8409

original

Diag. Cht. Nos. 1107 and 1209-3.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. GI 2-5156 Office No. H - 8409

LOCALITY

State MASSACHUSETTS

General locality ATLANTIC OCEAN

Locality EAST APPROACH TO NANTUCKET SOUND

19 57

CHIEF OF PARTY

CHARLES A. SCHOENE, CDR, C&GS

LIBRARY & ARCHIVES

DATE JUNE 1959

COMM-DC 61300

8409

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-8409

Field No. GI-2.5/156

State MASSACHUSETTS

General locality EAST APPROACH TO NANTUCKET SOUND

Locality EAST OF NANTUCKET ISLAND

Scale 1:25,000 Date of survey 12 June 1956 to 10 Oct. 1956

Instructions dated 24 May 1954

Vessel SHIP GILBERT

Chief of party R.A. MARSHALL & C.A. SCHOENE

Surveyed by N.E. TAYLOR, M.B. MILLER, D.G. RUSHFORD & R.H. GARNETT, JR.

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

Fathograms scaled by SHIP PERSONNEL

Fathograms checked by SHIP PERSONNEL & NORFOLK DISTRICT OFFICE

Protracted by A.G. ATWILL

Soundings penciled by A.G. ATWILL

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

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 16—66520-1

H 6242

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY NO. H - 8409

(Field No. GI 2.5156)

Vicinity Of

EAST APPROACH TO NANTUCKET SOUND

U.S.C.&G.S. Ship GILBERT

CDR Charles A. Schoene, Commanding

Scale 1: 25,000

Surveyed by: (1956 Field Season)

R. A. Marshall, CHD, C&GS

N. E. Taylor, LCDR, C&GS

M. B. Miller, Ensign, C&GS

Surveyed by: (1957 Field Season)

C. A. Schoene, CDR, C&GS

D. G. Rushford, Lt., C&GS

M. B. Miller, Ens., C&GS

R. H. Garnett, Jr., Ens., C&GS

A116

INTRODUCTION

GI 2.5/156

H 8409

This report covers all the 1956 and 1957 survey work done on this sheet.

There was no previous report made on the 1956 work and the officers who actually did the work were not available for consultation when the 1956 section of this report was written. The 1956 section was written with the aid of a number of the men who worked on it with all existing records. (See notes of processing office, this D.R.)

The 1957 information was compiled by the officers and men who actually did the surveying.

Where applicable each sub head of this report is divided into 1956 and 1957.

VEH6

A. PROJECT

This report is on work which was done on project 13690, sheet GI 2.5/156. Original instructions are dated 24 May 1954 ref. 22-ret s-2- Parker issued to C. O. Ship [redacted]. supplemental instructions are dated 14 January 1955 ref. to 22-SBO S-2-GI, modified 27 February 1955 ref. to 22/MEK S-2-GI; supplemental instructions were again received dated 27 December 1955 ref. to 22/MEK S-2-GI issued to C. O. Ship GILBERT. The last supplemental instructions were dated 22 October 1956 ref. 22/MEK S-2-GI issued to C. O. Ship GILBERT.

B. SURVEY LIMITS AND DATES

The area covered by this report is offshore of the eastern coast of Nantucket Island and is approximately bounded by the following: latitude 41° 30' on the north and by 41° 11' on the south, longitude 69° 41' on the east and 69° 52' on the west.

The area covered by this sheet includes areas previously surveyed on the following sheets:

No.	Scale	Date
H 2121	1: 40,000	1892
H 5249	1: 40,000	1932
H 2539	1: 20,000	1901
H 6712	1: 20,000	1942 0
H 6714	1: 20,000	1941
H 2095	1: 40,000	1891
H 6713	1: 20,000	1940

No junctions made with these surveys by request.

During the 1956 field season work began on 12 June and ended on 23 November. 1957 field work was begun on 9 May and ended on 10 October.

This sheet junctions with the following surveys:

GI 4156 (H 8350) on the North, PAR 2154 (H 8171) on the West and GI 2157 (H-8450) also on the West. Junctions inked with these surveys. Junctional sheets Southward and Eastward not yet verified. (April, 1964)

C. VESSELS AND EQUIPMENT

1956 - The work done on this sheet in 1956 was entirely done by the Ship GILBERT using fathometer 808 #159 only.

1957 - During the 1957 season the Ship GILBERT and launch CS #180 both worked on this sheet. The ship used the 808 type fathometer Nos. 161 & 162. Launch 180 used 808 No. 159 & EDO No. 213.

V. RHG

D. TIDE AND CURRENT STATIONS

1956 - Tide gages in 1956 were established at Wychmere Harbor, Chatham, Nauequoit, and Quanset Cape Cod. Boat Sheet reducers came from the predicted tide tables for Great Point, Nantucket Island. Final reducers based on the standard gage in Boston were furnished by the Washington office using a ratio of 0.5 plus ½ hour for all the 1956 work. Portable gage values were not used in the reduction of soundings.

note

1957- Tide gages were established at Great Point and Brant Point, Nantucket Island during 1957. These gages were not used for reducing soundings.

note

Tide reducers for the boat sheet came from the predicted tide tables for Boston. There are two tidal zones on this sheet divided by an irregular line (drawn on the boat sheet in red pencil) at approximately ~~70°~~ 41° 23.00'. North of this tidal boundry a ratio of 0.5 plus ½ hour on Boston was used, to comply with the 1956 work. South of this boundry a 0.2 ratio plus 0.0 hours on Boston was used.

Final tide reducers came from the standard gage in Boston. A 0.5 ratio plus ½ hour North of the tide boundry and a 0.2 ratio plus 0.0 hours South of the tide boundry were used. (See tide note)

E. SMOOTH SHEET

The smooth sheet is to be constructed and plotted by the Norfolk Processing Office. (Proj. interv. o.k. Checkd by S.R. 3-9-'64)

F. CONTROL STATIONS

1956 - This survey was controlled entirely by shoran. Control stations used in 1956 were shoran stations CHAT AND GAMM, located at the South light house Chatham, Mass. and at Point Gammon, Mass. These stations are as described in the descriptive report covering the 1956 field season's work on sheet CI 1156 (H 8349) Ship GILBERT.

The exact locations are:

CHAT lat 41° 40' 16.672" ✓ ← checks yr. 1880 (vol. 1, p. 135)
long 69° 57' 01.571" ✓

GAMM lat 41° 36' 37.85" ✓ } Not within limits of H-8409
long 70° 16' 01.89" ✓

1957 - Shoran control for the 1957 field season was from two shore stations and from the Ship GILBERT operating as a shore station.

VRHG

F. (Continued)

The two shore stations were (CHAT) Chatham south lighthouse Chatham, Mass. and (KATY) Sankaty Head light house Nantucket Island. The shoran tower at Chatham was on the Eastern side of the light house and the one at Sankaty was on the southern side of the light house.

The G. P. of Chatham light house is given on page 135 accession no. of computation G 3656. The G. P. of Sankaty Head light house is given on page 9 of accession no. of computation G 1289. The shoran towers were located by azimuth and distance from the above triangulation stations.

The ship was used as a shore station on 8 & 9 October. The ship's location was determined by shoran fixes using KATY & CHAT(see Vol. 6 & 7 L - 180 and shoran report 1956 - 1957) O.K. → 34/35 ← ?

Geographic Positions of actual shoran station towers 1957.

Station KATY Sankaty Head Lighthouse, Nantucket Island.

Lat. 41° 17' 00.521" 16.1 meters
Long. 69° 57' 56.658" 1318.5 meters

Station CHAT Chatham South Lighthouse, Cape Cod.

Lat. 41° 40' 16.637" 513.2 meters
Long. 69° 57' 01.447" 33.4 meters

Not within limits of H-8409

G. SHORELINE AND TOPOGRAPHY

No shoreline or topography extends into the area of the survey.

H. SOUNDINGS

1956 - During 1956 the ship only worked on this sheet. The ship used only fathometer type 808 #159. It is assumed that the corrections for this fathometer should be the same as those listed in the descriptive report for sheet H-2154. They have not been entered in accordance with verbal instructions from the Norfolk Processing Office.(see velocity correction descriptive report H-2154 1956) All soundings are in feet. 1956 soundings have not been reduced.

1957 - Both the ship and launch CS 180 worked on this sheet. The ship used the 808 type fathometer only, Nos. 161 & 162 while the launch used the EDO type mainly, No. 213. 808 #159 was used as a spare. Corrections have been computed and entered in accordance with section 5616, Graphical Determination of Velocity Corrections, see Fathometer Report.

RHG

H. (Continued)

Soundings were read to the nearest 0.5 foot and the corrections were entered to the nearest 0.2 foot except where the depth exceeded 60.0 feet. Corrections were then applied in accordance with section 822 to the nearest foot.

Phase corrections and index corrections were entered in the same column, which may cause some confusion. (To say the least.)

I. CONTROL OF HYDROGRAPHY

Shoran stations CHAT & GAMM provided the 1956 control; stations KATY, CHAT, and Ship GILBERT furnished the 1957 control.

Shoran corrections for both the 1956 work and the 1957 work were computed using the method of theoretical curve as outlined in Hydrographic Instruction 10 (revised) dated 13 May 1957. The tabulated corrections are a part of this report.

J. ADEQUACY OF SURVEY

This survey has been completed and is considered to be fully adequate.

Junctions with adjoing surveys are satisfactory and depth curves can be drawn. Variations up to three (3) feet are found along the tidal zone boundry. Tide zones have since been revised. See tide note. Also see Verifier's Report P 32

K. CROSSLINES

Crosslines comprise about 10% of the survey. Crossings are considered to be generally good and small variations are expected to resolve themselves on the smooth plot.

L. COMPARISON WITH PRIOR SURVEYS

The following is a comparison made individually with each survey in the area.

H - 2121 - 1: 40,000 - 1892

Agreement with this survey which is in the northern section is considered to be good. Orion Shoal was developed more extensively and the least depth

VEHG

L. (Continued)

is now sixteen (16) feet instead of seventeen (17) feet. The shoal itself has shifted slightly to the East.

H - 5249 - 1: 40,000 - 1932

Agreement with this survey which is in the North East is good. A good check was made along longitude 69° 41.00' between latitudes 41° 30.0' and 41° 23.0' and through Great Round Shoal Channel. A new shoal area was investigated fully at latitude 41° 26.35', longitude 69° 46.30' with a least depth of seventeen (17) feet. See 16' on 6-7J day - (Vol. 7)

H - 2539 - 1: 20,000 - 1901

Agreement with this sheet which is in the North West corner is considered good. An eighteen (18) foot shoal at latitude 41° 24.15', longitude 69° 50.20' was not varified. A fourteen foot (14) was found south of that location at latitude 41° 23.90', longitude 69° 50.50'. pos. 73-74 F (16 ft. - Vol. 4)

H - 6712 - 1: 20,000 - 1940

This sheet affords a good basis of comparison between 41° 24.0' and 41° 15.0'. The foul area at latitude 41° 22.5', longitude 69° 47.9' has been fully developed and the shoal at latitiude 41° 21.7', longitude 69° 47.70' has been verified. Shoals at latitude 41° 20.90', longitude 69° 52.7' and latitude 41° 20.3', longitude 69° 52.65' have been verified and further developed. The area marked foul at latitude 41° 18.5', longitude 69° 51.65' has been developed with a least depth of ten (10) feet at latitude 41° 18.08', longitude 69° 51.80'. All other shoal areas were verified. Agreement with this sheet is considered excellent. > 9.4' 185-186 f (9 ft. - Vol. 32)

H - 2095 - 1: 40, 000 - 1891

This sheet was not fully developed. However, the work which was done is in good agreement with GI 2.5156.

H - 6713 - 1: 20,000 - 1940

Agreement and junction with this sheet, which is in the south, is considered to be very good.

M. JUNCTIONS

North H - 8350 - 1: 40,000 - PAR 4154 - GI 4156

Agreement with this sheet is considered to be excellent ~~and~~ except in the

✓ EHG

L. (Continued)

area at approximately latitude 41° 29.94', longitude 69° 45.25'. This sheet junctions along latitude 41° 30.00' which is also the limits of a tide zone which accounts for some of the discrepancy. Inked by verifier. Trouble was experienced with displacement.

West - H - 8171 - PAR 2154 1:20,000

Agreement with this sheet is good except at latitude 41° 24.27', longitude 69° 52.28'. It is believed that the soundings on H - 8171 in that area were insufficiently developed to give an accurate basis for comparison. No great difficulty experienced by verifier.

West - GI 2157 H-8450

Junction with this sheet, which was partly completed by the GILBERT this season, is excellent. Of the three inked junctions this one offered most trouble to the verifier, because shifting-bottom was most pronounced at the depths designated by depth-curves.

M. & H. COMPARISON WITH CHART - DANGERS AND SHOALS

A comparison with Chart 1209, corrected through Notice to Mariners 23 March 1957 was made and the newly found shoals are tabulated below.

This entire area is one in which a great number of shoals are present and continually changing their positions. The important ones are discussed below. This area is used principally by small fishing boats and the area itself is not considered to be of great importance as far as navigation is concerned.

In general, agreement with the chart is considered to be fairly good. Best agreement is in the areas most recently surveyed. All areas shown as foul areas should be deleted from the chart and least depth from the boat sheet should be charted.

Shoal soundings of fourteen (14) feet charted on Mc Blair Shoal have been verified although the shoal has shifted slightly to the south west and is now latitude 41° 23.98', longitude 69° 50.5'; Pos 73 to 74 F day.

Shoal soundings of sixteen (16) feet were found on Orion Shoal where the previous least depth was seventeen (17) feet. The shoal is at latitude 41° 27.58', longitude 69° 49.65'; Pos 30 L day.

Shoal soundings of four (4) & five (5) feet at latitude 41° 19.5', longitude 69° 44.5' were not verified. Shoal soundings of eight (8) feet were found at this area; Pos 119 d day L-180. Six (6) pos. 155-156 j day

Shoal soundings of 10.0 feet at latitude 41° 11.24', longitu de 69° 47.5' were not verified.

VEHG

M. & N. (Continued)

A number of important shoals were reported to the Washington Office. Reference letter to the Director 18 July 1957 and telegram 31 May 1957 from C. O. Ship GILBERT. New shoals were discovered at the following locations:

1. A new shoal, least depth of ten (10) feet, at latitude 41° 13.05', longitude 69° 48.60', pos 139 PA day.

2. A new shoal, least depth of seven (7) feet, at latitude 41° 12.85', longitude 69° 50.57', pos. 95 b day Launch 180.

3. A new shoal, least depth of eight (8) feet, at latitude 41° 13.01', longitude 69° 52.50', pos. ~~50 b day Launch 180.~~ 79-80 AA

charted 8' about 150yds. to the west AJH.

The entire south western corner of this sheet is covered with shoals which do not appear on the chart especially along longitude 69° 52.80' between latitude 41° 11.00' and latitude 41° 13.5'.

Shoaler depths have been found on numerous other shoals. However, the ones listed above are considered to be the most important.

O. COAST PILOT

It is considered that the area surveyed is extremely dangerous to all navigation and should be avoided if possible. Navigators should proceed with caution as the entire area is subject to changes in depth.

P. AIDS TO NAVIGATION See N.P.O. List.

FlW "6" This buoy was located on 18 June 1957 on pos. 12 CA day Vol. 17 in eighty (80) feet of water. Latitude 41° 25.62', longitude 69° 50.33'.

FlW "4" Located on 25 May 1957 on pos. 67 R day Vol. 10 in fifty-six (56) feet of water. Latitude 41° 25.90', longitude 69° 46.37'. Also see pos. 122 "EA" Vol. 20, p.4

(S - L FlW) GRS Whistle Located on 14 June 1957 pos. 39 Y day Vol. 15 in eighty-four (84) feet of water. Latitude 41° 26.26', longitude 69° 43.25'.

C "7" Located on 15 June 1957 on pos. 2 Z day Vol. 15 in fifty-eight (58) feet of water. Latitude 41° 24.24', longitude 69° 50.50'.

C "1RC" Located on 17 June 1957 pos 152 BA day Vol. 17 in forty-four (44) feet of water. Latitude 41° 20.27', longitude 69° 43.88'.

C "5" Located on 15 June 1957 5Z day Vol. 16. Latitude 41° 26' 59", longitude 69° 47' 32"

See N.P.O. list, several pages further on.

RHG

O. (Continued)

This survey is entirely off shore and no cables, bridges, or ferry routes are in the area.

Q. LANDMARKS FOR CHARTS

No comments under this item.

R. GEOGRAPHIC NAMES

An investigation to see if charted names were still in local use was not conducted.

S thru Y. No comment on these items.

Z. TABULATION OF APPLICABLE DATA

Statistics, tide note, velocity correction abstract, shoran corrections, ~~temperature & salinity corrections~~ are included in this report.

Respectfully submitted,

Richard H. Garnett, Jr.
Ensign, C&GS

Approved and forwarded:

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

✓ RHG

JAN 15 [illegible]

267

DEPARTME[illegible] OF COMMERCE
U. S. COAST A[illegible] GEODETIC SURVEY
[illegible] DISTRICT OFFICE
1[illegible] W. [illegible] Road
Norfolk [illegible], Virginia

POST OFFICE ADDRESS

TELEGRAPH ADDRESS

EXPRESS ADDRESS

14 January 1959

The Director
Coast and Geodetic Survey
Department of Commerce Bldg.
Washington 25, D. C.

Subject: Tide Corrections on Survey H-8409 (H-2.5/156)

[illegible] preparations for the smooth plot of [illegible] which falls in the area east of Nantucket Island. The descriptive report for this survey states that all tide corrections for soundings north of Latitude 41° 23' were referred to [illegible] at a ratio of H. W. heights of 0.5 rather than the 0.4 ratio called for in the revised instructions, which were written after the records had been processed. (See letter dated 13 Feb. 1958, File [illegible]).

This survey consists of 35 volumes and approximately half of them fall in the area affected by the ratio change. Since this is an extremely changeable, offshore area of almost continuous sand waves, and since the processing has been accomplished and many of the soundings reduced, it is requested that this office be given permission to accept the tide corrections as entered and thus save hundreds of hours of processing time.

[illegible] 0.5 rather than the 0.4 ratio will create a maximum difference of only one foot at high water, and this difference will be less than those already accepted at normal tidal junctions in this area.

Walter J. Chovan
Walter J. Chovan
Captain, C&GS
Norfolk District Officer

WLP:ms

The slight error arising from the difference in ratios is not significant considering the type of bottom and uncertainties in fathometer soundings. The use of the .5 ratio is granted on H-8409.
R. H. Carstens
Hydro. Sect.

POOR COPY

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON 25, D. C.

IN REPLY ADDRESS THE DIRECTOR
COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO.
36-7-267

19 January 1959

To: Norfolk District Officer
Coast and Geodetic Survey
102 West Olney Road
Norfolk 10, Virginia

Subject: Tide Corrections

There is no objection to the use of the 0.5 ratio for the reduction of tides on Sheet 8409, as noted on the enclosed copy of your letter.

K. G. Crosby, Chief
Tides and Currents Division

Enclosure:

POOR COPY

TIDE NOTE

1956 - Final reducers based on the standard gage at Boston were furnished by the Washington Office. A 0.5 ratio plus ½ hour was used on the final reducers. Portable tide gage records were not used in the reduction of soundings.

1957 - Final reducers were applied in accordance with letter of 3 September 1957 file No. 36-344-982gi. Boston tides with a time difference of plus ½ hour and a range ratio of 0.5 will be used north of the boundry and a ratio of 0.2 with zero time difference was used south of the boundry.

In a letter to the Norfolk District Office dated 13 February 1958(file No. 36-45-267) the tide zones were changed in this area. Therefore, it will be necessary to change the tide reducers before the smooth sheet is plotted.

See enclosed Tide Correspondence

RHG

NORFOLK PROCESSING OFFICE
LIST OF
FLOATING AIDS TO NAVIGATION
H-8409

BUOY	LATITUDE	LONGITUDE	DEPTH	POS.NO.	DATE
Great Round Shoal/ Buoy 6 (#63, P.10 of 1957 Lite List)	41-25.62 Vol. 17, P. 58	69-50.33 (Lighted-whistle) black and white	-	12CA Blue	6/18/57
Great Round Shoal Ltd. Buoy 4 (# 369 P. 96)	41-25.90 vol. 20, P. 4	69-46.38 (Lighted-Red)	53'	122EA Blue See Pos. 67 R vol. 10, P. 50	6/27/57
Great Round Shoal Ltd. Whis. Buoy GRC (#372, P. 96)	41-26.24 vol. 15, P. 48 (black & white, [whistle]) lighted GRS on chart #1209 & #250	69-43.25	78'	39Y Blue	6/14/57
McBLAIR SHOAL WEST Buoy 7 (# 370, P. 96 Lite List 1957)	41-24.22 (black can)	69-50.50	58'	2Z vol. 15 P. 52 blue	6/15/57
Rose And Crown Buoy 1 RC (# 374, P. 10)	41-20.27 (black can)	69-43.88	42'	152BA vol. 17 P. 33 blue	6/17/57
McBlair Shoal Buoy 5 (# 369, P. 96)	41-24.96 (black can)	69-47.52	29'	5Z vol. 15 P. 52 blue	6/15/57

40-47 : -0.
48-50 : -0.

Form No J-100-5

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

0 -0.2 -0.4 -0.6 -0.8 -1.0 -1.2 -1.4 -1.6 -1.8 -2.0 -2.2

CORRECTIONS IN FEET. FATHOMS

DEPTHS IN FATHOMS

(Deep water add a 0 to these figures)

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

VELOCITY CORRECTIONS
U.S. Coast and Geodetic Survey

Ship ..... Corrdg.

These corrections are to be used between 11 June 1956 and 15 June 1956 in the locality Near Rock, Penobscot Bay

for hydrographic surveys Nos. H-8469 H-8470

12 to 15 June 1956

12m 2½c Scale Corrections

-0.2	35' to 39'
-0.4	40 " 47
-0.6	48 " 50
-0.8	51 " 80
-1.0	81 " 103
-1.2	104 " 126

Comp. by H.L.P. 12/56

NOTE: No bar checks were taken on this survey during the 1956 season. Since hydrography was being accomplished on adjoining survey Par-2154 during the same period, bar checks observed for fathometer no. 159 on this survey were used for processing H-2.5/156

In order to obtain corrections for the depths extending beyond the limits of the bar check, the P & S curves from the 1957 season, which were observed at approximately the same time of the year, were utilized to extend the curve from the maximum bar check on the "B" scale.

H.L.P.

(SEE ATTACHED SHEET FOR CORRECTIONS FOR WORK DONE IN NOVEMBER)

Form No J-100-5 (Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

-1.0 -0.8 -0.6 -0.4 -.2 0 +0.2 +0.4 +0.6 +0.8 +1.0 +1.2

CORRECTIONS IN FEET, FATHOMS

10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

DEPTHS IN FATHOMS

(For deep water add a 0 to these figures)

VELOCITY CORRECTIONS
U.S. Coast and Geodetic Survey

Ship ... Comdg.

These corrections are to be used between ... and ... in the locality ...

for hydrographic surveys Nos. ...

18 to 23 Nov. 1956

"B" 5" Scale Corrections

+0.2	35' - 39'
+0.4	40' - 47'
+0.6	48' - 70'
+0.8	71' - 102'
+0.2	103' - 135'

B-1736-5

1956 Velocity Corrections

808 #159

suggestions H.L.P.

There are no bar checks recorded in the GI 2.5156 volumes for 1956. In accordance with verbal ~~instructions~~ from the Norfolk District Office the corrections computed for sheet PAR 2154 should also be used for the GI 2.5156 work done in 1956.

Refer to descriptive report PAR 2154 H - 8171, 1956 Ship GILBERT.

The following corrections were copied directly from the PAR 2154 descriptive report.

2 May 1956
808 #159

A Scale		B Scale	
0 - 20	0.0	40-47	-0.4
20 - 25	-0.2	47-50	-0.6
25 - 30	-0.4		
30 - 34	-0.6		
34 - 38	-0.8		
38 - 42	-1.0		
42 - 45	-1.2		
45 - 48	-1.4		
48 - 50	-1.6		

See appended from J-100-5 for 1956 velocity corrections H.L.P.

✓ EHG

TABULATION OF VELOCITY CORRECTIONS

IN FEET

LAUNCH C.S. 180

1957

EDO No. 213

Depth	Correction
0.0 - 11.0	- 0.4
11.5 - 19.0	- 0.2
19.5 - 30.0	0.0
30.5 - 39.0	+ 0.2
39.5 - 46.0	0.4
46.5 - 52.0	0.6
52.5 - 60.0	0.8
60.5 - 91.0	1.0
92.0 - 126.0	2.0
127.0 - 159.0	3.0
160.0 - 192.0	4.0

808 No. 159

0.0 - 12.0	- 0.2
12.5 - 150.0	0.0

VRHG

STATISTICS (Continued)

Date	Volume	Day Letter	Positions	Naut. Miles of Sdg.	Fath. 808
20 Sept. 1957					
20 Sept. 1957	25 & 26	PA	189	68.9	#161
22 Sept.	26	QA	136	45.8	"
24 Sept.	27	RA	126	46.0	"
5 October	27	SA	44	8.2	"
10 October	27 & 28	TA	20	20.8	"
	1957 Total		4278	1648.2	
	1956 Total		742	409.2	
	Survey Total		5020	2057.4	

IA UNCH 180

GI 2.5156

23 Aug. 1957	29	a	105	40.0	EDO 213 & 808 159
24 Aug.	29 & 30	b	127	48.1	" " " "
25 Aug.	30	c	41	11.0	EDO 213
28 Aug.	30 & 31	d-	185	62.2	"
6 Sept.	31	e	125	44.5	EDO 213 & 808 #159
7 Sept.	31 & 32	f	191	70.7	EDO 213
9 Sept.	32	g	48	14.8	"
2 Oct.	33	h	95	37.0	"
4 Oct.	33 & 34	j	158	57.8	"
8 Oct.	34	k	141	47.0	"
9 Oct	34 & 35	l	135	45.3	EDO 213 & 808 #159
	1957 Total		1351	479.4	

Total - 6675

7

5020
1351
6361

YRNG

STATISTICS

GI 2.$ 156

H - 8409

1956

Date	Volume	Day Letter	Positions	Naut. Miles of Sig.	Path. 808
12 June 1956	1	A	39	17.6	#159
13 June	1 & 2	B	156	78.3	"
14 June	2	C	129	68.7	"
15 June	3	D	83	39.4	"
19 Nov. 1956	3	E	24	16.0	"
20 Nov.	3 & 4	F	154	96.4	"
21 Nov.	5	G	111	67.0	"
23 Nov.	5 & 6	H	46	25.8	"
			742		

1957

9 May 1957	7	J	34	20.0	#161
14 May	7	K	92	39.0	"
16 May	7	L	36	14.0	"
17 May	7 & 8	M	83	19.3	"
22 May	8	N	115	40.2	"
23 May	8 & 9	P	194	69.0	"
24 May	9 & 10	Q	172	67.5	"
25 May	10 & 11	R	188	75.7	"
26 May	11	S	140	57.7	"
27 May	11 & 12	T	190	74.8	"
28 May	12 & 13	U	168	68.0	"
11 June	14	V	174	62.9	"
12 June	14	W	106	33.2	"
13 June	14 & 15	X	188	71.3	"
14 June	15	Y	26	10.3	"
15 June	15 & 16	Z	111	35.3	"
16 June	16	AA	130	48.7	"
17 June	16 & 17	BA	219	85.6	"
18 June	17 & 18	CA	182	67.8	"
19 June	18 & 19	DA	196	78.1	"
27 June	19 & 20	EA	119 & 3 DP	41.4	"
28 June	20	FA	86 & 1 DP	33.0	"
30 June	20 & 21	GA	161	50.8	"
1 July	21	HA	78	26.0	#161 & 162
2 July	21 & 22	JA	207	66.2	#161
26 August	22 & 23	KA	103	37.4	"
10 September-	23 & 24	LA	232	86.5	"
11 September	24	MA	168	62.2	"
12 September	24 & 25	NA	165	54.0	"

V RHG

TABULATION OF VELOCITY CORRECTIONS

IN FEET

SHIP GILBERT

1957

808 No. 161

9 May thru 25 May

Depth	Corr.
0.0 - 20.0	0.0
20.5 - 34.0	-0.2
34.5 - 48.5	-0.4
49.0 - 60.0	-0.6
60.5 - 102.0	-1.0
103.0 - 172.0	-2.0

26 May thru 14 June

0.0 - 20.0	0.0
20.5 - 42.0	-0.2
42.5 - 60.0	-0.4
60.5 - 145.0	-1.0
146.0 - 180.0	-2.0

15 June thru 2 July

0.0 - 25.0	0.0
25.5 - 60.0	-0.2
60.5 - 89.0	0.0
90.0 - 180.0	-1.0

3 July to end of season

0.0 - 14.0	+0.2
14.5 - 60.0	+0.4
60.5 - 116.0	+0.0
117.0 - 180.0	+1.0

808 No. 162

3 July thru end of season

Depth	Corr.
0.0 - 32.5	+0.8
33.0 - 140.0	+1.0

V EHG

SHORAN CORRECTIONS

GAMM

1956

12 June		13 June		14 June		15 June	
-.018	22.3	-.014	21.0	-.014	20.5	-.010	21.1
-.020	23.4	-.016	22.1	-.016	21.6	-.012	22.2
-.022	24.5	-.018	23.2	-.018	22.7	-.014	23.3
-.024	25.6	-.020	24.3	-.020	23.8	-.016	24.4
-.026	26.7	-.022	25.4	-.022	24.9	-.018	25.5
-.028	27.8	-.024	26.5	-.024	26.0	-.020	26.6
		-.026	27.6	-.026	27.1	-.022	27.7
		-.028	28.7	-.028	28.2	-.024	28.8
				-.030	29.3	-.026	29.9
						-.028	31.1
						-.030	32.1
						-.032	33.2

19 November		20 November		21 November		23 November	
.000	21.3	+.006	20.7	-.002	20.8	+.004	20.6
-.002	22.4	+.004	21.8	-.004	21.9	+.002	21.7
-.004	23.5	+.002	22.9	-.006	23.0	.000	22.8
-.006	24.6	.000	24.0	-.008	24.1	-.002	23.9
-.008	25.7	-.002	25.1	-.010	25.2	-.004	25.0
-.010	26.8	-.004	26.2	-.012	26.3	-.006	26.1
-.012	27.9	-.006	27.3	-.014	27.4	-.008	27.2
-.014	29.0	-.008	28.4				
-.016	30.1	-.010	29.5				
-.018	31.2	-.012	30.6				
-.020	32.3	-.014	31.7				
		-.016	32.8				

VRHG

SHORAN CORRECTIONS
CHAT

1956

12 June		13 June		14 June		15 June	
-.012	13.4	-.010	13.0	-.010	12.5	-.014	16.4
-.014	14.5	-.012	14.2	-.012	13.7	-.016	17.5
-.016	15.6	-.014	15.3	-.014	14.8	-.018	18.6
-.018	16.7	-.016	16.4	-.016	15.9	-.0	-------
		-.018	17.5	-.018	17.1		
				-.020	18.2		

19, 20, & 21 November		23 November	
-.012	16.7	-.006	16.3
-.014	17.8	-.008	17.4
-.016	19.0	-.010	18.5
-.018	20.1	-.012	19.6
-.020	21.2	-.014	20.7
-.022	22.3		

VRHG

SHORAN CORRECTIONS 1957 FIELD SEASON Desc Report 1

SHIP GILBERT
KATY GI 2.5 156

8 to 16 MAY	14 to 29 MAY	29 may to 16 june	16 to 20 JUNE
−.0045 @ 16.0 Mi.	+.005 @ 7.2 Mi.	−.001 @ 6.9 MI.	.000 @ 6.8 Mi.
+.008 to 9.8	+.008 to 6.0 Mi.	+.002 to 5.6	+.004 to 5.2 Mi.
.006 10.9	.006 7.0	.000 6.6	.002 6.3
.004 11.9	.004 8.1	−.002 7.9	.000 7.5
.002 13.0	.002 9.2	.004 9.0	−.002 8.6
.000 14.0	.000 10.4	.006 10.0	.004 9.7
−.002 15.2	−.002 11.4	.008 11.0	.006 10.8
.004 16.3	.004 12.6	.010 12.1	.008 11.9
.006 17.5	.006 13.7	.012 13.4	.010 13.0
.008 18.6	.008 14.8	.014 14.4	.012 14.2
.010 19.6	.010 15.8	.016 15.5	.014 15.2
.012 20.6	.012 16.9	.018 16.6	.016 16.3
.014 21.7		.020 17.7	.018 17.5
		.022 18.8	
		.024 19.9	

20 to 29 JUNE	30 JUNE to 3 July	7/25 to 8/5	13 to 22 AUGUST
+.007 @ 6.0 Mi.	+.001 @ 7.07 .000 @ 2.50	+.009 @ 6.8 Mi.	+.005 @ 7.15 Mi.
+.006 to 7.2 Mi.	+.020 to 6.0 Mi.	+.012 to 5.8	+.016 to 1.8
.004 8.4	.018 7.0	.010 6.8	.014 2.9
.002 9.5	.016 8.2	.008 8.0	.012 4.0
.000 10.6	.014 9.4	.006 9.2	.010 5.1
−.002 11.8	.012 10.4		.008 6.2
.004 12.8	.010 11.5		.006 7.3
.006 13.9	.008 12.6		.004 8.4
.008 15.0	.006 13.8		
.010 16.1	.004 14.8		
.012 17.2	1002 15.8		
	.000 16.9		

SHORAN CORRECTIONS 1957 FIELD SEASON

SHIP GILBERT
KATY

22 to ~~29~~ ~~28~~ ~~27~~ ~~26~~ august
-.005 @ 7.8
+.003 24.9

+.012	to 9.8 Mi.
.010	10.9
.008	1119
.006	13.0
.004	14.2

9 to 13 SEPT.
+.005 @ 6.3 Mi.

+.006	to 6.4 Mi.
.004	7.5
.002	8.6
.000	9.7
-.002	10.7
.004	11.7
.006	12.8
.008	13.8
.010	15.0
.012	16.2
.014	17.3
.016	18.3
.018	19.4
.020	20.5

20 to 24 SEPT.
-.002 @ 6.5 Mi.

+.002	to 4.8
.000	5.9
-.002	7.0
.004	8.1
.006	9.3
.008	10.3
.010	11.4
.012	12.5
.014	13.7
.016	14.8

5 OCTOBER
-.034 @ 6.5
-.028
-.030
3.0
4.1
5.2

-.032	to 6.3
.034	7.4
.036	8.5
.038	9.7
.040	10.8
.042	11.8
.044	12.9
.046	14.0
.048	15.0
.050	16.2

10 OCTOBER
-.020 @ 4.3 Mi.

-.012	to 0.6 Mi.
.014	1.7
.016	2.8
.018	3.9
.020	5.0
.022	6.1
.024	7.1
.026	8.2
.028	9.2
.030	10.5
.032	11.6
.034	12.7
.036	13.7
.038	14.8
.040	15.8

LOOK

25 ~~JULY~~/16 AUG
+.0055 @ 2.3 Mi.

+.008	to 1.5 Mi.
.006	2.6
.004	3.7
.002	4.8
.000	5.9
-.002	7.0
.004	8.1

23 SEPTEMBER
+.027 @ 2.5

+.030	to 1.4
.028	2.5
.026	3.6
.024	4.7
.022	5.8
.020	6.9
.018	8.0
.016	9.1
.014	10.2

SHIP GILBERT
CHAT

8 to 16 MAY
-.006 @ 14.0 Mi.

-.012	to 18.2 Mi.
.014	19.3
.016	20.4
.018	21.5
.020	22.6
.022	23.7
.024	24.8
.026	25.9
.028	27.0
.030	28.1
.032	29.2
.034	30.3
.036	31.4
.038	32.5

16 to 29 MAY
-.0 025 @ 13.7 Mi.

-.006	to 16.1 Mi.
.008	17.2
.010	18.3
.012	19.4
.014	20;5
.016	21.6
.018	22.7
.020	23.8
.022	24.9
.024	26.0
.026	27.1
.028	28.2
.030	29.3
.032	30.4
.034	31.5
.036	32.6

29 MAY- 16 JUNE
+.0005 @ 25.5 Mi.

+.022	to 13.5 Mi.
.020	14.6
.018	15.7
.016	16.8
.014	17.9
.012	19.0
.010	20.1
.008	21.2
.006	22.3
.004	23.5
.002	24.6
.000	25.7
-.002	26.8
.004	27.9
.006	29.0
.008	30.1

16 to 20 JUNE
-.003 @ 26.3 Mi.

+.024	to 12.2 Mi/
.022	13.3
.020	14.4
.018	15.5
.016	16.6
.014	17.7
.012	18.8
.010	20.0
.008-	21.1
.006	22.2
.004	23.3
.002	24.4
.0000	25.5
-.002	26.6
.004	27.7
.006	28.8
.008	29.9
.010	31.0
.012	32.1
.014	33.2
.016	34.3
.018	35.4
.020	36.5

20 to 29 JUNE
- .007 @ 23.6

+ .004	to 17.9
.002	19.0
.000	20.2
-.002	21.3
.004	22.4
.006	23.5
.008	24.7
.010	25.8
.012-	26.9
.014	28.0
.016	29.1
.018	30.2
.020	31.3
.022	32.5

30/6 to 3/7
+.014 @ 13.2

+.010	to 16.1
.008	17.2
.006	18.3
.004	19.4
.002	20.5
.000	21.6
-.002	22.7
.004	23.8
.006	24.9
.008	25.9
.010	27.0
.012	28.0
.014	29.1
.016	30.2
.018	31.3
.020	32.4
.022	33.5
.024	34.6
.026	35.7
.028	36.8

22 to 28 AUGUST
+.0055 @ 13.1

-.010	to 22.2Mi.
.012	23.3
.014	24.4
.016	25.5
.018	26.6
.020	27.6
.022	28.7
.024	29.9
.026	31.0
.028	32.1

9 to 13 SEPTEMBER
+.007 @ 21.6

+.016	to 17.7 Mi.
.014	18.8
.012	20.0
.010	21.1
.008	22.2
.006	23.2
.004	24.4
.002	25.5
.000	26.6
- .002	27.7
.004	28.8
.006	29.8
.008	30.9
.010	32.0
.012	33.1
.014	34.2
.016	35.3
.018	36.5

SHIP GILBERT
CHAT

13 to 24 SEPTEMBER -.002 @ 21.7			4 to 7 OCTOBER -.020 @ 20.7 Mi.			10 OCTOBER .000 @ 24.05		
.000	to	21.3 mi.	-.020	to	21.2 Mi.	+.008	to	20.2
-.002		22.4	.022		22.3	.006		21.3
.004		23.5	.024		23.4	.004		22.4
.006		24.6	.026		24.6	.002		23.5
.008		25.7	.028		25.7	.000		24.6
.010		26.8	.030		26.8	-.002		25.7
.012		27.9	.032		28.0	.004		26.8
.014		29.0	.034		29.1	.006		27.9
.016		30.1	.036		30.2	.008		29.0
.018		31.2	.038		31.4			
.020		32.3	.040		32.6			
.022		33.4	.042		33.8			
.024		34.5	.044		34.9			
.026-		35.6	.046		36.0			

SHORAN CORRECTIONS 1957 FIELD SEASON

LAUNCH CS 180 GI 2.5156

CHAT

22 to 28 Aug.		28 to 29 Aug.		6 to 9 Sept.		2 & 4 Oct.	
-0.018 @ 22.0 Mi.		-.024 @ 22.65 Mi.		∠.014 @21.63 Mi.		-.003 @ 22.74 Mi.	
-.010 to	19.7 Mi.	-.020 to	21.7	∠.020 to	20.0	∠.004 to	20.9
.012 to	20.3	.022	22.3	.018	20.7	.002	21.6
.014	21.0	.024	23.0	.016	21.3	.000	22.2
.016	21.7	.026	23.7	.014	22.0	-.002	22.9
.018	22.3	.028	24.3	.012	22.7	.004	23.6
.020	23.0	.030	25.0	.010	23.2	.006	24.2
.022	23.7	.032	25.7	.008	24.0	.008	24.9
.024	24.3	.034	26.3	.006	24.7	.010	25.6
.026	25.0	.036	27.0	.004	25.3	.012	26.2
.028	25.7	.038	27.7	.002	26.0	.014	26.9
.030	26.3	.040	28.3	.000	26.7	.016	27.6
.032	27.0	.042	29.0	-.002	27.3	.018	28.2
.034	27.7	.044	29.7	.004	28.0	.020	28.9
.036	28.3	.046	30.3	.006	28.7	.022	29.6
.038	29.0	.048	31.0	.008	29.3	.024	30.2
.040	29.7	.050	31.7	.010	30.0	.026	30.9
.042	30.3	.052	32.3	.012	30.7	.028	31.6
.044	31.0			.014	31.3	.030	32.2
.046	31.7			.016	32.0	.032	32.9
.048	32.3			.018	32.7	.034	33.6
.050	33.0			.020	33.3		
.052	33.7			.022	34.0		
.054	34.3			.024	34.7		
				.026	35.3		

8 October		9 October	
-.020 @ 20.7 Mi.		∠.012 @ 25.12 Mi.	
-.036	to 26.5	∠.020 to	22.9
.038	27.2	.018	23.6
.040	27.8	.016	24.2
.042	28.5	.014	24.9
.044	29.2	.012	25.6
.046	29.8	.010	26.2
.048	30.5	.008	26.9
.050	31.2	.006	27.6
.052	31.8	.004	28.2
.054	32.5	.002	28.9
.056	33.2	.000	29.6
.058	33.8	-.002	30.2
.060	34.5	.004	30.9
		.006	31.6
		.008	32.2
		.010	32.9
		.012	33.6

VRH6

SHORAN CORRECTIONS 1957 FIELD SEASON

LAUNCH CS 180

KATY

22 to 29 Aug.	6 to 9 Sept.	2 to 4 Oct.	8 & 9 Oct.
∠.0035 @ 7.5 Mi.	-.005 @ 5.76 Mi.	-.005 @ 6.98 Mi.	-.034 @ 4.6 Mi.
∠.026 to 0.5	∠.004 to 3.1	∠.002 to 5.0	-.024 to 1.5
.024 1.2	.002 3.8	.000 5.6	.026 2.2
.022 1.8	.000 4.4	-.002 6.3	.028 2.8
.020 2.5	-.002 5.1	.004 7.0	.030 3.5
.018 3.2	.004 5.8	.006 7.6	.032 4.2
.016 3.8	.006 6.4	.008 8.3	.034 4.8
.014 4.5	.008 7.1	.010 9.0	.036 5.5
.012 5.2	.010 7.8	.012 9.6	.038 6.2
.010 5.8	.012 8.4	.014 10.3	.040 6.8
.008 6.5	.014 9.1	.016 11.0	.042 7.5
.006 7.2	.016 9.8	.018 11.6	.044 8.2
.004 7.8	.018 10.4	.020 12.3	.046 8.8
.002 8.5	.020 11.1	[illegible]	.048 9.5
.000 9.2	.022 11.8		.050 10.2
-.002 9.8	.024 12.4		.052 10.8
.004 10.5			.054 11.5
.006 11.2			.056 12.2
.008 11.8			
.010 12.5			
.012 13.2			

GILB

8 & 9 Oct.
∠.044 @ 8.2

∠.008 to 7.6
.006 8.3
.004 9.0
.002 9.7
.000 10.4

VR116

Chart Comparisons prepared by the smooth plotter—

		Chart 1209 (Reissued 11/24/58)	Chart 250 (July 15, 1957)	S.S.		
41°28.82	69°42.30	No shoal		32.4	15-16 J	✓
41°28.64	69°42.70	" "		36.0	14-15 J	✓
41°28.08	69°47.70	" "		29.0	12-13 P	✓
41°28.30	69°49.20	25		30.8	71-72 B	
41°.60	69°45.20	18		Not found - shoalest 21		
41°26.68	69°45.88	No shoal		16.4	1-2 F	✓
41°26.52	69°46.50	18		Not found		
41°26.70	69°46.70	17 charted just East		16.0	6-7 J	✓
41°26.45	69°47.10	19		Not found - shoalest 26		
41°26.45	69°47.56	22		" " "	28	
41°26.10	69°50.55	22		" " "	41	
41°.90	69°51.40	18		" " "	24	
41°26.55	69°51.80	21		" " "	32	
41°25.95	69°44.15	28		" " "	40	
41°25.45	69°44.50	30		" " "	37	
41°25.68	69°45.65	34		Not developed shoalest in area 51-To 55		
41°25.40	69°45.50	27		" " "	37	
41°25.99	69°50.10	25		Not found shoalest	44	
41°25.67	69°50.80	25	shoal	" " "	48	
41°25.58	69°51.20	24		" " "	50	
41°25.76	69°52.10	—		35	123-124 C	✓
41°25.00	69°46.95	30		26.4 or shoaler	105-106 G	✓

Chart 1209

SE

41° 24.80	69° 44.15	24	Not found - shoalest 30 SE 67-68 G
41° 24.85	69° 44.50	30	" " " 35 To 40
41° 24.05	69° 45.50	28	" " " 35 & 36
41° 24.30	69° 45.95	36	30.0 53-54 G ✓
410 24.85	690 46.35	25	In area 23 110 - 111 F ✓
41 4.50	69° 46.65	22	Not found - shoalest 30 To 37
41° 24.75	690 47 45	21 shoal	" " " 34
41° 24.50	690 47.43	30	" " " 50
410 24.35	690 48.10	25	53 - shoal does not extend SE
410 24 15	690 48.90	18	Not found - shoalest 25 - shoal near West See 18 on 7-8 BA
41° 24.05	690 49.90	16	shoalest 17 - direction of shoal changed
41° 23 80	69° 47.70	9	Shoalest 11
41 3.55	69° 47.45	Shoalest 11 South	9 - 106-107 NA ✓
41° 23.28	690 47.85	9	Not found shoalest 23
410 23.90	690 48.10	38	" " " 66
41° 23.99	690 48.90	21	" " " 36
410 24.00	690 50.30	14	" " " 32
41° 22.20	690 44.18	No shoal	30 133-134 U ✓
410 22.40	690 46.50	25	Not found shoalest 37
41° 22.30	69° 47.00	16	14 - 76-77 J ✓
41° 22.40	690 47.70	9	Not found shoalest in area 14
410 22.70	690 53.00	30	" " " " " 48
410 22.20	690 53.00	27	" " " " " 35

CHART 1209

SS

41° 21.05	69° 44.60	21	Not found shoalest	38
41° 21.80	69° 53.05	27	" " "	56
41° 21.76	69° 53.50	17	Not found - but area not developed	
41° 23.65	69° 51.85	58	32.8	1-2 V ✓
41° 23.40	69° 51.55	55	31.9	33-34 G ✓
41° 22.44	69° 44.53	33	30.5	64-65 CA ✓
41° 22.05	69° 45.55	35	21.4	173-174 BA ✓
41° 22.75	69° 45.58	32	30.4	68-69 BA ✓
41° 22.08	69° 50.98	40	31.4	32-33 V ✓
41° 22.95	69° 52.55	No shoal	30.2	38-39 V ✓
41° 21.22	69° 44.16	" "	25.3	200-201 BA ✓
41° 21.45	69° 45.63	27	18.4	88-89 a ✓
41° 21.50	69° 46.62	27	17.2	104 a ✓
41° 21.04	69° 47.86	23	13.6	7-8 FA ✓
41° 21.92	69° 50.85	45	36.0	136-137 S ✓
41° 22.68	69° 47.2	No shoal	7.2	82-83 j ✓
41° 21.05	69° 46.48	" "	21.0	95-96 a ✓
41° 20.43	69° 46.83	14	29	
41° 20.60	69° 50.90	27	Not found shoalest	51
41° 19.80	69° 45.48	11	" 16 shoalest this area	
41° 19.85	69° 50.40	28	No shoal found	
41° 19.65	69° 51.85	27	" " "	

Chart 1209 SS

41° 19.25	69° 52.00	13	No shoal This area		
41° 19.45	69° 52.78	12	27 shoalest " "		
41° 19.65	69° 52.38	11	13 " " "		
41° 20.33	69° 45.26	15	11.4	120 NA	✓
41° 20.5	69° 45.82	No shoal	10.0	101-102 a	✓
41° 20.20	69° 47.52	18	15.6	137-138 NA	✓
41° 19.82	69° 45.05	No shoal	15.4	121-122 NA	✓
41° 19.16	69° 50.02	No shoal	24.4	159-160 T	✓
41° 20.19	69° 44.83	" "	10.	106-107 c	✓
41° 17.90	69° 43.40	28	58	No shoal This area	
41° 17.45	69° 43.35	16	32 " " " "		
41° 25	69° 43.40	13	29 " " " "		
41° 17.02	69° 43.40	9	23 " " " "		
41° 17.58	69° 44.20	15	37 " " "		
41° 16.52	69° 43.35	9	32 " "		
41° 17.64	69° 50.82	10	9.6	14-15 AA	
41° 17.6	69° 51.7	41	15.1	184-185 F	✓
41° 17.92	69° 51.7	No shoal	10.0	79-80 RA	✓
41° 16.97	69° 51.35	22	18.2	7-8 d	✓
41° 16.73	69° 50.05	No shoal	17.0	117-118 b	✓

		chart		
41°11.45	69° 43.8	16	No shoal found	
41°12.12	69° 47.93	No shoal	27.1	56-57 DA ✓
41°15 9	69° 44.3	19	16.2	37-38 LA ✓

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8409 (Gi-2.5/156)

GENERAL

This appears to be an excellent basic survey in an area of almost continuous sandwaves. Agreement of soundings at crossings is generally good considering the extremely irregular character of the bottom

PROCESSING

Fathometer velocity corrections, for the 1956 field season, were compiled and entered by this Office as all experienced Officers were transferred from Ship Gilbert before this phase of the processing was accomplished. (See attached forms number J-100-5).
For 1956 bar-checks see H-8191 (and the attached information in this D.R.)

Soundings in volumes 2 thru 6 were reduced by the template method. All other volumes were reduced in the conventional manner.
"Template" reductions were of 1956 work.

See attached copy of letter dated 14 Jan. 1959, concerning tide corrections.

SHORAN CONTROL

Positions 91 thru 141k and 32 thru 1351, Lch. 180, were plotted using Ship Gilbert as a shoran station. The various locations of the ship may be found in volume 34, pages 35,41,61 and 69. Shoran curves for these stations were drafted on a transparent overlay to avoid congesting the sheet with four additional sets of curves.

OVERLAYS

For the convenience of the verifiers, the smooth plotter has prepared several overlays showing some of the represenative soundings along with their position numbers. The depth curves on the overlays delineate areas free of shoaler soundings and they should prove useful for applying immediate corrections to existing charts.

The depth curves on the smooth sheet were drafted as the soundings were plotted. This procedure was followed as the lack of space prevented the plotting of most of the deeper soundings in the more irregular and congested areas. Good idea.

Further chart comparisons, compiled by the smooth plotter, are attached to this report.

Norfolk, Va.
1 June 1959

Respectfully submitted,
Hugh L. Proffitt
Hugh L. Proffitt
Cartographer

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8409

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			(title)							1
Massachusetts			"						BGN	2
Nantucket Sound			"						BGN	3
Following names from chart 1209 can be applied if desired after inking:										4
Bass Rip										5
Great Rip										6
Great Round Shoal										7
Great Round Shoal Channel										8
McBlair Shoal									BGN	9
Orion Shoal										10
Rose and Crown										11
				Names approved Aug. 11, 1959						12
						L. Heck				
Tide Station off sheet:										13
Boston										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8409

Records accompanying survey:

Boat sheets 1; sounding vols. 35; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 42-Envelopes

special reports, etc. 1-Smooth sheet, 1-Descriptive report,

9-Overlay tracings and 1 Cahier- Misc. Field Data. 1-Special report from Ship GILBERT 1956-'57; and one plastic overlay of shoran arcs for use for distances from "GILBERT".

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

Number of positions on sheet		6675
Number of positions checked		35
Number of positions revised		0 (very slight shift of a few positions using "GILBERT" as control)
Number of soundings revised (refers to depth only)		37 (to straighten depth curves, or to agree with crossing or because fath was read at peak.)
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0 - shoran control
Topographic details	Time	0 - offshore sheet
Junctions	Time	75 hrs. (Includes comparison with 3 contemporary and 5 old jets.)
Verification of soundings from graphic record	Time	150 hrs. (Much less-exacting scanning by verifier volumes 15-35 than volumes 1-14 see ¶ 14 of verifier's report.)

Verification by A. L. Rose Total time 855 hrs. Date Sept. 8, 1964

Reviewed by..... Time ..... Date .....

24.5 hrs. per volume

M-2232-1

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8409

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken. "NP" marked in volumes 1-14 in all cases. Few "NP" marked in volumes 15-35 in order to conserve verification-time. See p 14 this report.
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.
3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.
4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering. offshore sheet. No topo.
5. 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. Entirely too much time required to rescan fathograms due to deeps being originally omitted. Pages 7, 11 and 59 of volume 14 are a few of many examples.
6. All positions verified instrumentally were check marked in the sounding records. Odessey protractor used.
7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.
8. The metal protractor has been checked within the last three months. Odessey protractor used.
9. The protracting and plotting of all bad crossings were verified.
10. All detached positions locating critical soundings, rocks or buoys were verified.
11. The boat sheet was compared with the smooth sheet. Pos. 4-8 "MA" (vol. 24) plotted on S.S. as shown on B.S.

P14 Rather exacting verification volumes 1 thru 14. All depths not inked on smooth-sheet were marked "NP" in volumes: 1-14; all deeps were read, altho not inked. At that point, in conference with Commander Taylor, Mr. Carstens and Mr. Benson, the verifier was told to scan much more rapidly by "calling" only critical deeps, or deeps showing feature. This was done, but even so, the inking of close to 35,000 individual depths, the verification of all peaks, the extensive junctional detail and the severely-critical depth-curve detail required six months of "overall" time. Included in this "overall"-time, however, was 80 hours on the IBM and related automated-verification, and 80 hours of annual leave.

12 The spacing of soundings as recorded in the records was closely followed.

13. The bottom characteristics were shown on outstanding shoals.

14. The reduction and plotting of doubtful soundings were checked. Note sink-hole, pos. 47-48 "S", vol. 11, p. 33, crossline, pos. 7-8 "7A" vol. 27 p. 55 Also, pos. 129-130 "S", vol. 11, p. 58. Also, pos. 48 "T" area, vol. 12, p. 9 and, pos. 166-167 "V", vol. 14, p. 14 --- pos. 93-94 "X", vol. 15, p. 8

15. The transfer of contemporary topographic information was carefully examined.
offshore sheet. No topo.

16. All junctions were transferred and overlapping curves made identical. Junctions O.K. considering the rough bottom and the constantly shifting sand-ridges. Seventy-five hours were required to ink the verified junctions and to compare the unverified ones. Final inking reflects shoal depths, rather than later information unless later information seemed to be more correct.

17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.

18. The depth curves have NOT been inspected before inking.

19. All triangulation stations and transfer of topographic and hydrographic signals were checked.

20. Heights of rocks were checked against range of tide.
No rocks

21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
No rocks - offshore sheet

22. Unnecessary pencil notes have been removed.

23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.
No signals. Shoran control.

24. The low water line and delineation of shoal areas have been properly shown.
offshore sheet.

25. Degree and minutes values and symbols have been checked.

26. Questionable soundings have been checked on the fathograms. Whether the 75 ft. peak at pos. 195-196 "DA" (vol. 19, p. 32) is correct or is the result of fathometer malfunction is open to question. Field note p. 33 vol. 19, claims trouble with fathometer. (N. 41° 13.6' & W. 69° 46.7')

27. Source of shoreline and signals (when not given in report).
Offshore sheet

28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.

29. All aids located, with those on contemporary topographic sheets, have been shown on survey.

30. Depth curves were satisfactory except as follows:

31. Sounding line crossings were satisfactory except as follows:

32. Junctions with contemporary surveys were satisfactory except as follows: The rough-bottom permitted shifting of the depth-curves in difficult areas, however, such shifting also required considerable work under the reflecting projector. Unfortunately, the unusual scale of H-8409 permitted no direct transfer by trace-paper. Nearly ten working-days were required to examine the unverified junctional sheets and to ink the ones verified. Generally, final-inking reflects favoring shoal depths unless later information seemed more correct.

33. Condition of sounding records was satisfactory except as follows:
Field was experiencing trouble with the fathograms slipping. Note portions of fathograms on "FA" and "GA" days.
Fathogram at pos 18 "d" (red, vol. 30) traced initial precisely paralleling bottom. Both field and P.O. read the trace wrong. (should be photographed for purposes of training.)

34. The protracting was satisfactory except as follows:

35. The field plotting of soundings was satisfactory except as follows: Entirely too much time required to rescan fathograms. Original Scanner skipped deeps. (Some peaks also skipped: pos. 75-76 "LA", vol. 23)
pos. 48-49 "TA", vol. 27)

36. Notes to reviewer: Conflicting information RE: buoy N.41°26.24' & W.69°43.25' "GRS" on chart #1209; "GRC" in Light List year 1957. See vol. 15, p. 48, also this D.R. "NPO Floating Aid List".

"BREAKERS", vol. 29, p. 19-20, referred to as "tide-rips" on hydro-lines in the same area. (Embed "tide-rips") (N.41°20.25' & W.69°46.70') ..... also note reference to "breakers" vol. 29, p. 50-51.

Verified by A. Rose Date Sept. 8, 1964

RHC

Form 712
(11-30-55)

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens 15 July 1959

Plane of reference approved in
35 volumes of sounding records for

HYDROGRAPHIC SHEET 8409

Locality Nantucket Sound, Mass.

Chief of Party: R.A. Marshall)
C.A. Schoene) in 1956-57

Plane of reference is mean low water

ft. on tide staff at

ft. below B.M.

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

4.8 ft. for the north part
1.9 ft. for the south part

Tide range differs by 3 feet???

Condition of records satisfactory except as noted below:

NOTE: Tide reducers for the positions listed below have been revised in red and verified:

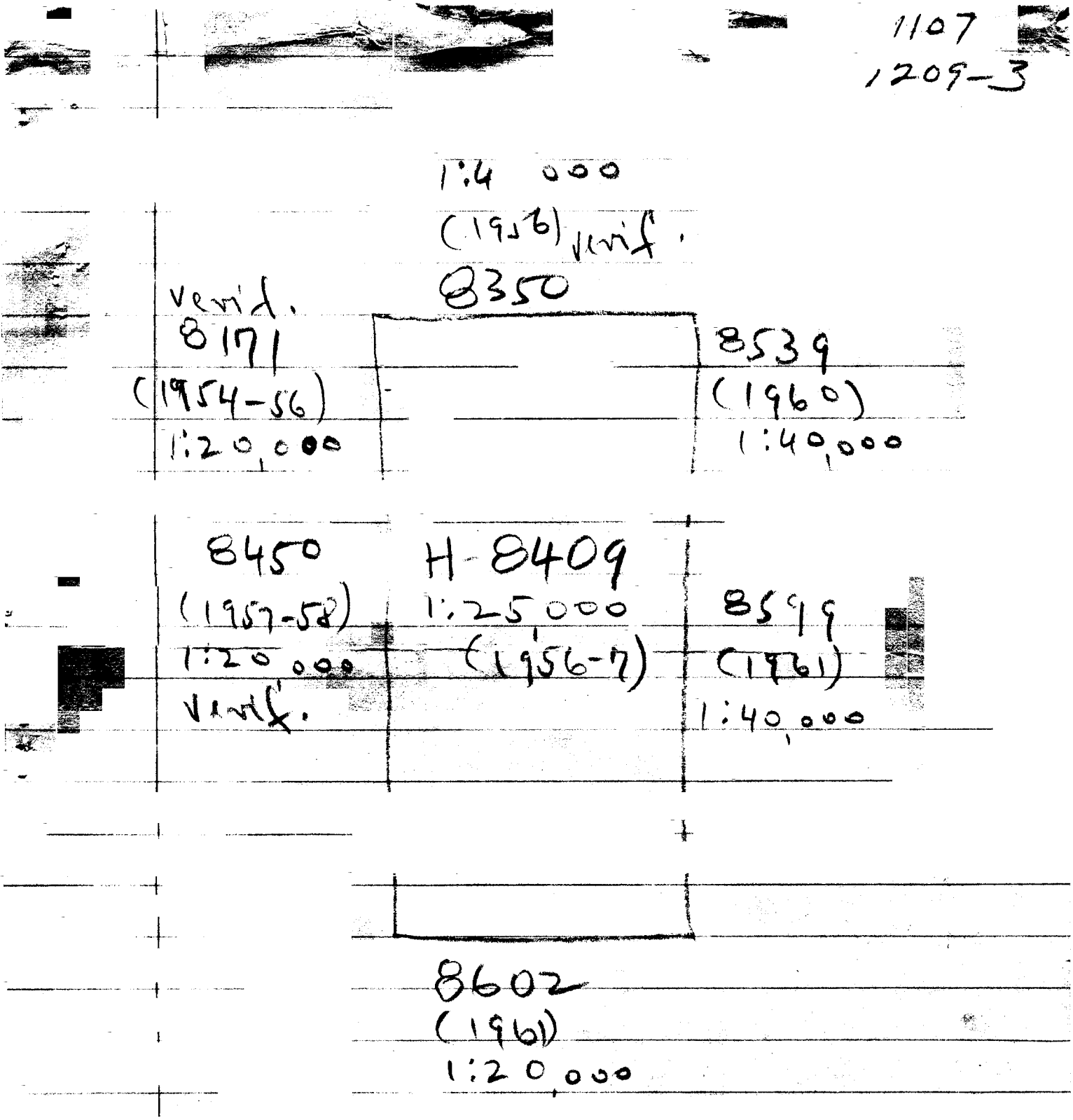
Vol.	Positions
7	84K - 90K

William Shapiro
Signature

Chief, Tides Branch

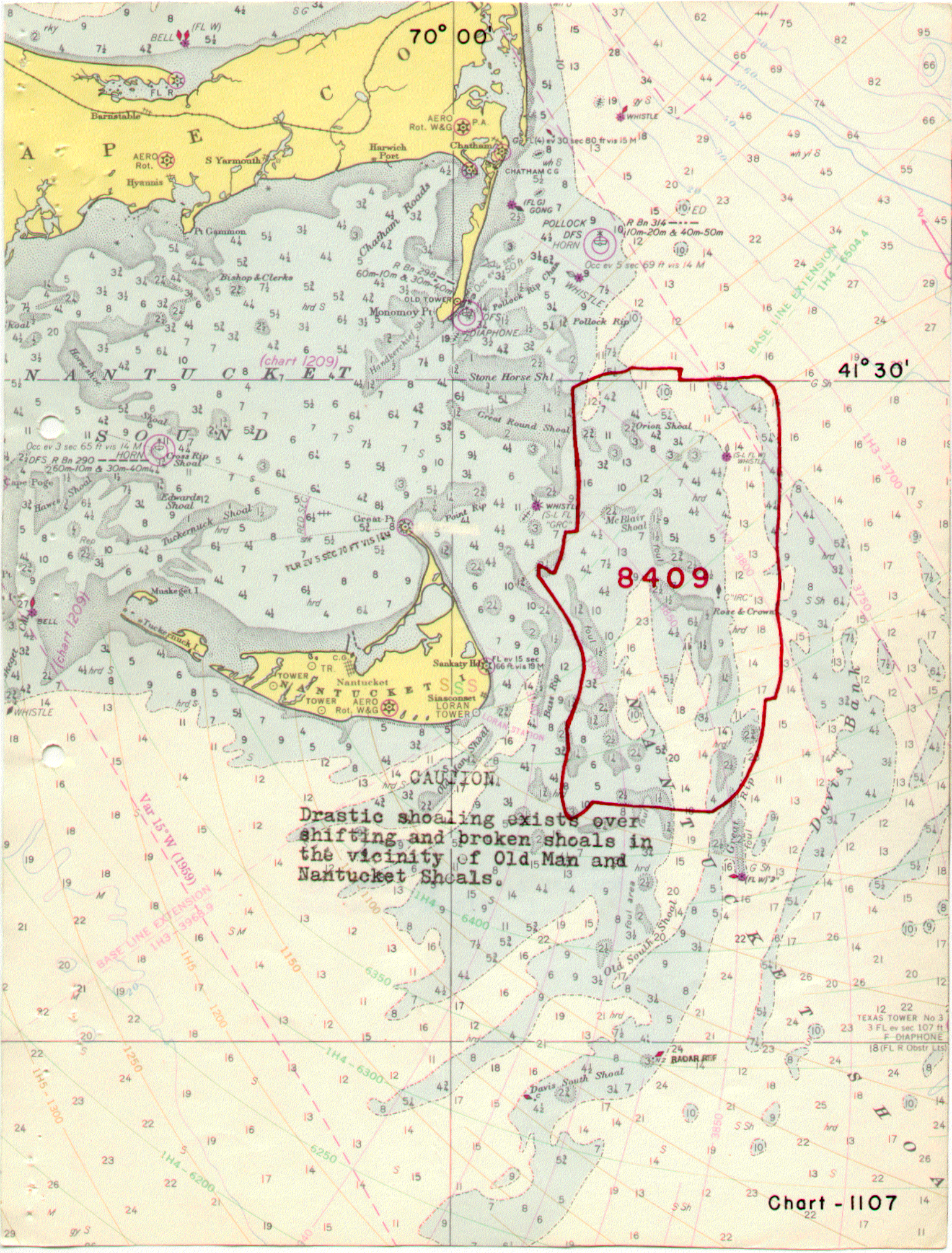
Comm-DC 34330

1107
1209-3



H-6712 (1940) 1:20
H-6714 (1941) 1:20
H-6713 (1940) 1:20
H-2041 (1890) 1:40
H-2121 (1892) 1:40

No junction point with these


70° 00'
41° 30'
8409
CAUTION
Drastic shoaling exists over shifting and broken shoals in the vicinity of Old Man and Nantucket Shoals.
Chart - 1107
(chart 1209)
NANTUCKET SOUND
CAPE COD
Var 15° W (1959)
BASE LINE EXTENSION
1H4 - 6504.4
1H3 - 3968.9
1H4 - 6300
1H4 - 6200
1H5 - 1300
Barnstable
Hyannis
S Yarmouth
Harwich Port
Chatham
Pt Gammon
Bishop & Clerks
Monomoy Pt
Stone Horse Shl
Great Round Shoal
Orion Shoal
McBlair Shoal
Rose & Crown
Cross Rip Shoal
Edwards Shoal
Tuckernuck Shoal
Muskeget I
Tuckernuck I
Great Pt
Point Rip
Sankaty Hd
Nantucket
Siasconset
Bass Rip
Davis South Shoal
Old South Shoal
Davis Bank
TEXAS TOWER No 3
3 FL ev sec 107 ft
F DIAPHONE
18 (FL R Obstr Lts)
RADAR RCF

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8409

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6/19/59	71	S.A.M.	Before ~~After~~ Verification and Review
12			Partial.
12 Aug 59	1108	Tuckish	Before ~~After~~ Verification and Review via 718 1107 SMA
			Partial appl.
8/13/59	70	S.A.M.	Before ~~After~~ Verification and Review via dwg 71 SMA
9-18-59	1209	A.J. Hoffman	Before ~~After~~ Verification and Review Critical VARD and go.
9/30/59	1107	J H E	Before ~~After~~ Verification and Review
3-7-60	1000	R.E. Elkins	Before ~~After~~ Verification and Review
			thru chrt 1108 dwg 25 – no rev.
11 Oct 61	250	Ganse	Before ~~After~~ Verification and Review
			Partially applied.
Jul 71	1209	R.D. Samuchi	Before ~~After~~ Verification and Review
			Examined & brought into partial agreement w/chrt 250 dwg #20
12/1/78	1108	Bill Wanless	Before ~~After~~ Verification and Review
			Adequate Application Class #1
8/20/92	13244	John Barker	Before ~~After~~ Verification and Review Consider fully
			Applied - no further processing anticipated

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.