8449

Diag. Cht. No. 1209-3.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. GI-1158 Office No. H-8449

LOCALITY

State Massachusetts

General locality Nantucket Island

Locality Nantucket Harbor to Great Pt.

1958

CHIEF OF PARTY

C. A. Schoene

LIBRARY & ARCHIVES

DATE December 3, 1959

USCOMM-DC 5087

8449

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 - 8449

Field No. GI- 1158

State MASSACHUSETTS

General locality ~~ATLANTIC OCEAN~~ Nantucket Island

Locality ~~NANTUCKET ISLAND NORTH~~ Nantucket Harbor to Great Pt.

Scale 1:10,000 Date of survey 30 JULY - 25 SEPT. 1958

Instructions dated 21 October 1957 (22/MEK S-2-GI)

Vessel U. S. C. & G. S. Ship G I L B E R T

Chief of party CHARLES A. SCHOENE, COMMANDER, C&GS

Surveyed by Lt. D. L. Campbell; Ens. R. H. Garnett, Jr.; Ens. W. N. Grabler

Soundings taken by ~~fathometer~~, graphic recorder Model 808, hand lead, ~~wire~~ pole.

Fathograms scaled by personnel of Ship GILBERT

Fathograms checked by personnel of Ship GILBERT

Protracted by (Smooth sheet ~~to be~~ was plotted by Norfolk Processing Office)

Soundings penciled by

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

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 693019

A. PROJECT

Work on Sheet H-8449 (GI-1158), Project CS-369, is in accordance with Instructions 22/MEK,S-2-GI dated 21 October 1957.

B. SURVEY LIMITS AND DATES

This survey is located in Nantucket Sound along the north side of Nantucket Island. It is bounded by the following: Lat. 41° 16'.5 on the south and 41° 23'.5 on the north, and Long. 69° 59'.5 on the east and 70° 06'.0 on the west.

Field work began on 30 July and ended on 25 September 1958. This survey makes junction on all sides with contemporary surveys as follows:

H-8172 (PAR-2354) Junction O.K.

H-8171 → H-8174 (PAR-2154) Must mean H-8171 (Unverified Nov. 14, 1962)

Unverified (Nov. 14, 1962) → GI-1258 (incomplete - no registry number) (H-8497) (1958)

The inside harbor required some skiff work due to the large areas of shoal water.

C. VESSEL AND EQUIPMENT

Hydrography on this sheet was accomplished primarily with LAUNCH CS-180, using Model 808 fathometers Nos. SPX-159 and SPX-161. The extensive shoal areas inside Nantucket Harbor were surveyed by a 16' aluminum skiff, using a leadline. (Fathometer 159-SPX was subject to the graph slipping quite often ("days") No corrections required.)

The launch and skiff were operated from the Ship GILBERT, which moored alongside the ferry pier in Nantucket Harbor.

The turning radius of LAUNCH CS-180 is approximately 30 meters.

A sounding pole was used in some areas of shoal water to verify the fathometer soundings.

D. TIDE AND CURRENT STATIONS

Tide Reducers for the 1958 work were obtained from a portable tide gage at Brant Point, with no time or range corrections. On those days when the portable gage was inoperative Tide Reducers obtained from the Boston Standard Gage were applied, with a plus-30-minute time correction and a 0.3 range ratio.

No current stations were observed during the 1958 season.

E. SMOOTH SHEET

The smooth sheet for this survey ~~will be~~ was constructed and plotted at the Norfolk Processing Office.

F. CONTROL STATIONS

The basic control for this survey is triangulation executed during the last century. The topographic stations were located by photogrammetric methods from topographic manuscripts T-11217, T-11220 and T-11221, all dated 1955. Sextant cuts were taken to some topographic stations to check their location. Stations HUB, LAX, and PIT were located in accordance with Section 2394A of the Hydrographic Manual and are therefore considered less accurate than the other topographic stations. This is expected not to have any effect on the position accuracy of the soundings.

F. CONTROL STATIONS (continued)

The hydrographic stations were located by sextant cuts taken from ship and ashore.

The accuracy of the locations of all signals is considered to be satisfactory, and no trouble was experienced with signal locations during the survey.

G. SHORELINE AND TOPOGRAPHY

All shoreline on the boatsheet was obtained from Advance Manuscripts Nos. T-11217, T-11220, and T-11221. of 1955.

The shoreline in the vicinity of Long. 70° 02.50' from Lats. 41° 22.96' to 41° 22.71', was revised by three point fix methods while walking the high water line (see Vol. 1, pp 21-23). This discrepancy was called to the hydrographer's attention by the fact that hydrographic signals located along the high water line plotted a considerable distance off shore on the boatsheet. Further investigation, as described above, revealed the necessity for a revision of the shoreline. It is recommended that the revised shoreline be used in this area.

The low water line was not completely defined during this survey. LAUNCH CS-180 has a draft of approximately 4', and the tides during the progress of hydrography were inadequate to permit complete development. Much LWL line from T-sheets

H. SOUNDINGS

All soundings were recorded in feet using Model 808 fathometers, sounding pole, or leadline.

There were no unusual methods or equipment used, and no unusual corrections were applied. For method used to obtain fathometer corrections, see FATHOMETER REPORT - 1958.

Soundings were generally read to the nearest foot, but occasionally to 0.5 foot. Index and tide corrections were applied to the nearest 0.2 foot. Velocity corrections were applied to the nearest 0.5 foot, and phase corrections were entered to the nearest 0.5 foot. There are abstracts of these corrections in the Appendix of this report.

It should be noted that all hydrography is recorded by days but not in consecutive volumes. The days and position numbers included in a particular volume are listed on the front cover of each volume. This method was adopted to permit scanning of the fathograms prior to putting soundings on the boatsheet.

I. CONTROL OF HYDROGRAPHY

Standard visual fix methods were used for the entire sheet. In some areas a Shoran distance was used for the purpose of improving the system of lines by running arcs. No Shoran calibrations were made and Shoran readings may be disregarded in plotting.

J. ADEQUACY OF SURVEY

This survey is considered complete and adequate to supersede all prior surveys except as noted in Section N of this report. Junctions with adjoining surveys are satisfactory, with no holidays. Depth curves may adequately be drawn. See #7 Review

K. CROSSLINES

Crosslines total about 8% for this survey. Some discrepancies in excess of the prescribed limits were noted on the boatsheets. However, it is felt that all discrepancies will resolve themselves when the smooth sheet is plotted.

L. COMPARISON WITH PRIOR SURVEYS

This survey was compared with the following surveys:

See #6 & B of Review

H - 1163	- 1872;	1:20,000
H - 1878	- 1888;	1:20,000
H - 2168	- 1893;	1:10,000
H - 2312	- 1897;	1:10,000

The general agreement is considered to be very good. The washout across the "Haulover" shown on Survey H-2312 was closed up. Some bottom changes have taken place and some shoaling has occured. These items are listed in Section N of this report.

M. COMPARISON WITH CHART

This survey was compared with Charts 1209 and 343, both corrected through 12 April 1958. All discrepancies found are listed in Section N of this report.

See #7 of Review.

N. DANGERS AND SHOALS

Boat Sheet Depth	Latitude	Longitude	Pos.No. & Day Letter	Prior Survey Depth	Chart Depth	Recommendations	Remarks
0	41° 19.35'	70° 01.80'	76 f	6½'	6'	Chart new depth. (from Bass Point)	Sand spit encroaching.
0	41° 18.37'	70° 01.50'	13 g	—	6'	Chart new depth.	
3'	41° 17.78' See overlay for collection	70° 04.26'	79 - 96 ba	Rocks shown	Rocks charted	Rem. fr. chart	30 min. spent in cartwheel type invest'n. Numerous grass patches vsble
	No rocks show on color photos						
5' 4 pres. survey	40° 18.50'	70° 05.55'	56 - 57 q	—	3'	Chart prev. sounding.	Further invest'n needed to disprove.
7'	41° 18.70'	70° 02.00'	94 - 116 w	6-3/4'	Less than 6'	Change contour of 6' curve.	Channel found at this point.
7'	41° 17.90'	70° 04.26'	96 ba	Rock shown.	Sunken rk.	Reinvestigate nxt fld seas.	No check angle obtained. delete
No rock shows on color photos Rock considered nonexistent RHC							
8'	41° 19.38'	70° 02.08'	189 - 190 u	6-3/4'	3'	Chart new depth On turn of survey line.	See #7A-
12'	41° 20.39'	70° 00.59'	99 - 102ba	10'	12'	Chart new depth	
	41° 17.77'	70° 04.08'	2 A	Chart shows two rocks in area. One rock located. Further invest'n recommended.			

See #7A-1 Review.

N. DANGERS AND SHOALS (continued):

In the area north of Coatue Beach and west of Long. 70° 03.50', shoaling was noted. The 6' curve has become irregular, and shows signs of sand waves. The shoal previously plotted at Lat. 41° 18.90', Long. 70° 04.40' has moved shoreward to Lat. 41° 18.80', Long. 70° 04.10', and has decreased in depth from 4' to ZERO. Revise depth curves in this area.

All dangers and shoals were found as charted except those listed above.

O. COAST PILOT INFORMATION

FEB 1 1 1959

United States Coast Pilot; Atlantic Coast, Section B.

(Insert where desirable)

Page 156 - lines 35-37 read: Head of the Harbor. In 1958 it was reported that not more than 3½ feet could be taken safely as far as the village of Wauwinet, on the southeast shore of Head of the Harbor. Shoals extend off Third Pt., Five Fingered Pt., Bass Pt., and Wyers Pt., on the northeastern shore and from Pocomo Head and Shimmo Pt., on the southwestern shore. The Head of the Harbor has several unmarked shoals and foul areas, and is used only by local residents in small craft.

P. AIDS TO NAVIGATION

The positions of all aids to navigation located in this area have been previously determined.

All floating aids to navigation have been located and are listed below:

Buoy	Latitude	Longitude	Depth	Date Located	Pos. Day Letter
Channel Buoy 9	41° 17.52'	70° 05.45'	15'	9 Sept 1958	Black 1 u
Anchorage Buoy A	41° 17.59'	70° 05.29'	16'	22 Sept 1958	white 233 aa
Anchorage Buoy B	41° 17.18'	70° 05.46'	17'	10 Sept 1958	white 19 v

There are no bridges and no overhead cables in this area.

There is a cable crossing with termini at Lat. 41° 17.40', Long. 70° 05.45' (slightly north of Brant Point L.H. - 1910, 1932) and at Lat. 41° 17.68', Long. 70° 05.10' (Signal POLE).

Two ferries, one from Woods Hole, Mass. and one from Hyannis, Mass., use the only channel from Nantucket Sound to Nantucket Harbor, and dock at wharves that are not covered by this sheet.

Q. - Y. Not applicable.

Z. The following data are connected with this hydrographic survey:

FATHOMETER REPORT,	transmitted	to	Washington	Office	7 November 1958.
SEASON'S REPORT,	"	"	"	"	5 December 1958.
SHORAN REPORT,	"	"	"	"	7 November 1958.
PHOTOGRAMMETRIC REPORT,	"	"	"	"	21 January 1959.
TRIANGULATION REPORT,	"	"	"	"	13 December 1958.

Respectfully submitted,

William N. Grabler

William N. Grabler,
Ensign, C&GS.

APPROVED AND FORWARDED:

Charles A. Schoene

Charles A. Schoene, Cdr, C&GS,
Commanding Ship GILBERT.

T I D E N O T E

Tide Reducers for Sheet H-8449 (GI-1158) were obtained in accordance with letters 36-330-982gi, dated 11 September 1958, and 36-333-982gi, dated 12 September 1958.

Brant Point tides were used direct on all days for which information was available. Otherwise, Boston tides were used with a + ½ hour time correction and a 0.3 H.W. height ratio.

Brant Point (Portable Gage)

Latitude - 41° 17' 24"

Longitude - 70° 05' 35"

No time or height correction.

Entire area of Sheet H-8449 (GI-1158)

S T A T I S T I C S
for
HYDROGRAPHIC SURVEY NO. H-8449 (GI-1158)

Launch 180 Date	Volume Number	Day Letter	Fathometer Number (808)	Number of Positions	Nautical Miles Sounding Line
July 30	2	a	159&161	244	25.7
August 6	2	b	159	71	7.2
7	3	c	159	174	30.4
8	4	d	159	195	32.5
10	2 & 3	e	159	133	20.4
11	4	f	159	191	25.0
12	3 & 5	g	159	216	24.8
13	6	h	159	210	30.2
20	5	j	159	87	16.1
21	6	k	159	60	9.8
22	5	l	159	173	29.5
23	6 & 7	m	159	218	23.5
24	8	n	159	202	21.2
25	7	p	159	106	15.6
26	7	q	159	144	22.2
27	8	r	159	172	27.3
September 7	9	s	159	164	22.4
8	10	t	159	225	24.0
9	9	u	159	244	28.5
10	10 & 11	v	159	188	19.9
11	11	w	159	284	41.7
18	11	x	159	13	1.8
19	11 & 12	y	159	194	20.5
20	13	z	159	215	21.3
22	12	aa	159	254	27.7
24	13-	ba	159	117	11.0
25	13	ca	159	23	1.2
			Launch CS-180 Total	4517	581.4
Skiff					
September 21	1	d	Lead Line	64	1.8
22	1	e	" "	58	2.2
23	1	f	" "	85	2.2
24	1 & 14	g	" "	120	7.7
25	14	h	" "	142	10.8
August 11	1	a	" "	2	Detached Positions
23	1	b	" "	1	Detached Position
24	1	c	" "	23	Detached Positions
			Skiff Totals	495	24.7
			TOTALS	5012	606.1

Square statute miles of sounding = 14.8
" Nautical " " " = 11.2

LIST OF SIGNALS FOR H-8449(GI-1158)

Topographic

See H 10 Signal List

The following signals were located in accordance with section 2392 of the Hydrographic Manual.

Abe T-11217
Bed T-11217
Cry T-11217
Day T-11217
Egg T-11221
Fat T-11221
Gem T-11221
Hid T-11221
Ice T-11221
Joe T-11221
Lip T-11221
Pole.... T-11220
Pond.... T-11217

The following signals were located in accordance with section 2394A of the Hydrographic Manual.

Hub T-11217
Lax T-11221
Pit T-11221

Hydrographic

The cuts locating these signals will be found in volume 1.

Act	Five	Mat	*She
Ask	Gal	Nat	Tan
Bib	*Gus	*New	*Tax
#Boa	His	Oak	Tip
*Deb	Ivy	Old	Tuck
#Doc	Jap	Pep	Vet
Ebb	Ken	Pin	*War
Ego	Kid	Rig	*Woo
#Far	Log	Rum	Wye
Fig	Mag	Sal	Yes
			Zag

*-The location of these signals may be verified by using planimetric manuscript T-11217

#- The location of these signals may be verified by using planimetric manuscript T-11221

TABULATION OF PHASE COMPARISONS

1958 Field Season

FATHOMETER	DATE	B to A	C to B	D to C	B to A	C to A	D to A
808 No. 159	15 July	+1.1					
" "	14 Aug.	+0.7	+0.9				
" "	7 June	+1.1					
" "	12 June	+1.1					
" "	21 June	(+0.4)R					
	Mean	+1.0	+0.9		+1.0	+1.9	
	Enter				+1.0	+2.0	+2.0
808 No. 161	14 Aug.	+0.1	+1.0		+0.1	+1.1	
	Enter				0.0	+1.0	
808 No. 162	15 July	0.0					
" "	26 "		-0.5	0.0			
" "	29 "	-1.0					
" "	31 "		-0.7				
	Mean	-0.5	-0.6	0.0	-0.5	-1.1	-1.1
	Enter			(to 66')	-0.5	-1.0	-1.0
				(over 66')	-1.0		

COMP. J.H.
CK C.D.K.

ABSTRACT OF VELOCITY
CORRECTIONS

(in feet)

SHIP GILBERT

808 No. 162

26 June thru 27 June
SHEET H-8450 (GI-2157)

Corr.	Depth
+0.5	0.0 - 66.0
0.0	66.0 - 140.0

11 July thru 10 August
SHEET H-8450 (GI-2157)

Corr.	Depth
+0.5	0.0 - 59.0
+1.0	59.0 - 122.0
~~+1.5~~	~~122.0 - 130.0~~

LAUNCH CS-180

808 No. 159

7 June thru 12 June
SHEET H-8450 (GI-2157)

0.0	0.0 - 74.0
-1.0	74.0 - 140.0

21 June thru 23 June
SHEET H-8450 (GI-2157)

0.0	0.0 - 92.0
-1.0	92.0 - 152.0

10 July thru 14 August
SHEETS H-8450 (GI-2157)

0.0	0.0 - 130.0

24 July thru 9 August
SHEET H-8450 (GI-2157)

0.0	0.0 - 130.0

30 July thru 26 August
SHEETS H-8449 (GI-1158) & GI-1258

0.0	0.0 - 23.0
+0.5	23.0 - 61.0

7 Sept. thru 25 Sept.
SHEETS H-8449 (GI-1158) & GI-1258

0.0	0.0 - 51.0
+0.5	51.0 - 70.0

808 No. 161

25 July thru 30 July
SHEETS H-8450(GI-2157) & H-8449(GI-1158)

0.0	0.0 - 130.0

30 July Only
SHEET H-8449 (GI-1158)

0.0	0.0 - 48.0

Launch GI-100
Bar Check Abstract
Sheet GI-1158
From 7/30 to 8/26

808 No. 159 SFX
Initial set at 1.0 Feet

Date	Day Letter	Vol.	10'	20'	30'	40'	D-Scale 40'
7/30	a	2	0.1	0.1	0.0	0.05	0.8
8/6	b	2	0.05	0.0	0.1	0.1	1.1
8/7	c	3	0.2	0.4	0.3	0.1	1.2
8/8	d	4	0.4	0.4	(0.75)R	(1.0)R	(1.95)R
8/10	e	2	0.1	0.25	0.2		
8/11	f	4	0.1	0.3	0.2	0.2	1.5
8/12	g	5	0.2	0.3	0.3		
8/13	h	6	0.2	0.5	0.3		
8/20	j	5	0.15	0.4	0.4		
8/21	k	6	0.25	0.45	0.2		
8/22	l	5	-0.05	0.0	0.0		
8/26	q	7	0.15	0.2	(0.65)R		
			0.15	0.4	0.15		
		MEANS	0.15	0.28	0.20	0.11	1.15

From 9/6 to 9/25
Sheets GI-1158 & GI-1258
808 No. 159 SFX
Initial set at 1.0 Feet

	1158						
9/7	s	9	0.1	0.0	0.0		
9/8	t	10	0.1	0.1	0.2		
9/9	u	9	0.0	0.1	0.0		
9/10	v	10	0.0	0.0	0.0		
9/11	w	11	-0.15	0.0	—		
9/18	x	11	0.0	0.05	-0.05		
9/20	z	13	-0.15	-0.2	(-0.6)R		
9/22	aa	12	-0.15	-0.2	0.0		
9/24	bb	13	0.0	-0.2	0.0		
	1258						
9/21	a	2	0.0	0.0	0.0		
9/23	b	2	-0.05	-0.05	-0.1	-0.1	
9/25	d	3	-0.1	-0.2	-0.1		
		MEANS	-0.03	-0.05	0.005	-0.05	

Sheet GI-1158
808 No. 161

7/30	a	2	0.2	0.1	-0.05	0.0	0.1

See NPC Signal List

LIST OF SIGNALS FOR H-8449 (GI-1158)

Triangulation

BRAN - Brant Point Light House, 1910,1932

COAT - Coatue, 1955

FIN - Finger, 1949

GREAT - Nantucket Great Point Light House, 1867

JET - East Jetty, 1910

OMNI - VOR, Nantucket Radio ACK, 1955

POC - Pocomo Head, 1893,1932

POINT - Brant Point Light House, 1867

SAN - Sandy, 1955

SQUAM - Squam Head 2, 1887,1932

RH

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DIVISION OF COAST AND SURVEYS~~ January 8, 1959

Division of Charts: R. H. Carstens

Plane of reference approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 8449

Locality Nantucket Island, Mass.

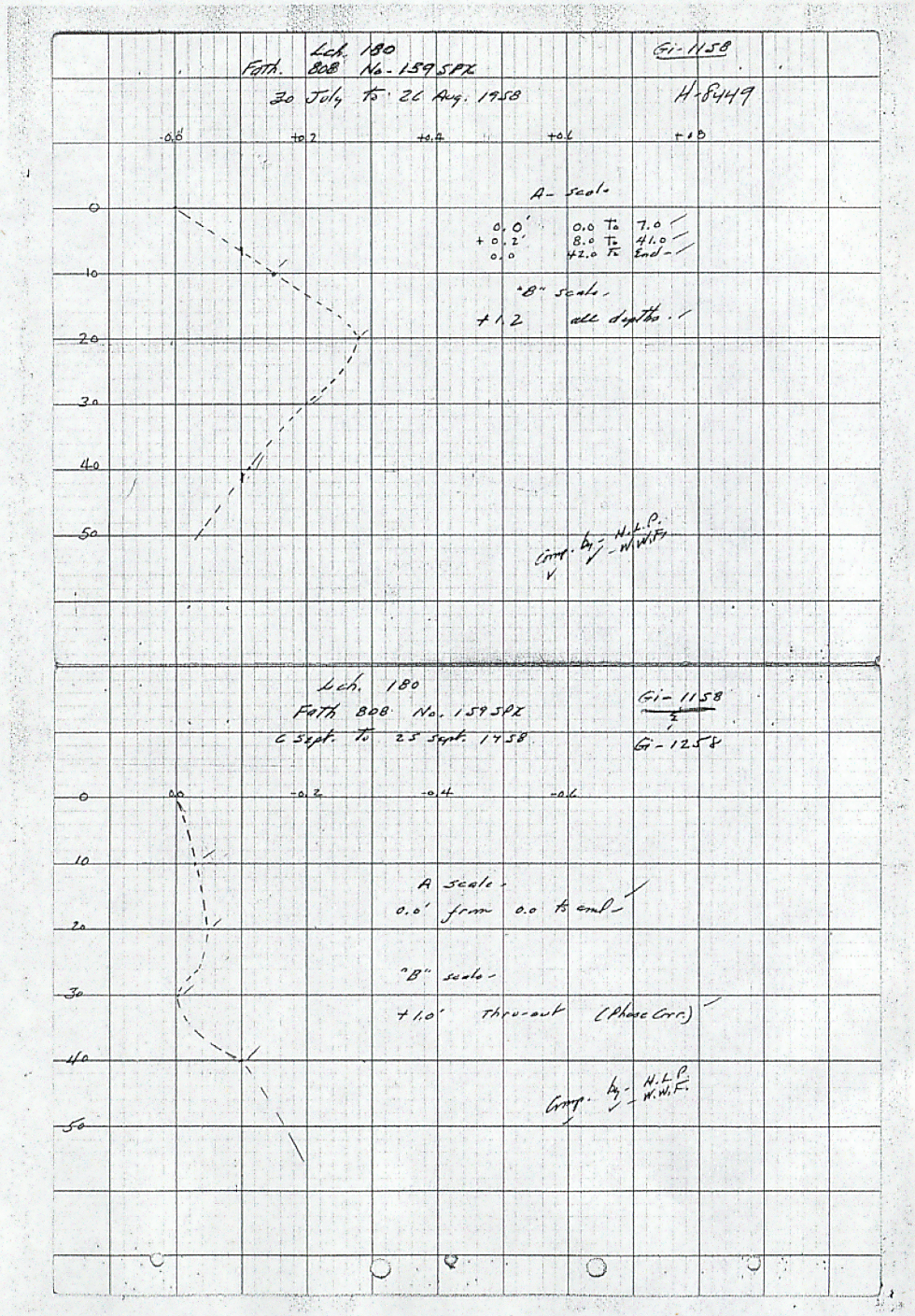
Chief of Party: C. A. Schoene in 1958
Plane of reference is mean low water, reading
2.8 ft. on tide staff at Brant Point Har.
5.9 ft. below B. M. 10A (1910)

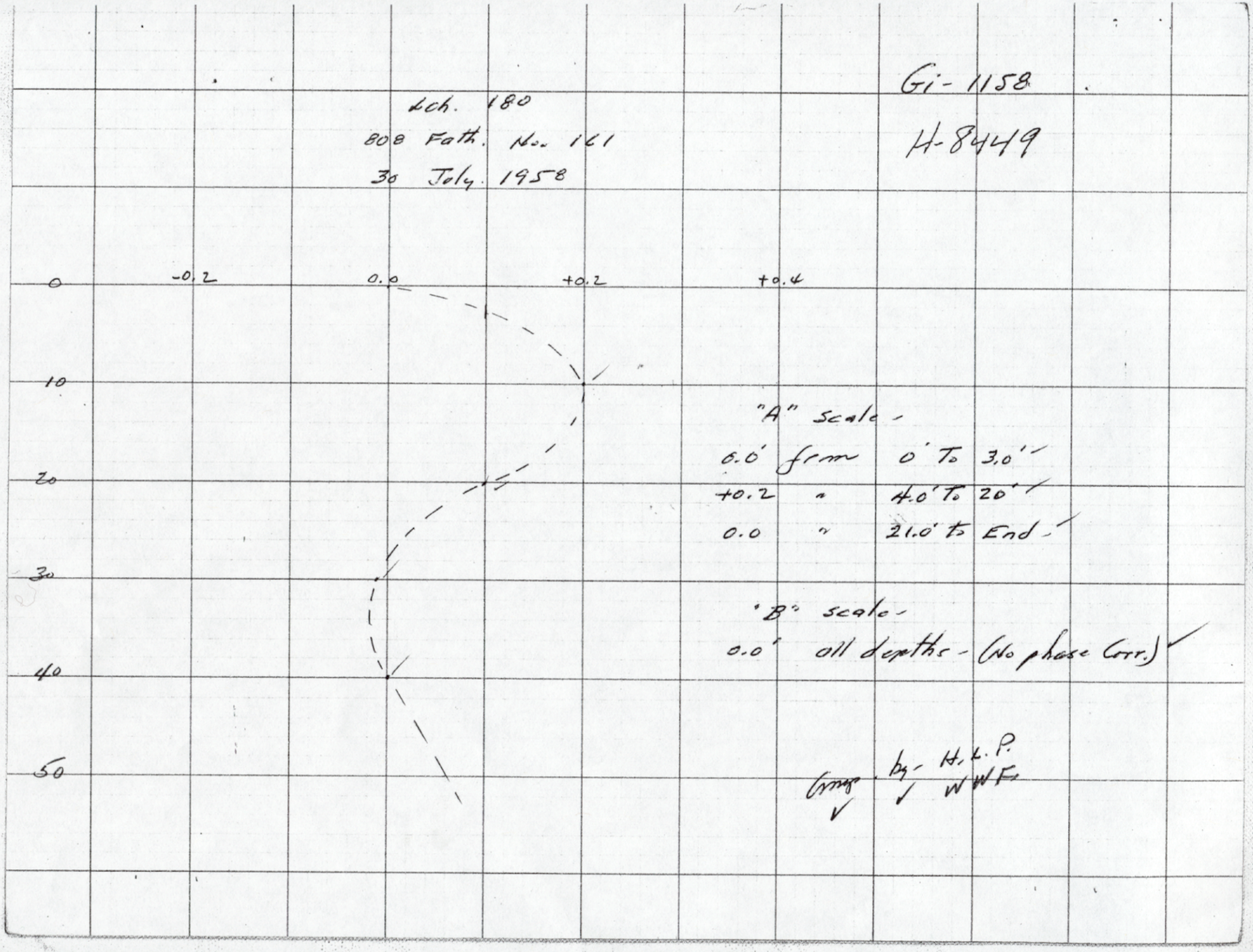
Height of mean high water above plane of reference is 3.0 feet.

Condition of records satisfactory except as noted below:

William Shapus
Chief, Tides Branch
~~CHIEF, DIVISION OF TIDES AND CURRENTS~~

U. S. GOVERNMENT PRINTING OFFICE 877933


Lch. 180
Fath. 808 No. 1595PX
30 July to 26 Aug. 1958
Gi-1158
H-8449
-0.6
+0.2
+0.4
+0.6
+0.8
A- scale
0.0' 0.0 To 7.0
+0.2' 8.0 To 41.0
0.0 42.0 To End
"B" scale -
+1.2 all depths.
Comp. by - N.L.P. W.W.F.
Lch. 180
Fath 808 No. 1595PX
6 Sept. to 25 Sept. 1958
Gi-1158
Gi-1258
-0.2
-0.4
-0.6
A scale -
0.0' from 0.0 to end
"B" scale -
+1.0' Thru-out (Phase Corr.)
Comp. by - N.L.P. W.W.F.


Gi-1158
H-8449
Ech. 180
808 Fath. No. 161
30 July. 1958
-0.2
0.0
+0.2
+0.4
0
10
20
30
40
50
"A" scale -
6.0' from 0' To 3.0'
+0.2 " 4.0' To 20'
0.0 " 21.0' to End -
"B" scale -
0.0' all depths - (No phase Corr.)
Comp. by - H.L.P.
WWF

NORFOLK PROCESSING OFFICE
LIST OF SIGNALS
To Accompany

HYDROGRAPHIC SURVEY H-8449 (Gi-1158)

TRIANGULATION STATIONS

BRAN	BRANT POINT L.H., 1910-32
COAT	COATUE, 1955
FIN	FINGER, 1949
GREAT	NANTUCKET, GREAT PT. L.H., 1835-1932
JET	EAST JETTY LIGHT, 1955
OMNI	VOR, NANTUCKET RADIO ACK, 1955
POC	POCOMO HEAD 2, 1932
POINT	BRANT POINT L.H., 1867
SAN	SANDY, 1955
SQUAM	SQUAM HEAD 2, 1887-1932

TOPOGRAPHIC STATIONS

T-11217	T-11220	T-11221
		Egg
Abe	Lip	Fat
Bed	Pole	Gem
Cry		Hid
Day		Ice
Pond		Joe

HYDROGRAPHIC STATIONS (Angles in Vol. 1)

Act	Ask	Bib	Boa	Deb	Doc	Ebb	Ego	Far
Fig	Five	Gal	Gas	Gus	His	Ivy	Jap	Ken
Kid	Log	Mag	Mat	Nat	New	Oak	Old	Pep
Pin	Rig	Rum	Sal	She	Tan	Tax	Tip	Tuck
Vet	War	Woo	Wye	Yes	Zag			

PLANIMETRIC FEATURES

T-11217	T-11221
Hub	Lax
	Pit

OTHER STATIONS

*Key (Not inked on B.S. N.41°17.95' W.70°05.65')

*From boat sheet. No position furnished.

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8449

GENERAL

This appears to be an excellent basic survey, and while no unusual conditions were encountered, a considerable amount of reprocessing was required for the smooth plot.

VELOCITY CORRECTIONS

The Field compiled a fairly comprehensive bar check abstract for this survey and then combined the results with temperature and salinity corrections observed for the adjoining off-shore survey. (See the Fathometer Correction Report previously submitted with survey H-8450). With permission of the Comdg. Officer, velocity corrections were compiled from the bar check abstract and applied to the soundings to the nearest 0.2', rather than to 0.5' as entered in the volumes. Corrections were small and this change resulted in a maximum difference of only 0.3'.

SOUNDINGS

Agreement of soundings is considered good as crossing discrepancies were in most instances, less than 1.0'.

A complete rescanning and reprocessing of the records was required as the original scanning was done at thirty second intervals and soundings were read to the integral foot. Also, some corrections were entered to the nearest ½ foot.

All fathograms were rescanned in the Processing Office and the soundings were reduced with templates at 15" intervals. All corrections were applied to the nearest 0.2'. These soundings were recorded in the "office column" and the original soundings were left in the volumes for comparative purposes.

CONTROL

Good closures were obtained on the sextant angles used to locate the numerous hydrographic signals. Their accuracy is believed to be entirely adequate for controlling a survey of this type.

OVERLAYS

φ41°17.78' λ70°04.26' color photos do not show rks

Positions 79 thru 96ba, showing development over two charted rocks awash, are being submitted on an overlay. The 2' and 3' soundings shown on the smooth sheet in this area were not confirmed on this investigation. These two soundings appear on the fathograms at pos. 209m, and between 110 and 111 aa days. They may possibly be clumps of grass, how-ever, the latter indication shows a fairly strong second echo that may be one of the rocks.

overlay indicates 5 and 6 feet in area.

See charts 1209 and 343 for comparison.

(Con't)

S. Rose

DISCREPANCIES

The ~~two~~ one wreck along Coatue Beach ~~were~~ as not confirmed or disproved on this survey. (Note # 8 D.R., of T-11,221), p 9 1 0

See # 7A-2 Review

Norfolk, Va.
24 November 1959

Respectfully submitted,

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer

NOTES TO VERIFIER
COMPARISON OF H-8449 AND T-11221

The surveys were compared during the review of T-11221. T-11221 was revised from 1961 and color and infrared photography prior to review, for use in compiling or revising nautical chart topography (PH-6102). Review was limited to topographic information to be used in the revision of Nautical Chart Drawing 343. A report for this partial review is a part of the Descriptive Report for T-11221 (PH-116). A difference in position exists for the offshore rock at Lat. 41°17.75' Long 70°04'.

Chart #343, tenth ed. (10-15-62) seems correct. Definitely either "foul" area, or shoal, rough bottom. (See ~~fathograms~~ lists). --33 "h", (vol. 14, p. 31), 2 "a" (vol. 1, p. 16) and 1 "e" (vol. 1, p. 36) indicate rocks or awash at datum. Furthermore, I wonder whether the left angle at 2 "a" (vol. 1, p. 16) was read at "POINT", instead of "BRAN". Attention is directed to "Supplemental Compilation Report", T-11,221, and to Mr. Blankenbaker's review of T-11,221. Also note ¶ no. 7 of the D.R. for T-11,221. Finally, see the volume and fathogram, pos. 13-14 "m" (vol. 6, p. 59). Conclusion: difference of interpretation rather than conflict. Planimetric Manuscript T-11,221 (1961) differs radically from the Advance of T-11,221 based on 1955 photos. Shoreline on smooth-sheet is held to the earlier photos. See this D.R., verifier's report ¶ 15. Nearly seven hours of verifier's time was necessary for this investigation.

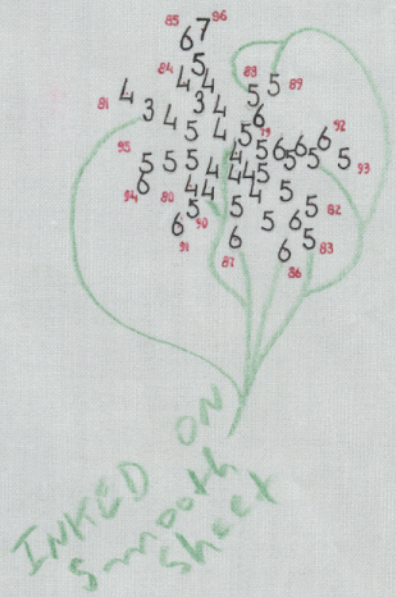
A. Rose

41°18'

70°05'

04'

41°18'



GI-1158 H-8449

24 Sept. 1958

positions 79ba thru 96ba

17'

70°05'

17'

04'

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8449

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	
Atlantic Ocean										1
Massachusetts			(Title)						BGN	2
Nantucket Island			"							3
Brant Point			(Tidestation)							4
Nantucket Harbor										5
Pimnys Point									BGN	6
Shimmo Point									"	7
Polpis Harbor									"	8
Pocomo Head										9
Head of the Harbor										10
Wauwinet										11
Great Point									BGN	12
Wyers Point										13
Bass Point										14
Five Fingered Point										15
Third Point										16
Coatue Beach									BGN	17
Second Point										18
Coatue Point		(apply as pencil-							BGN	19
Nantucket Sound		led pending BGN decision)								20
										21
		Names approved 2-24-60		L. Heck						22
										23
										24
										25
										26
										27

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8449 FIELD NO. GI-1158

Massachusetts, Nantucket Island, Nantucket Harbor to Great Point

SURVEYED: 30 July - 25 Sept. 1958 SCALE: 1:10,000

PROJECT NO. CS-369

SOUNDINGS: 808 Fathometer
Leadline
Sounding Pole

CONTROL: Sextant fixes on shore signals

Chief of Party----------C. A. Schoene
Surveyed by----------D. L. Campbell
R. H. Garnett, Jr.
W. N. Grabler
Protracted by----------Norfolk Processing Office
Soundings Plotted by----------Norfolk Processing Office
Verified and Inked by----------S. Rose
Reviewed by----------I. M. Zeskind
Inspected by----------R. H. Carstens

Date: 3/1/65

1. Description of the Area

This survey covers that portion of Nantucket Sound which lies on the north side of Nantucket Island between Coatue Point and Great Point, and extends from shore to depths of about 45 feet. It also covers Nantucket Harbor and the lagoon which lies northeast of the Harbor. On the outer coast south of approximately Lat. 41°20.0', the bottom is very irregular in depths less than 6 ft. Here shoals, ridges and deeps contribute to the bottom irregularity. The bottom is very irregular in Nantucket Harbor and the lagoon where ridges, shoals, deeps, spits and flats contribute to the bottom irregularity. The bottom irregularity throughout the area covered by this survey is attributed to the action of the current on the bottom and to storms.

2. Control and Shoreline

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

The shoreline originates with reviewed photogrammetric surveys T-11217A, T-11220A and T-11221A of 1955, supplemented by shoreline shown in red in the vicinity of lat. 41°22.9', long. 70°02.5', which was located by sextant fixes by the hydrographic party.

3. Hydrography

Depths at crossings are in adequate agreement. The usual depth curves except for low-water, were adequately delineated. It was not always feasible to delineate the low-water depth curve due to the draft of the sounding launch which was 4 ft., and the range of tide which was 3 ft. Supplemental low-water determination was obtained from the photogrammetric surveys. The 3 ft. depth curve was drawn to better define the bottom configuration.

4. Condition of Survey

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

b. The smooth plotting was accurately done.

c. The smooth plotter revised the reduced depths in the sounding volumes in order to comply with rules in the Hydrographic Manual as follows:

(1) Many depths which were recorded in intergral feet were revised to half feet.

(2) Intervals between soundings were revised from 30 seconds to 15 seconds.

(3) Velocity corrections were revised from 0.5 ft. to 0.2 ft.

5. Junctions

Adequate junctions were effected with H-8497 (1958) and H-8172 (1954-56) on the west and with H-8171 (1954-56) on the south.

6. Comparison with Prior Surveys

H-180 (1846), 1:10,000	H-1877 (1888), 1:5,000
H-181 (1846), 1:20,000	H-1878 (1888), 1:20,000
H-223 (1847-48), 1:40,000	H-2168 (1893), 1:10,000
H-527 (1855-56), 1:30,000	H-2312 (1897), 1:10,000
H-1163 (1877), 1:20,000	H-2531 (1901), 1:40,000
	H-3254 (1910), 1:10,000

These prior surveys together cover the area of the present survey. A comparison between the prior and present surveys reveals changes in the shoreline and the bottom configuration. These changes are attributed to natural and artificial causes, such as the action of the current on the bottom, to storms and the construction of the jetties at the entrance to Nantucket Harbor.

Great Point at the north end of Nantucket Island in the vicinity of lat. 41°23.1', long. 70°02.8', has accreted about 400 meters. In the vicinity of the jetties both erosion and accretion of the shoreline has occurred. The northwest end of Coatue Point has accreted about 450 meters while in the vicinity of lat. 41°17.7', long. 70°05.0', the south end has eroded about 125 meters. Brant Point in the vicinity of lat. 41°17.36', long. 70°05.45' has eroded about 40 meters. The shoreline in the Head of the Harbor in the vicinity of lat. 41°20.5', long. 70°00.6' has accreted about 400 meters. A haulover formerly located in the vicinity of lat. 41°20.3', long. 70°00.2' in 1897 has filled in and no longer exists.

In Nantucket Sound south of lat. 41°20.0', the bottom is in a state of constant flux. Here differences in depths between the prior and present surveys of as much as 5 ft. are found, as for example in lat. 41°18.75', long. 70°04.4', where a sand ridge with a least depth of 2 ft. on the present survey falls in prior depths of 6-7 ft.

The 12-ft. depth curve is located on the present survey as much as 100 meters further inshore than on the prior surveys. In a few areas the bottom has deepened, as for example in lat. 41°18.9', long. 70°04.68', where a prior depth of 8 ft. falls in present depths of 15 ft. Elsewhere in Nantucket Sound only minor differences of 2-3 ft. in depths are found. The present depths here are generally shoaler.

In Nantucket Harbor and the lagoon to the northeastward, the bottom is very irregular. Here submarine features such as spits, sand ridges, shoals and deeps contribute to the bottom irregularity. In the entrance to Nantucket Harbor at Brant Point, in lat. 41°17.43', long. 70°05.43', prior depths of 25-29 ft. fall in present depths of 35 ft. The spit which begins at the shoreline in the vicinity of lat. 41°18.92', long. 71°02.7' and runs in a southeastward direction, extends about 200 meters further on the present survey than formerly. Present depths in Nantucket Harbor and the lagoon are generally 2-3 ft. shoaler than the prior depths.

The sunken rock charted in lat. 41°17.90', long. 70°04.26', from H-181 (1846) falls in present depths of 7 ft. An examination of the color photographs of this area failed to reveal a sunken rock at the above-mentioned location. The feature is considered to be non-existent and should be deleted from the chart.

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

7. Comparison with Chart 265 (Latest print date 6-15-64)
343 (Latest print date 10-12-64)

A. Hydrography

The charted hydrography originates with the present survey prior to verification and review. Only minor differences of 1-2 ft. in depths between the charted and present survey depths are noted.

1. The sunken wreck charted in lat. 41°18.81', long. 70°04.28', from H.O. N to M 35/62, where it is 343

described as a derelict barge, was charted subsequent to the present survey.

2. The 2 rocks awash charted in lat. 41°17.67', long. 70°04.02', and lat. 41°17.76', long. 70°04.01', respectively from photographic survey T-8204 (1948-49) are replaced by one rock awash on the present survey. These features should be charted to agree with the present survey.

3. The wreck charted in lat. 41°17.97', long. 70°04.92', originates with photographic survey T-8204 (1948-49) where it falls on the high-water line. The wreck was not located during the present survey and is not shown on photogrammetric survey T-11221A (1955). The feature is considered to have disintegrated and, therefore, should be deleted from the chart.

4. The two rocks-awash at chart datum symbols charted in the vicinity of lat. 41°17.9', long. 70°02.45' originate with sunken rock symbols on T-12500 (1961). A rock uncovering 1 ft. at mean low water was found by the present survey in this vicinity. Adjacent sunken rock symbols shown on the present survey are from T-11221A (1955).

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The present survey positions of the charted aids are in substantial agreement with the charted positions and adequately mark the features intended.

The present survey designation of buoy C"9" located in lat. 41°17.50', long. 70°05.46', was revised to its charted designation of C"11" subsequent to the present survey in accordance with H.O. N to M 15, 1961.

8. Compliance with Project Instructions

The survey adequately complies with the project instructions.

9. Additional Work Recommended

This is a good basic survey and no additional field work is recommended.

Examined and Approved:

Wallace A. Bruder
Acting Chief,
Marine Chart Division

Associate Director,
Hydrography and Oceanography

H-8449

Information for Future Presurvey Reviews

This survey covers an area where the bottom configuration and shoreline may be expected to change due to strong currents, storms and the construction of the jetties leading into Nantucket Harbor. Erosion and accretion of the shoreline may be expected at Great Point and Coatue Pt. The shoreline at the north end of Head of the Harbor may continue to accrete.

The location and existence of the sunken wreck charted subsequent to the present survey in lat. 41°18.81', long. 70°04.28', should be confirmed or disproved. The feature originates with H.O. N to M 35, 1962.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8449

Records accompanying survey:

Boat sheets 1; sounding vols. 14; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 15-Envelopes

special reports, etc. 1-Smooth sheet, 1-Descriprive report and

1-Overlay tracing.

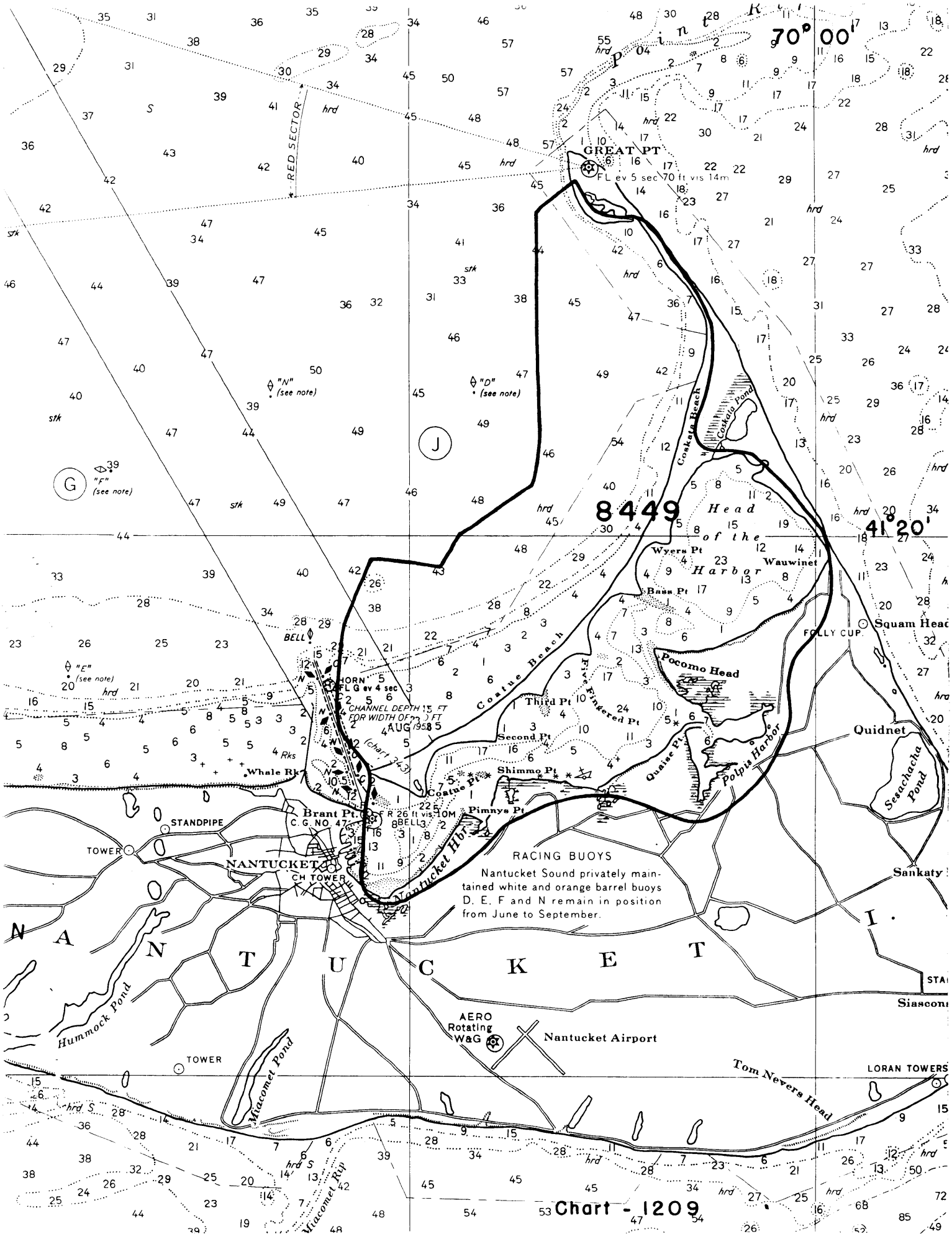
The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet		5,012
Number of positions checked		55
Number of positions revised		0
Number of soundings revised (refers to depth only)		13
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	9 hrs.
Junctions	Time	7 hrs.
Verification of soundings from graphic record	Time	19 hrs. (In all cases scanned head tips of peaks.

Verification by A. L. Rose Total time 412 hrs. Date Feb. 15, 1963

Reviewed by L. M. Zeskind Time 84 Date 3-1-65

M-2232-1


70° 00'
41° 20'
8449
Point Rip
RED SECTOR
GREAT PT
FL ev 5 sec 70 ft vis 14m
"N" (see note)
"D" (see note)
"F" (see note)
"E" (see note)
Coskata Beach
Coskata Pond
Head of the Harbor
Wyers Pt
Wauwinet
Bass Pt
Squam Head
FOLLY CUP
Pocomo Head
Coatue Beach
Third Pt
Five Fingered Pt
Second Pt
Quidnet
Quaise Pt
Polpis Harbor
Seachacha Pond
BELL
HORN
FL G ev 4 sec
CHANNEL DEPTH 15 FT
FOR WIDTH OF 200 FT
AUG 1958
(chart 343)
Whale Rk
Coatue Pt
Shimmo Pt
Pimnys Pt
Brant Pt.
C. G. NO 47
FR 26 ft vis 10M
BELL
STANDPIPE
TOWER
NANTUCKET
CH TOWER
Nantucket Hbr
RACING BUOYS
Nantucket Sound privately maintained white and orange barrel buoys D, E, F and N remain in position from June to September.
NANTUCKET I.
Hummock Pond
Miacomet Pond
Miacomet Rep
AERO
Rotating
W&G
Nantucket Airport
Tom Nevers Head
LORAN TOWERS
Sankaty
Siasconset
Chart - 1209

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8449

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
2/25/60	1108	E E Thomas	Before [redacted] Verification and Review
			Examined, only.
4/1/60	343	Chas R. Wettman	Before ~~After~~ Verification and Review
			Part applied
6-20-'60	71	F.M. Albert	add east shor. thru cht. 1209 Before ~~After~~ Verification and Review
9/30/60	1209	J F Walker	Before ~~After~~ Verification and Review
			Examined – nothing applied added * HH
2-25-61	1107	R.E. Elkins	Before ~~After~~ Verification and Review Partly applied
			thru cht 1108 dtd 27, no revision.
2-25-61	70	R.E. Elkins	Before ~~After~~ Verification and Review Partly applied
			thru cht 1108 dtd 27, no revision.
10-10-61	NEW CHT 265	R K. De Lauder	Complete application Before ~~After~~ Verification and Review. Area covered
			by cht 343 appd thru that chart.
5/23/66	1108	W H Mall	~~Before~~ After Verification and Review Exam only,
			no hydro in area of survey consider fully applied.
7/13/66	71	F.R. Scarcella	~~Before~~ After Verification and Review Exam only
			No Hydro in area of cht.
7-25-66	70	H. Radden	~~Before~~ After Verification and Review Exam only
			no hydro shown in area of cht
12/8/67	1107	W. H. Mall	Exam after review, no hydro in area
			considered fully applied
10-14-68	1209	W H Mall	Exam after review, Apr reviewer's
			report only
3/3/69	343	J. Mc Millan	Applied Fully After Verification & Review

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.

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8449

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
265	9-11-69	J. T. Gallahan	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. #6 applied fully. area common to cht. 343
			appl'd thru that chart.
1209	7-7-70	B Fernandez	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. Appl'd thru Cht. 265 [illegible]
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.