ORIGINAL

8175

Diag. Cht. No. 12283-3.

265

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. GI-1154 Office No. H-8175

LOCALITY

State MAINE

General locality W. PENOBSCOT BAY

Locality TENANTS HARBOR

1954

CHIEF OF PARTY

HENRY O. FORTIN

B-1870-1 (1)

8175

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-8175

Field No. Gi-1154

State MAINE

General locality WEST PENOBSCOT BAY

Locality TENANTS HARBOR TO MUSCLE RIDGE CHANNEL

Scale 1:10,000 Date of survey 17 Aug. to 10 Oct. 1954

Instructions dated 16 Feb. 1954 & 25 Feb. 1954

Vessel LAUNCH 101 (SHIP GILBERT)

Chief of party HENRY O. FORTIN

Surveyed by DALE E. WESTBROOK

Soundings taken by ~~fathometer~~, graphic recorder, hand lead, ~~XXX~~

Fathograms scaled by SHIP PERSONNEL

Fathograms checked by NORFOLK DISTRICT OFFICE

Protracted by R.D. LYNN

Soundings penciled by R.D. LYNN

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

REMARKS: See accompanying descriptive report covering work accomplished during the 1955 field season.

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

DESCRIPTIVE REPORT

GI#1154 (H-8175)

TABLE OF CONTENTS

A. PROJECT

Revised instructions, Project CS-265(Ref. 22/MEK S-2-GI, S-2-ST) dated 16 February 1954, to Commanding Officers Ships GILBERT & STIRNI. Supplemental instructions, dated 25 February 1954, consisted of general instructions for Combined Operations Surveys, addressed to all Commanding Officers, and officers in charge of hydrographic field parties.

B. SURVEY LIMITS AND DATES

This survey, GI-1154(H-8175), was located at the approaches to West Penobscot Bay, Maine in the area of Tenants Harbor and Whitehead Island. Field work on this sheet began 17 August 1954 and ended 10 October 1954. The sheet was not completed, therefore this report will cover the area worked on only.

Approximate limits:

Lat. 43°-55.60' on the south to Lat. 44°-00.40' on the north.
Long. 69°-07.30' on the east to Long. 69°-13.00' on the west.

Junctions with prior surveys:

H-6984, 1944, 1:10,000 on the west.

Junctions with 1954 surveys:

GI-2154(H-8176) 1:20,000 on the south.

C. VESSEL AND EQUIPMENT

All work on this sheet was run with a 30 ft. launch (CS-#101). One 808 type fathometer, No. 126S, was used for sounding throughout the survey except for positions 93-120v-day. At that time fathometer No. 161-SPX was used. All soundings are in feet. At times, a hand-lead was used for shoal soundings and for bottom samples. There was no length correction to be applied to it.

The launch was moored in Tenants Harbor for the major part of the operations. During the latter stages of the work, the Ship GILBERT anchored out in Tenants Harbor and then went to Seal Harbor where the launch was secured to her each night. This aided the progress of the launch work especially where breakdowns are concerned. This launch was in very poor condition, and very seldom was a whole days work done without a mechanical failure of some kind or another.

D. TIDE AND CURRENT STATIONS

A portable automatic tide gage was in operation throughout the season at PORT CLYDE, MAINE (Lat. 43°-55.49', Long. 69°-15.55'). The records from this gage were applied to all soundings. The tide reducers were applied with no time or range corrections.

No current stations were occupied.

E. SMOOTH SHEET

When this sheet is completed, it is assumed that the smooth sheet will be constructed and plotted by the Norfolk Processing Office.

F. CONTROL STATIONS

See N.P.O. List 519 No. 115

Triangulation Control:
- Whitehead Lt. Ho., 1859, r. 1943
- Tenants Hbr. Lt. Ho., 1859, r. 1943
- Two Bush Island Lt. Ho., 1902, r. 1943

Topographic Control:
- S. Gable Brown House, white trim, 1943, T-8002
- Center of Crosspiece, 2 tel. poles, west, 1943, T-8002
- E. Gable of Barn, 1943, T-8002
- Center of Crosspiece, 2 tel. poles, east, 1943, T-8002
- E. Gable Small Unpainted Bldg, 1943, T-8002
- E. Gable Two Story Brown House, 1943, T-8003
- Lookout Tower, Coast Guard, Steel, 1943, T-8002

Other stations were located from photogrammetric manuscripts, T-11132N, T-11132S, T-11133N/2, and T-11128S/2

G. SHORELINE AND TOPOGRAPHY

The delineation of shoreline on this survey was taken from photogrammetric manuscripts T-11132N, T-11132S, T-11133N/2, and T-11128S/2. The majority of the shoreline was in its proper position, but in the case of the LOW WATER LINE, some corrections have been made on the boat sheet in RED ink. Black ink was used in places which were verified by the hydrographic party. Where uncorrected either in red ink or by the zero foot curve, the photogrammetric high and low water lines should be used.

At some places in the surveyed area, the low water line has not been defined by soundings. Since the launch draws three feet of water and the range of tide being comparatively large, it was not always possible to have sufficient water under the launch to reach the low water line. When this situation occurred, an attempt was usually made to estimate the distance from the launch to the ledge line, or approximate low water line. It is doubtful that all reef lines were corrected at exactly low water. See positions 114 & 115 S - where reef line was sketched with 8' of tide.

H. SOUNDINGS

Depths were measured by 808 type fathometers #126S and #161-SPX. The initial was set at 1.0 feet. The transducer and receiver units were placed in the bilges next to the hull. There were no unusual methods or equipment used and no unusual corrections had to be applied to the recorded depths. Corrections were applied, however, for the state of the tide, velocity of sound in sea water, and the fathometer initial setting.

I. CONTROL OF HYDROGRAPHY

Horizontal control of the sounding lines was accomplished using three-point sextant fixes which were plotted on the boat sheet with a celluloid three-arm protractor. The control checked out very well and no work had to be adjusted in position.

Some weak fixes may have been obtained in attempting to verify the charted depths of 8 and 15 feet on Chart #313 in Lat. 43°-55.70' and Long. 69°-12.90', since that area was quite close to the edge of the sheet. Careful plotting of the area on the smooth sheet is required for maximum accuracy.

J. ADEQUACY OF SURVEY

This survey is approximately 40% complete.

K. CROSSLINES

At least 10% crosslines were run and crossings with main sounding lines were satisfactory. Because of the rugged bottom, a discrepancy of one or two feet was not uncommon.

L. COMPARISON WITH PRIOR SURVEYS

This survey was compared with prior surveys H-907, 1866, 1:10,000 and H-952B, 1873, 1:10,000. A more complete coverage was made on the new survey, but it seemed that the configuration of the bottom had not changed appreciably since the old surveys. There were spots, however, where ordinary bottom changes did take place.

Specific soundings were not compared with the prior surveys in this report since the available prints of those surveys are not too legible in highly developed areas.

M. COMPARISON WITH CHART

This survey was compared with Chart #313, 1949, 1:40,000 (Corr. to 1954).

No.	Latitude	Longitude	Survey Depth	Chart Depth	Pos. No.
1	43°-55.62'	69°-12.95'	9 ft.	8 ft.	27-28l
2	43°-55.70'	69°-12.84'	15 ~~16~~ ft.	15 ft.	43-44l
3	43°-58.23'	69°-11.70'	11 ft.	3 ft.	29f
4	43°-58.74'	69°-09.98'	11 ft.	5 ft.	41-42e
5	43°-58.29'	69°-09.49'	25 ~~26~~ ft.	24 ft.	17-18u
6	43°-58.42'	69°-08.71'	? 22 ~~24~~ ft.	21 ft.	99-100j
7	43°-58.64'	69°-08.15'	2 ft.	Sunken Rock	65-66k
8	43°-59.52'	69°-10.11'	8 ~~7~~ ft.	14 ft.	73-74s

5' from H-907

Shoals No. 1 and 2 were found close enough to the charted value so as to verify same.

Shoal No. 3. Three foot spot could not be found after extensive search. It is not believed to exist, and recommendation is hereby made to delete it from the chart.

More development is necessary on shoals Nos. 4,5,6,7, and 8 before this section of the survey can be considered complete.

N. DANGERS AND SHOALS

A new shoal was found at Lat. 43°-56.59', Long. 69°-11.91' having a depth of 11 feet. It was first recorded between positions 16 and 17 d-day and verified between positions 19 and 20 q-day.

Three new rocks were found. The one at Lat. 43°-57.74', Long. 69°-11.65' was found to be bare 1 foot at MLW. This rock was recorded in the sounding volumes between positions 24 and 25 n-day.

The second new rock at Lat. 43°-58.66' and Long. 69°-10.79' was found to be awash at MLW, recorded between positions 64 and 65 q-day.

The third rock at Lat. 43°-58.61', Long. 69°-10.89' bears 7 feet at MLW, and was recorded at position 46 v-day.

None of the dangers and shoals were found to be of such an important nature to require notification of the Coast Guard.

All dangers and shoals were found as charted except those listed under sections M and N above.

O. COAST PILOT INFORMATION

The launch was moored in Tenants Harbor for the duration of this survey to a mooring buoy placed there by the Ship GILBERT. Existing Coast Pilot notes are considered adequate for this area and no errors were found.

P. AIDS TO NAVIGATION

See N.P.O List of Aids

Floating Aids:

Light List Name	Latitude	Longitude	Pos. No.	Date	Depth
Hart Ledge Buoy "1"	43°-56.95'	69°-11.45'	107-108b	8/18/54	41 ft.
Lighted Bell Buoy "1"	43°-57.70'	69°-10.90'	126-127d	8/30/54	61 ft.
Long Cove Buoy "2"	43°-58.00'	69°-11.52'	56e	9/2/54	8 ft.
Long Cove Buoy "1"	43°-58.40'	69°-11.46'	59-60e	9/2/54	11 ft.
Long Cove Buoy "4"	43°-58.96'	69°-11.35'	92e	9/2/54	11 ft.
WHEELER BAY					
--- Buoy "1"	43°-58.24'	69°-09.46'	20-21j	9/13/54	33 ft.
--- Buoy "2"	43°-59.35'	69°-10.04'	125s	9/4/54	19 ft.
--- Buoy "3"	43°-58.74'	69°-09.92'	41-42e	9/2/54	24 ft,

(Floating Aids Continued)

Light List Name	Latitude	Longitude	Pos. No.	Date	Depth
--- Buoy "4"	43°59.42'	69°-10.09'	124s	9/4/54	18 ft.
--- Buoy "5"	43°-59.58'	69°-10.19'	150q	9/29/54	16 ft.
Long Ledge Buoy "1"	43°-59.50'	69°-07.68'	93w	10/8/54	21 ft.
Sprucehead Is. Ledge Buoy "2"	43°-59.69'	69°-07.52'	113w	10/8/54	16 ft.

Q. LANDMARKS FOR CHARTS

Form 567 has been submitted to add the Coast Guard Steel Lookout tower on Whitehead Island as a landmark.

R. GEOGRAPHIC NAMES

No inspection of geographic names was made by the hydrographic party.

S. STATISTICS

See N.P.O. statistics

2,137 Positions, 265.8 Statute Mi. Sounding, 53.9 Naut. Mi. To and From, 373.6 Total Nautical Mi., and 8.6 Sq. Statute Mi. Sounding.

T. VELOCITY CORRECTION ABSTRACT

FATHOMETER 126S

A Scale				
	0.0 ft.	- 5.0 ft.	= 0.0 ft.	Corr.
	5.0 "	- 16.0 "	= -0.2 "	"
	16.0 "	- 26.8 "	= -0.4 "	"
	26.8 "	- 37.6 "	= -0.6 "	"
	37.6 "	- 48.8 "	= -0.8 "	"
	48.8 "	- 55.0 "	= -1.0 "	"
B Scale				
	35.0 "	- 43.4 "	= 0.0 "	"
	43.4 "	- 54.6 "	= -0.2 "	"
	54.6 "	- 65.6 "	= -0.4 "	"
	65.6 "	- 76.6 "	= -0.6 "	"
	76.6 "	- 87.8 "	= -0.8 "	"
	87.8 "	- 90.0 "	= -1.0 "	"
C Scale				
	70.0 "	- 79.4 "	= 0.0 "	"
	79.4 "	- 90.4 "	= -0.2 "	"
	90.4 "	-101.4 "	= -0.4 "	"
	101.4 "	-112.6 "	= -0.6 "	"
	112.6 "	-123.6 "	= -0.8 "	"

FATHOMETER 161-SPX

A Scale				
	0.0 ft.	- 5.0 ft.	= 0.0 ft.	Corr.
	5.2 "	- 15.0 "	= -0.2 "	"
	15.2 "	- 25.0 "	= -0.4 "	"
	25.2 "	- 35.0 "	= -0.6 "	"
	35.2 "	- 45.0 "	= -0.8 "	"

U. TABULATION OF APPLICABLE DATA

A separate velocity correction report was submitted including corrections on both the launch sheet and the three ship sheets, (H-8175 and H-8176, H-8177, H-8178)

Respectfully Submitted,

Dale E. Westbrook

Dale E. Westbrook
ENS., USC&GS Ship GILBERT

Approved and Forwarded:

Robert A. Marshall

Robert A. Marshall
CDR., USC&GS
Commanding Officer
Ships STIRNI & GILBERT

STATISTICS
H-8175

1954 SEASON

LAUNCH 101

VOL. NO.	DAY	DATE	NO. H.L. SDGS.	NO. POS.	STAT. MI.
1	a	8/17/54	0	17	2.3
1	b	8/18/54	0	145	26.6
1	c	8/19/54	0	15	1.9
2	d	8/30/54	0	137	25.0
2&3	e	9/ 2/54	0	158	26.6
3	f	9/ 7/54	0	54	7.8
3	g	9/ 8/54	1	52	5.8
3	h	9/ 9/54	0	54	5.9
4	j	9/13/54	0	114	20.9
4&5	k	9/15/54	0	136	18.6
5	l	9/16/54	0	105	10.2
5	m	9/17/54	0	97	10.8
6	n	9/27/54	0	118	12.9
6	p	9/28/54	0	4	0.5
6&7	q	9/29/54	0	150	18.1
7	r	9/30/54	0	24	3.2
7	s	10/ 4/54	1	147	13.1
7	t	10/ 5/54	25	25	0.0
7&8	u	10/ 6/54	18	136	12.2
8	v	10/ 7/54	0	117	11.1
8&9	w	10/ 8/54	0	167	17.6
9	x	10/ 9/54	0	88	8.2
9&10	y	10/10/54	7	63	5.8
GRAND TOTAL			52	2137	266.3

GEOGRAPHIC NAMES

Survey No. H-8175

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Maine			for	title						1
West Penobscot Bay			"	"						2
Two Bush Channel										3
Two Bush Island										4
Pleasant Island										5
Howell Island										6
Andrews Island										7
Dix Island										8
Sprucehead Island										9
Seal Harbor										10
Rackliff Island										11
Rackliff Bay										12
Muscle Ridge Channel										13
Whitehead Island										14
Norton Island									BGN	15
Wheeler Bay										16
Harrington Cove										17
Clark Cove										18
Clark Island										19
Long Cove										20
~~Tenants Harbor~~		(water	area)						BGN	21
Mosquito Head										22
Tide Stations off sheet:				Names approved 1-29-58. If additional names are desired, use any on current editions of charts 313, 322 L. Heck						23
Port Clyde										24
Rockland										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ..8175..

Records accompanying survey:

Boat sheets ..1..; sounding vols. ..17..; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls .19-Envelopes

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

1-Cahier. Temp. & Salinity Data. and 1-Cahier. Fathometer .....

Corrections, 1954. 1-Envelope of Sketchbooks to be destroyed. Sketchbooks in vault on top of file case

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	.....

Verification by.....Total time ..... Date .....

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

M-2232-1

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-8175

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

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 5 March 1958

Plane of reference approved in
18 volumes of sounding records for
7

HYDROGRAPHIC SHEET 8175

Locality Penobscot Bay, Maine

Chief of Party: H. O. Fortin in 1954
M. T. Paulson in 1955

Plane of reference is mean low water, reading

3.5ft. on tide staff at Port Clyde

23.0ft. below B.M. 3 (1944)

2.3 ft. on tide staff at Rockland
39.9 ft. below B.M. 10 (1931)

Height of mean high water above plane of reference is:

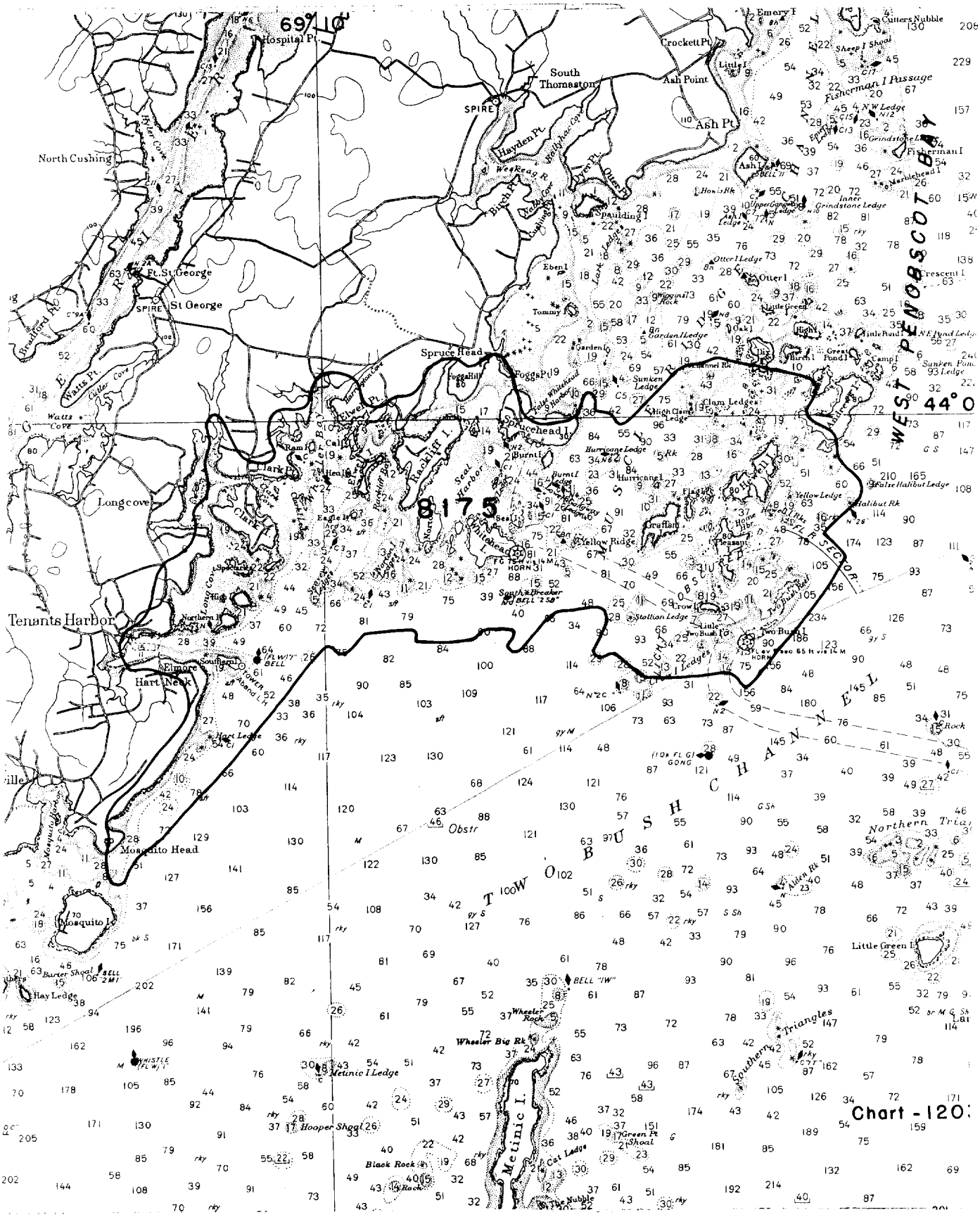
Port Clyde ..... 8.9 ft.
Rockland ..... 9.7 ft.

Condition of records satisfactory except as noted below:

William Shofnos
Signature

Chief, Tides Branch

Comm-DC 34330


69°10'
Hospital Pt
South Thomaston
Crockett Pt
Ash Point
Ash Pt
Emery I
Cutters Nubble
Fisherman I Passage
Fisherman I
Grindstone Ledge
Inner Grindstone Ledge
Spaulding I
Eben I
Tommy I
Otter I
Otter I Ledge
Crescent I
Little Green
Garden Ledge
Sunken Ledge
Clam Ledges
High Clam Ledge
Hurricane Ledge
Hurricane I
False Halibut Ledge
Yellow Ledge
Halibut Rk
Yellow Ridge
Pleasant
Stallion Ledge
Two Bush I
Little Two Bush I
Northern Triangles
Southern Triangles
Little Green I
Alder Rk
Wheeler Rock
Wheeler Big Rk
Metinic I Ledge
Hooper Shoal
Black Rock
Cat Ledge
Green Pt Shoal
The Nubble
Metinic I.
Obstr
Mosquito Head
Mosquito I
Burner Shoal
Hay Ledge
Hart Ledge
Hart Neck
Elmore
Southern I
Tenants Harbor
Northern I
Long Cove
Longcove
Clark Pt
Clark I
Eagle I
Seal Harbor
Rockland
Rockland Harbor
Spruce Head
Spruce Head I
Foggs Pt
Foggs Hill
Burnt I
Sunken Ledge
Ebenecook Harbor
Hewett Pt
Watts Pt
Watts Cove
Cutler Cove
Tyler Cove
North Cushing
Ft. St George
St George
SPIRE
Hayden Pt
Birch Pt
Weskeag R
Walpole Cove
Cushing
Lake Lodge
Spruce Head Harbor
Morgan Cove
Bradford Pt
Andrews Pt
Sheep I Shoal
Grafflam
Crow I
Little Crow I
Northern Triangles
Southern Triangles
Alder Rk
Little Green I
Chart - 120
8175
WEST PENOBSCOT BAY
MUSCHICHE SECTOR
CHANNEL
SHOAL
BUOY
TOWER
44°0

8175

Diag. Cht. No. 1203-3.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

FIELD NOTES FOR

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. GI 1154 Office No. H 8175

LOCALITY

State Maine

General locality Penobscot Bay

Locality Muscle Ridge Channel

194 55

CHIEF OF PARTY

Marvin T. Paulson

LIBRARY & ARCHIVES

DATE

B-1870-1 (1)

8175

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-8175

Field No. Gi-1154

State MAINE

General locality WEST PENOBSCOT BAY

Locality TENANTS HARBOR TO MUSCLE RIDGE CHANNEL

Scale 1:10,000 Date of survey 4 Aug. to 18 Oct. 1955

Instructions dated 14 Feb. 1955

Vessel LAUNCH 172 (EAST COAST FIELD PARTY)

Chief of party MARVIN T. PAULSON

Surveyed by E.K. McCAFFREY

Soundings taken by ~~XXXXXXXXX~~graphic recorder, hand lead, ~~XXX~~

Fathograms scaled by FIELD PERSONNEL

Fathograms checked by NORFOLK DISTRICT OFFICE

Protracted by R.D. LYNN

Soundings penciled by R.D. LYNN

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXX~~

REMARKS: See accompanying descriptive report covering work accomplished during the 1954 season.

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

SUPPLEMENTAL
DESCRIPTIVE REPORT
TO ACCOMPANY

Hydrographic Sheet H - 8175 (Field No. GI-1154)

PROJECT 1265 SCALE 1: 10,000

EAST COAST FIELD PARTY 1955 MARVIN T. PAULSON, CHIEF OF PARTY

* * * * * * * * * * * * * * * * *

PROJECT This survey was accomplished under revised Instructions 22/MEK FP-East Coast dated 14 February 1955.

These instructions superseded all prior instructions for this survey.

SURVEY LIMITS AND DATES The survey covered that portion of Penobscot Bay Maine known as Muscle Ridge Channel; it is bounded on the south and southeast by Two Bush Channel, on the east by parallel 69° 01.8' W, and on the north by and west by the coast of Maine.

Junctions were made with H 8176, 1:20,000, 1954 to the south and southeast; with the 1954 survey on this sheet, and with contemporary survey H 8259 to the north.

Work began on this survey 4 August and terminated 18 October 1955.

VESSELS AND EQUIPMENT Launch CS 172 was used in this survey. It was operated from a mooring in the Weskeag River at South Thomaston, Maine.

Echo soundings were obtained with 808J type fathometer No 77, with transducers mounted inboard in the bilges; and with EDO model 255 fathometer No. 201, operated with sounding units mounted outboard in a fish type assembly.

Fathometer No. 77 was used for "a" through "h" days, "k, n, p, and y" days. Fathometer No. 201 was used for "j, l, and m days".

Some shoal sounding and bottom investigations were made by sounding p pole and handlead. Bottom Samples were taken with an armed hand-lead. There is no length correction to be applied to hand lead soundings.

TIDES AND CURRENTS Tide reducers for this project were obtained from a portable automatic tide gage maintained by party personnel at Rockland, Maine. The tide note is attached to this report. No current observations were made on this project.

SMOOTH SHEET The smooth sheet is to be plotted by the Norfolk Processing Office.

CONTROL STATIONS The balance of the control consisted of photo-hydro. stations plotted on air photo manuscripts T-11129(S), T-11132N, T-11132S, and T11133N. Signals were located and transferred to the boat sheet by any experienced photo-grammetrist.

CONTROL STATIONS *- (Continued)

Triangulation Control stations were as follows:

TWO BUSH ISLAND LIGHTHOUSE, 1902
WHITEHEAD LIGHTHOUSE, 1859
YELLOW RIDGE SPINDLE, 1934

SHORELINE AND TOPOGRAPHY Shoreline and topographic details were transferred to the boat sheet from bromide prints of manuscripts T-11129S, T-11132N, and T-11133N. The low water line was inked in black when verified by the hydrographer. Corrections to the low water line were inked on the boat sheet in red. In general, the low water or ledge line was correct and should be accepted in all cases except those corrected in red.

SOUNDINGS Soundings were obtained using graphic recorders Nos. 77 and 201. Handlead and sounding pole were used for some shoal investigations. No correction was applied to handlead soundings.

Bar checks for both surveys comprising this project were summarized in the abstract attached to the original of sheet H-8259 (ECFP 1455). The 808 type fathometer No. 77 was used with an initial setting of 0.0 feet. Any variation from this setting required an index correction in addition to the attached velocity corrections.

EDO model 255 fathometer no. 201 was used with an initial setting of 1.5 feet. This setting was established to give a minimum correction at all depths. An initial setting of 1.0 feet was used on pos. 1 through 14 j day. Soundings taken on these days must have a correction of + 0.5 feet to all soundings in addition to the velocity correction.

CONTROL OF HYDROGRAPHY The sounding lines on this survey were controlled by the standard 3 point sextant fix method. Fixes on sounding lines were taken at 1½ minute intervals. No unusual jumps were observed in changing control stations.

ADEQUACY OF SURVEY This survey is considered adequate to supersede prior surveys, and in compliance with project instructions.

CROSSLINES Approximately 8% of the total sounding lines were crosslines with good agreement noted at all crossings.

COMPARISON WITH PRIOR SURVEYS. The previous survey of this area was H-907a and H-953. As both were accomplished in 1867, no detail comparison will be made here. In general, no discrepancies are noted. Junctions were mde with H-8176, 1:20,000 to south and southeast, with the contemporary survey of H-8259 (ECFP 1455) to the north. All the junctions wereadequate, as depth curves could be drawn between the junctions.

COMPARISON WITH CHARTS Soundings from the latest correction of Chart 322, 1:40,000 were transferred to the boat sheet in purple and a comparison follows:

COMPARISON WITH CHARTS (continued)

Position	Chart 322	1955 Survey	Remarks
~~39~~ 59.13 69 03.05	Rock awash	Rock awash	Located as charted, pos. 48m. Rock bares 1 ft. MLW.
43 59.08 69 04.13	Rock awash	Rock awash	Located as charted, pos. ~~39k~~ 37k. Rock bares 10 ft MLW.
43 58.03 69 05.12	14 ft.	~~12~~ 11 ft.	Several detached soundings taken to determine least depth of 11.6 ft., pos. 31m.
43 57.80 69.05.03	Sunken rock	1 ft.	Least depth obtained was 1.4 ft. by sounding pole, pos. 33m.
43 58.18 69 04.57	11 ft.	~~9~~ 8 ft.	Fathometer soundings of 9.0 ft. recorded between pos. 93 - 94b. It is recommended this least depth be charted.
43 58.7 69 05.0	Rock awash	Rock awash	Rocks located as charted, pos. 8, 9, 10, 11b.
43 58.58 69 05.20	18 ft.	3 ft.	Least depth on this shoal is 3.0 ft. by sounding pole. Pos. 8f. It is recommened this 3 ft. be charted.
43 58.1 69 06.0	Rocks awash	Rocks awash	This is "Stallion Ledge" and was located as charted. Pos. 125b and 126b.
43 58.17 69 05.97	11 ft.	10 ft.	Least depth on rock is 10.0 ft., depth verified by lead line investigation. Pos. 15f. Area is well marked by kelp at half tide.
43 59.4 69 04.8	Rocks awash	Rocks awash	Pos. 31n and 32n verified the charted location ot these rocks.
44 00.00 69 04.10	Sunken rock	~~1½~~ ½ ft.	Least depth on rock was a pole sounding of 1½ feet, pos. 42l.
44 00.3 69 05,1	Rock awash	Rock awash	Located as charted, pos. 1g.
43 59.66 69 05.59	5 ft.	~~6~~ 5 ft.	Least depth of 6 feet obtained by handlead. Recommend 5 ft. be retained as charted.

See 5' sdg. pos. 64d - H.L. sdg. not found -

COMPARISON WITH CHARTS (continued)

Position	Chart 322	1955 Survey	Remarks
43 59.59 69 06.11	2 ft.	Rock awash	Rock bares ½ ft. at MLW, pos. 1c. Recommend rock awash be added to chart and delete 2 ft. now on chart.
43 59.17 69 06.58	25 ft.	~~25~~ 22 ft.	Charted position verified by pos. 175 - 176q.
43 59.40 69 07.04	4 ft.	3 ft.	Least depth by sounding pole is 2.6 ft., pos. 124p. Recommend 3 ft. be charted.
43 59.1 69 07.2	5 ft.	~~5~~ 6 ft.	Charted pos. not verified by pos 94p. at 11 See pos 70-71a & 91p.
43 58.3 69 07.3	Rock awash	Rock awash	Located as charted, pos. ~~4c~~. 4d.
43 58.53 69 06.77	5 ft.	~~4~~ 3 ft.	Least depth by sounding pole is 4.0 ft., pos. 61h. This spot is marked by kelp and breakers in heavy southwest weather.

DANGERS AND SHOALS The paragraph on comparison with charts inumerates the dangers and locations. Dangers as charted were verified as stated and no additional dangers found in this survey.

COAST PILOT INFORMATION Coast Pilot are considered adequate for this area. The channel is well marked. No additions or changes to Coast Pilot are recommended.

AIDS TO NAVIGATION See H.P.O. List

Name (1953 Light List)	Location	Depth ft.	Vol.	Page	Date
South Breaker Bell Buoy 25B	43 58.27 69 07.58	90	12	38	8/9/55
Hay Island Ledge Buoy 1	43 59.10 69 07.15	20	11	26	8/4/55
Burnt Island Ledge Buoy 3	43 59.35 69 07.03	31	11	26	8/4/55
Lower Gangway Ledge Buoy 4	43 59,20 69 06.87	53	11	26	8/4/55
Hurricane Ledge Buoy 6	43 59.61 69 06.19	42	12	7	8/9/55

AIDS TO NAVIGATION (continued

Name (1953 light list)	Location	Depth ft.	Vol.	Page	Date
Halibut Rock Buoy 2B	43 59.11 69 03.10	50	15	30	10/3/55
Whitehead Island L. H.	See Triangulation data				
Two Bush Island L. H.	See Triangulation data				
Yellow Ridge Spindle Bn.	See Triangulation data				

LANDMARKS FOR CHARTS No additional landmarks.

GEOGRAPHIC NAMES Muscle Ridge Channel has a beacon name of Yellow Ledge Beacon that is called Yellow Ridge Spindle in the triangulation records. At Lat. 43 59.2 and Long. 69 03.9 there is an Island named Yellow Ledge. It is recommended that the Beacon name at Lat. 43 58.8 and and Long. 69 06.9 be changed or corrected as the case may be to Yellow Ridge Spindle Bn.

MISCELLANEOUS Time and weather stamps in the sounding volumes are made out employing the Beaufort wind scale and weather symbols.

Predicted tides were used to reduce all boat sheet sounding, with the exception of least depths which were reduced by the use of actual tides.

Tide reducers are entered on the fathograms for the convenience of the Processing Office and at their suggestion.

Respectfully submitted

Edwin K. McCaffrey

Edwin K. McCaffrey
Ens. , C&GS

Forwarded

Marvin T. Paulson

Marvin T. Paulson
Lcdr., C&GS, OinC

APPROVAL SHEET

Hydrography Sheet H-8175 (Field No. GI-1154)

The sheet has been reviewed by me and is approved as complete and no additional surveys required. The survey was accomplished by a detached party so supervision and inspection of the sheet and records could not be made daily, but inspections were made periodically throughout the season to check records, progress, and make recommendations.

Your attention is invited to a modified method of entering sounding reducers. By verbal approval from the Chief, Coastal Surveys Division, and with special instructions from the Norfolk District Processing Office, Tide Reducers have been entered directly on the fathogram instead of the usual method of entering the reducers in the hydrographic Record Volumes. The Fathometer corrections have been listed and are a part of this report, and these also have not been entered in the Record Volumes. Tides entered by N.P.O.

It is noted that a minimum of bar checks have been obtained on this survey, but close agreement is also noted and good crossings made. The strong currents and often rough waters caused poor checks and were therefore eliminated on those poor days.

Marvin T. Paulson

Marvin T. Paulson
LCdr., C&GS, OinC

TIDE NOTE TO ACCOMPANY
HYDROGRAPHIC SURVEY SHEET H - 8175 (ECFP-GI-1154)

Tide data for the reduction of soundings was obtained from a portable automatic tide gage maintained at the U.S.Coast Guard Base Wharf, Rockland, Maine. The mean low water plane of reference on the tide staff was determined by the difference of elevations to previously established tidal bench marks (4 recovered). There was nottime or range correction to be applied.

Station:	Coast Guard Pier, Rockland, Maine	
Position:	Lat. 44° 06.28	Long. 69° 06.13
MLW :	2.3 feet on staff	

VELOCITY CORRECTIONS

Velocity corrections are appended to the report for sheet H 8259. A summary of the corrections follows:

Fathometer No. 201 (Initial set at 1.5 feet)

Corrections in feet

A Scale			B Scale			C Scale		
0.00	to	12.0	0.0	to	80.0	+ 2.0	to	147.5
+0.2	to	29.0	- 0.5	to	118.0	+ 1.5	to	183.0
0.0	to	53.0	- 1.0	to	130.0	+ 1.0	to	190.0
-0.2	to	60.0						
-0.5	to	70.0						

Fathometer No. 77

Corrections in feet

A Scale			B Scale			C Scale		
0.0	to	3.0	+ 0.8	to	40.0	- 0.5	to	125.00
+ 0.2	to	17.0	+ 0.6	to	54.0			
0.0	to	24.0	+ 0.4	to	60.0			
- 0.2	to	31.8	+ 0.5	to	90.0			
- 0.4	to	45.0						
- 0.6	to	55.0						

D Scale		
- 1.5	to	160.0

STATISTICS

Date 1955	Day Letter	Vol. No.	Pos. No.	Stat. Mi. Sdg.
4 August	a	11	100	15.9
8	b	11 & 12	126	19.0
9	c	12	158	27.2
10	d	13	144	24.0
16	e	13	71	10.3
24	f	14	81	12.0
25	g	14	46	5.1
26	h	14	62	10.1
22 September	j	15	46	7.5
3 October	k	15	38	5.7
4	l	15	123	19.7
10	m	16	49	5.8
12	n	16	35	5.1
13	p	16	124	19.4
18	q	17	180	28.8
TOTAL		17	1,363	215.6

NORFOLK PROCESSING OFFICE
FLOATING AIDS TO NAVIGATION
H-8175

BUOY	LATITUDE	LONGITUDE	DEPTH	POS. NO.	DATE
Halibut Rock Buoy 2B	43-59.10	69-03.10	-	38k	10/ 3/55
Hurricane Ledge Buoy 6	43-59.60	69-06.10	42'	2c	8/ 9/55
Lower Gangway Ledge Buoy 4	43-59.20	69-06.80	52'	73a	8/ 4/55
South Breaker Bell Buoy 2SB	43-58.20	69-07.50	89'	103c	8/ 9/55
Burnt Islamd Ledge Buoy 3	43-59.30	69-07.00	31'	72a	8/ 4/55
Seal Island Ledge Buoy 1	43-59.10	69-07.10	76'	74a	8/ 4/55
Long Ledge Buoy 1	43-59.50	69-07.70	21'	93w	10/ 8/54
Sprucehead I. Ledge Buoy 2	43-59.60	69-07.50	-	113w	10/ 8/54
Seal Island Ledge Buoy 1A	43-59.30	69-07.10	-	85p	10/13/55
Lighted Bell Buoy 1	43-57.70	69-10.90	-	126&127d	8/30/54
Hart Ledge Buoy 1	43-56.90	69-11.40	-	107&108b	8/18/54
Long Cove Buoy 2	43-58.00	69-11.50	8'	56e	9/ 2/54
Long Cove Buoy 1	43-58.30	69-11.40	-	59&60e	9/ 2/54
Long Cove Buoy 4	43-58.90	69-11.30	-	92e	9/ 2/54
Wheeler Bay Buoy 1	43-58.20	69-09.40	-	20&21j	9/13/54
Wheeler Bay Buoy 2	43-59.30	69-10.00	-	125s	10/ 4/54
Wheeler Bay Buoy 3	43-58.70	69-09.90	-	41&42e	9/ 2/54
Wheeler Bay Buoy 4	43-59.40	69-10.00	19'	124s	10/ 4/54
Wheeler Bay Buoy 5	43-59.50	69-10.10	15'	150q	9/29/54

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8175 (Field No. Gi-1154)

GENERAL

This survey falls in an area of unusually irregular bottom. Fathogram scanning and intrepretation was complicated by large areas of kelp and grass in the shoaler depths, and also by the generally poor quality of the fathograms. Additional lines on some shoal soundings and a closer developement of splits are needed to draw depth curves accurately.

CHART COMPARISONS

The following comparisons are in addition to those in the body of the reports:

LATITUDE	LONGITUDE	CHART DEPTH	SS DEPTH	DAY
43-57.80	69-05.18	25'	21'	79-80b (red)
43-58.28	69-05.75	40'	32'	25-26m
				122-123b "
43-59.40	69-07;38	19'	15'	86-87w "
43-59.65	69-06.63	84'	32'	86-87a "
Hurricane	Ledge	2'	(1)	1c "
43-59.21	69-06.80	6'	17'	14-15a (blue)
43-58.85	69-03.45	75	36	160-161q (red)
43-59.00	69-03.48	16'	24'	62-63q "
43-58.93	69-03.73	52'	28'	47-48q "
43-58.53	69-04.18	15'	10'	87-88b "
43-58.43	69-04.38		20'	68-69b "

SOUNDINGS

The soundings are in good agreement at crossings. All soundings were reduced with templates and the fathograms rescanned in the Processing Office. The prevalence of grass and kelp and the quality of the fathograms has resulted in a number of questionable readings. These have been flagged in the record books.

Norfolk, Va.
7 Jan. 1958

Respectfully submitted
Hugh L. Proffitt
Hugh L. Proffitt
Cartographer

NORFOLK PROCESSING OFFICE
LIST OF SIGNALS
H-8175

TRIANGULATION STATIONS

ITE	WHITEHEAD L.H., 1859-1943
TEN	TENNANTS HARBOR L.H., 1859-1943
TWO	TWO BUSH ISLAND L.H., 1902-43
YEL	YELLOW LEDGE SPINDLE, 1934-43

TOPOGRAPHIC STATIONS

SOURCE T-11128(S)

Ant	Bib	Bum	Cam	Coo	Cry	Deb	Dim	Dix	Elo
Fat	Fin	Gas	Gem	Got	Hit	Hub	Ice	Ivy	Jib
Jig	Ked	Key	Lay	Lam	Mal	Met	Nig	Nub	Oak
Oar	Peg	Rev	Sis	Tap	Van	Wig	Yap	Zig	

T-11129(S)

Art	Bus	Cue	Don	Ear	Eel	Fat	Fit	Get	Its
Jam	Lop	Mid	Ply	Rat	Rid	Sim	Tut	Was	Wed

T-11132(N)

Act	Ado	Aid	Alp	Amy	Ann	Bed	Bab	Box	Bye
Can	Car	Cat	Caw	Cop	Dab	Doc	Dot	Ego	Elf
Emo	Ean	Far	Fat	Fel	Fib	Fig	Fix	Fog	Gab
Gob	Gap	Gus	Hag	Hat	Hex	His	Hoe	Hop	Hug
Ida	Imp	Ink	Ion	Irk	Jap	Jar	Jay	Jaw	Joe
Joy	Jut	Kel	Ken	Key	Kid	Kim	Lad	Lag	Lax
Let	Lug	Lux	Leo	Mag	Man	Mar	Mat	May	Moo
Nab	Ned	Nil	Nub	Nut	Nux	Oat	Obi	Odd	Oil
Ora	Out	Owl	Pal	Par	Paw	Pep	Pet	Pie	Pig
Quo	Rem	Rig	Rim	Rio	Rip	Rot	Row	Rub	Rum
Rut	Sap	Sip	Sis	Sly	Sow	Sox	Sub	Tag	Tam
Tic	Tom	Tot	Toy	Try	Ump	Use	Val	Van	Ves
Vet	Vim	Vol	Wag	Wax	Wee	Wig	Wit	Wop	Yaw
Yak	Yes	Yip	Zag	Zip	Zop				

T-11132(S)

Ago	Bag	Cab	Eva	Fez	Gig	Jim	Kit	Liz	Mop

T-11133(N)

Ace	Add	Aid	Aim	Bab	Bah	Boa	Bon	Cay	Cob
Cur	Cut	Day	Dif	Dog	Dud	Dun	Ebb	Egg	End
Est	Fed	Fig	Fug	Gag	Gal	Gin	Hod	Hon	Hop
How	Jet	Job	Jog	Leg	Let	Low	Maw	Max	Mum
Mug	Nay	Nip	Nix	Oaf	Off	Orb	Pan	Paw	Peg
Dig	Rit	Roy	Sop	Sty	Sue	Tar	Tax	Tip	Top
Vex	Vip	War	Wen	Woo	Wit	Yea	Zoo		

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8175

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
2/26/58	310	H. Benson	Partially applied. This survey is obviously not a basic survey as all rocks & shoals were not thoroughly investigated. Many such details must be carried forward from H-953. Before ~~After~~ Verification and Review
6/20/58	322	13303 F. A. McGann	Shoal sdgs only. Before ~~After~~ Verification and Review
2 July 58	1203 #15	H. E. MacEwen	Partially applied. Before [redacted] Verification and Review
July 58	313	13301 L. A. McGann	added Shoal sdgs. Before ~~After~~ Verification and Review
11-3-61	1106	R. E. Elkins	Partly applied thru cht 1203 drg 15. Revised a few curves. Before ~~After~~ Verification and Review
4-30-62	Recons 310	13305 E. R. Wellmann	In part thru chart 322. Before ~~After~~ Verification and Review
5-8-63	13302 1203 Recon.	M. Rogers	thru charts 322, 313 and Recon drg. of 310. Before ~~After~~ Verification and Review
~~[illegible]~~ 4-24-85	13301	Teresa Tuegen	Revised sdgs & depth curves. Category I Survey Dwg #1. Before ~~After~~ Verification and Review
6-7-85	13303	Teresa Tuegen	Revised sdgs & depth curves. Category I, Dwg #16. Before ~~After~~ Verification and Review
6-7-85	13305	Teresa Tuegen	Category I Dwg 35 Applied thru 13301 & 13303. Before ~~After~~ Verification and Review
3-15-90	13260	D. McAlinden	ADEQUATELY APPLIED TO DRWG #34
10/29/92	13302	L. Ashman	Re-examined No further Application necessary

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.