 42° 16' plus 195m, Long. 70° 46' plus 1050m to develop the 23 foot sounding shown on chart 242. The developement shows a depth of 22 feet in the immediate vicinity of the above 23 foot sounding. A minimum depth of 21 feet was obtained 60 meters north of the 23 foot sounding shown on chart 242.

H-8009

(g) Additional sounding lines were run in Lat. 42° 15' plus 1540m, Long. 70° 47' plus 655m to develop a 19 foot sounding shown on chart 242, and a 23 foot sounding shown on the previous survey. Development shows a 26.5 foot minimum depth at the geographic position mentioned in the supplemental instructions. However, a minimum sounding of 27 feet was obtained at the 19 foot sounding which is 60 m north of the geographic position.

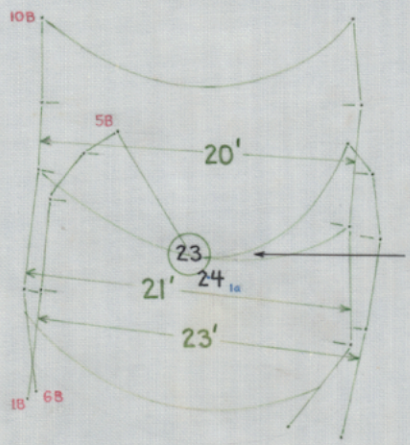
J. S. Morton DTR

J. S. Morton
Commander, USC&GS
Commanding Ship STIRNI

70°48'

70°47'

42°
17'



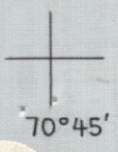
Wire Drag Investigation of undeveloped shoal North of Cohasset Harbor

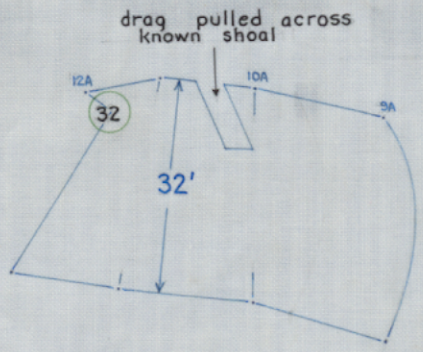
H-8008

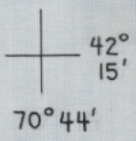
Additional work on Project CS-349
Surveyed October 13-15,, 1953

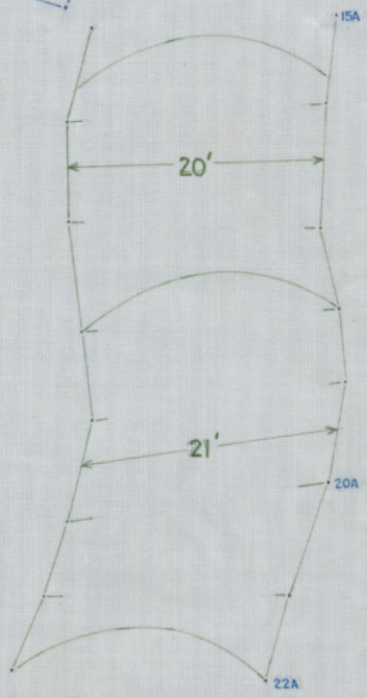
42°
16'

Sheet 1





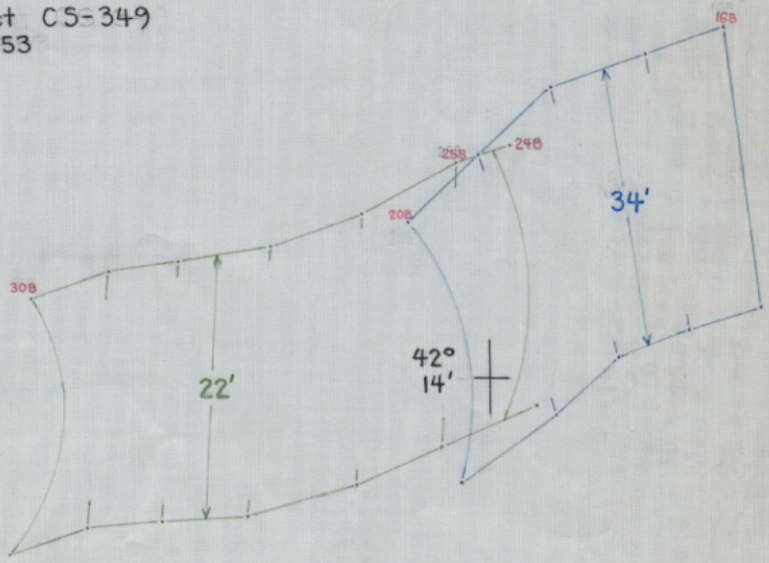




H-8008

Additional work on Project CS-349
Surveyed October 13-15, 1953

Wire Drag Investigation of undeveloped shoals NE of Cohasset Harbor



ADDITIONAL DATA FOR SUPPLEMENTAL SURVEYS OF CS-349

1. Index corrections were taken directly from the fathograms. The initial set of one foot was maintained during this work.

2. Velocity corrections were based on one bar check taken on 14 October 1953 and entered in Volume I, page 21, vicinity of Cohasset Harbor. The tabulated bar check using fathometer No. 65 with the initial reading of one foot reads as follows:

Fathometer Reading	True Depth	Correction
9.5	10.0	0.5 plus
19.5	20.0	0.5 plus
29.6	30.0	0.4 plus
34.5	35.0	0.5 plus
19.5	20.0	0.5 plus
9.5	10.0	0.5 plus

Correction used on work conducted at Cohasset Harbor and Scituate Harbor, Mass. was plus 0.5 foot.

The signals used by this party were those shown on the boat sheets. No additional signals were located.

J.S. Morton DTR

J.S. Morton
Commander, USC&GS
Comd'g Ship STIRNI

FATHOMETER CORRECTIONS

HYDROGRAPHIC SURVEY H-8008 (FIELD NO. ECSP 1152)
H-8009 (FIELD NO. ECSP 05152)
H-8010 (FIELD NO. ECSP 05252)

The corrections tabulated below are based on an initial set with a correct sounding of twelve feet. Where the initial on the fathogram varies from the correct setting, INDEX CORRECTIONS must be entered in the sounding volumes. All depths were obtained on the (A) or (B) Range, FOOT SCALE.

FATHOMETER NO. 150 SPX

22 July - 14 Aug.

(A) Scale

Corr.	Depth From	To
-1.0	2.8	2.9
-0.8	3.0	3.1
-0.6	3.2	3.3
-0.4	3.4	3.5
-0.2	3.6	3.9
0.0	4.0	19.5
-0.02	19.6	34.0
-0.4	34.1	48.5
-0.6	48.6	Sdg. Limit

(B) Scale

Corr.	Depth From	To
-1.8	34.5	48.5
-2.0	48.6	62.5
-2.2	62.6	76.5
-2.4	76.6	Sdg. Limit

(Cont. from page 1)

FATHOMETER NO. 139 SPX

15 Aug. - 14 Oct.

(A) Scale

Corr.	Depth From	To
-1.0	2.8	2.9
-0.8	3.0	3.1
-0.6	3.2	3.3
-0.4	3.4	3.5
-0.2	3.6	3.9
-0.0	4.0	19.5
-0.2	19.6	34.0
-0.4	34.1	48.5
-0.6	48.6	Sdg. Limit

(B) Scale

Corr.	Depth From	To
2.0	35.0	48.5
1.8	48.6	62.0
1.6	62.1	Sdg. Limit

STATISTICS TO ACCOMPANY HYDROGRAPHIC SHEET H-8008

(FIELD NO. ECSP 1152)

Date 1952	Day Ltr.	Vol. No.	Lead Lines	No. of Positions	Stat. Mi. Sdgs.
12 Aug.	a	1	0	177	30.1
13 "	b	2	0	156	27.7
15 "	c	2&3	0	116	15.8
18 "	d	3	0	116	14.8
19 "	e	3&4	0	82	8.8
20 "	f	4	0	116	11.5
21 "	g	4	0	43	5.2
4 Sept.	h	4&5	0	111	12.0
5 "	j	5	0	103	13.8
9 "	k	6	2	89	10.7
10 "	l	6	1	78	7.3
11 "	m	7	0	123	11.7
17 "	n	7	0	46	6.1
18 "	p	7	0	125	14.1
22 "	q	8	0	92	11.9
23 "	r	8	0	27	4.7
26 "	s	8	1	52	4.9
29 "	t	8	3	86	5.8
		TOTALS ——	7	1,738	216.9

7
6 vols of Hilgard work not included c/l,

only portions of the work of the Hilgard was transferred to this sheet, see listing on following page.

AyH.

Area in statute miles: 4.2

Date 1953	Day Ltr.	Vol.	Positions	St. Mi. Sndgs.
16 Oct	C	Guide launch	37	3.4

The seven Vols. containing this work have been registered with H-8008

THE FOLLOWING POSITIONS WERE TRANSFERRED DIRECTLY FROM SURVEY H-~~8028~~ (Hi-2.5/152) TO SURVEY H-8008 (ECSP-1152). THEY WERE ASSIGNED PURPLE POSITION NUMBERS.

1	to	57A	39to40a not included	1	to 5K
116	to	120A		92	to 98K
1	to	63B		1	to 5L
1	to	10C		67	to 110L
138	to	142C		1	to 28M
1	to	71 D		1	to 5N
160	to	166D		1	to 5P
1	to	8E		1	to 32Q
81	to	86E		1	to 45R
1	to	4F		1	to 102S
55	to	60F		1	to 18T
99	to	104H		1	to 26U
126	to	132J			

LIST OF SIGNALS
H-8008

TRIANGULATION STATIONS

BAR	BARREL ROCK, DAY BEACON, 1950
DAR	CEDAR POINT DATUM, 1940
HIT	WHITE HEAD LIGHT, 1950
HOT	HAYDENS HOTEL, OCEAN HOUSE, 1847
LAW	SCITUATE, LAWSON TOWER, 1915-35
MIN	MINOT'S LEDGE LIGHTHOUSE, 1915-34
OLD	CEDAR POINT TOWER, 1940-50
PIN	CEDAR POINT DATUM, R.M. NO. 1, 1940
STA	NORTH SCITUATE, STACK, 1934
TAT	SCITUATE BEACH, 1940
WAT	CEDAR POINT BREAKWATER LIGHT, 1943-50
SUT	SUTTON HOLE LIGHT, 1950

RECOVERABLE TOPOGRAPHIC STATIONS

DAVE, 1950
FLAG (MAST, 1950)
MIKE, 1950

TOPOGRAPHIC STATIONS

Fly	101	(T-9512A)	Add	124	(T-9513)
Quo	114	(")	Box	125	(")
Sax	115	(")	Cow	126	(")
Tub	116	(")*	Dip	127	(")
Buf	117	(")*	Elf	128	(")
Use	118	(")	Fix	129	(")*
Wig	120	(T-9513)	Gas	130	(T-9513A)
Yak	121	(")			
Zig	123	(")			

HYDROGRAPHIC STATIONS

Bil	Vol. 2	Red	Vol. 6	Tab	Vol. 6
Fat	Vol. 3	Sin	Hi-1152	Vim	Vol. 1
Led	Vol. 1	Ski	Vol. 6		

(*) Relocated in the field, see listing in Desc. Report of H-8009

SURVEY H-8008

[redacted] TRIANGULATION STATIONS

CON CONCRETE MILITARY LOOKOUT TOWER, 1943

FLOATING AIDS TO NAVIGATION

H-8008

NAME	LOCATION	DAY	DATE	DEPTH	CHARTS
Enos Ledge Buoy 2EL	42-15.81 78 70-45.84 86	8d & 552	8/14/52 9/10/52	app. 20' 21	246, 1207 & 242
West Willies Buoy 1	42-15.67 70-45.69 68	7d	"	app. 25'	246, 1207 & 242
Davis Ledge Bell Buoy 1	42-16.28 70-44.96	63b	8/13/52	76'	246 & 1207
Davis Ledge Buoy 1	42-16.25 70-44.98	64b	8/13/52	58'	Not charted

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8008 (Field No. ECSP-1152)

GENERAL

This appears to be an excellent* basic survey. The control was accurate and all minor discrepancies encountered in the entire survey were resolved with-out difficulty.

* Review, par. 9.

SOUNDINGS FROM ~~H-8029~~ cancelled (Hi-2.5/152)

In compliance with the Director's letter dated 22 Jan. 1953, soundings on the northern edge of the sheet (purple position numbers) were transferred directly from survey H-8029. The difference in scale did not permit a transfer of the control so the plotted positions on H-8029 were projected directly to H-8008. A satisfactory junction was obtained between the two surveys.

Additional soundings were scanned in order to obtain a proper spacing on the larger scale survey. A list of the positions transferred from H-8029 has been compiled and attached to this report.

See the descriptive report for survey ~~H-8029~~ attached as part of Desc. Report for H-8008 for chart comparisons.

DETACHED POSITIONS

Locations of detached rocks and reefs in the entire area of the project were obtained by D. Romero and recorded originally in separate volumes. Those positions falling with-in the limits of this survey were transferred to volume 9 and copy-checked. They were plotted on the smooth sheet and assigned blue position numbers.

CHART COMPARISONS

Because of the bottom irregularaties in this area an over-lay was made to be sub-mitted with the sheet to show comparisons between the current survey and charts 246 and 1207. (Utilized & destroyed) See Review, pars. 5 & 6

Respectfully submitted.

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer.

Norfolk, Va.
28 April 1953

Approved & Forwarded:

Hugh L. Proffitt

Earle A. Deily for
Supervisor, S.E. District.

GEOGRAPHIC NAMES

Survey No. H-8008

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Massachusetts		} for title							B.6-11	1
Boston Harbor										2
Cohasset									B.6-11	3
Scituate										4
										5
Cedar Point										6
North Scituate Beach										7
Smith Rocks										8
Scituate Neck										9
Minots Ledge									B&11	10
										11
				Names underlined in red are approved. 6-25-53 L. Heck						12
										13
										14
It additional names are to be applied, all										15
on charts 242 and 246 are approved.										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8008...

Records accompanying survey:

Boat sheets ...2...; sounding vols. .16...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 13 Env;

special reports, etc. 1 Smooth Sheet; 2 Descriptive Reports (have been combined);

1 Overlay Tracing: ....A. & D. tracing ..of...1953 additional...work is filed with H-8063

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

Number of positions on sheet		3325
Number of positions checked		42 200
Number of positions revised		3
Number of soundings revised (refers to depth only)		504
Number of soundings erroneously spaced		25
Number of signals erroneously plotted or transferred		0
Topographic details	Time	8hrs 4
Junctions	Time	D 80
Verification of soundings from graphic record	Time	8hrs 16

C.R. Holmes - - - - - - - - - - - - - 197 hrs - - - - - 11/25/53 - 1/22/54

Verification by A.J. Hoffman .....Total time 390 hrs * Date .....

Reviewed by ...D.A. Dinsmore..... Time 80.... Date 1 Dec. 1954

* Includes plotting Add'l Wk & wire drag

M-2232-1

1. changed phase at top of shoals
   ex Pas. 116-b, 148-b (first out), 110a (5th out)
2. Missed many deeps & shoals in scanning
3. Many initial adjustment
4. Core (confidential Military lookout Tower) not to be described
5. Lack of cross lines

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8008 FIELD NO. ECSP-1152

Massachusetts, Boston Harbor, Cohasset - Scituate

Project No. CS-349

Surveyed-Aug.-Sept., 1952 & Oct., 1953 Scale 1:10,000

Soundings: Control:

808 Fathometer
Hand lead

Sextant fixes on
shore signals

Chief of Party - C. R. Reed, J. S. Morton, E. B. Brown and
J. C. Tribble
Surveyed by - H. S. Foote, R. H. Houlder, J. S. Morton, E. B. Brown
and J. C. Tribble
Protracted by - B. T. Lewis
Soundings plotted by - B. T. Lewis
Verified and inked by - C. R. Helmer and A. J. Hoffman
Reviewed by - T. A. Dinsmore 12/1/54
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline and signals originate with T-9512 and T-9513 of 1950, and RS-507 of 1952. The fixes for the supplementary hydrographic signals are recorded in the sounding volumes of the present survey.

2. Sounding Line Crossings

Considering the irregularities in the bottom, depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

The bottom for the most part is very irregular. Ledges, reefs, pinnacles and mounds contribute to the bottom irregularities.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with the following surveys:

H-8010 (1952) on the extreme south
H-6642 (1940) on the extreme west
H-8006 (1952) on the west
H-8009 (1952-53) on the west (in Cohasset Harbor)

The junction with H-8063 (1952-53) on the east will be considered in the review of that survey. There are no contemporary surveys on the north. However, charted depths at the northern limits of the survey are in harmony with the depths on the present survey.

5. Comparison with Prior Surveys

a. H-221 (1846-48) 1:20,000
H-516 (1854-55) 1:80,000
H-582 (1856) 1:10,000

Least depths of 12 ft. on Whitcomb Ledge in lat. 42°15.45', long. 70°44.68', and 27 ft. on Sylvester Rock in lat. 42° 16.57', long. 70°45.22', have been retained from H-516 (1854-55). Except for this information, these early surveys may be dismissed as lacking sufficient detail to make a comparison between them and the present survey of any practical value.

b. H-412 (1853) 1:500

This prior survey is a large-scale development of Minots Ledge. No important differences are noted between the prior and present depths.

c. H-2133 (1892-94) 1:10,000
H-2167 (1893) 1:10,000
H-4370 (1924) 1:5,000

These prior surveys taken together cover the area of the present survey. A comparison of the prior and present depths reveals no changes in bottom. However, some differences in depths are apparent. These are attributed mainly to the extreme uneveness of the bottom and the more complete development of shoals and pinnacles on the prior surveys. The following discrepancies are noted:

(1) The 23-ft. sounding charted in lat. 42°15.94', long. 70°45.28', from H-2133 (1892) should be disregarded. A careful examination of the old records reveals that the hydrographic parties were investigating by drift sounding a shoal area 350 meters northeastward. The left angle recorded for fixing the position of the 23-ft sounding is

considered to be 5 degrees in error as a correction in that amount places the sounding on the shoal. The original position of the 23-ft sounding was reinvestigated in 1894 by two hydrographic parties, one of which employed the use of a pipe drag lowered to an effective depth of 42 ft. The least depth obtained by the combined efforts of the two parties was 36 ft. which is identical with the present survey depth. In view of the questionable fix on the original survey together whih the additional work of subsequent years, it is recommended that the present survey depths supersede the prior depth for charting.

(2) The 6-ft. sounding charted in lat. 42°14.64', long. 70°45.87', from H-2133 should be disregarded. The prior sounding falling in 15 ft. depths on the present survey was found to be erroneously plotted. In its corrected position about 100 meters westward, the 6-ft. sounding falls in comparable depths on both the prior and present surveys.

(3) The 22-ft sounding charted in lat. 42°14.90', long. 70°44.40', on Chart 246 from H-2133 should be disregarded. The questionable 22-ft sounding was disproved by the additional wire-drag work of 1953 on the present survey. The above locality was cleared by an effective drag depth of 32 ft. The least depthsfound in the immediate vicinity are 35-36 ft.

Although the delineation of bottom features is more complete on the present survey than on the prior surveys, approximately fifty prior soundings (or rocks) have been carried forward to supplement present depths. Many of these prior soundings represent the least depths obtained on important ledges and shoals by the intensive development on H-2133 (Additional work 1894).

The present survey, with the indicated additions is adequate to supersede the prior surveys within the common area.

d. H-3780 W.D. (1915) 1:25,000

This wire-drag survey covers only that portion of the present survey which lies north of Minots Ledge. No conflicts are noted between the effective drag depths and depths on the present survey. However, in this limited area, the fourteen soundings which have been retained from H-3780 W.D., attest to the value of wire-drag coverage over areas of irregular bottom.

6. Comparison with Chart 244 (Latest print date 11/8/54)
Chart 246 (" " " 9/28/53)

A. Hydrography

Charted hydrography originates with the previously discussed surveys, supplemented by the present survey prior to verification and review. Numerous revisions have been made on the survey during verification and review. The important differences with Chart 244 have been indicated on the standard of that chart. Corrections to 244 made 4-15-55 A.M.A.

The present survey entirely supersedes the charted information.

B. Aids to Navigation

The survey position of Davis Ledge Bell Buoy in lat. 42° 16.28', long. 70°44.97', is about 135 meters northeastward of the charted position. The charted position more adequately marks the features intended.

The uncharted buoy located in lat. 42°16.25', long. 70° 44.98', is probably the marker buoy for the bell buoy located in that vicinity.

Except as noted, the aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive. Most of the 500 soundings revised in depth during verification resulted from rescanning portions of the fathograms at uneven time intervals thereby recording numerous peaks and deeps that had been missed by even interval scanning. A more accurate configuration of the bottom features has resulted from these revisions.

b. A judicious place in changing phase was not always used and a number of phase changes on top of shoals left doubt as to the least depth on the feature.

c. The smooth plotting was neat and generally accurate.

d. The additional work of 1953 on this survey together with the results is fully described in the Descriptive Report. The additional work was smooth plotted in the Washington Office. The wire-drag work covering several undeveloped shoals is shown on two overlay tracings attached to the Descriptive Report.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

With the retention of sixty-four prior soundings, this survey is considered basic and no further field work is recommended. In the northern part of the surveyed area, many shoal indications were not developed because the area had been previously wire dragged.

Examined and Approved:

H. R. Edmonston
Chief, Nautical Chart Branch

E. R. McCarthy
Acting Chief, Division of Charts

G. R. Fish
Chief, Hydrography Branch

Earl O. Heaton
Chief, Division of Coastal Surveys

TIDE NOTE

TO ACCOMPANY

SUPPLEMENTAL REPORT
ADDITIONAL WORK ON PROJECT CS-349
SCITUATE AND COHASSET HARBORS, MASSACHUSETTS

* *

An automatic portable tide gage was installed and maintained by party personnel at the Town Pier, Scituate, Mass. latitude 42°11.9' longitude 70°43.5' on 14 October 1953. The gage was removed on 16 October 1953.

Mean Low Water on the staff was 2.9 feet.

Staff readings were taken on the evening of 13 October 1953 to reduce a sounding obtained by the HILGARD on that day.

Tides obtained from this gage were used without correction for differences of time or height.

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~: 23 February 1954

Division of Charts: R. H. Carstens

Plane of reference approved in
4 volumes of sounding ~~records for~~ and wire drag records for

HYDROGRAPHIC SHEET 8008

Locality Scituate Harbor, Massachusetts

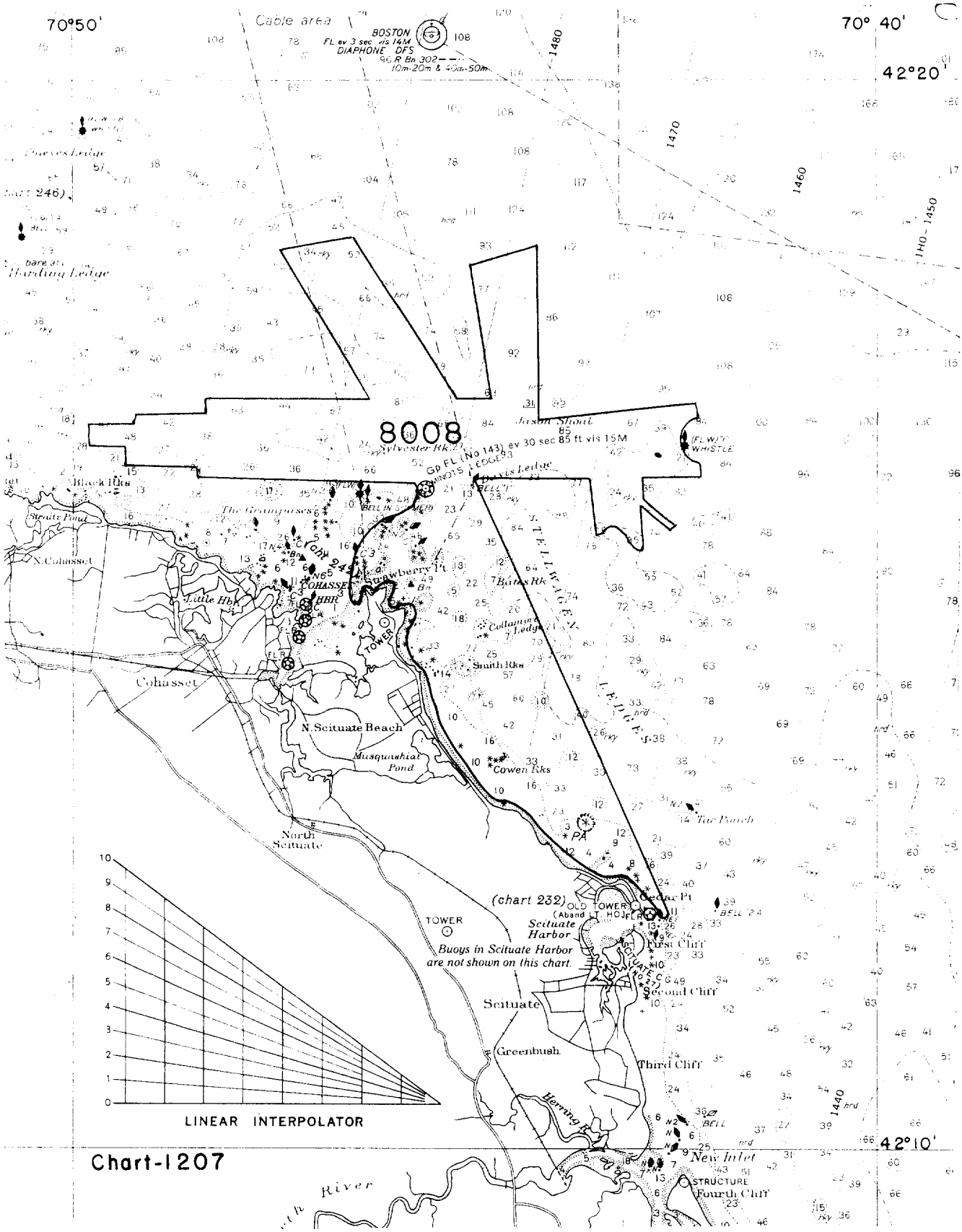
E. B. Brown)in 1953
Chief of Party: J. S. Morton)
Plane of reference is mean low water, reading
2.9 ft. on tide staff at Scituate
16.4 ft. below B. M. 4 (USE)(1924)

Height of mean high water above plane of reference is 9.0 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Section of Tides
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877938


70°50'
70° 40'
42°20'
42°10'
Cable area
BOSTON
FL ev 3 sec vis 14M
DIAPHONE DFS
90 R Bn 302
10m-20m & 40m-50m
1480
1470
1460
1450
8008
Jason Stone
Sylvester Rk
GP FL (No 143) ev 30 sec 85 ft vis 15M
MINOTS LEDGE
Minots Ledge
(FLW)
WHISTLE
Black Rks
Straits Pond
N.Cohasset
The Grampuses
Strawberry Pt
Bates Rk
COHASSET HBR
Little Hbr
TOWER
Collamore Ledge
Smith Rks
Cohasset
N.Scituate Beach
Musquashicut Pond
Cowen Rks
North Scituate
Tar Pooch
PA
(chart 232)
OLD TOWER
(Aband LT HO)
Cedar Pt
First Cliff
Scituate Harbor
Buoys in Scituate Harbor are not shown on this chart.
TOWER
Scituate
Second Cliff
Greenbush
Third Cliff
Herring R
New Inlet
STRUCTURE
Fourth Cliff
LINEAR INTERPOLATOR
Chart-1207
(chart 246)
Parkers Ledge
bare at
Harding Ledge

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8008

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9 June 53	246	Lenart & Ball	Partial Application Soundings & cnnes Before ~~After~~ Verification and Review
18 June 53	1207	R. K. DeLaunder	Partial Application Before ~~After~~ Verification and Review Area W of 70°44'20" applied thru Chart 246
28 Apr 54	244	C. R. Wittmann	Before ~~After~~ Verification and Review
4 Apr. 55	246	J. M. Albert	~~Before~~ After Verification and Review complete application as to shoals and significant soundings
25 Apr 55	244	J. M. A.	~~Before~~ After Verification and Review Completely - JMW
16 May 55	246	J. M. A.	~~Before~~ After Verification and Review Partial application. after ver. of 244.
1-7-57	71	C. R. Wittmann	~~Before~~ After Verification and Review
~~1/23/57~~ Postponed	~~246~~	~~S. M.~~ GHS - JMW	~~Before~~ After ~~Verification and Review~~ Fully applied
1-16-56	246	R K DeLaunder	~~Before~~ After Verification and Review thru Ch 244 where possible. Complete JMA
6/16/58	1106	ME II	~~Before~~ After Verification and Review no corr'n to scale of 1106 - completely applied.
6/17/58	1107	ME II	After V + R - fully app'd
9-4-59	1207	A. J. Hoffman	After V & R. Completed application. (See History)

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.