

8541

Diag. Cht. No. 1107.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ^{EX-}40-3-60 Office No. H-8541

LOCALITY

State Massachusetts

General locality Nantucket Shoals

Locality Central Nantucket Shoals

19 60

CHIEF OF PARTY

Edmund L. Jones, CAPT, C&GS

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DATE **MAR 7 1961**

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8541

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-8541

Field No. EX-40-3-60

State Massachusetts

General locality Nantucket Shoals

Locality Central Nantucket Shoals

Scale 1:40,000

Date of survey 23 June to 11 Sept., 1960

Instructions dated 28 November 1956

Vessel USC&GSS EXPLORER

Chief of party E. L. Jones

Surveyed by H. D. Reed Jr., G. DeGroot, M. T. Egan, J. B. Allen, R. L. Hess,
R. E. Moses, P. A. Martus, R. I. Greene, M. J. Umbach, G. A. Maul

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand level~~

Fathograms scaled by Ship's personnel

Fathograms checked by Ship's personnel

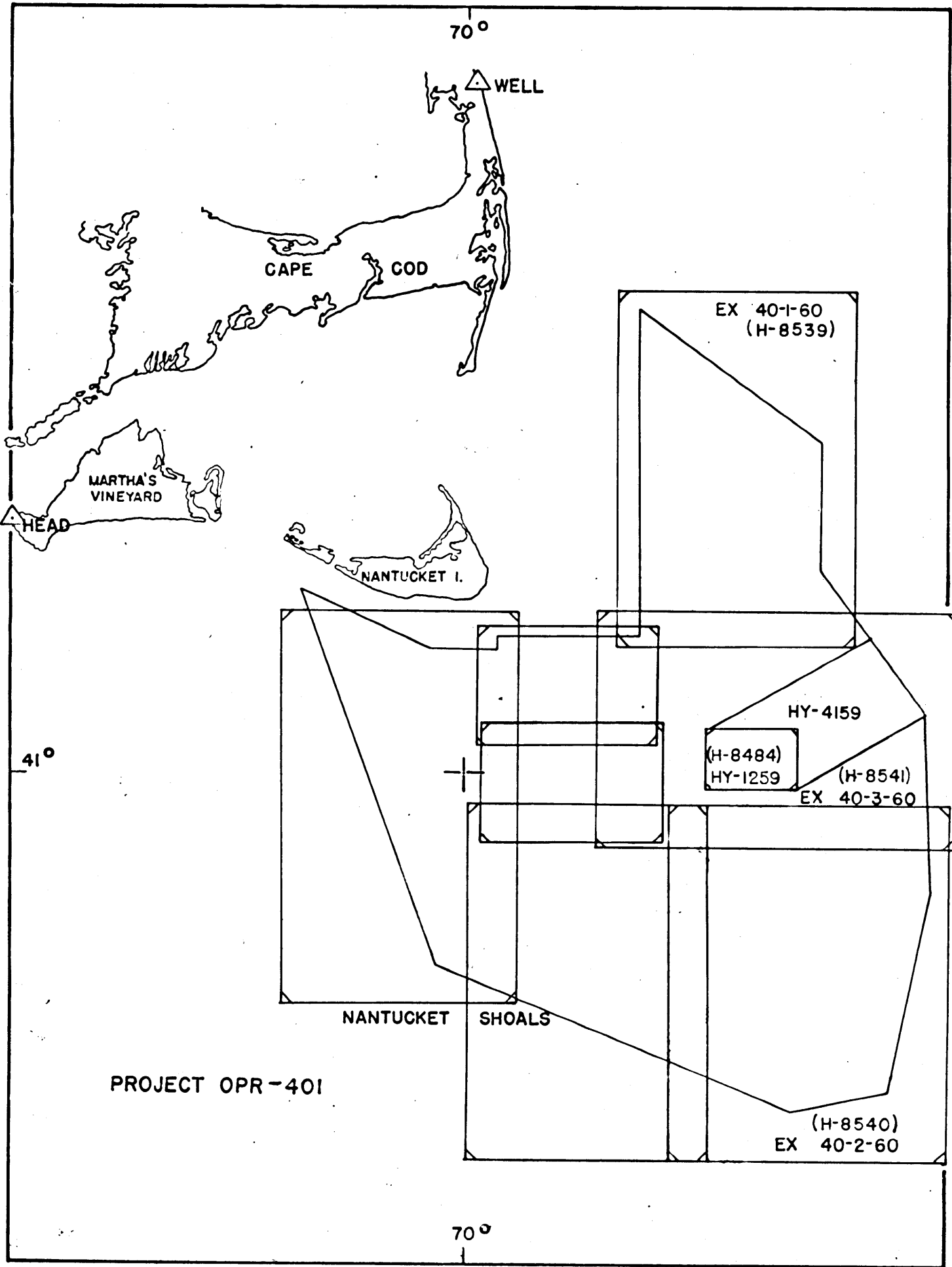
Protracted by Ray E. Moses

Soundings penciled by Will Connell

Soundings in fathoms ~~feet~~ at MLW ~~XXXXX~~

REMARKS: The hydrography within these sheet limits is not complete but is submitted in accordance with oral instructions from the Washington Office on 31 January 1961. New sheets with Raydist curves for the new frequencies are to be prepared for the 1961 season's work and will cover the uncompleted part of H-8541.

314



PROJECT OPR-401

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY

H-8541 (Field No. EX-40-3-60) Scale 1:40,000

USC&GSS EXPLORER

Edmund L. Jones, CAPT, C&GS, Comdg.

A. Project:

Hydrography was done in accordance with Instructions for Project CS-401, Nantucket Shoals, dated 27 November 1959; and Supplemental Instructions, dated 10 May 1960.

B. Survey Limits and Dates:

The survey layout covers an area centered around Texas Tower #3, between latitudes 40°55'N and 41°12'N, and between longitudes 69°09'W and 69°45'W and excludes the area completed by the Ship HYDROGRAPHER, sheets HY-1259 (H-8484) and HY-4159 (H-8541). The registry No. H-⁸⁵⁶⁹~~8541~~ was assigned to the HYDROGRAPHER's 1959 sheet and ^{H-8541} ~~also~~ to the EXPLORER's 1960 sheet, by phone conversation to Operations Division on March 1, 1961.

*Numbers
changed*

Field work this season for this sheet began 23 June 1960 and ended 28 September 1960.

This survey covers an area containing parts of the following prior surveys:

H-6559 a&b	1:100,000	1940
H-6439	1:60,000	1939
H-5275	1:100,000	1932
H-6713	1:20,000	1940
H-6558	1:40,000	1940
H-5227	1:40,000	1932

Descriptive Report (continued)

Junctions are made with contemporary surveys HY-1259 (H-8484), 1959
and with HY-4159 (^{H-8569}~~H-8541~~), 1959.

Frequent occurrence of dense fog and malfunctioning Raydist equipment hampered progress on this survey.

C. Vessels and Equipment:

The Ship EXPLORER and launches #1, 2 and 3 were used in this survey.

The turning radius of the Ship EXPLORER as determined by Raydist speed trials on August 10 and 11, 1960 for 25° rudder is:

	<u>Standard Ahead</u>	<u>Half Ahead</u>
Left	262 meters	190 meters
Right	281 meters	213 meters

The turning radius of the launches is not needed for this survey.

Ship sounding positions were fixed by Raydist position indicators serial numbers 22 and 10.

808 Fathometers 57-20, 57-32, and 127S were used in ship hydrography.

808 Fathometers 137SP, 158SPX and 1366P were used in launch hydrography.

D. Tide and Current Stations:

Tide reducers were obtained from a standard tide station at Boston, Mass. A range corrector of 0.1 was furnished by the Washington Office. No time difference was used.

Current stations observed on this sheet are:

Station:	Location
A	41-02.7'N, 69-46.4'W
B	41-01.9'N, 69-43.4'W
C	41-02.1'N, 69-41.4'W

Descriptive Report (continued)

Current Station Records for these stations were transmitted to the Washington Office on September 15, 1960.

E. Smooth Sheet:

The smooth sheet projection was made by the Washington Office by ruling machine. The Raydist curves were also drawn by the Washington Office. This is an offshore survey and there is neither shoreline nor visual signals.

F. Control Station:

All ship hydrography was controlled by Raydist and was based on the Ship HYDROGRAPHER's 1958 position of the east leg ("C" leg) of the Texas Tower No. 3. The 1958 position of the tower was determined by a geodetic azimuth taken from Sankaty Head Lighthouse and a mean of a shoran distance from Sankaty Head Light and Raydist distances from Wellfleet, Mass. and Southwest Harbor, Maine.

The following is the 1958 position of the tower. The lane location, from the common 1959-1960 shore stations, is converted from the 1959 frequency of 3280 kc, to the 1960 frequency of 3307.4 kc.

Lane Location		Latitude-Longitude
WELL (Red)	2449.3	41°00'52.05"N
HEAD (Green)	2612.5	69°29'36.35"W

*USE 1961 POS.
from Ch.L. 975 (1961)
or average of
lane readings given
in Report 86 Raydist*

The position of the Raydist shore station at Wellfleet, Cape Cod *EX-1961* and at Gay Head on Martha's Vineyard are as follows:

WELL	Latitude	41°-56'-31.426"N
(RM#1, FRAZIER 1957)	Longitude	69°-59'-11.303"W
by K.S.U.		
HEAD	Latitude	41°-20'-43.794"N
(RM#1, RAYDIST 1958)	Longitude	70°-49'-59.486"W
by K.S.U.		

Descriptive Report (continued)

Two thirds of the baseline of 96,673.267 meters was across land and this is believed to account for some of the malfunction of the Raydist equipment.

The following Raydist frequencies were used:

Red Station WELL	Green Station HEAD	EXPLORER
2492KC (link) 1653.5KC (ref.)	2496KC (link)	3307.4KC

Lane width is 45.302 meters.

Survey buoy "D" was located from Texas Tower No. 3, and adjusted to the 1958 position. It was located by the reciprocal bearing method with corrections for direction of current and the scope of the anchor applied. The locations of this buoy are as follows.

Date	Lane location from		Latitude Longitude
	WELL	HEAD	
21 August	2257.1	2274.3	41°03.2'N
28 August	2256.9	2274.5	69°40.1'W
28 August	2256.7	2274.3	
mean	2257.0	2274.4	

G. Shoreline and Topography:

There is no shoreline within the limits of this sheet.

H. Soundings:

All soundings were obtained with the 808 fathometers, listed in paragraph C. A separate report, titled, "Fathometer and Velocity Correction Report", 1960, has been forwarded, and contains the vertical corrections.

Descriptive Report (continued)

The line of hydrography, from position 1-15a, on Launch 1, is a line along the edge of the tide rip. The soundings along this line proved to be the shoalest in the area.

I. Control of Hydrography:

All ship hydrography was controlled by the two Dimensional D. M. Raydist System. The control frequency for this survey is 3307.4 kc, resulting in a lane width of 45.3028 meters. An abstract of Raydist corrections is included at the end of this report.

Launch hydrography was controlled relative to the ship's position. Launches were run on courses parallel to the ship's course and at each position taken by the ship, the launches were located by a vertical distance angle taken from the launch between the top of the Ship's radar screen and the top of the boot-topping, and by a gyro bearing taken to each launch from the ship. This method was used because Raydist could not be operated on the launches. A vertical angle computation table is included at the end of this report.

J. Adequacy of Survey:

This survey is incomplete; however, the area covered is complete and adequate to supercede prior surveys for charting purposes.

Junction with adjoining surveys EX-40-2-60 (H-8540), EX-40-1-60 (H-8539) and HY-1259 (H-8484) are satisfactory.

K. Crosslines:

Crosslines made up 5.5% of the hydrography. The crosslines were in

Descriptive Report (Continued)

generally good agreement and apparent discrepancies could be resolved on the fathogram. Much of ^{the} area shows up as a jagged profile on the fathogram; however, none of the crossline discrepancies change the depth curve appreciable.

L. Comparison with Prior Surveys:

This survey has been compared with the following prior surveys; 2559, H-6441, H-6439, H-6559a&b, No. 5275, 1932.

In general this survey agrees with prior survey trends. However, in several of the shoal areas shifting of shoals is noted. A slight shift to the west of the shoal at $41^{\circ}04'N$, $69^{\circ}41'W$ has occurred. The shoal soundings in this area are, however, approximately the same.

A slight shifting of the ten fathom contour of the shoal at $41^{\circ}08'N$, $69^{\circ}27'W$ has occurred.

A shift in the shoal at $40^{\circ}56'N$, $69^{\circ}27'W$ is noted. The general trend of the shoals in this area was to the north. It appears to have now shifted slightly towards a north-west trend. Minor changes in the depths have also occurred.

Some shifting of the shoal at $69^{\circ}22'W$ between $40^{\circ}56'N$ and $41^{\circ}00'N$ has been noted. The general trend has remained, the contours and shoal soundings having changed slightly.

M. Comparison with Chart:

Comparison was made with chart 3076, first edition 1951, chart 1107, seventh edition 1945 and chart 71, second edition 1949. No new dangers or major changes are to be reported.

may have been different survey on prior surveys

1

Descriptive Report (continued)

N. Dangers and Shoals:

No uncharted dangers or shoals were discovered in this survey.

P. Aids to Navigation:

Texas Tower No. 3 is located at $41^{\circ}01'N$, $69^{\circ}29.5'W$. Chart 1107 shows whistle buoy 10 at the south-eastern edge of the sheet, and FL W buoy 2 at the north-western edge of the sheet. Neither of these buoys were located during the survey.

R. Geographic Names:

There are no new geographic names for this sheet. A list of names for this area is included at the end of this report.

T. By-product information:

Oceanographic Repeat Station No. 4 located at $41^{\circ}01.7'N$ and $69^{\circ}43.8'W$, was observed four times at monthly intervals. Specific information gathered at this station is submitted in the separate report, titled, "Fathometer and Velocity Correction Report", 1960. Bathythermograph observations were taken every four hours during hydrographic operations.

Respectfully submitted,

Peter A. Martus
Peter A. Martus
ENS, C&GS

TIDE NOTE

to accompany Hydrographic Survey

H-8541, EX-40-3-60

USC&GSS EXPLORER

Tide reducers were obtained from the standard tide gage at Boston, Mass. A range ratio of 0.1 was used with no time correction. Time and range corrector values and hourly heights were furnished by the Washington Office.

1960 RAYDIST CALIBRATION ABSTRACT

Sheet EX-40-3-60

<u>Date</u>	<u>Positions</u>	<u>Correctors</u>		<u>Cal.</u> <u>Bk.pg.</u>	<u>Calibration</u> <u>Reference</u>	<u>Remarks</u>
		<u>WELL</u>	<u>HEAD</u>			
23 June	1-5A	-0.7	-1.3	9	Nantucket	changed from EX-40-5-60 W* gained 1**, H ^{***} lost 1**** Raydist out after 6A H gained 2 H lost 2
	6A	-1.7	-0.3			
	7-11A	-1.2	-2.1	11	TT 3	
	12-16A	-1.2	-4.1			
	17-18A	-1.2	-2.1			
24 June	1-12B	+0.4	+0.1	11	TT 3	
	13B	+0.4	T&C			
25 June	1-18C	-0.3	-0.3	12	TT 3	
26 June	1-17D	-0.1	-2.0	9	Chatham	
27 June	1-19E	+0.1	+0.1	13	TT 3	
15 July	1-30F	+0.7	0.0	14	TT 3	
21 July	1-6G	+0.3	-1.2			changed from EX-40-2-60
	27-43G	0.0	+0.1	15	TT3	
22 July	1-19H	-1.2	-0.1	15	TT 3	
23 July	1-32J	0.0	0.0	16	TT 3	
26 July	1-21K	0.0	0.0	16	TT 3	
4 Aug	1-23L	+6.1	-0.7	16	TT 3	
	24-28L	+1.0	+1.0	17	TT 3	
9 Aug	1-55M	+8.1	-2.5	18	TT 3	H gained 2 W lost 6, H gained 6
	56-67M	+8.1	-4.5			
	68M	+14.1	-10.5			
	69M	T&C	T&C			

* W is WELL

** Gains & losses are in lanes

*** H is HEAD

1960 RAYDIST CALIBRATION ABSTRACT

Sheet EX-40-3-60

<u>Date</u>	<u>Positions</u>	<u>Correctors</u>		<u>Cal. Bk.pg.</u>	<u>Calibration Reference</u>	<u>Remarks</u>
		<u>WELL</u>	<u>HEAD</u>			
11 Aug	1-11N 12-13N	-0.2 -0.2	0.0 +24.0	19	TT 3	H lost 24
21 Aug	1-8P	+0.1	+0.1	20	TT 3	
24 Aug	1-19Q 20Q 21-23Q 24-34Q 35-74Q 75-77Q 78-79Q 80Q 81Q	+3.6 T&C +2.2 rejected +0.1 +1.1 +1.1 +1.1 +1.1 +1.1	-3.5 T&C -4.6 0.0 +1.0 +3.0 +5.0 T&C	187 169 188	Buoy D Buoy D Buoy D	W lost 1, before 1Q W lost 3, H gained 4, after recalibration W lost 1, H lost 1 H lost 2 H lost 2
25 Aug	1-25R	+0.6	+2.0	188	Buoy D	
26 Aug	1-146S 147-153S 154-156S 157-158S	+2.5 +2.5 +1.5 +1.5	-1.0 -4.0 -3.0 T&C		Buoy D	W lost 3, H gained 3, before 1S H gained 3 W gained 1, H lost 1
28 Aug	1-93T 94-103T 104-116T 117-121T 122-123T	-0.3 -0.3 0.0 0.0 0.0	+0.1 +2.1 -0.2 -3.2 T&C	20	TT 3	H lost 2 Dials reset at Buoy D H gained 3, after calibration
30 Aug	1-4U 5-26U 27-91U 92-95U 96-116U 117U	+1.1 +1.1 +1.1 +1.1 +1.1 +1.1	+8.1 +6.1 +17.1 +19.1 +12.1 T&C	21	TT 3	H lost 8, before 1U H gained 2 H lost 11 H lost 2 H gained 7
10 Sep	1-13V	-0.5	+0.4	22	TT 3	
11 Sep	1-118W 119-133W	-0.7 -0.7	-0.6 -8.6	22	TT 3	changed to EX-40-2-60 after 118W
25 Sep	1-67X 68-70X	-0.1 -0.1	0.0 T&C			changed from EX-40-2-60
26 Sep	1-163Y	-0.1	0.0	24	TT 3	

1960 RAYDIST CALIBRATION ABSTRACT

Sheet EX-40-3-60

<u>Date</u>	<u>Positions</u>	<u>Correctors</u>	<u>Cal.</u>	<u>Calibration</u>	<u>Remarks</u>
		<u>WELL</u> <u>HEAD</u>	<u>Bk.pg.</u>	<u>Reference</u>	
27 Sep	1-31Z	0.0 -0.2	25	TT3	
28 Sep	1-10AA	*0.2 -0.1	25	TT3	

Project CS-401

Statistics for Hydrographic Survey

H-8541, EX-40-3-60

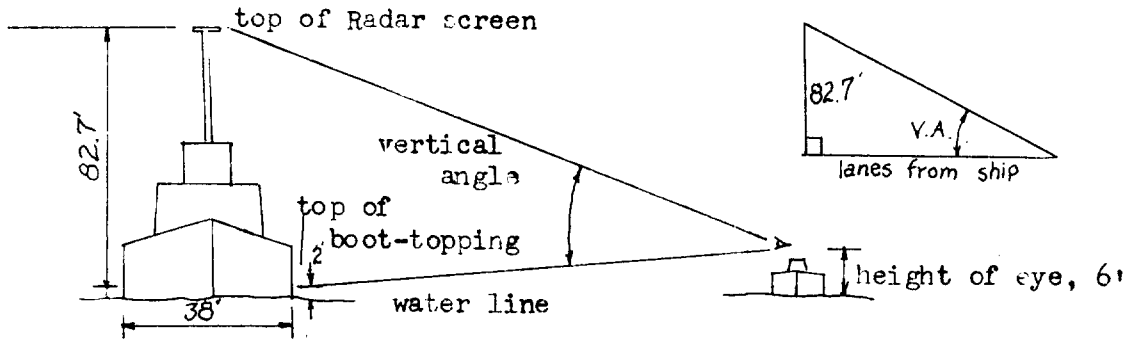
1960

USC&GSS EXPLORER

<u>Vessel</u>	<u>Date</u>	<u>Day letter</u>	<u>Vol.</u>	<u>No. Pos.</u>	<u>Naut. Miles Soundings</u>
EXPLORER	23 June	A	1	18	11.5
"	24 June	B	1	13	7.5
"	25 June	C	1	18	17.0
"	26 June	D	1	17	17.0
"	27 June	E	1	19	16.5
"	15 July	F	1	30	21.0
"	21 July	G	1	43	32.5
"	22 July	H	1	19	16.0
"	23 July	J	1	32	19.9
"	26 July	K	2	21	17.1
"	4 August	L	2	28	19.1
"	9 August	M	2	69	35.5
"	11 August	N	2	13	12.2
"	21 August	P	2	8	6.0
"	24 August	Q	2	81	65.2
"	25 August	R	3	25	19.0
"	26 August	S	3	158	103.0
"	28 August	T	3	123	98.0
"	30 August	U	4	117	77.5
"	10 September	V	4	13	10.0
"	11 September	W	4	133	69.8
"	25 September	X	5	70	42.9
"	26 September	Y	5	163	114.5
"	27 September	Z	5	31	20.0
"	28 September	AA	5	10	8.5
Launch 1	11 August	A	6	49	9.0
Launch 2	9 August	A	7	40	8.4
	11 September	B	7	49	8.5
Launch 3	9 August	A	8	32	8.4
<u>Totals</u>					<u>911.5</u>

Total area of hydrography 175.0 square nautical miles (1960).
 Total miles of crosslines 46.0.

VERTICAL ANGLE COMPUTATIONS



For a height of eye of 6' and a beam of 38', the resulting error is negligible; so that the following table considers no horizontal or vertical displacement.

Lanes	V.A.	Lanes	V.A.	Lanes	V.A.	Lanes	V.A.	
1.5	20°21'	3.4	9°18'	5.1	6°13'	6.9	4°31'	
1.6	19°11'	3.5	9°02'	5.2	6°06'	7.0	4°33'	
1.7	18°07'	3.6	8°47'	5.3	6°00'	7.1	4°29'	
1.8	17°11'	3.7	8°33'	5.4	5°53'	7.2	4°25'	
1.9	16°19'	3.8	8°20'	5.5	5°47'	7.3	4°22'	
2.0	15°33'	3.9	8°07'	5.6	5°40'	7.4	4°18'	
2.1	14°50'	4.0	7°55'	5.7	5°34'	7.5	4°15'	
2.2	14°12'	4.1	7°44'	5.8	5°29'	7.6	4°11'	
2.3	13°36'	4.2	7°33'	5.9	5°23'	7.7	4°08'	
2.4	13°03'	4.3	7°22'	6.0	5°18'	7.8	4°05'	
2.5	12°33'	4.4	7°12'	6.1	5°08'	7.9	4°02'	
2.6	12°05'	4.5	7°03'	6.2	5°03'	8.0	3°59'	
2.7	11°39'	4.6	6°54'	6.3	5°03'	8.1	3°56'	
2.8	11°14'	4.7	6°45'	6.4	4°58'	8.2	3°53'	
2.9	10°52'	4.8	6°37'	6.5	4°54'	8.3	3°50'	
3.0	10°30'	4.9	6°29'	6.6	4°49'	8.4	3°47'	
3.1	10°10'	5.0	6°21'	6.7	4°45'	8.5	3°45'	
3.2	9°52'			6.8	4°41'	8.6	3°42'	
3.3	9°34'							
							10.0	3°11'

APPROVAL SHEET

Survey Sheet H-8541 (Field No. EX-40-3-60)

Project OPR-401, Nantucket Shoals

The boat sheet and records were inspected daily by the Commanding Officer and the Field Records Officer, CDR Harry D. Reed, during the field season. The smooth plotting was done under the general supervision of LCDR Eugene A. Taylor who also was Acting Executive Officer during the lay-up period. The descriptive report was prepared by ENS Peter A. Martus from notes left by ENS DeGroot and ENS Connell prior to their resignations.

Due to malfunction of the Raydist equipment the hydrography within this sheet limits is not complete. It was not planned to submit the sheet until after additional field work could be accomplished in 1961. However, a change of Raydist frequencies and a change of shore station locations necessitated new Raydist curves for the next season. It was decided in conference with Projects Operation Division at the Washington Office on 31 January that the present sheets be prepared for submission and new sheets with new registry numbers and with the new Raydist curves would be furnished for the 1961 season for the remainder of the uncompleted hydrography.

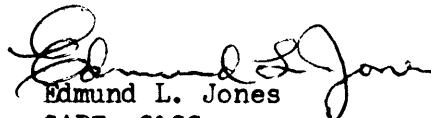
Addition development will be undertaken along the junction with the next season's work in the following areas:

Latitude 41°-00.1	a depth of 10.8 fms
Longitude 69-36.3	with surrounding depths of 22-24 fms.
Latitude 40-59.3	a depth of 9.9 fms
Longitude 69-39.3	with surrounding depths of 13-18 fms

The 1960 position of Texas Tower No. 3 was not well determined until near the end of the field season. Since the Tower was used for calibration purposes from the start of the season, The 1958 position was used throughout the season for consistency. The 1960 position of the tower is in disagreement with the 1958 position by about $\frac{1}{2}$ Raydist lane of 45.3 meters. It is believed that the difference can be resolved during the 1961 season and if necessary, a projection shift of the hydrography can be made for charting purposes.

This sheet and the records are approved for submission.

1 March 1961

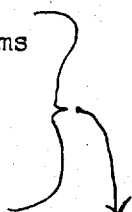

Edmund L. Jones
CAPT, C&GS
Comdg., Ship EXPLORER

VELOCITY CORRECTIONS
Ship EXPLORER
1960 Field Season

JUNE

Sheet 40-1-60 ✓

0.0	fathom	to	7.0	fathoms
-0.1	"	to	15.5	"
-0.2	"	to	19.5	"
-0.3	"	to	24.0	"
-0.4	"	to	28.0	"
-0.5	"	over	28	"



Sheet 40-3-60 ✓

For north side, use sheet 40-1-60 correctors.

South side

0.0	fathom	to	5.0	fathoms
-0.1	"	to	10.5	"
-0.2	"	to	16.5	"
-0.3	"	to	22.0	"
-0.4	"	to	27.0	"
-0.5	"	to	32.5	"
		and	over	

JULY

Sheet 40-1-60

0.0	fathom	to	12.5	fathoms
-0.1	"	to	18.5	"
-0.2	"	to	22.5	"
-0.3	"	to	26.0	"
-0.4	"	to	30.0	"
-0.5	"	over	30	"

Sheet 40-2-60

0.0	fathom	to	6	fathoms
-0.1	"	to	14	"
-0.2	"	to	22	"
-0.3	"	to	30	"
-0.4	"	over	30	"

JULY

Sheet 40-2-60, "C" day ✓
pos. 122-191 only

0.0	fathom	to	6.0	fathoms
+0.1	"	to	13.5	"
+0.2	"	to	22.0	"
+0.3	"	to	30.0	"
+0.4	"	over	30	"

Sheet 40-3-60

Table 3 North side, use correctors for sheet 40-1-60. South side, use Table A correctors for sheet 40-2-60

AUGUST

Sheet 40-1-60

0.0	fathom	to	10.0	fathoms
-0.1	"	to	15.0	"
-0.2	"	to	20.0	"
-0.3	"	to	24.0	"
-0.4	"	to	28.5	"
-0.5	"	to	32.5	"
		and	over	

Sheet 40-2-60

0.0	fathom	to	9.0	fathoms
-0.1	"	to	23.0	"
-0.2	"	to	37.0	"
-0.3	"	over	37	"

Sheet 40-3-60

0.0	fathom	to	22	fathoms
-0.1	"	over	22	"

(above to be used for P, Q, R, S, and T days only)
For other work in August use 40-1-60 correctors for north side and 40-2-60 correctors for south side.

copy checked OK

VELOCITY CORRECTIONS (contd.)

SEPTEMBER

Sheet 40-1-60 ✓

0.0 fathom to 19.5 fathoms ✓
 -0.1 " to 23.5 "
 -0.2 " to 30.5 "
 -0.3 " over 30.5 -

Sheet 40-2-60

0.0 fathom to 13.5 fathoms
 -0.1 " to 32.0 "
 -0.2 " over 32 -

Sheet 40-3-60

Table 8

Table 9

North side, use correctors for sheet 40-1-60
 South side, use correctors for sheet 40-2-60 ✓

DRAFT AND INSTRUMENT CORRECTIONS
FOR LAUNCHES

<u>808 Fath. No.</u>	<u>Corrector</u>
136SP ✓	+0.3 fathom ✓
137SP	+0.1 "
158SPX	+0.2 "

copy to OSM

GEOGRAPHIC NAMES
Survey No. H-8541

Name on Survey	1107										
	A	B	C	D	E	F	G	H	K		
Davis South Shoal	x										1
Fishing Rip	x										2
Middle Rip	x										3
Nantucket Shoals	x										4
Old NA South Shoal	x										5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

George M. Burt
GEOGRAPHIC NAMES SECTION
28 MARCH 1961

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8541...

Records accompanying survey:	Smooth sheets	.1....;
boat sheets ..1...;	sounding vols. .8....;	wire drag vols.;
Descriptive Reports .1....;	graphic recorder envelopes .9....;	
special reports, etc. 1 Cahier - Raydist Records.	
.....	

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

Number of positions on sheet
Number of positions checked
Number of positions revised
Number of soundings revised (refers to depth only)
Number of soundings erroneously spaced
Number of signals erroneously plotted or transferred
Topographic details	Time
Junctions	Time
Verification of soundings from graphic record	Time
Special adjustments	Time

Verification by Total time Date

Reviewed by Time Date

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8541

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.
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.
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.
6. All positions verified instrumentally were check marked in the sounding records.
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.
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.

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.
15. The transfer of contemporary topographic information was carefully examined.
16. All junctions were transferred and overlapping curves made identical.
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 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.
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
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.
24. The low water line and delineation of shoal areas have been properly shown.
25. Degree and minutes values and symbols have been checked.
26. Questionable soundings have been checked on the fathograms.

27. Source of shoreline and signals (when not given in report).
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:
33. Condition of sounding records was satisfactory except as follows:
34. The protracting was satisfactory except as follows:
35. The field plotting of soundings was satisfactory except as follows:
36. Notes to reviewer:

Verified by

Date

EHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

22 May 1961

Division of Charts: R.H. Carstens

Plane of reference approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 8541

Locality Central Nantucket Shoals, Mass.

Chief of Party E.L. Jones (1960)
Plane of reference is mean low water
ft. on tide staff at
ft. below B. M.

Height of mean high water at the working grounds is: 1.0 ft.

Condition of records satisfactory except as noted below:

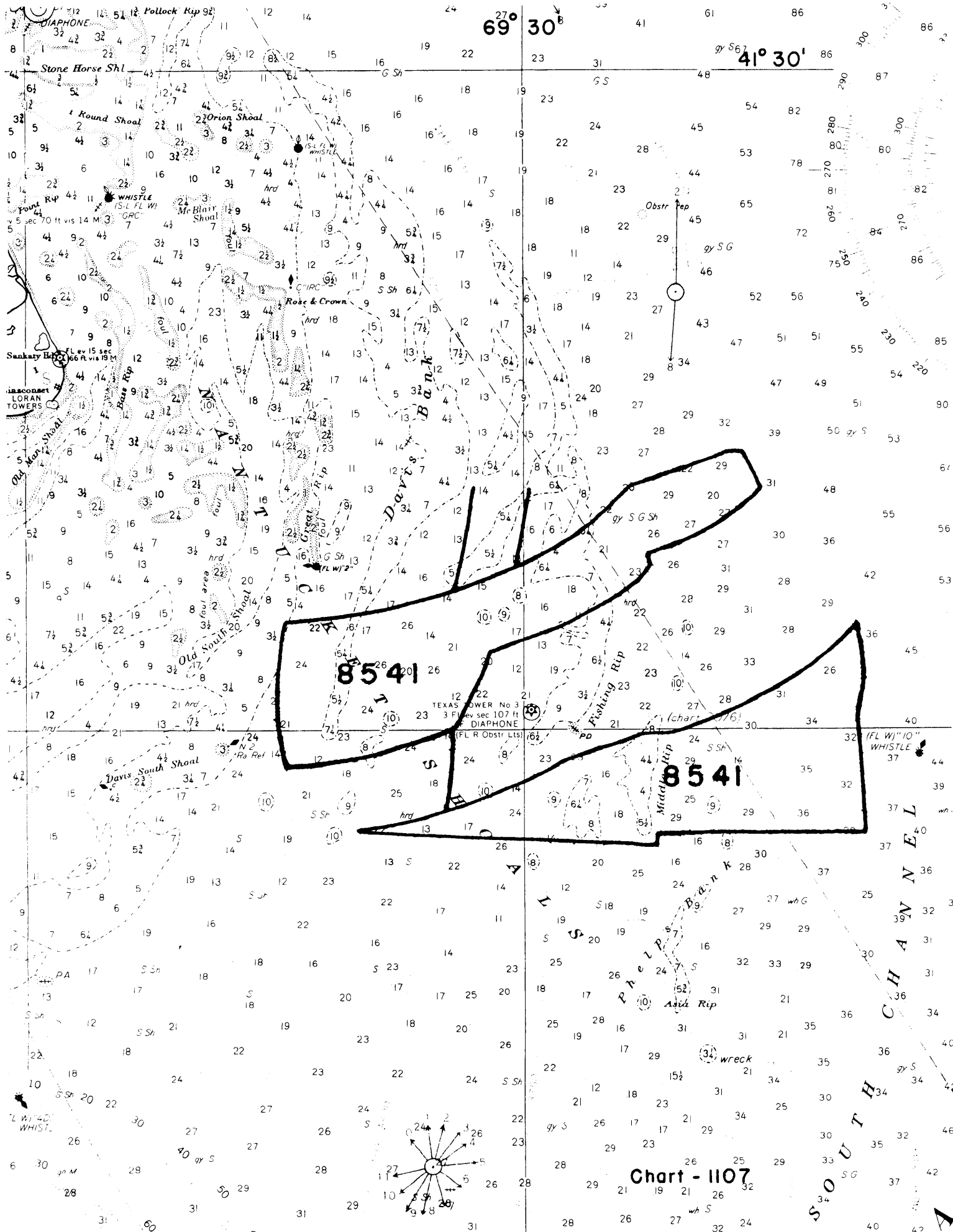
Burt W. Wilcox

Chief, Tides and Currents Branch

~~Chief, Division of Tides and Currents~~

69° 30'

41° 30'



8541

8541

Chart - 1107

SOUTH CHANNEL

