

8824

Diag. Cht. No. 1209-3.

Form 504

U. S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WH-12.5-1-63 Office No. H-8824

LOCALITY

State Massachusetts

General locality Coast of Massachusetts

Locality Nantucket Sound

19-63-64

CHIEF OF PARTY

H. R. Lippold, Jr., LCDR, C&GS

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8824

HYDROGRAPHIC TITLE SHEET

H-8824

INSTRUCTIONS - 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.

Wh 12.5-1-63

State MASSACHUSETTS

*see also  
1964 title sheet*

General locality COAST OF MASSACHUSETTS

Locality NANTUCKET SOUND

Scale 1:12,500 Date of survey 8 Sept. - 10 Oct. 1963

Instructions dated 3/11/63 and 6/19/63 Project No. OPR-369

Vessel WHITING

Chief of party H.R. LIPPOLD, JR.

D.G. HICKERSON

Surveyed by F.J. TUCKER, JR.; J. COLLINS; J.W. BRICKER; F.P. KAPINOS &

Soundings taken by echo sounder, hand lead, ~~probe~~

Graphic record scaled by SHIP PERSONNEL

Graphic record checked by SHIP PERSONNEL

Protracted by FRED BEAN

Soundings penciled by FRED BEAN

Soundings in ~~XXXX~~ feet at MLW ~~XXXX~~

REMARKS: Smooth plotted by Norfolk Hydrographic Processing Branch

**HYDROGRAPHIC TITLE SHEET**

H-8824

INSTRUCTIONS - 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.

Wh 12.5-1-63

State MASSACHUSETTS

General locality COAST OF MASSACHUSETTS

Locality NANTUCKET SOUND

Scale 1:12,500 Date of survey 21 Aug. - 28 Sept. 1964

7 Apr. 1964

Instructions dated 11 Mar. & 19 June 1963 Project No. OPB - 369

Vessel WHITING

Chief of party H.R. LIPPOLD, JR.

Surveyed by J. COLLINS; L.E. PICKENS & J.D. GAMMON

Soundings taken by echo sounder, hand lead, ~~etc~~

Graphic record scaled by SHIPS PERSONNEL

Graphic record checked by SHIPS PERSONNEL

Protracted by FRED BEAN

Soundings penciled by FRED BEAN

Soundings in ~~fathoms~~ XXXX feet at MLW XXXX

REMARKS: Smooth plotted by Norfolk Hydrographic Processing Branch

DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-8824  
FIELD No. WH-12.5-1-63

Nantucket Sound, Massachusetts

Scale 1:12,500  
Ship WHITING

H. R. Lippold, Jr., Comdg  
1963

Surveyed by:

LCDR H.R. Lippold, Jr.  
LCDR F.J. Tucker, Jr.  
LT J. Collins  
LTJG J.W. Bricker  
LTJG F.P. Kapinos  
ENS D.G. Hickerson

A. PROJECT

The authority for this survey is contained in revised instructions for Project OPR-369, Nantucket Sound, Massachusetts, dated 11 March 1963, and as amended 19 June 1963.

B. AREA SURVEYED

The area surveyed is in Nantucket Sound near Cross Rip lightship. For sheet limits and area completed see attached section of C&GS Chart ~~1209~~  
1107.

Dates of the survey are 8 September 1963 to 10 October 1963, inclusive.

Prior surveys with which junctions were made are H-6533, 1:20,000, 1939, on the north, and H-8172, 1:20,000, 1956, on the east.

Contemporary survey with which junction on the south was made is H-8761 (GI-12.5-1-60).

C. SOUNDING VESSELS

The Ship WHITING and two survey launches were used to survey the area. The ship used a purple capital-letter

day. Launch WH-1 used a blue small-letter day, and launch WH-2 a red small-letter day.

#### D. SOUNDING EQUIPMENT

All echo sounding was done with Raytheon DE-723 fathometers with the following serial numbers: Ship WHITING, #262; launch WH-1, #250; launch WH-2, #249 and #251. All fathometers were calibrated for 820 fathoms per second.

Velocity corrections for the ship were obtained from lead-line comparisons and a number of salinity and temperature observations. Velocity corrections for the launches were obtained from bar checks taken twice daily.

#### E. SMOOTH SHEET

The smooth-sheet projection and hiran curves were drawn by the Washington Office. The smooth sheet will be transferred to the Norfolk Processing Office for plotting.

#### F. CONTROL

Hiran electronic positioning equipment was used to control all hydrographic operations. The shore station sites used were located on triangulation stations marked Dead Neck, 1963, and Gammon, 19<sup>54</sup>

An abstract of corrections to distance measurements is included with this report. These corrections were obtained by visual calibrations at maximum and minimum distances from each station.

#### G. SHORELINE

There is no shoreline on the sheet.

#### H. CROSSLINES

Crosslines were run to an extent of about 6 per cent of the regular scheme of sounding lines. The crosslines are in good agreement throughout the survey.

#### I. JUNCTIONS

Prior surveys with which junctions were made are the following: H-6533, 1:20,000, 1939, on the north, and H-8172, 1:20,000, 1956, on the east. Good agreement was obtained with both prior surveys.

Junction was made on the south with contemporary survey H-8761 (GI-12.5-1-60). Excellent agreement was obtained.

J. COMPARISON WITH PRIOR SURVEY

No comparison of the boat sheet was made with prior surveys. There were no pre-survey review items within the limits of this sheet.

K. COMPARISON WITH CHART

Comparison with C&GS Chart 1209, scale 1:80,000, tenth edition, revised June 11, 1962, shows considerable disagreement between the new survey and the chart. The new survey indicates that the bottom configuration has undergone considerable change since the old surveys were conducted in 1879.

*LNM 19 (1962) Boston reports that the wreck was removed.*

It is suggested that further investigation should be conducted of the charted wreck at latitude  $41^{\circ} 27.24' N$  and longitude  $70^{\circ} 15.10' W$ .

*See 69' sdg. on smooth sheet in  
 $\phi 41-27.25'$   
 $\lambda 70-16.10'$  Questionable?  
 Check records*

L. ADEQUACY OF SURVEY

The area of the sheet surveyed is complete and adequate to supersede prior surveys for charting.

The sheet is incomplete because of extension of the sheet limits near the end of the field season.

M. AIDS TO NAVIGATION

All aids to navigation were located by the hydrographic party and were compared with the light lists and C&GS Chart 1209. They were found to be adequate for their purpose and properly located. The Woods Hole - Nantucket ferry route is across the south end of this sheet in the buoyed channel.

N. STATISTICS

<u>Vessel</u>	<u>Number of Positions</u>	<u>Nautical Miles of Sounding Line</u>
Ship WHITING	325	60
Launch #1	83	19
Launch #2	1783	375
Total	2191	454

Total area surveyed: 27.7 square nautical miles  
 Number of bottom samples: 36  
 Tide stations: 1

Respectfully submitted,

*John W. Bricker*  
 DGH  
 John W. Bricker, LTJG, C&GS

#### TIDE NOTE

One portable automatic tide gage was used to control the tidal data for this survey. It was located in Edgartown Harbor, Chappaquiddick Island, in Lat.  $41^{\circ} 23.2' N$ , and Long.  $70^{\circ} 30.2' W$ . Time meridian  $60^{\circ} W$  (ZD+4) was used for times on the gage. One hour was subtracted from the time of the hourly heights. Mean low water was 2.7 feet on the staff and all heights recorded on the marigrams should be corrected by this amount.

1963

ABSTRACT OF VELOCITY CORRECTIONS

OPR-369

H-

(WH-12.5-1-63)

Ship WHITING Table 1

Depth up to:	Corr'n
16-22	+0.4
31	+0.6
39	+0.8
48	+1.0
56	+1.2
63	+1.4
71	+1.6
78	+1.8
82	+2.0

Launch WH-2

Date	Depth up to:	Corr'n
a day - 8 Sept.	7.6	-2.4
Table 3	8.2	-2.2
	9.0	-2.0
	10.0	-1.8
	11.5	-1.6
	13.0	-1.4
	15.0	-1.2
	17.5	-1.0
	20.2	-0.8
	22.8	-0.6
	25.2	-0.4
	28.0	-0.2
	30.3	0.0
	33.0	+0.2
	36.0	+0.4
	37.5	+0.6
44.0	+0.8	

Launch WH-1 Table 2

Depth up to:	Corr'n
7.8	-2.4
8.8	-2.2
10.6	-2.0
13.0	-1.8
16.5	-1.6
26.0	-1.4
35.0	-1.2
40.9	-1.0
44.6	-0.8
47.8	-0.6
55.0	-0.4
64.0	-0.2
73.0	0.0

b day - 9 Sept. to  
l day - 1 Oct.  
Table 4

m day - 8 Oct. to  
p day - 10 Oct.

Table 5

7.5	-2.6
7.8	-2.4
8.4	-2.2
9.7	-2.0
11.8	-1.8
16.0	-1.6
21.4	-1.4
30.8	-1.2
36.0	-1.0
40.8	-0.8
45.6	-0.6
55.0	-0.4
63.0	-0.2
72.0	0.0
79.0	+0.2
7.9	-2.8
8.4	-2.6
9.8	-2.4
12.2	-2.2
22.5	-2.0
40.0	-1.8
45.0	-1.6
50.0	-1.4
55.0	-1.2
65.0	-1.0



ABSTRACT OF HIRAN CORRECTIONS  
 OPR-369 WH-12.5-1-63

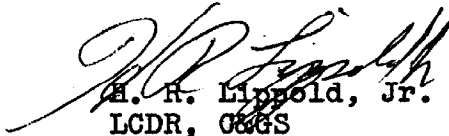
<u>Date</u>	<u>Station Corr'n</u>	<u>GAMMON Distance</u>	<u>Station Corr'n</u>	<u>GREAT NECK Distance</u>
<u>Ship WHITING</u>				
A day - 10 Sept.	-0.020	5.0-9.5	-0.010	6.2-9.3
	-0.015	9.5-16.0	-0.015	9.3-12.3
	-0.010	16.0-20.0	-0.020	12.3-15.3
			-0.025	15.3-18.3
B day - 12 Sept. and C day - 2 Oct.	-0.015	5.0-10.4	-0.015	5.5-8.5
	-0.010	10.4-16.7	-0.020	8.5-11.6
	-0.005	16.7-20.0	-0.025	11.6-14.2
			-0.030	14.2-17.7
<u>Launch WH-1</u>				
a day - 10 Oct.	-0.005	5.0-9.3	-0.015	5.0-14.6
	-0.010	9.3-16.7	-0.010	14.6-20.0
	-0.015	16.7-20.0		
<u>Launch WH-2</u>				
a day - 8 Sept. to d day - 11 Sept.	0.0	5.0-8.5	-0.005	5.0-9.2
	-0.005	8.5-18.0	0.0	9.2-14.1
	-0.010	18.0-20.0	+0.005	14.1-19.0
e day - 18 Sept. to m day - 8 Oct.	-0.010	5.0-10.5	-0.025	5.0-7.1
	-0.015	10.5-19.0	-0.020	7.1-11.9
			-0.015	11.9-16.7
			-0.010	16.7-20.0
n day - 9 Oct. to p day - 10 Oct.	+0.005	5.0-9.5	+0.005	5.0-8.0
	0.0	9.5-14.2	0.0	8.0-15.4
	-0.005	14.2-19.0	-0.005	15.4-20.0

SETTLEMENT AND SQUAT CORRECTION  
 LAUNCHES 1 AND 2

<u>Speed (RPM)</u>	<u>Correction (feet)</u>
000--1000	0.0
1000--2400	+0.2
2400--	0.0

APPROVAL SHEET

The boat sheet and records for the area surveyed are complete and approved. The boat sheet and sounding volumes were examined daily during the survey. The area surveyed is complete and adequate for charting. Additional field work is needed to reach the extended project limits of the boat sheet.



H. R. Lippold, Jr.

LCDR, USCG

Commanding Ship WHITING

DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-8824  
FIELD No. WH-12.5-1-63

Nantucket Sound, Massachusetts

Scale 1:12,500  
Ship WHITING

H. R. LIPPOLD JR.  
Commanding 1964

Surveyed by:

CDR H. R. Lippold Jr.  
LT J. Collins  
LT L. E. Pickens  
ENS J. L. Gammon

A. PROJECT

The authority for this survey is contained in revised instructions for project OPR-369, Nantucket Sound, Massachusetts, dated 11 March 1963, and amended 19 June 1963, and supplemented 7 April 1964.

B. AREA SURVEYED

The area surveyed is the Northwest corner of sheet WH-12.5-1-63 bounded by the following limits; north, latitude 41 32' 30"; south, latitude 41 28' 30"; east, longitude 70 20' 00"; and west, longitude 70 26' 30". Also several lines were run at the eastern edge of the sheet between longitudes 70° 14' 00" and 70° 14' 30". These lines were run to extend the 1963 part of the survey into prior survey number H-8172 until better agreement was reached. In addition to these areas additional development of disagreeing charted soundings in the 1963 portion of the survey was done in an attempt to resolve the discrepancies.

C. SOUNDING VESSELS

The WHITING'S launch 1204 was used to survey the entire area. Launch 1204 used lower case blue day letters. The WHITING was used to obtain bottom samples over deeper portions of the area. The ship used capital purple day letters.

#### D. SOUNDING EQUIPMENT

All sounding was done with Raytheon DE-723 type fathometers. Sounder number 249 was used up to July 10 when it broke down and was replaced by fathometer number 250, which was used for the rest of the season.

Velocity corrections were determined by meaning the daily bar checks over periods of about one month. The season was divided into three segments for this purpose, with an in port period dividing the segments. No change was noted in the curves when the fathometers were changed, the characteristics for each machine being apparently identical.

#### E. SMOOTH SHEET

The smooth sheet projection and Hiran curves will be drawn by either the Washington Office or by the Norfolk Regional Office.

#### F. CONTROL

Hiran electronic positioning equipment was used to control all hydrography done on this sheet. The shore station sites used were located over third order triangulation stations DEAD NECK, 1963 for station NECK and GAMMON, 1954 for GAM. Following is the location of the two stations:

	GAM	NECK
Latitude	41° 36' 37.85"	41° 33' 02.989"
Longitude	70° 16' 01.89"	70° 30' 58.249"

An abstract of corrections to distance measurements is included with this report. These corrections were obtained by a series of simultaneous visual three point fixes and electronic distance measurements at maximum and minimum distances worked in. This data was then plotted on coordinate paper and corrections to distances picked off the resulting curves.

#### G. SHORELINE

There is no shoreline on this sheet.

#### H. CROSSLINES

Crosslines were run to an extent of about six percent of the regular scheme of sounding lines. All crosslines were in good agreement with the regular hydrography.

#### I. JUNCTIONS

This survey junctions with prior survey H-6533, 1:20,000, 1939 on the north, there being fair agreement with no outstanding discrepancies. On the west the survey joins H-6532, 1:20,000, 1939 and is in good agreement.

At the southern and eastern limits of this survey the hydrography junctions with soundings obtained by the WHITING's launch 1205 during the 1963 season. All hydrography run during 1963 the launches used an initial setting of three feet whereas in 1964 they used an initial setting of one foot. At the junction of the two seasons work there is therefore a two foot discrepancy which is actually good agreement. *→ Refers to Boat sheet junction*

At the eastern edge of the sheet in the area of additional coverage of 1963 work, there is a three to four foot consistent disagreement with prior survey H-8172, 54-56 1:20,000. This discrepancy could not be accounted for so the eastern limits of the sheet were extended into survey H-8172 until agreement was reached. A possible explanation for the discrepancy in the two surveys is that the 808 type fathometer was used in the prior survey and there was an error when scales were switched. Most of the above mentioned discrepancies occur around 50 feet and at the end of the lines of the 1956 survey. It is recommended that the WHITING's work be taken as correct since the DE-723 fathometer is much more reliable than the 808 and the WHITING's 1963 and 1964 work check each other.

J. COMPARISON WITH PRIOR SURVEYS

No comparison was made with prior surveys since it is the same as the comparison with the chart.

Pre-survey Review item B 11, falls within this survey. The location of the wreck by 1964 Hiran is within a few seconds in latitude and longitude of the charted position. The wreck is located 567 yards bearing 073 T from the buoy. The wreck buoy has either dragged or been moved. The wreck is most evident even at high tide and in calm seas there is white water around it, and at low water it is plainly visible.

K. COMPARISON WITH THE CHART

Comparison with C&GS chart 1209, scale 1:80,000, tenth edition revised June 11, 1962 shows considerable disagreement in places. Following is a list of discrepancies:

<u>Latitude</u>	<u>Longitude</u>	<u>Chart Depth</u>	<u>Fathometer Depth</u>
41° 29.28'	70° 22.72'	17	23
41° 28.82'	70° 22/25'	12	24
41° 29.05'	70° 21.87'	16	20
41° 28.88'	70° 21.45'	15	22
41° 28.88'	70° 21.00'	14	17 <sup>15' near by -</sup>
41° 28.70'	70° 20.20'	10	18
41° 29.55'	70° 20.47'	14	28
41° 27.74'	70° 20.89'	34	38
41° 28.11'	70° 21.79'	25	29
41° 28.08'	70° 18.02'	18	23
41° 28.01'	70° 16.47'	14	18
41° 28.20'	70° 17.10'	9	12
41° 28.01'	70° 15.09'	26	35
41° 28.73'	70° 16.18'	21	23
41° 29.35'	70° 19.80'	17	22 <sup>10' shoal near by -</sup>
41° 29.19'	70° 18.10'	8	11
41° 29.61'	70° 18.12'	17	44
41° 29.70'	70° 19.43'	16	23 <sup>shoal at 18'</sup>
41° 29.97'	70° 19.45'	30	34
41° 29.55'	70° 19.60'	17	24
		18	

At all the above positions the regular system of sounding lines was split down in an attempt to resolve the discrepancy. After smooth plotting and review it is suggested that some of the charted shoal soundings be deleted, since in this area movement of shoals is quite evident.

L. ADEQUACY OF THE SURVEY

This survey is complete and adequate for charting and should supersede all prior surveys of the area.

M. AIDS TO NAVIGATION

The floating aids to navigation were compared with C&GS chart 1209 and their charted locations were found to be adequate.

N. STATISTICS

<u>Vessel</u>	<u>Number of Positions</u>	<u>Nautical Miles of Sounding Line</u>	<u>Number of Bottom Samples</u>
Launch 1204	2909	643.2	14
Ship WHITING			16

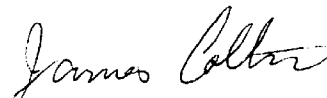
Total area surveyed: 20.14 square nautical miles

Q. REFERENCE TO REPORTS

For a complete discussion of Hiran methods and correction to soundings see the following reports.

<u>Report</u>	<u>Date Forwarded</u>
Hiran Report	22 December 1964
Report Correction to Soundings	22 December 1964
Seasons Report	12 January 1965

Respectfully submitted,

  
James Collins  
LT, USC&GS

#### TIDE NOTE

The portable automatic tide gage used to control the height of tides on this sheet was located at Edgartown Harbor Latitude  $41^{\circ} 23.2'$ , Longitude  $70^{\circ} 30.2'$ . Mean low water on the staff was 2.3 feet, there was a range ratio of 1.3 and a  $\emptyset$  time difference on the Edgartown gage.



VELOCITY CORR'N

LAUNCH 1

OPR-369 1964

Depth (ft.)	Corr'n (ft.)	Interval
0.0-5.6	-0.6	
5.7-6.6	-0.4	
6.7-8.0	-0.2	
8.1-10.0	0.0	
10.1-12.8	+0.2	
12.9-18.1	+0.4	
18.2-22.1	+0.6	
22.2-26.3	+0.8	
26.4-31.3	+1.0	
31.4-36.2	+1.2	
36.3-40.0	+1.4	
40.1-43.1	+1.6	
43.2-46.4	+1.8	
46.5-50.6	+2.0	
50.7-54.4	+2.2	
54.5-58.3	+2.4	
58.4-60.9	+2.6	
61.0-64.2	+2.8	
64.3-71.2	+3.0	
71.3-79.3	+3.2	
79.4-88.0	+3.4	
88.1-95.0	+3.6	
95.1-103.0	+3.8	
103.1-111.0	+4.0	
111.1-118.5	+4.2	
118.6-126.5	+4.4	
126.6-134.5	+4.6	
134.6.....	+4.8	

9 JUNE thru 25 JULY 1964

Table 6

3.5-4.5	-1.0
4.6-5.3	-0.8
5.4-6.2	-0.6
6.3-7.2	-0.4
7.3-8.5	-0.2
8.6-10.4	0.0
10.5-13.0	+0.2
13.1-19.3	+0.4
19.4-27.0	+0.6
27.1-33.0	+0.8
33.1-37.8	+1.0
37.9-41.8	+1.2
41.9-45.1	+1.4
45.2....	+1.6

1 OCT. thru 10 OCT. 1964

Table 8

VELOCITY CORR'W

LAUNCH 1

OPR-369 1964

Depth (ft.)	Corr'n (ft.)	Interval
0.0- 5.5	-0.6	
5.6- 6.4	-0.4	
6.5- 7.6	-0.2	
7.7- 9.1	0.0	
9.2-11.2	+0.2	
11.3-14.0	+0.4	
14.1-18.7	+0.6	
18.8-23.5	+0.8	
23.6-28.0	+1.0	
28.1-32.1	+1.2	
32.2-35.9	+1.4	
36.0-39.5	+1.6	
39.6-46.8	+1.8	
46.9-52.4	+2.0	
52.5-58.0	+2.2	
58.1-64.5	+2.4	
64.6-68.9	+2.6	
69.0-74.4	+2.8	
74.5-79.9	+3.0	
80.0-85.4	+3.2	
85.5-90.9	+3.4	
91.0-96.4	+3.6	
96.5-101.9	+3.8	
102.0-107.4	+4.0	
107.5-112.9	+4.2	
113.0-118.4	+4.4	
118.5-123.9	+4.6	
124.0-129.4	+4.8	
129.5...	+5.0	

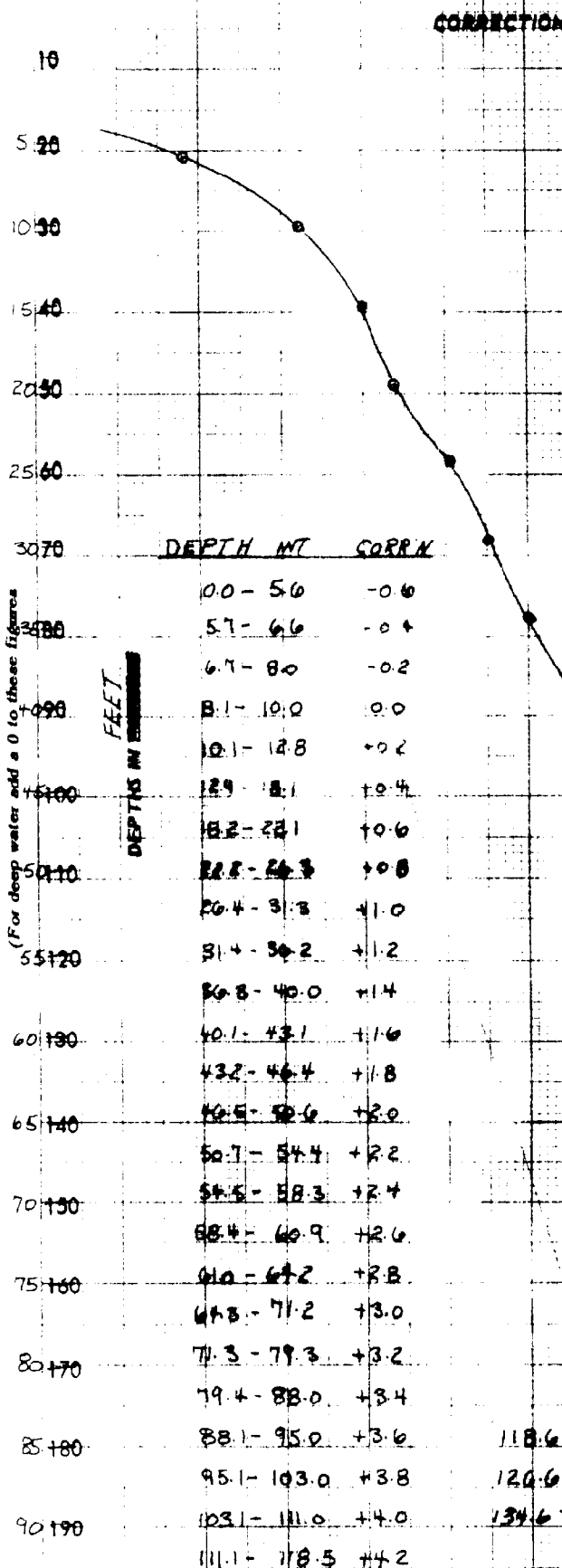
26 JULY thru 30 SEPT. 1964

Table 7

SETTLEMENT AND SQUAT CORRECTION, LCH #1 and LCH #2

Speed (RPM)	Correction (feet)
0 - 1000	0.0
1000 - 2400	+0.2
2400 -----	0.0

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal)



PORTAL IDENTITY: U.S. DEPARTMENT OF COMMERCE  
 VELOCITY CORRECTIONS  
 Ship: USCGC WILKING, CGC 329  
 CDR J.R. WEROLD, JR.  
 These corrections are to be used  
 between JUNE 9 1964 and JUNE 29 1964  
 in the locality: NAANTUCKET SOUND  
 for hydrographic surveys only.

DEPTH	WT	CORRN
0.0	5.0	-0.6
5.7	6.6	-0.4
6.7	8.0	-0.2
8.1	10.0	0.0
10.1	12.8	+0.2
12.9	18.1	+0.4
15.2	22.1	+0.6
18.5	26.3	+0.8
20.4	31.3	+1.0
31.4	36.2	+1.2
36.8	40.0	+1.4
40.1	43.1	+1.6
43.2	46.4	+1.8
46.5	50.6	+2.0
50.7	54.4	+2.2
54.5	58.3	+2.4
58.4	60.9	+2.6
61.0	67.2	+2.8
64.8	71.2	+3.0
71.3	79.3	+3.2
79.4	88.0	+3.4
88.1	95.0	+3.6
95.1	103.0	+3.8
103.1	111.0	+4.0
111.1	118.5	+4.2

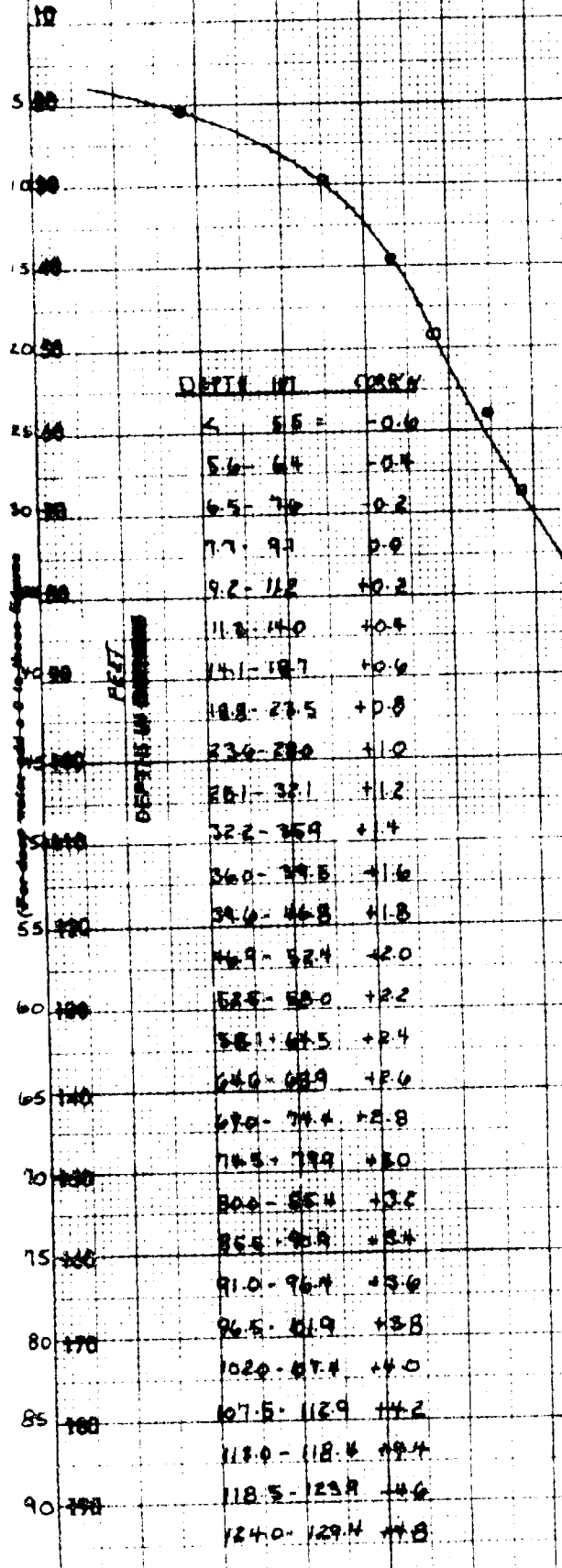
118.6 - 120.5 +4.4  
 120.6 - 134.5 +4.6  
 134.6 + +4.8

DRAWN BY JAG  
 CHECKED BY DGH

(1 foot = 1 inch equal 4 fathoms for deep water and 2 min equal one fathom for shoal water)  
 -0.8 -0.4 0.0 +0.4 +0.8 +1.2 +1.6 +2.0 +2.4 2.8 3.2 3.6

**CORRECTIONS IN FEET, SURFACE**

FORM NO. 117 4-51	U.S. DEPARTMENT OF COMMERCE NAVY AND COAST & GEODETIC SURVEY
<b>VELOCITY CORRECTIONS</b>	
Ship <u>USCGC WHEATING CSS 29</u> Lath	
Comd. <u>H. R. L. BRADY, JR.</u>	
The above observations are to be used	
between <u>July 26</u> 19 <u>64</u> and <u>Sept 30</u> 19 <u>64</u>	
in the locality <u>NANTUCKET Sound</u>	
for hydrographic surveys Nos. _____	



DEPTH FT	CORR'N
5.5	-0.6
6.4	-0.4
7.0	-0.2
9.1	0.0
11.2	+0.2
14.0	+0.4
18.7	+0.6
23.5	+0.8
28.0	+1.0
32.1	+1.2
35.9	+1.4
39.5	+1.6
44.8	+1.8
52.4	+2.0
58.0	+2.2
64.5	+2.4
68.9	+2.6
74.4	+2.8
79.9	+3.0
85.4	+3.2
90.9	+3.4
96.4	+3.6
101.9	+3.8
107.4	+4.0
112.9	+4.2
118.4	+4.4
123.9	+4.6
129.4	+4.8

DRAWN BY LEP  
 CHECKED BY JLG

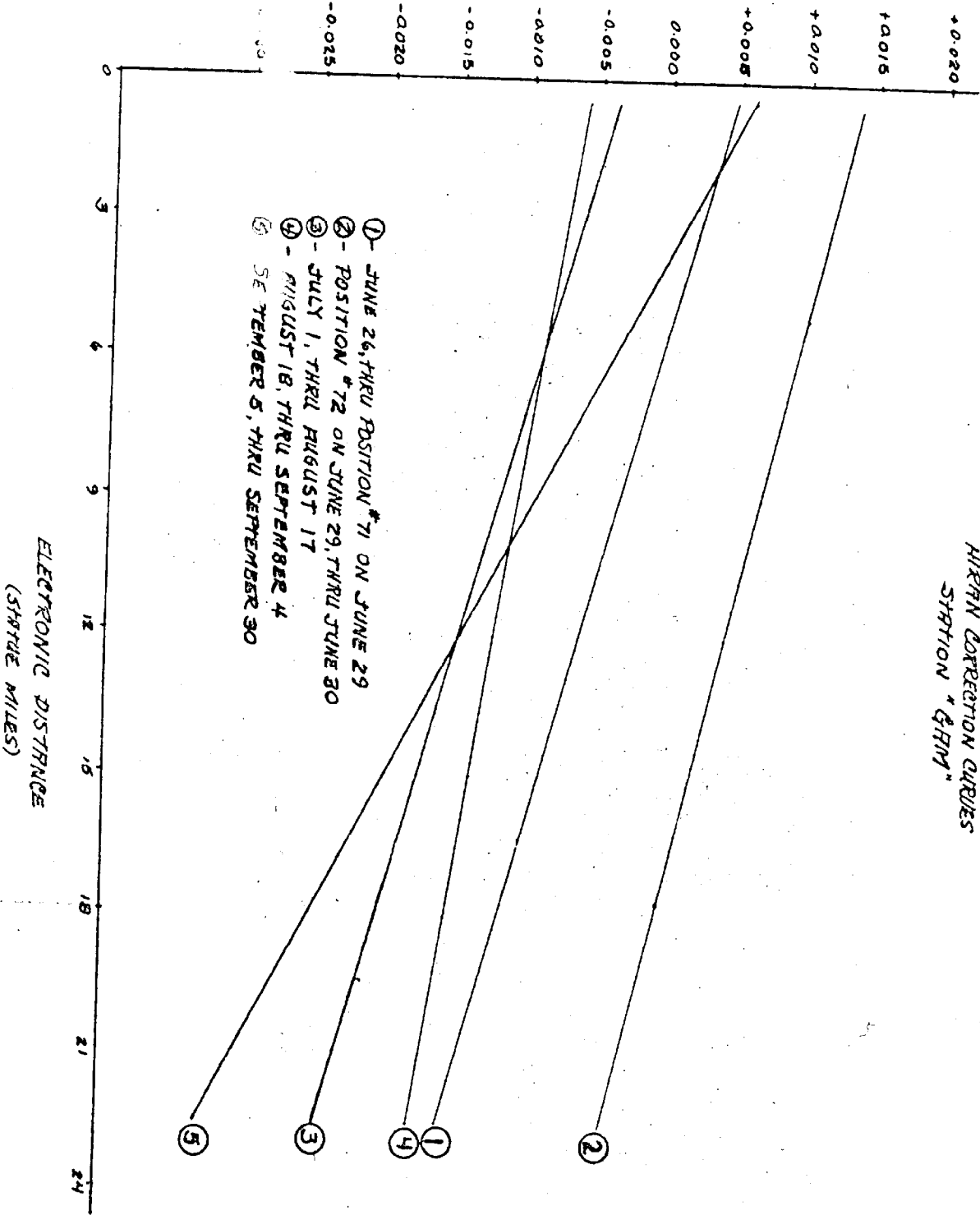
358-1072  
 20 X 20 TO THE INCH  
 K&E  
 KEITHLEY & SINGER CO.  
 MADE IN U.S.A.



1  
KERO  
FORM

CORRECTIONS  
(STATUTE MILES)

1  
KERO  
COPY



- ① - JUNE 26, THRU POSITION #71 ON JUNE 29
- ② - POSITION #72 ON JUNE 29, THRU JUNE 30
- ③ - JULY 1, THRU AUGUST 17
- ④ - AUGUST 18, THRU SEPTEMBER 4
- ⑤ - SEPTEMBER 5, THRU SEPTEMBER 30

LRINLEY # 1  
 PROJECT OPE - 369  
 1964 FIELD SEASON  
 AIRBN CORRECTION CURVES  
 STATION "GHM"

ELECTRONIC DISTANCE  
(STATUTE MILES)

1  
KERO  
COPY

XERO COPY

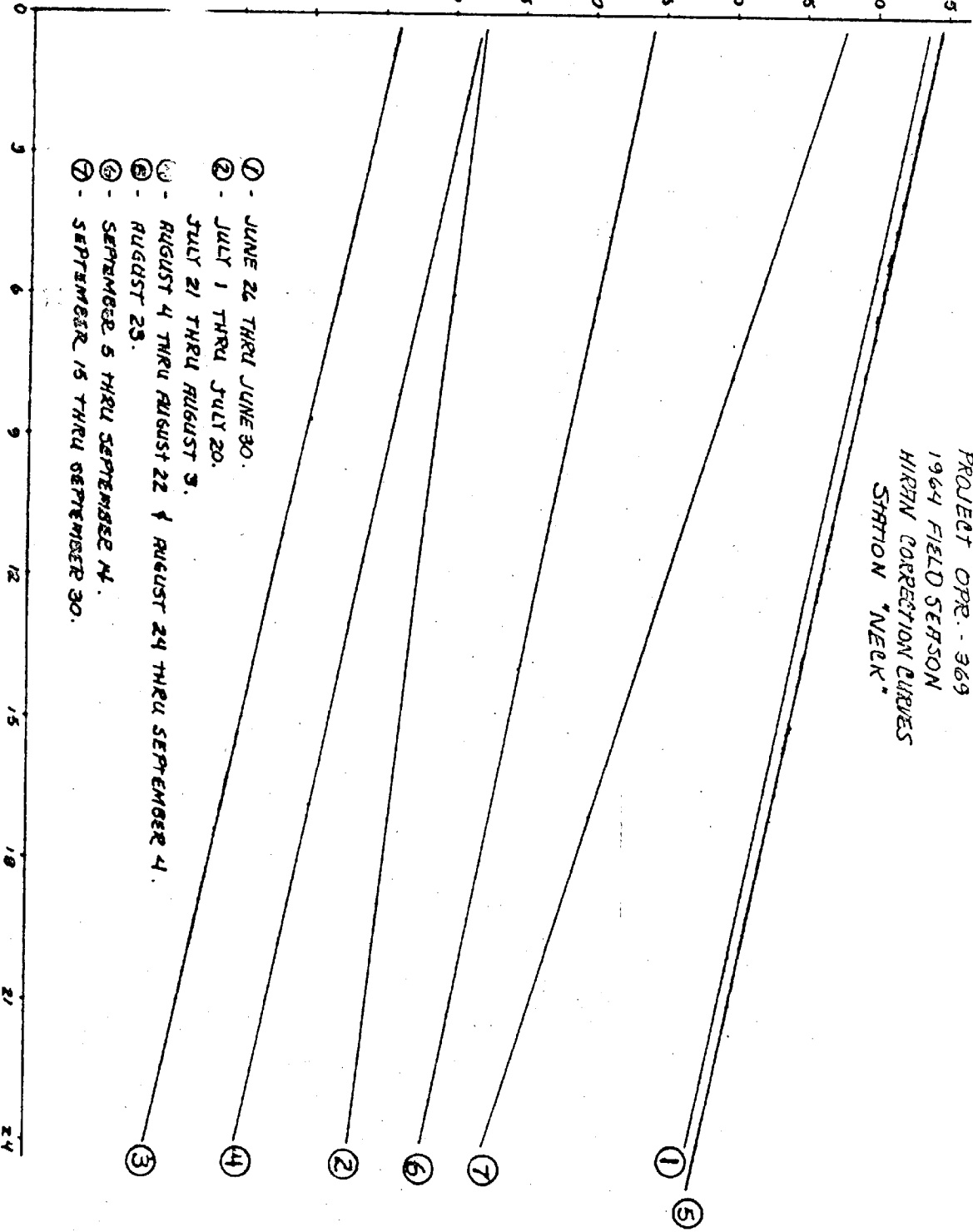
XERO COPY

XERO COPY

### CORRECTIONS

(STATUTE MILES)

- (+)0.035
- (+)0.030
- (+)0.025
- (+)0.020
- (+)0.015
- (+)0.010
- (+)0.005
- 0.000
- (-)0.005
- (-)0.010
- (-)0.015



LHUNGH - 1  
 PROJECT OPR. - 369  
 1964 FIELD SEASON  
 HIRSH CORRECTION CURVES  
 STATION "NECK"

- ① - JUNE 26 THRU JUNE 30.
- ② - JULY 1 THRU JULY 20.  
 JULY 21 THRU AUGUST 3.
- ③ - AUGUST 4 THRU AUGUST 22 & AUGUST 24 THRU SEPTEMBER 4.
- ④ - AUGUST 23.
- ⑤ - SEPTEMBER 5 THRU SEPTEMBER 14.
- ⑥ - SEPTEMBER 15 THRU SEPTEMBER 30.

DRAWN BY JIG.

XERO COPY

NORFOLK HYDROGRAPHIC PROCESSING BRANCH  
 FLOATING AIDS TO NAVIGATION  
 H-8824

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
<u>HORSE SHOE SHOAL</u>					
Lighted Buoy 12A	41-27.48'	70-17.03'	58'	131j(red)	9/25/63
Buoy 9	32.28	23.21	44'	77n(bl)	7/14/64
Wreck Buoy "WR"	30.79	22.69	14'	55v(bl)	7/27/64
West Part South End Buoy 14	30.01	23.43	27'	26z(bl)	8/10/64
Cross Rip Buoy 9	26.83	17.49	47'	1h(red)	9/22/63
Eldridge Shoal Buoy 11	31.98	24.95	28'	145n(bl)	7/14/64
Wreck Shoal Bell Buoy 16	32.64	24.03	52'	20q(bl)	7/16/64
Nantucket Sound Lighted Whistle "MO(A)W"	27.67	23.79	-	117b(red)	9/9/63



NORFOLK HYDROGRAPHIC PROCESSING BRANCH  
ADDENDUM  
To Accompany

HYDROGRAPHIC SURVEY H-8824 (Wh 12.5-1-63)

GENERAL

This appears to be an excellent basic survey in an area where the bottom is very irregular and is subject to rapid shifting and changes in shoaler waters. Critical depths are generally well developed, and the agreement of soundings at crossings is considered very good except for the discrepancy listed below.

DISCREPANCIES

This office was unable to account for scattered depth discrepancies on "C" day, purple, Ship Whiting. This disagreement amounts, in most instances, to from 2 to 3 feet and appears on lines as follows:

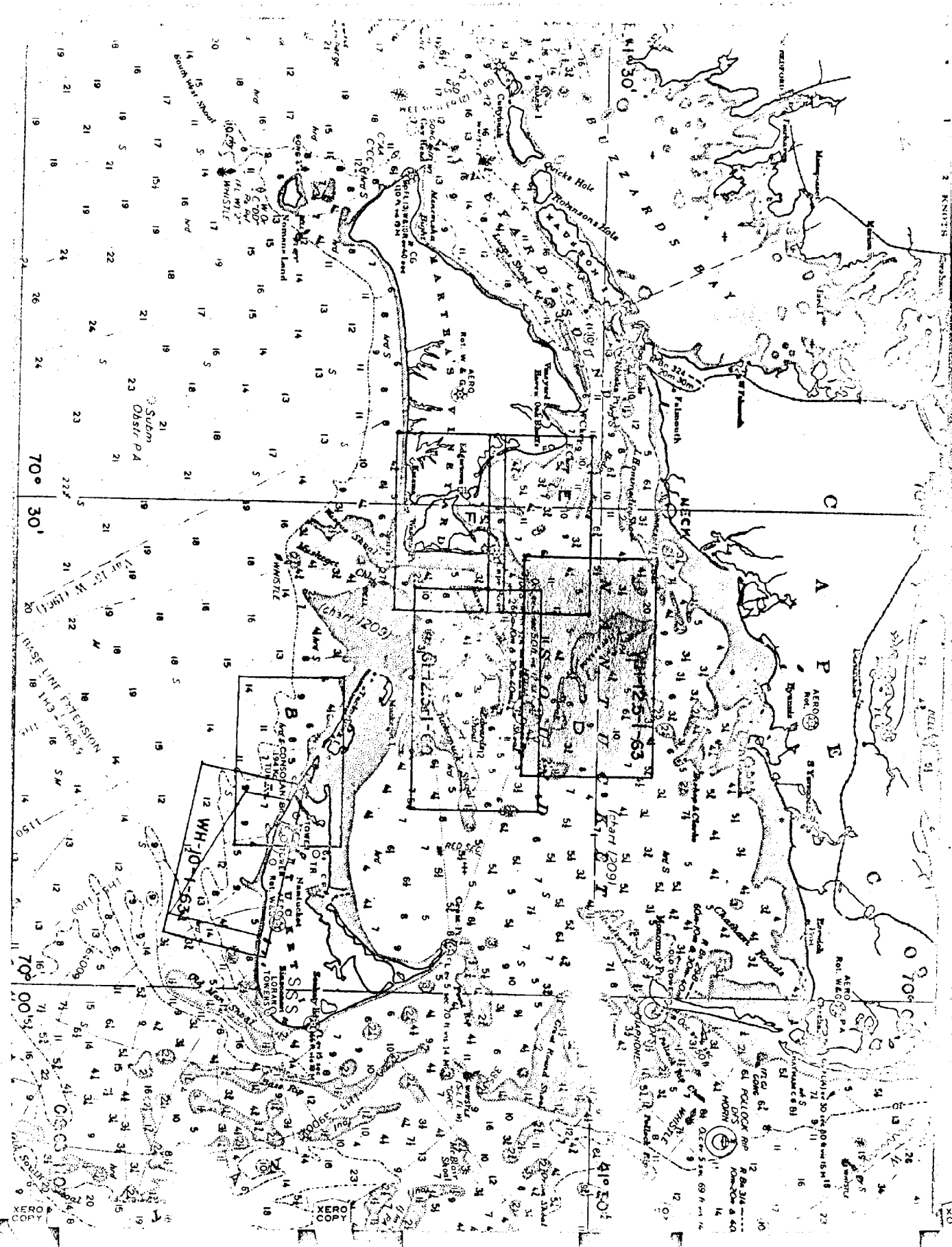
1 - 4C, 6 - 13C, 20 - 33C and 35 - 37C

Soundings on these positions are being submitted on a rough overlay for study and adjustment by Washington Office. Field computations for fathometer correction were not furnished for 1964 Whiting work.

Respectfully submitted,

  
Hugh L. Proffitt  
Carto. Tech.

Norfolk, Va.  
Nov. 2, 1965



XERO COPY

NO 00

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 10, 1966

Nautical Chart Division:

Plane of reference approved in  
34 volumes of sounding records for

HYDROGRAPHIC SHEET 8824

Locality: Nantucket Sound, Mass.

Chief of Party: H. R. Lippold 1963-64

Plane of reference is mean low water

Tide Station Used (Form C&GS-681):

Edgartown

Height of Mean High Water above Plane of Reference is as follows:

~~2.0~~ feet ~~(1963)~~  
2.6 " (1964) more realistic per Wharton

Remarks

  
Chief, Tides and Currents Branch



**VERIFIER'S REPORT**  
**HYDROGRAPHIC SURVEY, H-8824**

**INSTRUCTIONS** - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

**CL - Check List Items:** should be checked as having been completed during the verification processes.

**R - Report Item:** This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p><b>Note:</b> The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>			<p>10. Junctions with contemporary surveys were satisfactory except as follows:  Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of <b>Butt</b> junctions and areas which are <b>SUPERSEDED</b>.</p>		
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>			<p><b>Part IV - VOLUMES</b></p> <p>11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes.  Remarks Required: -- None</p>		
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year.  Remarks Required: -- None</p>			<p>12. Condition of sounding records was satisfactory except as follows:  Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:</p> <p>(a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features</p>		
<p><b>Part II - SHORELINE AND SIGNALS</b></p> <p>4. Source of shoreline signals Remarks Required: -- List all surveys</p> <p>a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed</p>					
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>					
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>					
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet.  Remarks Required: -- List those signals still unidentified.</p>			<p><b>Part V - PROTRACTING</b></p> <p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp.  Remarks Required: -- None</p>		
<p><b>Part III - JUNCTIONS</b></p> <p><b>Note:</b> Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>			<p>14. The protracting and plotting of all unsatisfactory crossings were verified.  Remarks Required: -- None</p>		
<p>9. The notation in slanted lettering "JOINS H--- (19 )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil.  Remarks Required: -- None</p>			<p>15. All detached positions locating <b>critical</b> soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible.  Remarks Required: -- None</p>		

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
<p>16. The protracting was satisfactory except as follows:</p> <p>Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.</p>			<p>26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey.</p> <p>Remarks Required: -- Conflicts of any nature listed.</p>		
<p>17. The protractor has been checked within the last three months.</p> <p>Remarks Required: -- Date of check, type of protractor and number.</p>			<p>27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification.</p> <p>Remarks Required: -- None</p>		
<p><b>Part VI - SOUNDINGS</b></p> <p>18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings.</p> <p>Remarks Required: -- None</p>			<p><b>Part IX - BOATSHEET</b></p> <p>28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information.</p> <p>Remarks Required: -- None</p>		
<p>19. Sounding line crossings were satisfactory except as follows:</p> <p>Remarks Required: -- Discuss adjustments.</p>			<p>29. Heights of rocks awash were correctly reduced and compared with topographic information.</p> <p>Remarks Required: -- Note excessive conflicts with topographic information.</p>		
<p>20. The spacing of soundings as recorded in the records was closely followed;</p> <p>Remarks Required: -- None</p>			<p><b>Part X - GENERAL</b></p> <p>30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2).</p> <p>Remarks Required: -- None</p>		
<p>21. The scanning, reduction, spacing, plotting of questionable soundings have been verified.</p> <p>Remarks Required: -- None</p>			<p>31. Unnecessary pencil notes have been removed from the sheet.</p> <p>Remarks Required: -- None</p>		
<p>22. The smooth plotting of soundings was satisfactory except as follows:</p> <p>Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.</p>			<p>32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet.</p> <p>Remarks Required: -- None</p>		
<p><b>Part VII - CURVES</b></p> <p>23. The depth curves have been inspected before inking.</p> <p>Remarks Required: -- By whom was the penciled curves inspected.</p>			<p>33. The bottom characteristics are adequately shown.</p> <p>Remarks Required: -- None</p>		
<p>24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following:</p> <ul style="list-style-type: none"> <li>a. From T-Sheet in dotted black lines</li> <li>b. From soundings in orange</li> <li>c. Approximate position of sketched curve is dashed orange</li> <li>d. Approximate position of shoal area not sounded in black dashed</li> </ul> <p>Remarks Required: -- None</p>			<p><b>Part XI - NOTES TO THE REVIEWER</b></p> <p>34. Unresolved discrepancies and questionable soundings.</p>		
<p>25. Depth curves were satisfactory except as follows:</p> <p>(This statement should not refer to the manner in which the curves were drawn).</p> <p>Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.</p>			<p>35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.</p>		
<p>Verified by</p>			<p>36. Supplemental information.</p>	<p>Date</p>	

**HYDROGRAPHIC SURVEY STATISTICS**  
**HYDROGRAPHIC SURVEY NO. 8824**

**RECORDS ACCOMPANYING SURVEY:** To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS		1	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	16 programs					
CAHIERS						
VOLUMES	34					
BOXES						
T-SHEET PRINTS (List)						
SPECIAL REPORTS (List)						

**OFFICE PROCESSING ACTIVITIES**

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED				
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS				
ALL OTHER WORK				
<b>TOTALS</b>				
PRE-VERIFICATION BY		BEGINNING DATE		ENDING DATE
VERIFICATION BY		BEGINNING DATE		ENDING DATE
REVIEW BY		BEGINNING DATE		ENDING DATE





currents at thirteen stations are  
 w from the center of the circle  
 e of one inch equals two knots  
 1/2 hours after the time of maximum  
 lock R in Channel, the daily pre-  
 and Geodetic Survey Atlantic  
 itted should be increased by 20  
 decreased by 20 per cent when  
 effect of wind on tidal currents.

