

5589

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES  
JAN 11 1935

5589

Form 504  
Rev. Dec. 1933  
DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

**DESCRIPTIVE REPORT**

~~Topographic~~ } Sheet No. 5589  
Hydrographic } Field No. 5

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State Massachusetts

**LOCALITY**

Cape Cod

Barnstable Harbor

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1934

**CHIEF OF PARTY**

Earle A. Dally

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES  
DEC 31 1934  
Acc. No. \_\_\_\_\_  
REG. NO. 5589

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. 5

REGISTER NO. 5589

State Massachusetts

General locality Cape Cod

Locality Barnstable Harbor

Scale 1 : 10,000 Date of survey June 16, 1934 to Nov. 14, 1934, 19

Vessel Launch C 3769

Chief of Party Earle A. Dally

Surveyed by Edward S. Averell

Protracted by Ernest L. Hayward

Soundings penciled by Ernest L. Hayward

Soundings in fathoms feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by Morton Silverberg

Verified by M. S.

Instructions dated April 29, 1933.  
May 2, 1934., 19

Remarks: Hand lead soundings - Visual fix control.

DESCRIPTIVE REPORT TO  
 ACCOMPANY HYDROGRAPHIC SHEET FIELD NO. 6  
 BARNSTABLE HARBOR, MASSACHUSETTS.  
 PROJECT H.T. 145  
 1934

INSTRUCTIONS

Instructions for the hydrography on this sheet are included in the "Orders and Instructions" to the Inspector, U.S. Coast and Geodetic Survey, Boston, Massachusetts, dated April 29, 1933, and "Orders to Lieutenant Earl A. Deily, dated May 2, 1934.

SURVEY METHODS

The hydrography on this sheet is all hand lead sounding with visual fix control.

The speed of the launch was reduced to a minimum at all times.

Sounding lines in the channel were run at times when the current would have the least effect on the obtaining of vertical casts.

The control for the hydrography on this sheet consists of positions determined by triangulation in 1933 and 1934 by Lieutenant Earle A. Deily, by topographic signals located by the topographic unit attached to Lieutenant Deily's party, 1934, and by one hydrographic signal located by the hydrographic party.

Tide curves from which reducers for this sheet were figured were obtained from the marigrams from the automatic portable tide gage, no. 290, installed in Barnstable Harbor, Massachusetts, in Latitude 41-43.3 North; Longitude 70-17.1 West. The position of this tide gage is given by position no. 1, c day.

Position no. 8, ad day was not plotted on the smooth sheet. The hydrographer used an old windmill which had been located by the topographer, as right object. The topographic sheet which had the location of this windmill on it, had been sent to the Washington office unknown to the hydrographer, therefore the location of said windmill could not be plotted on the smooth sheet.

Positions numbered 179 to 186, t day, were rejected as being unsatisfactorily controlled.

DANGERS.

Detached rock. Lat. 41-43.35 N. Long. 70-15.85 W. Bares 2 feet at M.L.W. See position no. 39, n day. Unimportant. Sand area all around it bares 3 ft " " "

Detached rock. Lat. 41-42.62 N. Long. 70-17.93 W. Position no. 1, ad day. Bare 3 1/2 ft MLW. in area bare 2 ft MLW

" " " 41-42.62 N. " 70-17.95 W. " no. 2, ad day. bare 4 1/2 ft MLW

" " " 41-42.75 N. " 70-18.22 W. " no. 3, k day. Bare 2 ft MLW. One foot awash at M.L.W. The position of this rock coincides with the position of "Channel Rock" as shown on chart no. 339. (Assumed k MLW) Bare 2 FT MLW

Detached rock. Lat. 41-42.75 N. Long. 70-18.22 W. Position no. 2, k day. Awash at M.L.W.

Detached rock. Lat. 41-42.75 N. Long. 70-18.22 W. Position no. 1, k day. 2 feet awash at M.L.W.

Same close group

Detached rock, Lat. 41-42.76 N. Long. 70-18.33 W. Position no. 1, p day  
Awash at M.L.W. The position of this rock coincides with the position of  
"Church" rock as shown on chart no. 339. *awash MLW*

Detached rock, Lat. 41-42.75 N. Long. 70-18.52 W. Position no. 5, k day  
1 foot *under* awash at M.L.W. (*shown awash at MLW*) *awash MLW*

Detached Rock, Lat. 41-42.74 N. Long. 70-18.52 W. Position no. 6, k day.  
2 feet *under* awash at M.L.W. *shown as 2 RK*

Detached rock, Lat. 41-42.68 N. Long. 70-18.54 W. Position no. 7, k day  
Bares 2 feet at M.L.W.

Detached rock, Lat. 41-42.68 N. Long. 70-18.74 W. Position no. 2, x day.  
3 feet *under* awash at M.L.W.

Detached rock, Lat. 41-42.72 N. Long. 70-18.79 W. Position no. 4, ac day  
3 feet *under* awash at M.L.W. *shown as 3 RK*

Detached rock, Lat. 41-42.72 N. Long. 70-18.79 W. Position no. 3, ac day  
3 feet *under* awash at M.L.W.

Detached rock, Lat. 41-42.67 N. Long. 70-18.80 W. Position no. 1, x day  
Awash at M.L.W. The position of this rock coincides with the position of  
"Red" rock as shown on chart no. 339.

Detached rock, Lat. 41-42.66 N. Long. 70-18.85 W. Position no. 3, x day  
3 feet *under* awash at M.L.W.

Detached rock, Lat. 41-42.65 N. Long. 70-18.86 W. Position no. 4, x day  
Bares 3 feet at M.L.W. The position of this rock coincides with the  
position of "Flying Fish" rock as shown on chart no. 339.

Detached rock, Lat. 41-42.65 N. Long. 70-18.86 W. Position no. 5, x day.  
Bares 1 foot at M.L.W.

Detached rock, Lat. 41-42.66 N. Long. 70-19.04 W. Position no. 101, z day  
Awash at M.L.W.

Detached rock, Lat. 41-42.67 N. Long. 70-19.05 W. Position no. 100, z day  
1 foot *under* awash at M.L.W. *awash MLW*

Detached rock, Lat. 41-42.67 N. Long. 70-19.05 W. Position no. 6, x day  
Awash at M.L.W. The position of this rock coincides with the position of  
"Cone Rock" as shown on chart no. 339.

Detached rock, Lat. 41-42.65 N. Long. 70-19.12 W. Position no. 97, z day  
1 foot *under* awash at M.L.W. *awash MLW*

Detached rock, Lat. 41-42.65 N. Long. 70-19.12 W. Position no. 98, z day  
1 foot *under* awash at M.L.W. *awash MLW*

Detached rock. Lat. 41-42.67 N. Long. 70-19.13 W. Position no. 99, z day  
1/2 foot awash at M.L.W. *awash MLW*

Detached rock. Lat. 41-42.69 N. Long. 70-19.13 W. Position no. 2, ac day  
2 feet awash at M.L.W. The position of this rock coincides with the  
position of "Hickins Rock" as shown on chart no. 339. *Plotted 2 R K*  
*Hinckleys see GN 13 HB.*

Detached rock. Lat. 41-42.69 N. Long. 70-19.15 W. Position no. 1, ac day.  
3 feet awash at M.L.W. *Plotted 3 R K*

Detached rock. Lat. 41-42.65 N. Long. 70-19.17 W. Position no. 96, z day.  
1 1/2 feet awash at M.L.W. *awash MLW*

Detached rock. Lat. 41-42.67 N. Long. 70-19.20 W. Position no. 2, p day.  
1 foot awash at M.L.W. *awash MLW*

Detached rock. Lat. 41-42.64 N. Long. 70-19.20 W. Position no. 7, x day.  
Bares 1 foot at M.L.W.

Detached rock. Lat. 41-42.66 N. Long. 70-19.22 W. Position no. 93, z day  
Awash at M.L.W.

Detached rock. Lat. 41-42.65 N. Long. 70-19.22 W. Position no. 4, p day.  
1 foot awash at M.L.W. The position of this rock coincides with the  
position of "Rock" as shown on chart no. 339.

Detached rock. Lat. 41-42.64 N. Long. 70-19.22 W. Position no. 94, z day.  
Bares 1 foot at M.L.W.

Detached rock. Lat. 41-42.64 N. Long. 70-19.22 W. Position no. 3, p day.  
Bares 2 feet at M.L.W.

Detached rock. Lat. 41-42.64 N. Long. 70-19.22 W. Position no. 3, m day.  
Bares 2 feet at M.L.W.

Detached rock. Lat. 41-42.63 N. Long. 70-19.23 W. Position no. 95, z day  
Bares 1 foot at M.L.W.

Detached rock. Lat. 41-42.64 N. Long. 70-19.24 W. Position no. 2, m day.  
Bares 1 foot at M.L.W.

Detached rock. Lat. 41-42.62 N. Long. 70-19.25 W. Position no. 4, m day.  
Bares 3 1/2 feet at M.L.W.

Detached rock. Lat. 41°-42'.62 N. Long. 70°-19'.27 W. Position no. 5, m day ✓  
Bares 2 1/2 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.67 N. Long. 70°-19'.24 W. Position no. 92, 2 day. ✓  
1/2 foot awash at M.L.W. The position of this rock coincides with the ✓  
position of "Scudders" rock as shown on chart no. 339. (Show awash at M.L.W.) ←

Detached rock. Lat. 41°-42'.62 N. Long. 70°-19'.31 W. Position no. 1, m day. ✓  
Bares 1 foot at M.L.W. ←

Detached rock. Lat. 41°-42'.60 N. Long. 70°-19'.31 W. Position no. 6, m day ✓  
Bares 5 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.62 N. Long. 70°-19'.38 W. Position no. 7, m day ✓  
Bares 2 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.62 N. Long. 70°-19'.39 W. Position no. 8, m day ✓  
Bares 2 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.68 N. Long. 70°-19'.53 W. Position no. 10, m day ✓  
Bares 5 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.69 N. Long. 70°-19'.57 W. Position no. 11, m day ✓  
Bares 2 1/2 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.69 N. Long. 70°-19'.57 W. Position no. 12, m day ✓  
Bares 2 1/2 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.69 N. Long. 70°-19'.57 W. Position no. 13, m day ✓  
Bares 3 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.68 N. Long. 70°-19'.60 W. Position no. 15, m day ✓  
Bares 8 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.72 N. Long. 70°-19'.73 W. Position no. 16, m day ✓  
Bares 6 feet at M.L.W. ←

Detached rock. Lat. 41°-42'.72 N. Long. 70°-19'.73 W. Position no. 17, m day ✓  
Bares 6 feet at M.L.W. The position of this rock coincides with the ✓  
position of "White" rock as shown on chart no 339. ←

"Tongue" rock, shown on chart no. 339 in Lat. 41-42.8 N. Long. 70-18.65 W. was searched for several times. No indication of any rock in this area could be found. Covered by sand ✓

"Blind" rock, shown on chart no. 339 in Lat. 41-42.85 N. Long. 70-18.55 W. was searched for several times. No indication of any rock in this area could be found. Covered by sand ✓

"Lobster" rock, shown on chart no. 339 in Lat. 41-42.75 N. Long. 70-18.8 W. was searched for several times. No indication of any rock in this area could be found.  $\frac{1}{2}$  ft depth in 2 ft water, so this would be sticking up 1 1/2 inches in sand only ✓

Baxter Rk.  
A rock shown on chart no. 339 in Lat. 41-42.85 N. Long. 70-17.72 W. was searched for several times. No indication of any rock in this area could be found. ✓

A detached shoal in Lat. 41-44.65 N. Long. 70-16.32 W. was found on q day. See position no. 48, q day. This area was not developed until one month later, on ac day, and the least depth then found was one foot. Several severe storms had occurred in the meantime which had washed the high spot from this shoal. ✓

#### CHANNELS

There is a definite channel from the entrance to Barnstable Harbor to Maraspin Creek, where the Cape Cod Cranberry Co. and the Town of Barnstable maintain docks. The depth of this channel varies from 3 $\frac{1}{2}$  to 39 feet. ✓

There is a shifting bar at the entrance to Barnstable Harbor over which only five feet can be carried at M.L.W. 5 to 6 ✓

The nun buoy which marks the entrance to this harbor should be shifted about one-tenth of a mile to the westward in order to be able to set a proper course for entrance to the harbor. ✓

About 3 $\frac{1}{2}$  feet can be carried in to the docks in Maraspin Creek at M.L.W. Chart no. 339 shows a dredged channel of 7 feet. 41 42.58 shows only 2 ft. ✓

There is also a small channel to a dock owned by a Mr. Robbins at Yarmouthport. Chart no. 339 shows a dredged channel of 6 feet at M.L.W. This has filled in so that only 1 foot can now be carried in and that only part way. This channel is marked by pine saplings driven into the sand. Small boats only, use this channel. ✓

Buoy no. 07, in Lat. 41-42.8 N. Long. 70-18.8 W. is apparently in the wrong location. Its use as a guide to navigation will result in going aground on shoals in that area. ✓

#### JUNCTION WITH PREVIOUS SURVEYS

Satisfactory junction was made with hydrographic sheet field no. 4, made in 1934. Slight discrepancies which may be noted may be due to the shifting of the sand bars in that area, a very noticeable phenomenon.

#### COMPARISON WITH PREVIOUS SURVEYS.

The work on hydrographic sheet field no. 5 is compared with chart no. 339. Black Bank channel is apparently filling in. ✓

The general shape of Horseshoe Shoal remains about the same though changed considerably in detail. ✓

The flats along the shore line at Yarmouthport are apparently extending Northward. ✓

Many rocks shown on this chart were found, and several others located. These have been listed under the paragraph BANGERS. There is also listed in paragraph four some ✓

in the same paragraph four rocks shown on this chart which could not be found.

Respectfully submitted,  
*Edward S. Averell*  
Edward S. Averell,  
Surveyor.

A copy to  
Earle A. Deily,  
Chief of Party.

Respectfully forwarded.

*Fred. L. Peacock*  
Fred. L. Peacock, Inspector  
Boston Field Station.



LIST OF SIGNALS  
to accompany  
HYDROGRAPHIC SHEET FIELD NO. 5  
Project No. H.T. 145  
Cape Cod, Massachusetts, 1934

TRIANGULATION

Hydrographic Name	Object
Uni	Barnstable Unitarian Church, 1909
Con	Yarmouth Cong. Ch. Spire 1887, 1934
Tow	Nobiscussett Water Tower, 1887, 1934
Tan	Yarmouth Tank, 1934
Hy	Hyannis Standpipe 1934
Yar	Stack, Yarmouthport 1934
Sho	Shootflying Tower, 1887, 1934
Bas	Bass Hole, 1934
Neck	Sandy Neck L.H., 1887, 1934
San	Sansock, 1934
Fre	Stack, Fish Freezer 1934
Bea	Sandy Neck Beacon, 1934
Rick	Stack, Brick Works 1934

TOPOGRAPHIC

San	
Calf	
Can	
Jeg	
Min	
Pea	
Rum	
Cop	
Gut	
Her	
Nut	
Wet	
Pol	-Flagpole-Cobbs Village
Doc	- N.E. Corner of Freezer Dock
Town	- N. W. Corner of Town Dock

HYDROGRAPHIC

Dog                      Sounding Volume No. 10      Fix Angle 72 y

STATISTICS  
to accompany  
HYDROGRAPHIC SHEET FIELD NO. 5  
Project No. H.T.145  
Cape Cod, Massachusetts, 1934.

Date 1934	Day	Statute Miles Sounding Lines	No. of Positions	No. of Soundings
6-26	a	8.0	80	300
8-17	b	16.5	199	869
8-20	c	25.3	251	1172
8-21	d	11.6	148	619
8-24	e	20.9	199	1124
8-29	f	17.0	228	981
8-30	g	19.6	209	1138
8-31	h	12.0	147	638
9-12	i	16.6	172	928
9-13	j	7.3	137	610
9-14	k	28.5	266	1449
9-25	l	0.0	17	17
9-26	m	18.5	102	571.
9-27	n	14.7	149	767
9-28	p	11.3	106	548
10-8	q	12.4	129	672
10-9	r	15.6	179	947
10-10	s	17.1	178	888
10-11	t	17.0	219	1090
10-16	u	8.3	102	476
10-17	v	11.0	115	589
10-18	w	0.0	7	7
10-19	x	4.0	74	312
10-22	y	8.0	101	444
10-24	z	1.0	12	56
10-25	aa	9.3	104	485
10-26	ab	4.6	60	249
10-29	ac	3.6	63	231
10-30	ad	2.0	11	46
11-14	ae	0.0	2	0
	af			
<b>TOTALS</b>		<b>353.7</b>	<b>3766</b>	<b>18203</b>

This sheet covers 9.0 Sq. Mi. (statute) of hydrography.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. .5589

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

Number of positions on sheet	.....3766
Number of positions checked	.....99
Number of positions revised	.....2
Number of soundings recorded	.....18203
Number of soundings revised	.....20
Number of signals erroneously plotted or transferred	.....0

Date: April 18, 1935

Verification by *M. Silverberg*

Time: 114 hrs

Review by *H. J. Rehr*

Time: 21 hrs.

200

January 31, 1935.

Division of Hydrography and Topography:

✓ Division of Charts:                    Attention: E. P. Ellis

Tide Reducers are approved in  
11 volumes of sounding records for

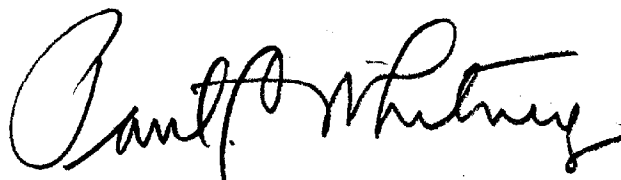
HYDROGRAPHIC SHEET    5589

Locality Barnstable Harbor, Cape Cod Bay, Mass.

Chief of Party:    Earle A. Dally in 1934  
Plane of reference is mean low water, reading  
2.6    ft. on tide staff at    Barnstable Harbor  
14.2   ft. below B.M. 1

Height of mean high water above plane of reference is 9.5 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

Form 409  
Rev. April, 1931

INVOICE OF COMPLETED WORK

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

May 25, 1935

To Mr. Harlow Bacon.

Work The following rocks have been carried forward from H-751 to H-5589, but the names as shown on H-751 have not, pending their approval by the Division of Geographic

Names:

Lobster Rk. - Lat. 41°42.75', long. 70° 17.8' (depth 1/2 ft. - plotted awash MLW).

Pierce Rk. - Lat. 41°42.85', long. 70° 18.08' (depth 3/8 ft. - plotted 3).

Large photostats \_\_\_\_\_ Small photostats \_\_\_\_\_ Bromides \_\_\_\_\_

Blueprints \_\_\_\_\_ Contact prints \_\_\_\_\_ Lantern slides \_\_\_\_\_ Positives \_\_\_\_\_

Glass negatives \_\_\_\_\_ Film negatives \_\_\_\_\_ Matrices \_\_\_\_\_

Delivered \_\_\_\_\_

Requisition \_\_\_\_\_

APPROVED BY THE  
SUPERVISING SURVEYOR  
H. L. F. Lerner

Form 409  
Rev. April, 1931

INVOICE OF COMPLETED WORK

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

\_\_\_\_\_, 19

To \_\_\_\_\_

Work \_\_\_\_\_

Baxter Rk. - Lat. 41°42.85', long. 70°19.8' (depth 4 1/2 ft. - plotted 4 ft.).

Large photostats \_\_\_\_\_ Small photostats \_\_\_\_\_ Bromides \_\_\_\_\_

Blueprints \_\_\_\_\_ Contact prints \_\_\_\_\_ Lantern slides \_\_\_\_\_ Positives \_\_\_\_\_

Glass negatives \_\_\_\_\_ Film negatives \_\_\_\_\_ Matrices \_\_\_\_\_

Delivered \_\_\_\_\_

Requisition \_\_\_\_\_

A. L. Shalowitz.

Survey No. H 5589

Date March 5, 1935 **GEOGRAPHIC NAMES**  
*Mass.*

Chart No. 1208 & 339

Names approved March 5, 1935

Diagram No. 1208-2

*Harlow Bacon*

Approved by the Division of Geographic Names, Department of Interior. \*

Referred to the Division of Geographic Names, Department of Interior. R

Under investigation. Q

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	-----	<u>Barnstable Harbor</u> ✓			
	----- ✓	<u>Beach Point</u> ✓			
	----- ✓	<u>Sandy Neck</u> ✓			
	666----- ✓	<u>Barnstable</u> ✓			
	----- ✓	<u>Cape Cod Bay</u> ✓			
	----- ✓	<u>Great Creek</u> ✓	<u>Scorton Creek</u> *		
	----- ✓	<u>Spring Creek</u> ✓			
	----- ✓	<del>Maen Shoal</del>			
	----- ✓	<del>Musee</del>	<u>Jules Island</u> *		
	----- ✓	<del>Marsaboc Shoal</del>			
	----- ✓	<u>The Cove</u> ✓			
	----- ✓	<u>Bass Creek</u> ✓			
	----- ✓	<u>Wells Creek</u> ✓			
	----- ✓	<u>Lone Tree Creek</u> *	✓ Approved by U.S. B.G.N. Nov. 11, 1935		
	----- ✓	<u>Huckins Island</u> *	✓ Approved by U.S. B.G.N. Feb. 28, 1936.		
	----- ✓	<u>Phillis Island</u> ✓			
	----- ✓	<u>Little Thatcher Island</u> ✓			
	----- ✓	<u>Great Thatcher Island</u> ✓			
	----- ✓	<u>Mussel Point</u> ✓			
	----- ✓	<del>Gardner</del> <u>Chase Garden Creek</u> ✓	<u>Chase Garden Creek</u> (U.S. B.G.N.) Feb. 28, 1936		
		✓ <u>Blish Point</u> ✓			
		✓ <u>Marsasin Creek</u> ✓			
		* Names from G N 13 (let) and G N Standard 339	<i>Salten RK has been blown up.</i>		
		✓ <del>Ranch Rock</del>			
	<p>Note: Names of rocks shown on Chart 339 that have been obliterated on this survey are shown on margin of sheet and should be lettered. They are <u>White Rock</u>, <u>Rock</u>, <u>Salters Rock</u>, <u>Hinckley's Rock</u>, <u>Cong Rock</u>, <u>Red Rock</u>, <u>Church Rock</u>, <u>Flying Fish RK</u>, and <u>Channel Rock</u>. <u>Blind RK</u>, <u>Tongue RK</u>, <u>Labster RK</u>, and <u>150'</u> could not be found and are removed from Chart 339. (M-36) A.B.</p>				



I. Conformity to Hydrographic Manual

The sounding records are neat and legible and conform to the requirements of the hydrographic manual. ✓

No degree and minute symbols were shown on the smooth sheet. Four triangulation stations did not have any dates of erection and were added from the Topo surveys. No indications of the tops and hydros signals being checked were made, so they were verified and indicated on the smooth sheet. The notations pertaining to <sup>ROCKS</sup> ~~rocks~~ did not agree with the instructions issued and were made to conform. Such landmarks for charts as pertain to this area were found in the Topo descriptive reports. No Lighthouse Chart data was furnished with either the Topo or Hydros surveys. The records were approved by the chief of party at the end of each day's work. The pos. nos recorded on cover of V.L.S. did not agree with the soundings. ✓

II. depth Curves

due to the high tides an exceptional complete low water line could be drawn. The six, twelve, ✓ eighteen and thirty foot curves are complete within the limits of this survey.

III. Field Plotting

The field plotting was complete to the extent required for the soundings. This survey shows care



in projecting, plotting and spacing. The solid black line on this survey indicates the edge of the firm ground while the dashed black line shows the edge of the marsh. This has been so named per instructions of Capt. E. P. Ellis. ✓

#### IV. Office Plotting

Several islands and rocks were added from the plane table survey and other rocks relocated. Three rocks inside the L.W.L. are shown on the boat sheet but not on the top. The channel markers (saplings) of the channel, which is filling, leading to Robbins' Dock were added from the topo survey. ✓ Several other topo features and descriptions of same were added. The names of MOON SHOAL and HORNBLOOM SHOAL were added in the office. ✓ Pos (209 L) (Lat  $41^{\circ}44.8$ , Long  $70^{\circ}12.9$ ) was incorrectly plotted. Pos 3 ab (Lat  $41^{\circ}43.5$ , Long  $70^{\circ}19.5$ ) the left angle was changed  $3^{\circ}$  to conform with true course, and B. I. ✓

#### V. Junction

Junction was made with H-5588 (1934) to the northeast. This is in general satisfactory, such "discrepancies (from 1-4 ft in spots) may be due to the shifting of sand bars in that area" (see TP Junction with Previous Surveys this descriptive report). ✓

However the curves were fully developed on this

survey, but due to the different scales and to the fact that because the shoaler soundings were on this survey, a number of soundings from H-5588 (1934) could not be transferred. Therefore it was not possible to make the curves on H-5588 (1934) conform in all detail. They do however follow the general outline and can be followed.

VI

Remarks - Discrepancies <sup>doubtful but left on sheet on authority</sup> <sub>of chief of party.</sub>

On line 87-88 W (Lat 41° 44.4, Long 70° 16.7) a 3ro sounding falls between a 7' & 5' soundings. The lead line was probably read one fathom too short.

No half feet of soundings were recorded due to tide readings in whole feet only. ✓

Attention is called to the recommended moving of buoy in TP "Channels" of this descriptive report. No air-photo work has been done in this area.

Respectfully submitted,

Wilton Silverberg

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5589 (1934)

Barnstable Harbor, Massachusetts  
Surveyed in June - November, 1934  
Instructions dated April 29, 1933 (Inspector at Boston)  
Orders dated May 2, 1934 (Lieut. E. A. Deily)

Hand Lead Soundings.

3 Point Fixes on Shore Signals.

Chief of Party - E. A. Deily.  
Surveyed by - E. S. Averell.  
Protracted by - E. L. Hayward.  
Soundings penciled by - E. L. Hayward.  
Verified and inked by - M. Silverberg.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. Incorrect sign before tide reducer, and incorrect use of the word "awash" in describing rocks in remarks column caused confusion in plotting in the office.
- b. No copy of Landmarks for Charts on Form 567 accompanied this particular sheet.
- c. Evidence that the transfer of Topo. signals and plotting of Hydro. signals was checked in the field was lacking, since the initials of the checker were not shown on the sheet. This was accomplished in the office. Had the standard stamp been used for these data, the omission would have been apparent to the field party.

The Descriptive Report is clear and comprehensive, except for the use of the word "awash" in describing submerged rocks; otherwise, it adequately covers all matters of importance.

2. Compliance with Instructions for the Project.

The plan, character, and extent of the survey comply with the instructions for the project.

3. Sounding Line Crossings.

Crossings are in good agreement.

4. Depth Curves.

All the depth curves can be drawn in detail including the complete low water line.

5. Junctions with Contemporary Surveys.

This survey joins H-5588 (1934) offshore. The junction is in the area of rapidly shifting sand bars, and some discrepancies are noted. In general, however, there is a fair agreement.

6. Comparison with Prior Surveys.

a. H-578 (1856).

This survey, on a 1-40,000 scale covers the entrance as far as  $\frac{1}{2}$  mile inside Beach Pt. Considerable shoaling and narrowing of the channel is indicated since the date of this survey, and the channel over the bar has moved somewhat to the westward.

b. H-751 (1861).

This survey, on a 1-10,000 scale, covers with a moderate development the area of the present survey.

It shows considerably more water in the harbor than there is at present.

Black Bank Channel at the head of the bay west of Little Thatcher Island is now nearly dry at low water.

Several of the rocks located on H-751 (1861) are now completely covered with sand. The rocks are discussed in detail below. A small channel has been dredged across the flats leading into Maraspin Creek but this is closing up again, 2 feet now being the controlling depth at low water.

The winding channel leading into Yarmouth Port has been straightened and dredged, and then has again filled in, so that the inner end is dry at L. W., as it was shown on H-751 (1861).

The channel into the harbor agrees with the present survey as to general depths, with about a foot less clearance over the bar, but there has been considerable shifting in the locations of both shoals and deeper spots in the channel.

Rocks.

A number of detached rocks stud the sand bottom. The most important changes in the delineation of these are the following:

- (1) Channel Rk. at lat.  $41^{\circ}42.75'$ , long.  $70^{\circ}18.22'$  was shown on T-795 (1859) as a submerged rock, checking the location given by H-751 (1861). This was the only offshore rock shown on the topo. sheet, with the exception of the scattered rocks along the shore a third of a mile east of Bliss Pt., and the rocks inside the L. W. line at Salten Pt. and to the west of it.

H-751 (1861) designated it as a bare rock (charted) but gave an elevation of 4 feet at M. L. W.

The present survey shows a rock awash with an elevation of 2 feet at M. L. W., which should be accepted and the rock so charted.

- (2) Bench Rk. at lat.  $41^{\circ}43.2'$ , long.  $70^{\circ}17.62'$  also appeared in H-751 (1861) as bare rock with elevation of 2 feet. The present survey shows it as a rock awash with an elevation of 1 foot at MLW. This delineation should be accepted and the rock so charted.
- (3) Tongue Rk.  
Blind Rk. at lat.  $41^{\circ}42.8'$ , long.  $70^{\circ}18.65'$  and lat.  $41^{\circ}42.85'$ , long.  $70^{\circ}18.55'$  apparently have been buried in the sand due to a general shoaling. Several searches failed to disclose any rock and both of these rocks should be removed from the chart.
- (4) Red Rk. at lat.  $41^{\circ}42.67'$ , long.  $70^{\circ}18.80'$  checks as to location but shows as awash at MLW on the present survey. It formerly had 2 feet over it at MLW. The rock awash should now be charted.
- (5) Salten Rk. at lat.  $41^{\circ}42.65'$ , long.  $70^{\circ}18.35'$  is reported destroyed by blasting (Descriptive Report, T-6122 (1934)), however the area is now covered with scattered fragments and the present survey shows several rock awash symbols in the vicinity.
- (6) Pink Rk. at lat.  $41^{\circ}42.83'$ , long.  $70^{\circ}18.21'$  (not charted), with a depth of 3 feet, is now in a general area of that depth.
- (7) Pierce Rk. at lat.  $41^{\circ}42.82'$ , long.  $70^{\circ}18.08'$  appears on H-751 (1861), with a depth of  $3\frac{1}{2}$  feet. The present survey shows a 4 foot shoal sounding at the same place, but failed to note the character of bottom. The 3 foot sounding has been carried forward.
- (8) Rock at lat.  $41^{\circ}42.67'$ , long.  $71^{\circ}19.24'$ , charted as a bare rock, falls on the position of several rocks awash at various stages of the tide on the present survey. The new delineation should be followed in charting.
- (9) White Rk. at lat.  $41^{\circ}42.72'$ , long.  $70^{\circ}19.73'$  shown as a submerged rock on the chart, should have been shown as a rock awash on H-751 (1861), since the sounding records of that sheet show it as bare 5 feet at MLW. This checks closely the present elevation of bare 6 feet at MLW.
- (10) Lobster Rk. at lat.  $41^{\circ}42.75'$ , long.  $70^{\circ}17.7'$  was not found on the present survey. As this is only a boulder projecting 18 inches above the general sand bottom, it might be difficult to locate, and it was carried forward from H-751 (1861) as a rock awash at MLW.

- (11) Barter Rk. at lat.  $41^{\circ}42.83'$ , long.  $70^{\circ}17.72'$  charted as a 4<sup>3</sup>/<sub>4</sub> foot rock was not found on the present survey. Its location appears in 8 - 9 feet of water, about the same amount as when surveyed on H-751 (1861). This rock was located by an excellent fix on H-751 (1861) with 3 check angles and has been carried forward and should be retained on the chart. ✓

The delineation of rocks as shown on the present survey with the additions brought forward from H-751 (1861) should supersede the delineation shown on the latter survey.

c. H-3407 (1912).

This survey, on a 1-10,000 scale, covers the present survey only as far into the harbor as Beach Pt.

The general channel location remains the same, with numerous changes in depths. The depth shown on H-3407 (1912) at lat.  $41^{\circ}43.7'$ , long.  $70^{\circ}16.4'$  of 43 feet has now shoaled to 37 feet.

The low water line on the south side of the channel remains about the same but the bar at lat.  $41^{\circ}43.05'$ , long.  $70^{\circ}16.90'$  is building up towards the east.

d. T-795 (1859) - Reference Par. 4a, Review T-6122 (1934).

Channel rock left undisposed of in the review of T-6122 (1934), pending the review of the present hydrographic sheet, is discussed in detail in par. 6b(1), this review. ✓

7. Comparison with Chart No. 339.

a. Hydrography.

Within the area of the present survey, the chart is based on surveys discussed in the foregoing paragraphs except for the dredged channels into Maraspin Creek (B. P. 24553 - 1933) and into Yarmouth Port (B. P. 17396 - 1920). As stated in paragraph 6b of this review, both of these channels have shoaled up and the charted controlling depths of 7 and 6 feet, respectively, no longer hold good and should be removed from the chart.

b. Aids to Navigation.

The topographic locations of buoys as shown on T-6122 (1934) and location by sextant fixes on H-5589 (1934) vary considerably from their charted locations.

- (1) Red buoy N2 which marks the entrance to this harbor was located approximately 300 meters west of its charted position. The field party reports that this buoy should be shifted about 1/10 of a mile farther westward in order to be able to set a proper course for entrance to the harbor. (See Descriptive Report, p. 5.)
- (2) Black buoy C1, in the entrance channel, was located about 160 meters southwest of its charted position.
- (3) Black buoy C3, off Beach Point, was located about 120 meters northwest of its charted position.
- (4) Black buoy C5, at Horseshoe Shoal, was located approximately 250 meters north of its charted position.
- (5) Red buoy N4, south of Mussel Point, was located about 260 meters east, northeast of its charted position.
- (6) Black buoy C7 in lat.  $41^{\circ}42.8'$ , long.  $70^{\circ}18.5'$  was located approximately 180 meters west, northwest of its charted position. This buoy is apparently in the wrong location and its use as an aid to navigation may result in going aground on shoals in that area.

Except for buoys N2 and C7 the locations as determined on the present survey sufficiently mark the features intended. In several cases more favorable locations would be desirable, but they are not off enough to constitute menaces to navigation.

8. Field Plotting.

Field protracting and plotting are excellent and conform to the requirements of the Hydrographic Manual, except that marsh high water line should have appeared as solid line.

9. Additional Field Work Recommended.

This is a well executed survey of a fairly complicated area. No additional work is required.

10. Superseding Old Surveys.

Within the area covered, the present survey, with the indicated additions from previous surveys, supersedes the following surveys for charting purposes:

H- 578 (1856) in part.  
H- 751 (1861) " "  
H-3407 (1912) " "

11. Reviewed by - Harry T. Kelsh and R. L. Johnston, May, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, *C. K. Green*  
Chief, Section of Field Records.

*L. O. Robert*  
Chief, Division of Charts.

*Paul Smith*  
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Chief, Section of Field Work.

*act. R. R. Rubin*  
Chief, Division of H. & T.



Applied to new chart 581 7/5/35 H. MacEwen

Applied to new chart 339 5/13/36 L. J. G. G. G.  
" " " 1208, 50, 70 Nov. 1936 F. M. Albert.