8256

Diag. Cht. No. 1205-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECFP-1555 Office No. H-8256

LOCALITY

State Maine

General locality Approaches to Wood Island Harbor and Saco River

Locality Hoyt Neck to Saco Bay

1955

CHIEF OF PARTY

M. T. Paulson

LIBRARY & ARCHIVES

DATE June 5, 1953

COMM-DC 61300

8256

8256

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-8256

Field No. ECFP - 1555

State Maine

General locality APPROACHES TO WOOD ISLAND HARBOR AND SACO RIVER

Locality HOYT NECK TO SACO BAY

Scale 1:10,000 Date of survey 3 Oct. - 15 Nov. 1955

Instructions dated 6 March 1953, 29 January 1954 and 16 February 1955

Vessel Launch CS-82

Chief of party Marvin T. Paulsen

Surveyed by CWTupper

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

Fathograms scaled by GMcD, GFT

Fathograms checked by CWT

Protracted by W E Ward

Soundings penciled by W E Ward

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ are true depths

REMARKS:

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

Descriptive Report
to
Accompany

Hydrographic Sheet H-8256 (Field No. ECFP - 1555)

Fortunes Rocks to Saco Bay

East Coast Field Party

Project 1855

Marvin T. Paulson,
Chief of Party
Scale 1:10,000

3 October to 15 November 1955

* *

A. Project

A basic survey of the Outer Coast from Ipswich, Mass. to the Saco River, Maine was accomplished under instructions as follows:

Instruction 22/MEK FP East Coast, dated 6 March 1953
Addressed to Commander Clarence R. Reed, CinC, East Coast Field Party.

Supplemental Instructions: 22/MEK FP East Coast, dated 29 January 1954
Addressed to Commander Clarence R. Reed, CinC, East Coast Field Party.

Supplemental Instructions 22/MEK FP East Coast, dated 16 February 1955
Addressed to Officer In Charge, East Coast Field Party.

B. Survey Limits and Dates

Field work on sheet H-8256 (ECFP - 1555) commenced on 3 October 1955 and terminated on 15 November 1955. Work was accomplished along the outer coast from Fortunes Rocks to Saco Bay.

The south limit of the sheet makes junction with contemporary survey H-8255 (1955) and extends from a point on shore 0.2 miles north east of Curtis Cove to Lat. 43 23.2, Long. 70 20.0. The offshore limit makes junction with prior survey H-7157 (Scale 1:40,000 1946) and the North limit lies along Lat. 43 29.2. Inshore in the vicinity of Fletcher's Neck and the entrance to the Saco River this survey makes junction with contemporary survey H-8257 (1955) (Scale 1:5,000)

Overlap at all junctions were in close agreement with prior and contemporary surveys.

C. Vessels and Equipment:

Launch CS-82 was used entirely on sheet H-8256. It was operated from a mooring at Biddeford Pool. The launch was operated at a standard sounding speed of 1500 - 1600 r. p. m. (8 knots) and had a turning

radius of 15 meters at this speed.

Soundings were obtained with the EDO type fathometers with the exception of one day during a breakdown when an 808 type was used. The transducer units for the EDO were mounted in a fish which was suspended over the side of the launch immediately aft of the engine. The transducer units for the 808 type were mounted inboard in the bilge just aft of the engine. Following is a list of the fathometers used on this sheet with their numbers:

EDO type No. 202
EDO type No. 201
808 type No. 101-S

Note: See item U-Y Miscellaneous for difficulties encountered with 808 type fathometer.

D. Tides and Currents:

Portable automatic tide gages were maintained at Cape Porpoise on the town wharf at Bickford Island and at Biddeford Pool on the pier used by the Coast Guard. Tidal data for this sheet are taken ffom these two gages as noted in the Processing Stamp No. 38 at the end of each day. The tidal note is appended to this report. Smooth tide curves for Project 1355 will be submitted in a separate report at a later date. Numerous corrections to reduces determined by Tide Division because of faulty determination in the field

E. Smooth Sheet

The smooth sheet will be plotted by the Norfolk Processing Office. This sheet was plotted by Coastal surveys, Namely; W.E. Ward.

F. Control Stations

Control stations consisted of triangulation and photo hydro stations. Photo hydro signals were plotted on the Topographic Manuscripts T-11159, T-11160, and T-11574 by Photogrammetrist Richard H. Houlder. These were then transferred to the boat sheet.

G. Shoreline and Topography

See Verif. Rpt. par. 15.

The shoreline and topography details were transferred from topographic blue line manuscripts Nos. T-11159, T-11160, and T-11574. (1953) ECFRIA-55

There were no important changes in shoreline or topographic features determined during this survey.

Areas not accessible by launch due to foul areas or heavy breakers are outlined and labeled as such. In all other areas the low water line is defined by sounding.

H. Soundings

Soundings were obtained with an EDO type and an 808 type graphic recorder with least depths being verified by the hand lead and sounding pole in accordance with paragraph 46 of the Hydrographic Manual.

Standard procedures were used in obtaining velocity corrections. All corrections were entered and checked in the sounding volume and an abstract of velocity corrections is appended to this report.

Tabulation of all bar check data along with velocity curves will be submitted in a separate report at a later date. Report Not available 3-28-60 D.J.K.

All bottom samples were obtained with an armed hand lead. The lead line was standard Samson tiller rope referred to in paragraph 462 of the Hydrographic Manual and it was calibrated at the beginning of the season.

I. Control of Hydrography

Hydrography was controlled entirely by three point fixes at intervals of from 1 minute to 1½ minutes. There were no unusual jumps noted when changing control stations.

J. Adequacy of Survey

The survey on sheet H-8256 is considered adequate to supersede prior surveys for charting. Junction with prior surveys and contemporary surveys, mentioned in item B-Survey Limits and Dates, are satisfactory and depth curves can be adequately drawn at the junctions. Bottom configuration inadequately developed in several areas and numerous soundings have been retained from prior surveys

K. Cross Lines

Cross lines were run to the extent of 5% of the regular system of sounding lines excluding development and agreement was satisfactory.

L. Comparisons with Prior Surveys

A comparison with prior surveys H-7144 47 (Scale 1:40,000 1946) and H-4303 (Scale 1:20,000 1923) and charts 1205 and 231 show some discrepancies. The comparison with prior surveys together with the preliminary review on Chart 1205 and 231 are listed in the following item M.

M. Comparison with the Chart and Prior Surveys CS 355

The following items refer to the preliminary review of Charts 1205 and 231 dated 15 March. On chart number 231 items 1, 2, 13, 14, and 19 were investigated on H-8256. On chart 1205 items numbers 28, 29, 30, and 31 were investigated on H-8256.

In each case of shoal investigation, unless otherwise stated, the approximate position of the shoal was obtained on sounding lines during development. Then a small float buoy was dropped on position and the launch circled the buoy, at gradually increasing and decreasing distances until the shoalest point was determined and verified by the lead line.

Chart 1205

Pre-Survey Review Item No.	Remarks
28	The 7 foot shoal from (H-1634b)(1875) (HUSSEY ROCK) Chart 1205 print 7/14/52 charted in Lat. 43° 25.90 (5), Long. 70° 20.50 (48) was verified. A 5 foot lead line sounding was obtained after 15 minutes circling marker buoy on shoal. (Vol. 9, pg. 39, pos. 103 q day.) This 6 ft. charted from present survey before ver. rek on chart 1205 print 5/16/60.

Item No.	Remarks
29.	The 39 foot sounding charted in Lat. 43° 25.85', Long. 70° 19.60' was not verified as such, the shoalest sounding obtained was ~~42~~ feet located 150 meters north west of the charted position. Sounding was obtained on line. (Vol. 5, pg. 56, pos. 2-3 k day.)
Dashed Circle	The 24 foot sounding charted at Lat. 43° 25.8', Long. 70° ~~20.00~~ was verified. A ~~24~~ foot lead line sounding was obtained after 20 minutes of circling marker buoy on shoal. (Vol. 9, pg. 9, pos. 86 p day)
30.	The 10 foot sounding charted at Lat. 43° 25.65', Long. 70° 21.55' was not verified as such; however, a lead line sounding of ~~12½~~ feet was obtained after 15 minutes of drifting around marker buoy on shoal. (Vol. 9, pg. ~~48~~, pos. 26 r day)
31.	The sunken rock charted at Lat. 43° 25.60' Long. 70° 22.15' was verified. A ~~2.8~~ foot lead line sounding was obtained on the shoalest point. (Vol. 9, pg. 55, pos. 54 r day). 100 meters NNE of the above position another submerged rock was located and a ~~6~~ foot lead line sounding was obtained on it. (Vol. 9, pg. 55, pos. 53 r day). This shoal area is quite extensive having an E - W axis of 300 meters and a N- S axis of 200 meters.
Underlined	The 29 foot sounding charted in Lat. 43° 24.9', Long. 70° 22.3' was verified. A ~~28~~ foot lead line sounding was obtained after 10 minutes drifting around marker buoy on shoal (Vol. 9, pg. 57, pos. 62 r day).
Dashed Circle	The 57 foot sounding charted in Lat. 43° 24.7', Long. 70° 21.2' was verified. A ~~51~~ foot lead line sounding was obtained after 12 minutes drifting around marker buoy on shoal. (Vol. 9, pg. 39, pos. 102 q day).
Underlined	The 40 foot sounding charted in Lat. 43° 24.6', Long. 70° 20.~~2~~' was verified. A ~~39~~ foot lead line sounding was obtained after 30 minutes drifting around marker buoy on shoal. (Vol. 9, pg. 36, pos. 88-89 q day).
Dashed Circle	The 50 foot sounding charted in Lat. 43 24.8, Long. 70 20.6 was verified. A ~~41½~~ foot lead line sounding was obtained after 12 minutes drifting around marker buoy on shoal. (Vol. 9, pg. 32, pos. 77 q day).
Underlined	The 27 foot sounding charted in Lat. 43° 25.2', Long. 70° 20.9' was verified. A ~~27½~~ foot lead line

Underlined (Con't)

sounding was obtained after 12 minutes of drifting around marker buoy on shoal. (Vol. 9, pg. 26, pos. 52 q day).

Underlined

The 33 foot sounding charted in Lat. 43° 25.2', Long. 70° 20.35' was verified. A ~~33~~ 32 foot hand lead sounding was obtained after 12 minutes drifting around marker buoy on shoal. (Vol. 9, pg. 28, pos. 63 q day). Least depth determined was 31 ft. pos. 61-62 q.

Dashed Circle

The 47 foot sounding charted in Lat. 43 25.2', Long. 70 19.7' was verified. A ~~42½~~ 44½ foot lead line sounding was obtained after 10 minutes of drifting around marker buoy on shoal. (Vol. 9, pg. 29, pos. 64 q day.)

Underlined

The 59 foot sounding charted in Lat. 43° 25.5½' Long. 70° 19.32' was verified. A ~~52~~ 51 foot lead line sounding was obtained after 15 minutes of drifting over shoal. (Vol. 8, pg. 60, pos. 27 p day).

Underlined

The 15 foot sounding charted in Lat. 43° 25.6' Long. 70° 20.4' was verified. A ~~14~~ 15 foot lead line sounding was obtained after 30 minutes of drifting around marker buoy on shoal. (Vol. 8, pg. 65, pos. 46 p day).

Underlined

The 20 foot sounding charted in Lat. 43° 25.90' Long. 70° 20.7' was verified. An ~~18~~ 17 foot lead line sounding was obtained after drifting around marker buoy on shoal. (Vol. 9, pg. 39, pos. 102 q day). Least depth of 16 ft. obtained. pos. 4-5 r

Chart 231

1. from H-1634b (1875)

The 37 foot sounding charted in Lat. 43° 28.91' Long. 70° 20.67' was verified by fathometer sounding during development. ~~34~~ 33 and ~~38~~ 37 foot soundings were obtained on line. (Vol. 10, pg. 47, pos. 113-114 t day and 110-111 t day). 31 ft. on line about 100 m west (pos. 108-109 t.)

1. from H-1634b (1875)

The 29 foot sounding charted in Lat. 43° 28.46' Long. 70° 20.71' was verified by fathometer soundings during development. Two 29 foot soundings and several 31 foot soundings were obtained on lines. (Vol. 10, pg. 42-43, pos. 95-99 t day). 26 ft. obtained on this shoal (pos. 98-99 t.)

2. from H-6996 (1954)

The 39 foot sounding charted in Lat. 43° 28.49' Long. 70° 20.40' was not verified and there was no indication of a shoal at this position, however 300 meters west of the charted position there are 40 foot soundings. This sounding should not be charted ~~in this position.~~

13. The 14 foot sounding charted in Lat. 43° 28.29', Long. 70° 20.8' was not verified as such. However an 18 foot fathometer sounding was obtained on line during development of the area. (Vol. 10, pg. 44, pos. 103-104 t day).

Carry forward 14' from H-4307(1923) W.D.

14. The 30 foot sounding charted in Lat. 43° 28.17', Long. 70° 20.05' was not verified. There was no indication of any shoal at this position; however, 450 meters South South Westward there is a 31 foot sounding obtained on line. (Vol. 7, pg. 67, pos. 169-170 m day).

from H-4307(1923) W.D.

Questioned in original records by Field. 30ft. considered erroneous — Disregard 30ft. sounding.

19. The 19 foot sounding charted in Lat. 43° 26.78', Long. 70° 19.08' was not verified as such; however, after development by fathometer several 23 foot soundings were obtained on line. (Vol. 10, pg. 4-8, pos. 4-20 s day).

Def. Disagreed carry forward 19' from H-1634b (1915) (on Dog gear tracing)

Underlined — originates with H-4304(1923) W.D as a grounding, however, an examination of the records indicates that the 74sd. by the L.T. should be carried forward instead of the 51.

The 51 foot sounding charted at Lat. 43 26.7, Long. 70 18.6 was not verified as such; however, 300 meters North North West there was a 48 foot fathometer sounding obtained on line during development. (Vol. 10, pg. 12, pos. 38-39 s day).

Underlined — Carry forward 63' - falls between lines on present survey. (H-4304-1923 W.D.)

The 63 foot sounding charted on Lat. 43° 27.1, Long. 70° 18.5' was verified by fathometer soundings obtained on line during development. A 57 foot sounding was obtained. (Vol. 10, pg. 10, pos. 29-30 s day).

Dashed Circle — on Print 2/13/50, of Chart 231, originating with H-4304(1923)

The 27 foot sounding charted in Lat. 43° 27.2', Long. 70° 19.2' was verified by fathometer soundings obtained on line during development. There were soundings of 20, 21, ~~and 22~~ feet obtained at this ~~exact~~ approximate position and a 17 foot sounding obtained 200 meters west of the charted position.

Disregard 27' sounding.

Underlined — from H-4307(1923) W.D.

The 38 foot sounding charted in Lat. 43° 27.3', Long. 70° 19.0' was not verified as such; however, fathometer soundings of 42 and 43 feet obtained on line during development substantiate the shoal sounding of 38 feet. (Vol. 10, pg. 22, pos. 19-20 t day).

carry forward. 38' falls between lines on present survey

Underlined — Carry forward 59' from H-4307 (1923) W.D.

The 59 foot sounding charted in Lat. 43° 27.8', Long. 70° 19.2' was not verified as such; however, a fathometer sounding of ~~63~~ 57 feet was obtained on line during development of the area which substantiated soundings of 60 and 66 foot obtained on the regular system of sounding lines. (Vol. 7, pg. 24, pos. 24-25 m day) & (Vol. 10, pg. 24, pos. 28-29 t day).

Underlined — The seven underlined soundings in the north east section of sheet H-8256 were verified by a close system

Underlined (Con't)

of sounding lines during development. The results and comparisons are as follows:

Charted Sounding	Depth H-8256	Sounding Volume
49	~~50~~ 47	Vol. 6, pg. 60, pos. 57-58 l day.
53	~~54~~ 53	Vol. 6, pg. 68, pos. 83-84 l day.
57	~~66~~ 64	Vol. 10, pg. 35, pos. 69-70 t day.
50	~~52~~ 51	Vol. 10, pg. 36, pos. 71 t day.
47	59	Vol. ~~10~~, pg. ~~33~~, pos. 60 ~~t~~ day.
42	42	Vol. 10, pg. 33-34, pos. 63-64 t day.
44	~~45~~ 43	Vol. 10, pg. 33, pos. 60-61 t day.

N. Dangers and Shoals

All charted dangers, shoals, and bare rocks were found as charted or shoaler depths were found except those listed in L., M., and N.

O. Coast Pilot Information

There are no changes, deletions, or additions to the coast pilots notes in the general area of survey on H-8256.

P. Aids to Navigation

The locations of all floating aids to navigation are as follows:

Name or Nomenclature	Lat. & Long.	Depth of Water	Vol. & Position No. Sh. H-8256
Can "1"	Lat. 43 27.09 Long. 70 21.08	16'	Vol. 1, pg. 40, pos 75 b day.
Nun "2"	Lat. 43 26.83 Long. 70 19.457	28½'	Vol. 1, pg. 35, pos. pos. 63 b day.
Bell B&W	Lat. 43 27.93 Long. 70 20.38	~~42½~~ 41.0	Vol. 7, pg. 62, pos. 152 m day.
Nun "2"	Lat. 43 27.98 Long. 70 20.720	~~25½~~ 23 1/2	Vol. 7, pg. 57, pos. 134 m.
Can "1"	Lat. 43 25.478 Long. 70 20.41	29'	Vol. 8, pg. 65, pos. 47-p

Q. Landmarks for Charts

There are no new landmarks for charts to report.

R. Geographic Names

There are no new geographic names to report.

Items S - T not used

U - Y Miscellaneous: Difficulties Encountered with 808 type Fathometer

On the 808 type fathometers much trouble was experienced with the loose phasing head. There was a certain amount of play in the gear teeth on the initial adjustment screw that could not be eliminated. This looseness, along with the slightly oval slots that engage the phasing head at the various range settings, caused the initial trace to jump considerably when the return to A-range was made after being on B-C or D ranges. It appeared that this variance was more or less constant; however, not entirely so. Instead of pro rating the total error from the time of leaving and return to the A-range, one-half of the error was applied to the first shift to B-range; then the total error was applied to the remainder of the time if a second change of range was made (that is, to C-D and back to B and A).

Miscellaneous: Field Procedures that Deviate from Standard Practice

1. It will be noted throughout the sounding records that the abbreviations LTLA and LTRA ("Line turns left about" and "Line turns right about") were used at the end of those lines that turned 180 degrees in direction. On the positions following these abbreviations the words "Line begins" are written when actually "Line resumes" should be in their place. On all work in the future the latter method will be employed.

2. Lattitudes and Longitudes are recorded for the beginning of all lines as well as for all detached positions. It will be noted that the values are not recorded at the end of lines. The latter practice will be employed on all future work.

Z. Tabulation of Applicable Data

As noted in item H. Soundings, the Bar Check Tabulation, Project 1355, will be transmitted as a separate report at a later time.

Respectfully submitted,

Clifford W. Tupper

Clifford W. Tupper
Lt.(jg) C&GS

Attachments:

Appendix A	List of Control Stations
B	Abstract of Velocity Corrections
C	Statistics
D	Tidal Note
E	Approval Sheet.

APPENDIX A

LIST OF CONTROL STATIONS
ON SHEET H-8256

Name used in Hydrographic Survey	Origin
ABE	T-11160
ADD	T-11159
ACE	T-11159
AIR	T-11159
AIF	Halftide Rock. T-11159 Day Bn., 1953
BUT	T-11160
BOW	T-11159
CAT	T-11160
COW	T-11159
CAN	T-11159
DAN	T-11159
DIT	T-11159
EAT	T-11159
FOG	T-11159
FER	FER, 1943 T-11574
GUM	T-11160
GAR	T-11159
GAL	T-11159
GAB	T-11574
HOE	T-11160
HERS	△ Fletchers Neck 156, 1941-43
HIM	T-11574
IVY	T-11160
IMP	T-11159
IRE	T-11159
JOY	T-11159
JOB	T-11160
KEN	T-11160
LEO	T-11160
MOO	T-11160
MAD	T-11159
NIG	T-11160
NEW	△ Eagle Island 1955
OHM	T-11160
OLA	11159
PLY	T-11160
POO	T-11574
PIPE	△ Old Orchard Standpipe, 1923-41
OAR	T-11159

Name used in Hydrographic Survey	Origin
RIO	T-11160
RAM	T-11159
SPY	T-11159
SKI	T-11160
STAG	△ Stage Island Monument, 1941
TUB	T-11160
TOW	T-11159
VAL	T-11160
WHY	T-11160
WAS	Washman Rock Day Bn., 1953 T-11159
WOOD	△ Wood Island Lighthouse, 1868 -1941
YIP	T-11160
LIP	Philip Rock Day Bn., 1953 T-11159
NECK	△ Fletchers Neck Water Tank, 1941
CUP	T-~~11160~~ 11159

APPENDIX B

ABSTRACT OF VELOCITY CORRECTIONS

Project 1355
SHEET H-8256 (1555)
Launch CS-82, 3 October through 7 November 1955

EDO Fath. 202

Group II 3 Oct. to 21 Oct.

A-range from	A-range to	A-range corr	B-range from	B-range to	B-range corr.
4.0	13.0	(-)0.8	65.0	76.0	0.0
13.1	26.0	(-)0.6	76.1	96.0	(plus 0.5)
26.1	35.0	(-)0.4	96.1	112.0	(plus 1.0)
35.1	42.0	(-)0.2	112.1	125.0	(plus 1.5)
42.1	53.0	0.0			
53.1	70.0	(plus 0.2)			

C-range = (plus 1.5)

Group III 8 Nov. - 15 Nov. A-range= (-)1.0 C-range =(-)0.5

B-range from	B-range to	B-range corr.
65.0	96.0	(-)1.0
96.1	125.0	(-)0.5

EDO 201

Group I 25 Oct. to 27 Oct. B-range=(-)2.0 C-range= +1.0

A-range from	A-range to	A-range corr.
0.0	30.0	(-)1.0
30.1	55.0	(-)1.2
55.1	70.0	(-)1.0

Group II 28 Oct. to 27 Oct. A-range = 0.0 B-range= (-)1.0 C-range= (plus 2.0

Fath. 101-S

Group III 7 Nov. only C-range=(-)3.0

A-range from	A-range to	A-range corr.	B-range from	B-range to	B-range corr.
0.0	16.0	(+)0.4	42.0	54.0	(-)1.2
16.1	32.0	(+)0.2	54.1	65.0	(-)1.4
32.1	48.0	0.0	65.1	77.0	(-)1.5
48.1	55.0	(-)0.2	77.1	90.0	(-)2.0

D-range= (-)4.0
E-range= (-)4.0

APPENDIX C

STATISTICS FOR HYDROGRAPHIC SURVEY H-8256 (1955)
PROJECT 1355 -
LAUNCH CS-82

Date	Vol.#	Dayletter	No. positions - L.L.	Fath.	Stat. Mi. Hydro.	Area Sq. Stat. Mi.
3 Oct.	1	a		22	4.8	
4	1	b	2	73	12.3	
10	1	c		37	6.3	
11	2	d		42	7.8	
18	2	e	1	113	17.1	
19	2&3	f	7	188	26.1	
20	3&4	g	22	153	21.4	
21	4	h	25	47	8.0	
25	4&5	j	10	166	25.0	
27	5&6	k		168	27.1	
28	6&7	l		120	19.5	
3 Nov.	7	m		169	27.6	
7	8	n	8	137	23.0	
8	8&9	p	7	80.	11.5	
9	9	q	9	94	11.7	
10	9	r	15	74	8.0	
11	10	s		48	5.2	
15	10	t		124	16.8	
		Totals	106	1855	279.2	10.0

APPENDIX D

TIDAL NOTE FOR HYDROGRAPHIC SURVEY H-8256 (1955)

Tidal data for reduction of soundings were obtained from portable automatic tide gages at Cape Porpoise on the town wharf at Bickford Island and at Biddeford Pool on the wharf used by the Coast Guard in the entrance to the Pool. Since the results from these two gages were so nearly the same, there was no time or height correction applied to the results from either gage. It is noted on the daily processing stamp (No. 38) which gage applied for the work accomplished on any date.

Tide Gage	Location	Lat. & Long.	MLW Reading on Staff
Cape Porpoise	Bickford Island	43 22.0 70 25.9	4.7
Biddeford Pool	Entrance to the Pool	43 26.8 70 21.4	0.6

Refer to Director's letter: 36-58-15b, dated 3 February 1956.

	MLW Staff	Range of Tide.	Time diff. Ref. to Cape Porpoise.
Kennebunkport	1.7 ft.	8.6 ft.	0 min.
Cape Porpoise	4.7 ft.	8.7 ft.	- - - -
Biddeford Pool	0.6 ft.	8.7 ft.	(-) 5 min.

APPENDIX I

APPROVAL SHEET - - BOAT SHEET H-8257

PROJECT 1355

This is a basic survey and is approved as being complete and no additional field work is recommended. The Chief of Party has given daily supervision to the survey operations and records, and notes that they are satisfactory as noted in the descriptive report.

Tide and fathometer reducers have been entered and checked in the record volumes, and also on the fathograms. The fathograms were scanned prior to plotting the soundings, and as a general rule, the soundings on the boat sheet were reduced by actual tides as compared to predicted tides.

In comparison with charted soundings, page 8 this report, it states a 57 ft. sounding is verified by a 66 ft. sounding and a 47 ft. sounding is verified by a 59 ft. sounding. This is not a close verification; however, the existance of the shoal is verified and there is a possibility that the charted soundings are correct and it is recommended that they be retained.

Vol. 10, 60-70 fathoms.

Vol. 10, 60 fathoms.

Marvin T. Paulson

Marvin T. Paulson
Chief of Party

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8256

Records accompanying survey:

Boat sheets 1; sounding vols. 10; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 9-Envelopes

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

.....

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

Number of positions on sheet		2051
Number of positions checked		173
Number of positions revised		22
Number of soundings revised (refers to depth only)		Tide correction beginning with Vol. No. 2 e-day and running through-out the entire survey. (see Surveyors attached notes page 3 of 3 third paragraph
Number of soundings erroneously spaced		66
Number of signals erroneously plotted or transferred		0
Topographic details	Time	50 hrs
Junctions	Time	10 hrs
Verification of soundings from graphic record	Time	approximately 267 shoals and deeps were rescanned also numerous adjacent sdg lines at shoals and bad crossings required rescanning.

Verification by Kennon, DAVID J. Total time 552 hrs Date 4-20-60

Reviewed by [signature] Time 366 Date Oct 25 1961.

GEOGRAPHIC NAMES

Survey No. H-8256

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)							BGN	1
Gulf of Maine		" "			:preferable as general locality					2
Curtis Cove										3
Hoyt Neck										4
Fortunes Rocks		(village)							BG N	5
Fletcher Neck										6
Biddeford Pool		(village)								7
Wood Island										8
Wood Island Harbor									BGN	9
Eagle Island										10
Saco Bay										11
Any names on charts 1205 or 231 of shoals or reefs are approved, for possible application after inking										12
										13
					Names approved 6-19-58 L. Heck					14
										15
Tide Stations off sheet:										16
Cape Porpoise, Bickford Island										17
Kennebunkport									BGN	18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Form 712
(11-30-55)

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

R 4 C

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

11 August 1958

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 8256

Locality Outer Coast, Maine

Chief of Party: M. T. Paulson in 1955

Plane of reference is mean low water, reading

0.6 ft. on tide staff at Biddeford Pool

12.8 ft. below B.M. 1 (1955)

4.7 ft. on tide staff at Cape Porpoise
22.1 ft. below B. M. 1 (1919)

Height of mean high water above plane of reference is 8.7 feet.

Condition of records satisfactory except as noted below:

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

Volume	Positions
2	1e - 50f
3	51f - 99g
4	100g - 56j
5	57j - 50k
6	51k - 871
7	881 - 170m
8	1n - 66p
9	67p - 89r
10	1s - 124t

Soundings revised by Verifier.

J. M. Symons
Signature

Acting Chief, Tides Branch

Comm-DC 34330

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8256 FIELD NO. ECFP-1555

Maine, Approaches to Wood Island Harbor and Saco River
Hoyt Neck to Saco Bay

SURVEYED: October 3, 1955
November 15, 1955

SCALE: 1:10,000

PROJECT NO. 1355

SOUNDINGS: EDO and 808 depth recorders, hand lead and sounding pole

CONTROL: Sextant fixes on shore signals.

Chief of Party----------M. T. Paulson
Surveyed by----------C. W. Tupper
Protracted by----------W. E. Ward
Soundings plotted by----------W. E. Ward
Verified and inked by----------D. J. Kennon
Reviewed by----------L. S. Straw
Inspected by----------R. H. Carstens

Date: 9/25/61

1. Description of the Area

The present survey estends two to four miles off Wood Island and Hoyt Neck into the Gulf of Maine. The coastal area in depths less than 60 feet is very irregular with many dangerous rocks and reefs along shore.

Beyond the 60 ft. depths, irregular depth curves depict an uneven bottom containing numerous submerged knolls and ridges.

2. Control and Shoreline

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

Except for Eagle Island the shoreline originates with reviewed Photogrammetric Surveys T-11574 (1954), T-11575 (1953-54), T-11159 (1953) and T-11160 (1953).

The shoreline of Eagle Island was surveyed by Lt. R. H. Houlder 8-9 September 1955 and was plotted on a metal mounted sheet. After all information thereon was transferred to the hydrographic surveys H-8256 (1955) and H-8257 (1955) the metal mounted sheet was destroyed.

3. Hydrography

Numerous soundings and a few bottom characteristics have been carried forward from prior surveys to supplement the present depths at the junction with H-8257 (1955) east of Eagle Island to long. 70°20.5' and in the area south of Fletcher Neck approximate lat. 43° 24.5' to 43°25.9', long. 70°20.5' to long. 70°22'0. In these areas the present survey lines were too widely spaced to adequately depict the bottom configuration.

Development of least depths on the more important shoals was generally adequate. However, the shoal indications of 32 ft. in lat. 43°25.07' long. 70°20.30' and 37 ft. in lat. 43°29.04' long. 70°18.53' are not adequately developed.

The delineation of the depth curves is adequate for charting. Depths at crossings are in adequate agreement.

4. Condition of Survey

Extensive rescanning of the fathograms was required during the smooth plot of the survey in the Washington Office because of inadequate field scanning of peaks and deeps at uneven intervals.

Numerous tide reducers were revised because of a constant 1-ft. error in the original determinations.

Except as mentioned the field plotting, records, and reports were adequate.

5. Junctions

The junction with H-7147 (1946) on the east is adequate.

The present survey makes a junction with the 1:5000 scale survey H-8257 (1955) above and below Fletchers Neck (see paragraph 3 above). Present survey depths are in adequate agreement with the adjoining survey.

The junction with H-8255 (1955) south of Hoyt Neck will be considered in the review of that survey.

There is no contemporary survey on the north. The present survey joins the charted information satisfactorily at the northern limit of the project.

6. Comparison with Prior Surveys

a. H-699 (1859) 1:40,000 H-1117b(1871) 1:10,000
H-739 (1859) 1:10,000 H-1634b(1875) 1:10,000

Portions of the above prior surveys combined cover the area of the present survey. For the most part they are sparsely developed and fail to show the configuration of the bottom in detail. The accuracy of the control varies from good to poor. Sextant fixes on shore signals were generally used, but in some cases the distances between fixes were excessive

and in others, lines were run for several miles between islands and/or buoys without intermediate fixes for control. Soundings were often plotted out of position because of improper spacing.

The 39-ft. sounding originating with H-699(1859) charted in lat. 43°25.80' long. 70°19.6' falls in depths of approximately 60 ft. and was not proved or disproved by the development on the present survey. The bottom is uneven here, with several soundings on lines 10 to 20 feet shoaler than the general bottom soundings. The 39-ft. sounding is carried forward to the present survey.

The 39 ft. charted in lat. 43°28.5' long. 70°20.4' from H-669(1859) falls in an even bottom area of 71 to 77 ft. depths on the present survey where the present development discredits the feature. The 39 ft. should be disregarded.

The 17 ft. sounding (named Old Dick Ledge) shown in lat. 43°25.65' long. 70°22.08' and the group of sunken rocks 150 m. SSW shown on H-1634(1875) are considered to be about 150 meters out of position when compared to the present survey. The prior position should be disregarded.

The 6 1/2 - 9 1/4 - 11 and 12 1/2 - fathom soundings on H-669(1859) in approximate lat. 43°28.11' long. 70°20.13' none of which are charted, are from 4 to 27 feet shoaler than the depths determined by the present survey. These soundings are one time interval out of position on the prior survey and should be disregarded.

A comparison of the prior and present depths indicates that no appreciable changes in the bottom have taken place. Differences in depths in some instances are due to errors in the prior surveys, but in general these discrepancies are attributed to the irregular bottom. The widely spaced sounding lines on the prior surveys fail to show many of the shoaler indications re

vealed by the closer development attained on the present survey. Although the delineation of bottom features is more complete on the present survey, several prior soundings and bottom characteristics have been carried forward to supplement the present hydrography.

The present survey, with the indicated additions, is adequate to supersede the prior surveys within the common area.

b. H-4303(1923)1:20,000 H-4305(1923)1:20,000
H-4304(1923)1:5,000

The present survey is completely covered by the combined portions of these prior surveys. The present survey contains from two to three times more soundings per unit area. From the shore seaward to general depths of 90 feet, the bottom is so irregular that depths often vary from 2 to 10 feet at sounding intervals; from the 90 ft. curve to the limits of the survey the bottom is uneven with more gradual changes in depths. Numerous soundings and some bottom characteristics were carried forward to supplement the development on the present survey east of Eagle Island and south of Fletcher Neck.

The 32 ft. sounding from H-4304(1923) charted in lat. 43°26.73'long. 70°18.9' falls in depths from 49 to 60 feet on the present survey. The original records show that a fix was taken and rejected at the time a 7 fm. 1 ft. (reduced to 32 ft.) lead line sounding was recorded; the next recorded sounding is 11 fm. 5 ft. (reduced to 60 ft.) which falls close to a 58 ft. sounding on the present survey. The 32 ft. sounding is undoubtedly the result of recording 7 instead of 11 and should be disregarded.

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

c. H-4087(1919)W.D.1:40,000 H-4308(1923)W.D.1:40,000
H-4307(1923)W.D.1:20,000 H-4309(1923)W.D.1:20,000

A 9-ft. depth was found on the present survey in lat. 43°25.70' long. 70°21.57' which is in conflict with a 10-ft. effective depth drag strip on H-4309(1923). A uniform lift correction of 1 foot was applied generally in plotting the drag work, but in this instance, position 46B(red), the 1-foot lift which evidently must have occurred, was not applied and therefore accounts for the one-foot conflict. The 10-foot sounding taken by the wire drag party tender is carried forward to support the 9 ft. obtained on the present survey.

The 51-foot sounding charted in lat. 43°26.65' long. 70° 18.53' from H-4309(1923) originates with a grounding which occurred during the raising of the bottom wire. The effective depth of the grounding is indeterminable but is considered to be greater than 51 ft. The 51 should be disregarded.

The 30-ft. sounding from H-4307(1923)W.D. charted in lat. 43°28.17' long. 70°20.05' falls in depths of approximately 70 feet on the present survey. A 10° change in one angle of the fix places the 30 ft. in comparable depths and in a logical position with respect to the drag work. The charted position should be disregarded.

Except for the conflict between the 9-ft. sounding on the present survey and the 10 ft. effective depth on H-4309(1923) there are no other conflicts with the wire-drag surveys listed above.

Detached wire-drag soundings together with bottom characteristics have been carried forward to the present survey to supplement the hydrography.

7. Comparison with Chart 231(Latest Print Date 11/9/59)
Chart 1205(Latest Print Date 5/16/60)

a. Hydrography

The charted hydrography originates principally with the surveys considered in the preceding paragraphs, and with the present survey which was first partially applied (critical soundings only) from BP-53204 and later partially applied before verification and review.

The present survey, with the indicated additions from prior surveys supersedes the charted information within the common area.

b. Aids to Navigation

The present survey positions of fixed and floating aids to Navigation are in substantial agreement with their charted positions and adequately mark the positions intended.

8. Compliance With Instructions

The present survey complies with the project instructions.

9. Additional Field Work

The present survey, with the additional hydrographic information from prior surveys is considered adequate for charting purposes. Additional development is desirable on the 32-ft. shoal in lat. 43°25.07' long. 70°20.3' and the 37-ft. shoal in lat. 43°29.04' long. 70°18.53'.

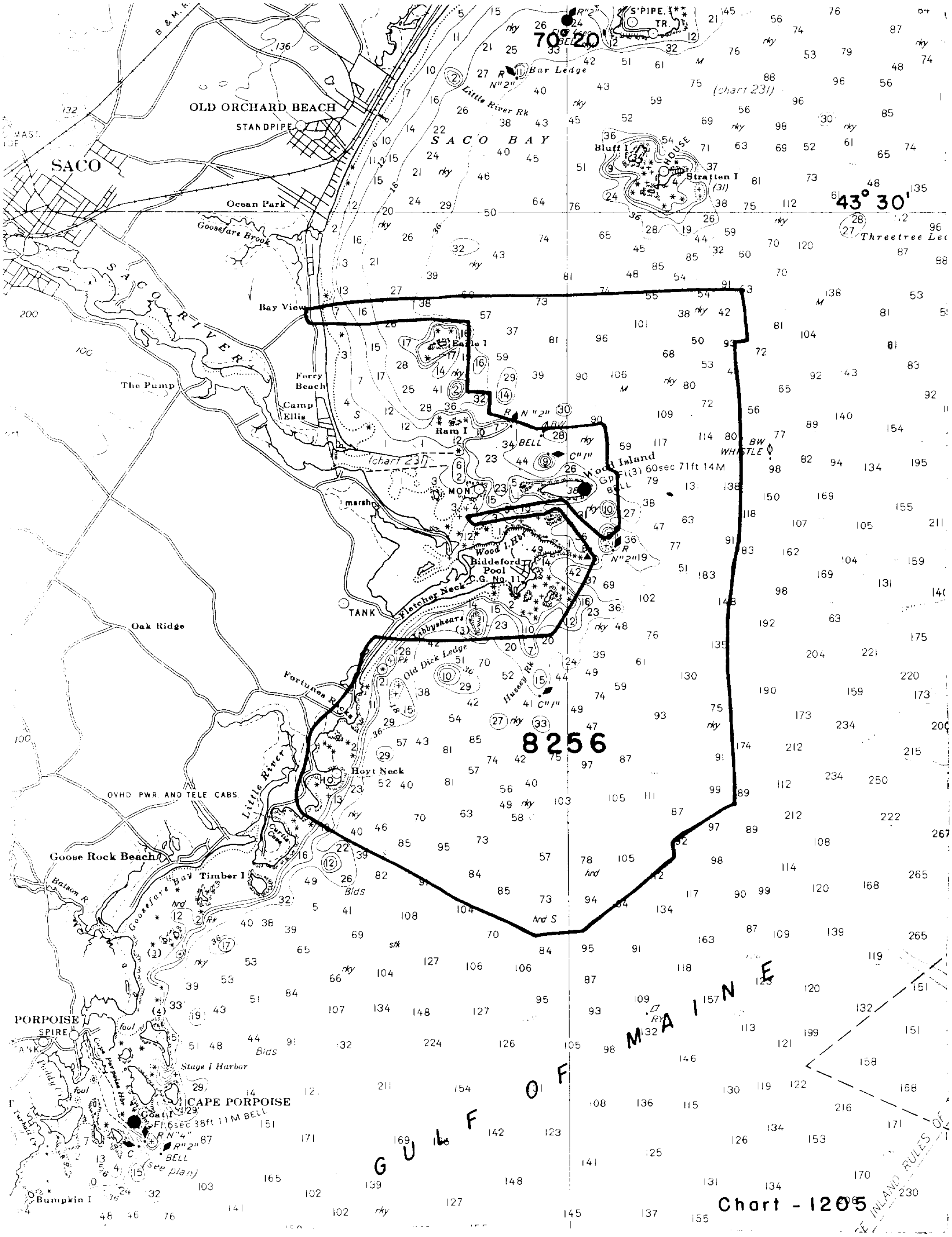
Chief,
Nautical Chart Division

Projects Officer,
Operations Division

Examined and Approved:

Assistant Director,
Office of Cartography

Assistant Director
Office of Oceanography


OLD ORCHARD BEACH
STANDPIPE
SACO
Ocean Park
SACO BAY
Bluff I
Stratton I
70°20'
43°30'
Threetree Ledge
Bar Ledge
Little River Rk
SACO RIVER
Goosefare Brook
Bay View
Ferry Beach
Camp Ellis
The Pump
Eagle I
Ram I
Wood Island
Wood I. Hbr
Biddeford Pool
C.G. No. 11
Fletcher Neck
TANK
Oak Ridge
Fortunes Rocks
Old Dick Ledge
Hussey Rk
Hoyt Neck
8256
Little River
OVHD PWR. AND TELE. CABS.
Goose Rock Beach
Timber I
Batson R
Goosefare Bay
PORPOISE
SPIRE
Stage I Harbor
CAPE PORPOISE
Goat I
Bumpkin I
GULF OF MAINE
Chart - 1205

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8256

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1 Aug '58	231	H.E. MacEwen	Examined - nothing applied. Before [redacted] Verification and Review a few stgs added JMA
8-29-58	1205	J. H. Eaton	Examined - Revised one sounding. Before [redacted] Verification and Review
5/15/59	1204	Gallahan	Examined - revised one sndg. Before ~~After~~ Verification and Review (Fully applied.)
5/13/59	1106	Eaton	Before ~~After~~ Verification and Review
6/2/62	231	William H. Wall	[redacted] After Verification and Review (Fully applied)
7/10/62	1205	William H. Wall	~~Before~~ After Verification and Review (Fully applied)
7/10/62	1204	William H. Wall	~~Before~~ After Verification and Review (Fully applied) See History
10-25-62	1106	G.R. Johnson	~~Before~~ After Verification and Review Fully Applied through Cht 1205 drg #16
10-22-63	1204	G.R. McCANN	[redacted] After Verification and Review FULLY APPLIED
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.