

8257

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-05155 Office No. H-8257

LOCALITY

State Maine

General locality Entrance to Wood Island
Harbor and Saco River

Locality Fletcher Neck to Eagle Island

1955

CHIEF OF PARTY

M. T. Paulson

LIBRARY & ARCHIVES

DATE March 25, 1953

COMM-DC 61300

8257

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-8257

Field No. ECFP-05155

State MAINE ✓

General locality ENTRANCE TO WOOD ISLAND HARBOR AND SACO RIVER
~~MAINE OUTER COAST~~

Locality FLETCHER NECK TO EAGLE ISLAND
~~FLETCHERS NECK~~

Scale 1:5,000 Date of survey 5 Oct. to 15 Nov. 1955

Instructions dated 6 Mar. 1953; 29 Jan. 1954 & 16 Feb. 1955

Vessel EAST COAST FIELD PARTY LAUNCHES CS-172 & CS-82

Chief of party MARVIN T. PAULSON

Surveyed by R.A. LEWIS AND C.W. TUPPER

Soundings taken by ~~XXXXXXXX~~ graphic recorder, hand lead, ~~XXX~~ SOUNDING POLE

Fathograms scaled by FIELD PARTY

Fathograms checked by NORFOLK DISTRICT OFFICE

Protracted by R.D. LYNN

Soundings penciled by R.D. LYNN *N 10*

Soundings in fathoms feet at MLW ~~XXXXX~~ AND ARE TRUE DEPTHS

REMARKS: _____

HWS

DESCRIPTIVE REPORT
to Accompany

Hydrographic Sheet H-8257 (Field No. ECFP - 05155)
Fletchers Neck
East Coast Field Party Marvin T. Paulson, Chief of Party
Project 1355 Scale 1:5,000
5 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:

Instructions: 22/MEK, FP-East Coast, dated 6 March 1953¹

Addressed to: Commander Clarence R. Reed, OinC, ECFP

Supplemental Instructions: 22/MEK, FP-East Coast, dated 29 Jan. 1954

Addressed to: Commander Clarence R. Reed, OinC, ECFP

Supplemental Instructions: 22/MEK, FP-East Coast, dated 16 Feb. 1955

Addressed to: Officer in Charge, East Coast Field Party

B. Survey Limits and Dates

Field work on sheet H-8257 commenced on 5 October 1955 and terminated on 15 November 1955. Work was accomplished along the outside coast, in the vicinity of Fletcher Neck, from $\frac{1}{2}$ mile south of Fletcher Neck to Saco Bay, including Wood Island Harbor and Biddeford Pool Basin.

The southern limit of the sheet makes junction with the contemporary survey on sheet H-8256⁽¹⁹⁵⁵⁾ along Latitude $43^{\circ} 26.1'$. The easterly and offshore limit makes junction with the same contemporary survey and lies along Longitude $70^{\circ} 19.45'$; then along Latitude $43^{\circ} 28.00'$, Longitude $70^{\circ} 21.00'$; and, finally, Latitude $70^{\circ} 29.00'$. Seven-tenths of a mile west from the offshore end of the Saco River Entrance jetty, this sheet makes junction with contemporary survey H-8258⁽¹⁹⁵⁵⁾

Overlaps at all junctions were in close agreement with contemporary surveys.

C. Vessels and Equipment

Two launches were used on this sheet. Launch Cs-172 was used for approximately 90% of the work, and Launch CS-82 was used for the remaining 10%. Both launches were operated from moorings at Biddeford Pool on Fletcher Neck.

Launch CS-172 was operated at a standard sounding speed of from 2200 to 2500, unless otherwise noted in the record volume. At this speed ($6\frac{1}{2}$ - 7 knots), she had a turning radius of 10 - 15 meters. Soundings were obtained with an 808-type fathometer No. 77. The transducer units were mounted inboard just forward of the engine. A note explaining the difficulties encountered with loose phasing heads will be found under item U-Y Miscellaneous.

Launch CS-82 was operated at a standard sounding speed of 1500 - 1600 r.p.m., unless noted otherwise in the record volume. At this speed she had a turning radius of 15 meters and a speed of approximately 8 knots. Soundings were obtained with 808-type and EDO-type fathometers. When using the 808-type, the transducer units were mounted inboard just aft of the engine. With the EDO, the transducer units were mounted in a fish which was suspended over the side of the launch and placed immediately aft of the engine. A discussion of the difficulties encountered with loose phasing heads on the 808-type fathometer will be found under item U-Y Miscellaneous.

Fathometers used with Launch CS-82 are as follows:

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

D. Tides and Currents

Portable automatic tide gages were maintained at Cape Porpoise on the town wharf at Bickford Island and also at Biddeford Pool on the pier used by the Coast Guard near the entrance to the Pool. Tidal data for this sheet were taken directly from the tide gage at Biddeford Pool without applying any corrections for time^{of} height since this gage agreed so closely with the gage at Cape Porpoise. A tidal note is appended to this report. All smooth tide curves and hourly heights for Project 1355 will be submitted in a separate report at a later date.

E. Smooth Sheet

The smooth sheet will be plotted by the Norfolk Processing Office.

F. Control Stations

Control stations consisted of triangulation and photo-hydro stations. Photo-hydro signals were plotted on the topographic manuscripts T-11574, (1954) T-11575 and T-11159, by Photogrammetrist Lt. (jg.) Richard H. Houlder. These signals were then transferred by pricking through to the boat sheets.

G. Shoreline and Topography

The shoreline and topographic details were transferred from topographic blue-line manuscripts T-11574, T-11575 and T-11159. There were no important changes in shoreline or topographic features determined during this survey. *See par. 2 of Review.*

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

H. Soundings

Soundings were obtained with 808-type and EDO-type graphic recorders with least depths being verified by hand lead and sounding pole in accor-

dance with paragraph 46 of the Hydrographic Manual.

Standard procedures were used in obtaining velocity corrections. All corrections were entered and checked in the sounding records, and an abstract of the velocity corrections is appended to this report. Tabulation of all bar check data along with velocity correction curves for project 1355 will be submitted in a separate report at a later date.

I. Control of Hydrography

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

J. Adequacy of Survey

This survey is considered adequate to supersede prior surveys for charting. Junctions with prior and contemporary surveys mentioned in item B Survey Limits and Dates, were satisfactory and depth curves can be adequately drawn at junctions.

See paragraph 3 of Review

K. Crosslines

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

For all launch and small boat hydrography crosslines should be run to the extent of 8 to 10% of the principal system of sounding lines exclusive of development.

L. Comparison with Prior Surveys

A comparison with prior surveys H-4304 (scale 1:5,000 - 1923) and the chart 231, reveals some discrepancies. The comparison with prior surveys together with the preliminary review of chart 231 is listed in the following item M.

In this case 5% is satisfactory in this irregular bottom. However more split lines should have been run.

M. Comparison with Chart and Prior Surveys

The following items refer to the preliminary review of chart 231 dated 15 March 1954. Item Nos. 3, 4, 5, 6, 7, 8, 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26 and 27, together with a number of features enclosed in dashed circles, are discussed under this heading.

* Item 3 of presurvey review falls outside the limit of this survey - but is within the limits of H-8256 (1955)

X. The 16 ft. sounding charted in Lat. 43° 28.62', Long. 70° 21.10' was verified by a 16 ft. sounding obtained on line. (Vol. 5 pg. 38 pos. 39-40 h-day Launch 172; Vol. 5 pg. 39 pos. 62-64 h-day Launch 172) This 14 ft. shoal indication was not developed on H-8256.

see H-8256 (1955)

4. The 2 ft. sounding charted in Lat. 43° 28.38', Long. 70° 21.40' was not verified as such; however, on the shoal the 6 ft. sounding obtained on survey H-4304 (1923) and the 5 ft. sounding obtained on survey H-1643 b (1875) were verified by two 4 ft. soundings obtained on line. (Vol. 5 pg. 44 pos. 84-85 h-day; Vol. 5 pg. 42 pos. 74-75 h-day)

see pg. 6 (1) Review

5. ^{Charted} The 12 ft. sounding charted in Lat. 43° 28.62', Long. 70° 21.60', was verified; however, ^{on 11/28/1923} the 12 ft. sounding obtained on this survey plotted ~~75-80~~ ⁷⁵⁻⁸⁰ meters south of the charted sounding. The sounding was obtained on line ³⁷⁻³³⁹ (Vol. 39 pg. 11 pos. 33-34 g-day Launch 172)
6. ^{uncharted} The 11 ft. sounding obtained on H-1634 b (1878) in Lat. 43° 28.90', Long. 70° 22.48', was not verified. ^{specifically. The development on the present is sufficient.} The shoalest sounding obtained during development of the area was ~~15-16~~ ¹⁵⁻¹⁶ ft. (Vol. 8/2 pg. 58 pos. 51-68 m-day) ^{This sounding is considered too shoal on H-1634(1878) and should be disregarded.}
7. The 12 ft. ^{charted} sounding charted in Lat. 43° 27.86', Long. 70° 21.38', ^{from H-1117b (1871)} was not verified. The shoal is present as evidenced by the ~~17~~ ¹⁷ and ~~16~~ ¹⁶ ft. soundings obtained ^{in this area} on line at the location. The area was not developed thoroughly and it is recommended that the 12 ft. sounding be kept as charted. (Vol. 7¹¹ pg. 7 pos. 213 j-day; Vol. 37 pg. 9 pos. 60 & 61 d-day — Launch CS-172) ^{See PG 6(b)(5) Review}
8. The low water area in Lat. 43° 27.64', Long. 70° 21.35', was ~~located~~ ^{investigated.} in the correct position; however, there was no evidence of a sand bar that bares 1 ft. at MLW. The shoalest sounding obtained on line was ~~6~~ ⁶ ft. There are numerous breakers encircling the jetty entrance to the Saco River, especially at ebb tide and with a northeast wind. (Vol. 4 pg. 52 pos. 63-64 n-day Launch 82) ^{The bottom is subject to change of entrance to the Saco River off the ends of each jetty. The soundings on the present survey are adequate here to supersede the charted information.}
11. The 28 ft. sounding on H-1117 b (1871) in Lat. 43° 27.82', Long. 70° 20.79', was not verified; however, the area was not developed thoroughly. ^{See PG 6 b (7) Review} The shoalest sounding obtained on line was ~~25~~ ²⁵ ft. (Vol. 7¹¹ pg. 9 pos. 220 j-day Launch CS-172) ^{(Disproved the 28' by passing over this area with an effective depth drag of 28' (WD-H-4309-1923))}
12. The soundings on Ram Island Ledge in Lat. 43° 28.00', Long. 70° 20.90' were verified; however, the 7 ft. ^(H-1117b) sounding charted in the center of the ledge was not obtained. ^{This sounding was erroneously plotted on H-1117b} The 9 ft. sounding on the east end was verified as such ^{out of the shoal} and the 10 ft. sounding charted on the southwest end of the ledge ^{was replaced by covered} was replaced by ~~covered~~ ^{covered} 8 ft. sounding obtained on line ^{on the shoal}. (Vol. 8 pg. 33-35 pos. 137-148 l-day Launch 172; Vol. 8 pg. 57 pos. 144-145 j-day Launch 172) ^{Two 6' sds. on same shoal as 7'; Vol. 6, pp. 52 pos. 141 G-day Launch 172. Separate shoal with 8 ft. least depth to the east. (H-4304(1923))}
15. The 28 ft. sounding charted in Lat. 43° 27.92', Long. 70° 20.10' was verified. ^{Two} soundings of ~~28~~ ²⁸ ft. were obtained on line ^{near 28 ft. 10} (Vol. 6 pg. 65 pos. 177-178 j-day Launch 172). ^{Shoal features and shoal indications in this area were not developed. Passed over with a 25 ft. effective depth Wire Drag (H-4307-1923).} The 34 ft. sounding charted in Lat. 43° 27.92', Long. 70° 20.30', was verified. ^{from H-4307 WD (1923)} Two ~~34~~ ³⁴ ft. soundings were obtained on line. (Vol. 6¹⁰ pg. 65 pos. 178-179 j-day Launch CS-172; Vol. 6¹⁰ pg. 60 pos. 158 j-day Launch CS-172) ^{This shoal was not developed. Covered (Passed over) with a 25 ft. effective depth Wire Drag (H-4307-1923).}
16. The 9 ft. ^(H-1117b-1871) sounding charted in Lat. 43° 27.67', Long. 70° 20.30', was verified by a ~~9~~ ⁹ ft. sounding obtained on line during development. This was substantiated by ~~10 and 11~~ ^{10 and 11} ft. soundings on lines close by. (Vol. 4 pg. 64 pos. 113 n-day, Launch CS-82); Vol. 2 pg. 61 pos. 33-34 e-day Launch CS-82; Vol. 11 pg. 10 pos. 226 j-day Launch 172.

(16. C'td)

- (H-739-1859) The 13 ft. sounding is out of pos. on H-739(1859)
The 13 ft. sounding 70 meters eastward was not verified; however, 80-85 meters eastward soundings of 18-16 ft. were recorded, indicating that the shoal slopes away in that direction. Fifty meters SE there is a 12 1/2 ft. sounding recorded on line during development. (Vol. 8 pg. 30 pos. 123-124 1-day Launch CS-172) 8 ft. least depth is obtained on this shoal by present survey on Chart 231 print 50/2/13.
17. The 10 ft. sounding charted in Lat. 43° 27.22, Long. 70° 19.50, was verified. An 10 1/2 ft. sounding was obtained on line during development; it was substantiated by a 10 and an 11 ft. sounding close by. (Vol. 4 pg. 22 pos. 39-40 m-day Launch CS-82)
18. The 5 ft. sounding charted on Dansbury Reef in Lat. 43° 26.97', Long. 70° 19.52, was verified. A 4 1/2 ft. sounding was obtained on line during development. The area was closely developed; however, no lead line soundings were obtained and no time was spent drifting over the spot, as breakers are present with any easterly swell. It is recommended that the 4 ft. sounding obtained on H-16346 (1885) be charted at the location of the 5 ft. sounding now charted. (Vol. 4 pg. 27 pos. 62-63 m-day Launch CS-82) (22) pos 120-121, 6 day 199/4 Vol. 6. Launch 172. from H-11176(1871) print charted on chart 231, 50/2/13. But a 30 meters west of the previously charted E. by the present survey.
- The sunken rocks from T-1188 (1870) and charted immediately south of the above 5 ft. sounding were obtained on lines during development. They were not identified as such, but were assumed to be points on ledges. Soundings of 8-9 & 10 & 12 ft. were obtained up to 170 meters south of the 5 ft. shoal. A sounding of 16 ft. was obtained 225 meters SSE of the 5 ft. shoal. Sec Par 7a(D) Rev.
20. The sunken rocks (Washman's Rock) charted in Lat. 43° 26.75, Long. 70° 19.70, were verified. A sounding of 6 ft. was obtained on line only 55 meters east of the day beacon; also 16 and 14 ft. soundings 75 meters ESE, and 70 meters SE of the beacon, respectively. A sounding of 16 ft. was obtained on line 95 meters SSE of the beacon. (Vol. 4 pg. 28 pos. 65-66 m-day Launch CS-82) area including the was corrected.
21. The 4 ft. sounding charted in Lat. 43° 26.38, Long. 70° 19.98, should be replaced by a rock awash at MLW. (Vol. 4 pg. 29 pos. 71 m-day Launch CS-82) Chart 231, print 11/9/59 Shows "Present Survey" 2 KK. Chart 231 print 50/2/13 from H-4209(1923) WD
22. The 12 ft. sounding charted in Lat. 43° 26.20, Long. 70° 19.95, was not verified as such; however, a 12 1/2 ft. sounding was obtained on line and substantiated by 17 1/2 ft. soundings close by. Since the area was not fully developed and yet close agreement was obtained, it is recommended that the 12 ft. sounding be charted as shown. (Vol. 810 pg. 41 pos. 77-78 j-day Launch 172) See #6 d
- 160 meters SSW of the above location there is a 14 1/2 ft. shoal. This appears to be part of the same shoal area. (Vol. 810 pg. 41 pos. 78-79 j-day Launch 172) This shoal area was not adequately developed. originating with T-1188(1870) and
23. The sunken rocks and reef charted in Lat. 43° 26.52, Long. 70° 20.15, were in agreement with shoreline features plotted on the best sheet, they were apparently sketched by cuts from shore on breakers. Some of them fall in depths of 30 ft (approx). These sunken rocks are considered erroneous and should be disregarded. The 16 ft. shoal indication in this area was not investigated or developed. The 15 & 16' shoal indications in lat. 43° 26.65 long. 70° 20.18 were not sufficiently developed. smooth

or from the photographs and T-sheets. ~~The 3 sunken rocks form one~~
~~A submerged ledge, the high point of which bares 3 ft. at MLW.~~ The
reef as charted ^{was} verified; its high point bares 3 ft. at MLW.
(Vol. 8^{1/2} pg. 28 pos. 113 1-day Launch 172; Vol. 8^{1/2} pg. 27 pos.
112 1-day Launch 172)

- Two of*
24. The three rocks awash charted in Lat. 43° 26.25', Long. 70° 20.55',
were not verified. An 8 ft. sounding was obtained on line near the
charted location. *of the northernmost rock which agrees with the small submerged rock on the smooth sheet.*
There was no evidence of these rocks being pre-
sent in this area. ~~100 meters NW there was a submerged reef with a~~
sounding of ~~3~~ 1/2 ft. at MLW ^{was} obtained on line. Also, ~~100 meters SW~~¹²⁰ meters ~~SW~~^{SW}
there is a 12 ft. sounding obtained on line. It is recommended
that these ~~3~~ ^{2 southernmost} rocks awash be removed and replaced with soundings as
shown on ~~the~~ ^{smooth} sheet H-8257. (Vol. 4 pg. 31 pos. 78 m-day
Launch CS-82; Vol. 1 pg. 37 pos. 144-145 a-day Launch CS-82;
Vol. 1³ pg. 9 pos. 21-22 a-day Launch CS-172)
25. The sunken rocks charted in Lat. 43° 26.35', Long. 70° 20.60', were
not verified. There was no evidence in the exact spot of any sub-
merged rocks; however, only 60 meters NW there is a point of reef
making out toward the above location. There are rocks on the point
of reef that bare 1 to 2 ft. at MLW. It appears that the reef ex-
tends southward approximately 300-350 meters and has 9 to 10 ft.
soundings over it for about 70 meters when it shoals to 3 ft. and
drops to 8 and 20 thereafter. (Vol. 4⁸ pg. 7 pos. 69-71 e-day
Launch CS-172; Vol. 1 pg. 44 pos. 170-174 a-day Launch CS-82)
Vol. 1 pg. 37 pos 144-145 a-day Launch CS-82.
26. The 2 ft. sounding charted in Lat. 43° 26.31', Long. 70° 20.68', was
not verified in the charted position; however, 65 meters westward
there is a submerged rock in ~~1/2~~ 3/4 ft. at MLW. *which is shown on chart 231 print 11/9/57.*
101 1-day Launch CS-172) ^{as "X"}
- from H-16346 (1875-85)*
27. The 15 ft. sounding charted in Lat. 43° 26.29', Long. 70° 20.90',
was verified. A 15 ft. sounding was obtained in the exact charted
location. Also, on the SE point of the same ledge, 95 meters dis-
tant, a 16 ft. ^{at 43° 26.15' Lat, 70° 20.87'} sounding was obtained on line, *but was not investigated at the spot developed.*
(Vol. 1 pg. 38
pos. 147-148 a-day Launch CS-82; Vol. 1 pg. 35 pos. 136-138
a-day Launch CS-82; Vol. 1⁵ pg. 60 pos. 32-33 b-day Launch CS-
172)

from H-16346 (1875-85)
Dashed Circle The 17 ft. sounding charted in Lat. 43° 28.80', Long.
70° 22.10', was ~~not~~ verified, ~~as such~~; however, two 16 ft. soundings
were obtained on lines and substantiated by 19 & 28 ft. soundings
close by. (Vol. 8²⁸ pg. 58 pos. ~~46-49~~⁴⁷⁻⁵⁰ m-day Launch CS-172)

from H-16346 (1875-85)
Dashed Circle The 16 ft. sounding charted in Lat. 43° 28.90', Long.
70° 21.33', ^{falls about 1/2 mile east of a} was verified. ^{which was} The 14 ft. sounding ~~was~~ obtained on
line and substantiated by ~~16~~¹⁵ ft. soundings close by. (Vol.
5⁹ pg. 34 pos. 41-42 h-day Launch CS-172; Vol. 5⁹ pg. 50 pos.
111-112 h-day Launch CS-172; Vol. 5⁹ pg. 40 pos. 65-66 h-day
Launch CS-172) *The development is not sufficient to prove or
disprove this 16 ft. sounding.*

from H-16346(1875-85)
Dashed Area The 17 ft. shoal charted in Lat. 43° 28.70', Long. 70° 21.42', was verified. The shoal appears to be ^{about 30} 60 meters south of the charted area. A sounding of ¹⁷ 12 ft. was recorded on line and was substantiated by a ¹⁶ 16 ft. sounding and several 16 ft. depths. A sounding of 16 ft. was also obtained 100 meters eastward on the same shoal. (Vol. ⁹ 59 pg. 46 pos. 93-94 h-day Launch CS-172; Vol. ⁹ 59 pg. 30 pos. 26-27 h-day Launch CS-172)

from H-4303(1923)
Dashed Circle The 14 ft. sounding charted in Lat. 43° 28.48', Long. 70° 21.61', was verified; however, the shallowest sounding on the shoal was 100 meters north of the charted position. A sounding of 12 ft. was obtained on line and ~~was substantiated by 14, 15 and 16 ft. soundings on the shoals~~ ^{probably separate} (Vol. ⁹ 59 pg. 11 pos. 33-34 g-day Launch CS-172) ^{The 12' sounding on the present survey on line 21-23 m is another isolated shoal in this vicinity (Vol. 12 - pg. 52 - Launch CS 172).}

Dashed Circle The 6 ft. sounding charted in Lat. 43° 27.70', Long. 70° 22.10' was not verified ~~as such~~; however, a 7 ft. sounding was obtained on line and located 20 meters west of the charted position. (Vol. 4 pg. 57 pos. 83-84 n-day Launch CS-82)
The development is satisfactory on the present survey.

Dashed Area The 8 and 1 ft. soundings on the shoal charted in Lat. 43° 26.90', Long. 70° 20.00', ~~was~~ ^{were not} verified. It should also be noted that 270 meters north of this position in 30 ft. depths a 21 ft. sounding was obtained on line and substantiated by a 25 ft. soundings. (Vol. ² 62 pg. 69 pos. 36-37 d-day Launch CS-172; Vol. ⁶ 60 pg. 25 pos. 9-10 j-day Launch CS-172; Vol. ⁶ 62 pg. 68 pos. 33-35 d-day Launch CS-172; Vol. ¹² 8 pg. 29 pos. 117 1-day Launch CS-172; Vol. 1 pg. 7 pos. 13-14 a-day Launch CS-82)
8 and 1 are probably in error on early survey. split lines should have been run over 1944 shoal

Dashed Area The dashed area at Whale Rock Ledge in Lat. 43° 26.35', Long. 70° 19.80', was ^{not thoroughly} investigated ~~and~~ ^{some of the} soundings contained therein were verified by soundings obtained on line. (Vol. ¹⁰ 6 pg. 37 pos. 62-63 j-day Launch CS-172; Vol. ¹⁰ 8 pg. 39 pos. 71-73 j-day Launch CS-172; Vol. ¹⁰ 8 pg. 31 pos. 36-39 j-day Launch CS-172)

Dashed Circle The 2 submerged rocks charted in Lat. 43° 26.40', Long. 70° 20.33', were verified. The south rock was found to be ^{falls in depths of 8 to 10 ft.} 2 ft. The north symbol ~~was found to be an easterly continuation of the major reef, a portion of which is bare at high water.~~ A sounding of 5 ft. was obtained on the reef 60 meters west of the portion that bares at MEW. (Vol. ¹² 8 pg. 26 pos. 102 1-day Launch CS-172; Vol. ⁵ 1 pg. 22-23 pos 79-82 a-day Launch CS-172)

from H-4305(1923) on chart 231 print 50/2/13
Dashed Circle The 15 ft. sounding charted in Lat. 43° 26.20', Long. 70° 20.12', was verified. ^{by a 14 ft. sounding} Only 50 meters west and SW of the location, soundings of 12 and 13 ft. were obtained on line substantiated by an additional 15 and 16 ft. sounding. (Vol. ⁵ 1 pg. 28 pos. 106-107 a-day Launch CS-172)

from H-16346(1875-85)
Dashed Circle The 13 ft. sounding charted in Lat. 43° 26.20', Long. 70° 20.29', was not verified; however, only 50 meters ENE of the charted position, there was a 16 ft. sounding obtained on line.

It is recommended that the 13 ft. sounding be shown as charted.
(Vol. ~~2~~ pg. 29 pos. 109-110 a-day Launch CS-172)

Dashed Area The 2 submerged rocks charted in Lat. 43° 26.28', Long. 70° 20.46', fall on the westerly point of a reef and should be charted as a reef. At the point of the location the reef bares 2 ft. at MLW. (Vol. ~~3~~ pg. 5 pos. 60-61 e-day Launch CS-172)

Dashed Circle The 5 ft. sounding ^{from H-16346(1875-85)} charted in Lat. 43° 26.22', Long. 70° 21.05', was not verified. It fell in 30 ft. depths. It is recommended that the 5 ft. sounding be deleted from that location. There is deep water up to the east edge of the shoal 100 meters west of the above location. *The 5 ft. sounding is considered to be out of position on H-16346(1875-85) and should be disregarded.*

N. Dangers and Shoals

1. In Lat. 43° 26.04', Long. 70° 21.20', there is a ¹/₂ ft. sounding on the southern tip of the Libby Shears Shoal. (Vol. ~~2~~ pg. 17 pos. 64-65 1-day Launch CS-172)

2. In Lat. 43° 26.10', Long. 70° 20.87', there is a ²⁰/₂₁ ft. shoal that ^{shoaler depths may exist} rises out of 40 ft. depths. (Vol. ~~2~~ pg. 8 pos. 93-94 b-day Launch CS-172)

3. A ⁴/₃ ft. shoal was obtained at Lat. 43° 27.16', Long. 70° 20.93'. ^{on print of 1875 chart it is} This is charted as a 6 ft. shoal but should be changed to 3 ft. It was reported that fishing vessels drag on this shoal on the low run tides. The ⁴/₃ ft. sounding is substantiated by 4 and 6 ft. soundings. (Vol. 4 pg. 15 pos. 6-7 m-day Launch CS-82)

4. A ⁸/₈ ft. sounding was obtained on line in Lat. 43° 27.94', Long. 70° 21.80', on the west end of the shoal extending from Ram Island; and a ³/₄ and ⁵/₈ ft. soundings were obtained 100 meters further in a SW direction. These should be charted as such because they fall in 8-10 ft. depths. (Vol. ~~7~~ pg. 14 pos. 83-84 d-day Launch CS-172; Vol. ~~7~~ pg. 13 pos. 77-78 d-day Launch CS-172)

5. A submerged rock on the SW tip of the reef extending from Eagle Island, that is covered by 1 ft. of water at MLW, in Lat. 43° 28.65', Long. 70° 21.77', should be charted as such. ^{a rock awash} (Vol. ¹³/₉ pg. 14 pos. 33 a-day Launch CS-172)

P. Aids to Navigation

The positions of all floating aids to navigation located, are as follows:

<u>Name & No.</u>	<u>Lat. & Long.</u>	<u>Depth of Water</u>	<u>Vol.-pos.-pg.-day-launch</u>
			No.Sh: H-8257, Sh.1555, H-8256
Nun "4"	Lat. 43 27.30 ✓ Long. 70 20.70	¹² / ₁₃ ✓	9 43 r CS-82 ✓

(P. Aids to Navigation, C'td.)

<u>Name & No.</u>	<u>Lat. & Long.</u>	<u>Depth of Water</u>	<u>Vol.-pos.-pg.-day-launch</u>					
Can "3"	Lat. 43 27.53 ✓ Long. 70 20.87 ✓	27' ✓ 28	2	1	38	d	CS-82	
Nun "6"	Lat. 43 27.63 ✓ Long. 70 21.10 ✓	19' ✓ 8	2	2	38	d	CS-82	
Can "3a"	Lat. 43 27.64 ✓ Long. 70 21.47 ✓	5' ✓ 8	2	3	38	d	CS-82	
Saco River Ent. BW Ref.	Lat. 43 27. ⁶⁹ 94 ⁴⁵ ✓ Long. 70 21.42 ✓	7' ✓ 8	2	1	54	e	CS-82	
Can "1"	Lat. 43 27.70 ✓ Long. 70 20.24 ✓	17' ✓ 18	2	13	56	e	CS-82	
Nun "8"	Saco River Lat. 43 27.70 ✓ Long. 70 22.03 ✓	6½' ✓ 7½	4	82	57	n	CS-82	
Nun "2"	Lat. 43 27.98 ⁷⁰ ✓ Long. 70 20.71 ✓	22' ✓ 24	7	131	48	k	CS-172	

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

1. Pre-dredging Survey Sheet—Biddeford Pool Attached to this report is a copy of the pre-dredging survey sheet made by the Corps of Army Engineers of Wood Island Harbor and the Pool at Biddeford.

Survey sheet dated 2 Sept. 1955, scale 1:2,000, Drawing Number 1258 D-2-1. Attached to this sheet are explanatory letters from Chief of the East Coast Field Party and reply by Boston District Officer. It will be noted on this sheet the area to be dredged is outlined in red and labelled. The locations of three proposed ice-breakers are shown in red and labelled. The entire area or basin, called "The Pool," was surveyed by Launch CS-172.

*See
(Nov 17, 1956)
BoG/269
which
supersedes
the 2 Sept
1955 pre-
dredging
survey*

2. Difficulties Encountered with 808-type Fathometer On the 808-type fathometer 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, having been operating on B-C or D ranges. It appeared that this variance was more or less constant; however, not entirely so, as it depended on the amount of pressure used in setting the phasing head into the slots. Instead of pro-rating the total error from the time of leaving until return

to the A-range, $\frac{1}{2}$ 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 Band A).

3. Field Procedures that Deviate from Standard Practice

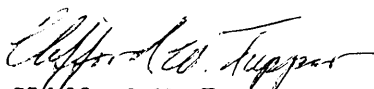
a. It will be noted throughout the sounding records that the abbreviations "LTLA" and "LTRA" (line turns left and right about) were used at the end of those lines that turned 180 degrees in direction. On the position following this abbreviation in the "Remarks" column, will be found the words "Line Begins," whereas actually the words "Line Resumes" should have been used.

b. Latitudes and Longitudes are recorded for the beginning of all lines as well as for detached positions. It will be noted that they are not given for the end of lines. In the future, the Latitudes and Longitudes for the ending of lines will be recorded.

2. Tabulation of Applicable Data

As noted in item H. Soundings, the bar check tabulation and curves for project 1355 will be transmitted as a separate report at a later date.

Respectfully submitted,



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

ATTACHMENTS:

- Appendix A - List of Control Stations
- B - Abstract of Velocity Corrections
- C - Statistics
- D - Tidal Notes
- E - Coast Pilot Report
- F - Approval Sheet
- G - Pre-dredging Survey (U.S. Army Corps of Engineers). (Copy attached to Original Descriptive Report Only).

NORFOLK PROCESSING OFFICE
LIST OF SIGNALS
H-8257

TRIANGULATION STATIONS

HERS FLETCHERS NECK 156, 1941-43
NECK FLETCHERS NECK WATER TANK, 1941
NEW EAGLE ISLAND, 1955
STAG STAGE ISLAND MONUMENT, 1941
WOOD WOOD ISLAND L.H., 1868-1941

TOPOGRAPHIC STATIONS

SOURCE T-11574

Fer Few Gab Him Jon Poo

SOURCE T-11575

Ace Add Air Alf Bat Bow Can Cup Dit Eat
Fog Fun Gal Gar Hum Imp Ire Joy Lip Mad
Mat Oar Ola Ram Spy Tow Was

SOURCE T-11159

Dan

PLANIMETRIC STATIONS

SOURCE T-11575

Ben Sea Siz Tex

APPENDIX B
ABSTRACT OF VELOCITY CORRECTIONS

PROJECT 1355

LAUNCH CS-172

SHEET H-8257 (ECFP-05155)

20 Oct. - 15 Nov. 1955

Launch 172

Sheet 05155

Fath. 77 20 October to 25 October
Group 1.

A-Range		
from	to	corr.
0.0	5.0	0.0
5.1	25.0	plus 0.2
25.1	55.0	0.0

B-Range = (-)2.0 ✓

Fath. 77 28 October to 14 November
Group 2.

A-Range		
from	to	corr.
0.0	25.0	plus 0.2
25.1	55.0	0.0

B-Range = plus 0.5 ✓

C-Range = (-) 0.0 ✓

APPENDIX B (CONT'D)
 ABSTRACT OF VELOCITY CORRECTIONS
 PROJECT 1355

LAUNCH CS-82

SHEET H-9257 (ECFP-05155)

5 Oct. - 12 Nov. 1955

Launch CS-82

Sheet 05155

Fath. EDO 202	5 Oct. to 21 Oct.	<u>A-Range</u>		<u>B-Range</u>		C= plus 1.5
Group 2		from	to	from	to	corr.
Same as Sh. 1355		4.0	13.0	65.0	76.0	0.0
		13.1	26.0	76.1	96.0	plus 0.5
		26.1	35.0	96.1	112.0	plus 1.0
		35.1	42.0	112.1	125.0	plus 1.5
		42.1	53.0			0.0
		53.1	70.0			plus 0.2

Fath. 101-S	24 Oct. only	<u>A-Range</u>		<u>B-Range</u>		C= (-) 3.0
Group 3		from	to	from	to	corr.
Same as sheet 1555		0.0	16.0	42.0	54.0	(-)1.2
		16.1	32.0	54.1	65.0	(-)1.4
		32.1	48.0	65.1	77.0	(-)1.5
		48.1	55.0	77.1	79.0	(-)2.0

Fath. EDO 201,	25 Oct. to 29 Oct.	<u>A-Range</u>		<u>B-Range</u>	C= plus 1.0
		from	to	= (-)2.0	
		0.0	30.0		
		30.1	55.0		
		55.1	70.0		

Fath. EDO 202,	9 Nov. to 12 Nov.	<u>A-Range</u> = (-)1.0	<u>B-Range</u>
Group 3			from to corr.
Same as Sh. 1555			65.0 96.0 (-)1.0
			96.1 125.0 (-)0.5

C-Range = (-)0.5

APPENDIX C

Statistics for Hydrographic Survey H-8257 (1955)

Launch CS-82 & CS-172

Project 1355

<u>Date</u>	<u>Vol. No.</u>	<u>Day letter</u>	<u>No. L. L.</u>	<u>Position Fath.</u>	<u>Stat. Mi. Sdg.</u>
<u>Launch CS-82</u>					
5 October	1	a		279	24.9
10	2	b		58	5.7
11	2	c		40	5.3
18	2	d	3	58	5.0
19	2	e		60	5.2
20	3	f		24	2.6
21	3	g		13	1.4
24	3	h		12	0.9
25	3	j		14	1.2
27	3	k		18	1.5
9 Nov.	4	l		17	0.9
11	4	m		78	5.9
			<u>6</u>	<u>78</u>	<u>5.9</u>
			9	671	60.5

Launch CS-172

20 Oct.	1	a		204	17.8
21	1 & 2	b		175	15.7
24	2	c		125	10.2
25	2 & 3	d		254	23.9
28	3 & 4	e		201	17.0
2 Nov.	4	f		128	10.7
3	5	g		78	6.3
7	5 & 6	h		277	28.1
8	6 & 7	j		238	18.5
9	7	k		207	16.3
10	8	l		185	10.5
15	8	m		68	3.2
14	9	n		33	2.5
				<u>2,173</u>	<u>180.7</u>

APPENDIX D

Tidal Note for Hydrographic Survey H-8257 (1955)

Tidal data for reduction of soundings were obtained from portable automatic tide gages maintained 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 of these two gages were so nearly alike there was no correction applied to their results for time or height. The daily processing stamp number 38 denotes the gage applicable for each days hydrography.

<u>Tide Gage</u>	<u>Location</u>	<u>Lat. & Long.</u>	<u>MLW Reading on Staff</u>
Cape Porpoise	Biddeford 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.

	<u>MLW Staff</u>	<u>Range of Tide</u>	<u>Time diff. Ref. to Cape Porpoise</u>
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 E
Coast Pilot Report
Atlantic Coast
Section A - St. Croix River to Cape Cod
Fifth (1950) Edition

Page 298. - Line 26; read:

their ends. The westerly wharf is in good repair and has a gasoline pump at its end. The easterly wharf is in ruins, only pilings remain.

Page 298. - Line 8 and 9; read:

3 feet. The bar at the entrance is subject to frequent changes. In 1955 a sand shoal with 6 foot soundings at MLW was about 200 yards east of the south jetty. The deep - -

Page 300. - Line 38; read:

3 feet at low water across the bar at the entrance, and 4 feet in a narrow buoyed channel inside - -

Page 301. - Line 6; read:

awash at lowest tides. A reef with 7 and 12 foot soundings on it is 0.5 to 0.7 miles south - -

Page 301. - Line 20; read:

Rocks, off Wells Beach, and covered at low water, and Bibb Rock, bare 2 feet at low - -

APPENDIX F

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, with the possible exceptions explained below. The Chief of Party has given daily supervision to the survey operation 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.

A review of the boat sheet and records after the close of the season, revealed the following items listed in the Descriptive Report as not being thoroughly developed.

Item M-4, ~~6~~, 7, 11, and 22 ^{SP 6d}.

These areas are subject to change during most any storm and verification of the charted soundings would be doubtful. The rough weather that was general during the end of the season made development difficult, and as a result, the areas subject to change with the weather were given second priority and if necessary could be further investigated by a detached party with little expense.

Prior to preparation of a revised chart, the latest dredging operation should be obtained from the U.S. Engineers, Boston District.


Marvin T. Paulson
Chief of Party

NORFOLK PROCESSING OFFICE
 FLOATING AIDS TO NAVIGATION
 H-8257 (1955)

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
Negro I. Bar Buoy 4	43-27.30 ✓	70-20.70 ✓	^{12'} 13'	Vol. 1, pg. 2	
Negro I. Ledge Buoy 1	43-27.70 ✓	70-20.25 ✓	^{17'} 18'	13e	10/19/55 ✓
Ram I. Ledge Buoy 2	43-27.98 ✓	70-20.70 ✓	^{22'} 23'	131k	11/ 9/55 ✓
Stage I. Shoal Buoy 3	43-27.53 ✓	70-20.88 ✓	^{27'} 28'	1d	10/18/55 ✓
Saco R. Entr. Shoal Buoy 6	43-27.63 ✓	70-21.11 ✓	^{19'} 20'	2d	10/18/55 ✓
Saco R. South Jetty Buoy 3A	43-27.64 ✓	70-21.47 ✓	^{5'} 6'	3d	10/18/55 ✓
Saco R. Lower Bar Buoy	43-27.68 ✓	70-21.43 ✓	^{7'} 8'	1e 1e 89n	10/19/55 ✓ 11/12/55
Saco R. Middle Bar Buoy	43-27.70 ✓	70-22.03 ✓	^{6 1/2'} 8'	82n	11/12/55 ✓
Little Lobster Rock Buoy 1	43-27.08 ✓	70-21.08 ✓	15' ✓	3-4a	10/ 5/55 ✓
Dansbury Reef Buoy 2	43-26. ✓	70-19. ✓	(see addendum) ✓		

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8257 (Field No. ECFP-05155)

GENERAL

A considerable amount of trouble was experienced during the smooth plot of this survey. This was mainly due to the difficulty of positioning questionable fixes in this irregular bottom and because of the rather frequent use of weak fixes and slender angles. This condition is particularly noticeable in the area of Dansbury Reef. In addition, the wide spacing of the lines in the irregular bottom around reef areas made it impossible to do more than approximate the depth curves.

SOUNDINGS

All fathograms were check scanned and the soundings reduced with templates in the Norfolk Office. Agreement at crossings was generally good with the exception of the discrepancies listed below.

DISCREPANCIES

new tide reducers resolved many discrepancies
Most of the soundings on "g" day (blue) averaged from one to two feet deeper than surrounding hydrography. All soundings between positions 1 and 39g were penciled on the smooth sheet. The remaining positions on the day are being submitted on an overlay. The discrepancy is possibly caused by incorrect fathometer speed, however, this condition is not indicated on the fathogram. *overlay destroyed*

The following soundings were not penciled because of questionable fixes:

Lat. 43-28.00	Long. 70-21.60	positions 23 to 24n (blue)	<i>satisfactorily resolved during verification</i>
" 43-26.90	" 70-19.50	" 43 to 44m (")	
" 43-26.60	" 70-20.30	" 135 to 137a (")	
" 43-27.70	" 70-22.50	" 187 to 189k (purple)	

Dansbury Reef Buoy 2 was not smooth plotted as the references from positions listed below, could not be reconciled:
Positions 20b, 21b, 45n, 17k (blue) and 33k (purple)
N-2 was transferred to H-8257(1955) from contemporary survey H-8256(1955)

Detached rock awash symbols, appearing at Lat. 43-27.1 Long. 70-20.4 and Lat. 43-26.95 Long. 70-20.4 and originating on the air-photo compilations, were not disposed of by the field party.

SHORELINE

Shoreline for Eagle Island was taken from ECFP-1A-55
See par. 2. Review.

Norfolk, Va.
17 March 1958

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

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
NORTHEASTERN DISTRICT HEADQUARTERS
TENTH FLOOR, CUSTOM HOUSE
BOSTON, 9, MASS.

IN YOUR REPLY REFER TO
FILE
AND DATE OF THIS LETTER
FBQ-jbc

5 October 1955

To: LCDR. Marvin T. Paulson
East Coast Field Party
Coast & Geodetic Survey
Biddeford Pool, Maine

Subject: Project 1355

In accordance with your letter request of 4 October, I have contacted the Corps of Engineers Division Office and submit the following information.

1. Biddeford Pool Basin

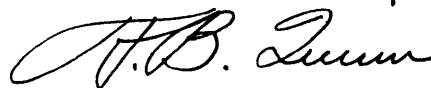
The pre-dredging survey was completed on 8/29/55, and a copy of the survey sheet is being mailed to you today. It will show also the planned limits and depth (6 feet) of the basin to be dredged. Dredging operations are scheduled to begin on 1 December, but considerable delay may be caused by incompleted preliminary arrangements. The after-dredging survey sheets will be forwarded to this office and to Washington.

2. Kennebunk River Entrance (and)
Webhannet River Entrance

*Bp. 61269 (Nov. 17, 1956)
which was not received by
the Washington office until
Aug. 21, 1961.
L.S.S.*

No survey or dredging operations are scheduled for these areas.

Best regards,



F. B. Quinn
CDR., C&GS
Dist. Officer

CC: Chief, C.S.Div.

**East Coast Field Party
Biddeford Pool, Maine**

4 October 1955

**To: Boston District Officer
Coast and Geodetic Survey
10th Floor, Custom House
Boston 6, Mass.**

Subject: Project 1355

It is the general opinion of the local residents, that the U. S. Engineers have the following dredging projects in this vicinity to begin about 1 November 1955:

**Biddeford Pool Basin
Kennebunk River Entrance
Webhannet River Entrance**

We are beginning our survey operations in the vicinity of Biddeford Pool, and in order to avoid duplication of effort, it is requested that this information be verified.

It is desired that I be informed of the date their operations will begin, the limits of the project, and copies of hydrographic surveys of the area if recent, and whether or not they will make a hydrographic survey of the areas after dredging operations.

**Marvin T. Paulson
LCdr., CGS, OinC**

cc: Chief, C.S.Div.

GEOGRAPHIC NAMES

Survey No. H-8257

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
<u>Maine</u>												1
<u>Gulf of Maine</u>												2
												3
<u>Fletcher Neck</u>												4
<u>Biddeford Pool</u>												5
<u>The Pool</u>												6
<u>Wood Island Harbor</u>											BGN	7
<u>Wood Island</u>												8
<u>Stage Island</u>												9
<u>Saco River</u>												10
<u>Saco Bay</u>												11
<u>Ram Island</u>												12
<u>Eagle Island</u>												13
												14
												15
<u>Tide station off sheet:</u>												16
<u>Bickford Island, Cape Porpoise</u>												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

Names approved 5-8-58

W. Heck

If it is desired to show the names of rocks and shoals after inking, the names on chart 231 are all approved.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8257...

Records accompanying survey:

Boat sheets ..1..; sounding vols. .13...; wire drag vols.; bomb vols.; graphic recorder rolls ~~11-Envelopes~~ 11-Envelopes special reports, etc. .1¹Smooth sheets and 1-Descriptive report. .1-Each. Blackline impressions T-11573, T-11574, & T-11575.....

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

Number of positions on sheet	.....	2,983
Number of positions checked	.....	228
Number of positions revised	.....	4
Number of soundings revised (refers to depth only)	.....	To all work following position id in Volume 2
Number of soundings erroneously spaced	.....	2
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	20
Junctions	Time	30
Verification of soundings from graphic record	Time	Revised all soundings and all rock elevations in all work following position id in Volume 2. Rechecked all sheets & logs. Added notes in remarks columns of all Volumes where all reefs & ledges were revised.

Verification by *Borge A. Hagemczak*..... Total time 69.6... Date 5 April 1961

Reviewed by *[Signature]*..... Time 30.3... Date 31 July 1961

OFFICE OF CARTOGRAPHY
REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8257

FIELD NO. ECFP-05155

Maine, Entrance to Wood Island Harbor and Saco River, Fletcher Neck to Eagle Island.

SURVEYED: October 5 - November 15, 1955

SCALE: 1:5,000

PROJECT NO. 1355

SOUNDINGS: 808 and EDO Depth Recorder
Hand lead
Sounding Pole

CONTROL: Sextant
fixes on shore
signals

Chief of Party-----M. T. Paulson
Surveyed by-----R. A. Lewis and C. W. Tupper
Protracted by-----R. D. Lynn
Soundings plotted by-----R. D. Lynn
Verified and inked by-----G. A. Kozemczak
Reviewed by-----L. S. Straw
Inspected by-----R. H. Carstens

DATE 6-30-61

1. Description of the Area

The present survey covers an area of irregular bottom off Fletcher Neck and the Saco River entrance.

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), and T-11159 (1953).

The shoreline for Eagle Island was surveyed by Lt. R. H. Houlder September 8 and 9, 1955 on a planetable 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

The area east and south of Eagle Island and 1/4 to 1/2 miles southeast of Beach Island is irregular. Normally more sounding lines would have been run, but unfavorable weather conditions during the later part of the season precluded running additional lines or making additional shoal investigations (Reference - Appendix F of the Descriptive Report).

In these areas additional soundings from prior suveys were transferred to the present survey to supplement the present depths.

4. Condition of Survey

The sounding records, descriptive report, and field plotting were satisfactory, except that some of the penciled soundings were revised in verification because of the applection of incorrect tide reducers.

The brown curve has been shown to emphasize shoal soundings and to delineate the 90 foot curve which is shown on chart 231.

5. Junctions

The junction with H-8258 (1955) between the jetties at the mouth of the Saco River is adequate. The junction with H-8257 (1955) will be considered in the review of that survey.

6. Comparison with Prior Surveys

A.	H-699 (1859), 1:40,000	H-882 (1866), 1:5,000
	<u>H-739 (1859), 1:10,000</u>	<u>H-942 (1967), 1:5,000</u>

The above prior surveys taken together cover the area of the present survey. They range from reconnaissance to only sparse development when compared with the present work.

The accuracy of the control varies from good to poor. Sextant fixes on shore signals were generally used, but in some cases the distance between fixes was 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 due to improper spacing.

Generally, prior depths differ from one to three feet with present survey depths in bottom which is hard and subject to little change. At the mouth of the Saco River jetty construction and strong currents have caused radical changes in depths.

The 13-foot sounding charted in latitude $43^{\circ} 27.65'$ longitude $70^{\circ} 20.18'$ from H-739 (1859) falls in 19 to 24 foot depths on the present survey. All other soundings on the line containing the 13-foot sounding are also in disagreement with the present work. However, if the line is shifted westward until the soundings agree, then the 13-foot falls on 12 to 14-foot shoal on the present survey. The 13-foot sounding is considered out of position and should be disregarded.

The present survey supersedes these prior surveys within the common area.

B. H-1117b (1871), 1:10,000
H-1634b (1875 Additional Work 1885), 1:10,000

The present survey is covered by the above prior surveys from Fletchers Neck to Eagle Island.

Eagle Island is located about 30 meters too far north on H-1117b (1871) and H-1635b (1875). The correct position of this island is shown on the present survey and prior survey H-882 (1866). This error has been taken into consideration when comparing or transferring hydrographic information from the prior surveys to the present survey.

The prior surveys contain about one tenth as many soundings as the present survey. The depths are in fair agreement and generally differ by not more than one or two feet. Some positions of the sounding vessel have been plotted erroneously on the old surveys; also many soundings are out of position because of faulty spacing. Soundings which have been carried forward to the present survey were checked using the original records to assure their accuracy in depth and horizontal position. Attention is directed to the following charted and uncharted soundings from H-1117b (1871) and H-1634b (1875 additional work 1885).

1. The 2-foot sounding (on a rock) charted from H-1634b (1875), in latitude $43^{\circ} 28.37'$ longitude

70° 21.40', when plotted correctly, falls very close to a 4-foot depth on the present survey in latitude 43° 28.35' longitude 70° 21.37'. This sounding and a few other soundings have been carried forward in their corrected positions to supplement the present survey.

2. The 5-foot sounding charted from H-1634b (1875), in latitude 43° 28.31' longitude 70° 21.46', falls between lines which are spaced 40 meters, and is a part of the shoal discussed in the preceding paragraph. This sounding and several other adjacent soundings have been carried forward to show the southwest limits of the shoal area on the present survey.

3. The 12-foot sounding charted from H-1634 (1875) in latitude 43° 28.62' longitude 70° 21.60' has been replotted in accordance with the old records and falls on a 12-foot shoal located by the present survey in latitude 34° 28.64' longitude 70° 21.62'.

4. An uncharted 11-foot sounding in latitude 43° 28.90' longitude 70° 22.48' falls in a well developed area on the present survey in depths of 16 and 17 feet with no indication of shoaler depths. This 11-foot sounding from H-1634b (1875) is probably one fathom in error and should be disregarded.

5. The 12-foot sounding charted in latitude 43° 27.86' longitude 70° 21.38' from H-1117b (1871) falls in depths of 15 to 21 feet between lines on the present survey where the limits of a 13 to 18-foot shoal area have not been completely defined. This sounding with several other soundings has been carried forward to supplement the information on the present survey.

6. The 8-foot sounding from H-1117b (1871) charted in latitude 43° 27.75' longitude 70° 21.27' is in hard bottom according to the old records and its addition to the present survey aids in the delineation of the 12-foot curve.

7. A 28-foot sounding (not charted) shown on H-1117b (1871) in latitude 43° 27.83' longitude 70° 20.79' falls close to 31 and 32 depths obtained by the present survey. This spot was passed over

with a wire drag set on effective depth of 29 feet (H-4309 - W. D. 1923). The 28 foot sounding is considered disproved and should be disregarded.

8. Several soundings including the 7-foot and 9-foot soundings charted on Ram Island Ledge (latitude $43^{\circ} 27.98'$ longitude $70^{\circ} 20.9'$) were corrected on H-1117b (1871). Some of these were carried forward to supplement the hydrography on the present survey.

9. The 10-foot sounding from H-1634b (1875) charted in latitude $43^{\circ} 27.93'$ longitude $70^{\circ} 21.10'$ falls in depths of 18 to 25 feet on two sounding lines intersecting at right angles on the present work. This sounding is not proved or disproved and is therefore carried forward to the present survey.

10. The 13-foot sounding charted in latitude $43^{\circ} 26.68'$ longitude $70^{\circ} 19.75'$ originates with the records of H-1634b (1875). This sounding and others on the same line are 20 to 30 feet shoaler than the present survey depths and the depths on H-1634 obtained by additional work in 1885. The 13-foot sounding is considered out of position and should be disregarded.

11. The 23-foot sounding in latitude $43^{\circ} 26.28'$ longitude $70^{\circ} 19.70'$ originates with the records of H-699 (1859) but is plotted on H-1634b (1875). The present survey depths are 9 to 10 feet deeper in this area. The 17 is considered erroneous and should be disregarded. Comparable depths 100 meters to the northwest and southwest are adequate for charting

12. The 17-foot sounding charted in latitude $43^{\circ} 28.80'$ longitude $70^{\circ} 22.10'$ from H-1634b (1875) is out of position. It is noted that the signal on Eagle Island in error as mentioned above was used as part of the control line. The present survey defines a low narrow ridge including 17-foot depths about 30 meters south of the charted 17-foot sounding. The 17-foot sounding on H-1634b (1875) should be disregarded.

13. The development on the present survey was not sufficient to prove or disprove the 16-foot sounding charted in latitude $43^{\circ} 28.88'$ longitude $70^{\circ} 21.33'$. This sounding and several other soundings from H-1634b (1875) which fall between lines on the present survey are carried forward.

14. The 17-foot sounding charted in latitude $43^{\circ} 28.70'$ longitude $70^{\circ} 21.42'$ was erroneously plotted on H-1634b (1875). This sounding and several others in this immediate vicinity were corrected and carried forward to supplement the development on the present survey.

15. The sunken rocks charted in latitude $43^{\circ} 26.54'$ longitude $70^{\circ} 20.15'$, latitude $43^{\circ} 26.40'$ longitude $70^{\circ} 20.33'$, latitude $43^{\circ} 26.27'$ longitude $70^{\circ} 20.45'$, originate with T-1188 (1870) and appear to have been sketched thereon by observing breakers. They are considered unreliable and should be disregarded.

16. The 13-foot sounding from H-1634b (1875) charted in latitude $43^{\circ} 26.21'$ longitude $70^{\circ} 20.28'$ falls in an undeveloped spot on the present survey. This area is very irregular and shoaler depths may exist; the 13-foot sounding is carried forward to the present survey.

17. The 15-foot sounding from H-1634b (1875) charted in latitude $43^{\circ} 27.06'$ longitude $70^{\circ} 19.45'$ plots in depths of 51 feet on the present survey where there is no indication of shoaler depths. The sounding line containing this sounding is controlled by a series of fixes which are swingers. The 15-foot sounding from H-1634b (1875) is considered erroneous and should be disregarded.

18. The 10-foot sounding charted in latitude $43^{\circ} 27.03'$ longitude $70^{\circ} 19.58'$ and the 9-foot (not charted) 60 meters southwest of it, originate with H-1117b (1871). These soundings fall in depths of 30 and 12 feet respectively on the present survey. The sounding line on the old survey was controlled by a buoy on one end and in estimated distance from the highwater line off Wood Island Lighthouse on the other. The spacing of the soundings in accordance with the actual speed of the vessel is questionable. These soundings are considered out of position and should be ignored.

19. The 2-foot sounding from H-1634b (1875), charted in latitude $43^{\circ} 26.31'$ longitude $70^{\circ} 20.68'$ is erroneously plotted too far offshore on the old survey and falls in depths of 30 feet of the 1923 (H-4305) survey and the present survey. This sounding from H-1634b(1875) should be disregarded.

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

C. 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 these prior surveys. The differences between present and prior depths generally do not exceed one foot except between and near the jetties at the mouth of the Saco River where bottom changes have occurred.

1. The rocky reef charted in latitude $43^{\circ} 28.86'$ longitude $70^{\circ} 22.87'$ results from a "-1 foot" sounding at a position on a line shown on H-4303 (1923). The notation "rocks" appears in the remarks column opposite this sounding in the old records. The sounding lines in this immediate area on the present survey are spaced 50 meters apart with no mention of rocks in this location. The -1 foot sounding is carried forward as a rock awash to the present survey and it is recommended that it be so charted in place of the rocky reef.
2. The 28-foot sounding charted in latitude $43^{\circ} 27.92'$ longitude $70^{\circ} 20.10'$ from H-4304 (1923) is carried forward to supplement the development of the 30-foot shoal area on the present survey. This shoal was cleared with an effective drag depth of 25 feet by wire drag survey H-4307 (1923).
3. The 6-foot sounding at a detached fix located in latitude $43^{\circ} 28.30'$ longitude $70^{\circ} 21.40'$ on H-4303 (1923) falls in depths of 18 to 20 feet on the present survey. The position is considered to be in error. By plotting the position with a one degree change in the right angle the position of the 6-foot sounding falls very close to the 5-foot sounding (carried forward from H-1634b (1875) and charted in latitude $43^{\circ} 28.32'$ longitude $70^{\circ} 21.45'$) on the present survey. The logical position of the 6-foot sounding has been indicated on H-4303 (1923).

With the addition of the items mentioned in paragraph 6 C (1) and 6 C (2) above and numerous bottom characteristics, the present survey supersedes the 1923 surveys within the common area.

- D. H-4307 (1923) W. D. 1:20,000
H-4309 (1923) W. D. 1:20,000

The depths on the present survey are not in conflict with the effective depths of these wire-drag surveys. Several detached soundings have been carried forward to supplement present depths.

The 17-foot charted in latitude $43^{\circ} 27.44'$ longitude $70^{\circ} 20.73'$ originates with a grounding on H-4309 W.D. The grounding occurred at a buoy set at an effective depth of 27 feet. Using the effective depth of the shoaler adjoining section for the grounding the 17 is not a realistic value of the grounding and should be disregarded.

7. Comparison with Chart 231 (Latest Print date 11-9-59)
1205 (Latest print date 5-16-60)

A. Hydrography

1. The charted hydrography originates principally with previously discussed surveys and the present survey which was first partially applied (critical soundings only) from BP 53203 and later partially applied before verification and review. As a result several of the charted soundings and rock elevations are in error 1 or 2 feet because of a tide correction applied during verification. A few of the soundings differ by greater amounts due to errors which have been corrected by the verifier.
2. The three outermost cairns along the south jetty of the entrance to the Saco River are not shown on the present survey. They have been deleted on Drawing Number 11 of Chart 231 dated September 11, 1961.
3. The three icebreakers charted in latitude $43^{\circ} 26.72'$ longitude $70^{\circ} 21.40'$ were applied to the chart from small scale Corps of Engineers project maps in 1959. On November 17, 1956 an "after-dredging" survey was made by the Corps of Engineers (Bp 61269 - made November 17, 1956) but it was not received by the Washington Office until August 21, 1961. The charted positions of the icebreakers were revised, and appropriate corrections to the hydrography in The Pool were made on Drawing Number 11 dated September 11, 1961.

4. Buoy C "7" charted in latitude $43^{\circ} 27.08'$ longitude $70^{\circ} 21.06'$ marks Little Lobster Rock (page 75, List of Lights) a part of several reefs generally known as Lobster Rocks according to prior surveys. The sunken rock symbol charted here is considered a part of these reefs. The name Little Lobster Rock should be applied if space permits.

5. The daybeacon "9" charted in latitude $43^{\circ} 26.59'$ longitude $70^{\circ} 21.14'$ is on Halftide Rock (page 75, List of Lights). The charted sunken rock symbol falls within the limits of the reefs. It is recommended that the name Halftide Rock be shifted closer to the daybeacon symbol "9", and that the name Lobster Rocks be applied to the several rocky reefs in this immediate area.

6. A comparison of the chart with the present survey reveals many minor differences in shoreline, low water line, configuration of the bottom, and the limits of rocky ledges and reefs.

7. The sunken rocks charted on Dansbury Reef in the vicinity of latitude $43^{\circ} 26.9'$ longitude $70^{\circ} 19.5'$ from T-1188 (1870) fall on a shoal developed on the present survey. The symbols on T-1188 probably represent a generalized position of breakers in this area and are superseded by the present survey information.

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

B. Aids to Navigation

The charted fixed and floating aids to Navigation are in substantial agreement with their respective positions on the present survey except as follows.

1. The red buoy N "8," charted as N "6" in latitude $43^{\circ} 27.70'$ longitude $70^{\circ} 21.84'$ is stationed 300 yards east of the present survey position. The black and white can buoy charted in latitude $43^{\circ} 27.69'$ longitude $70^{\circ} 21.48'$ is charted about 100 yards west of the present survey position. These buoys are frequently shifted in position as the channel changes.

2. The red buoy N "2" charted in latitude $43^{\circ}26.81'$ long. $70^{\circ}19.43'$ is 50 yards southeast of the present survey position. However, the charted position properly marks the feature intended. (Dansbury Reef)

3. Buoy C "7" and daybeacon "9" Wood Island Harbor are discussed with other considerations in paragraph 7 A (4 and 5) above.

4. The red buoy N "10" charted in the Pool at latitude $43^{\circ}26.74'$ longitude $70^{\circ}21.50'$ shown on chart 231 (print date 11-9-59) was established subsequent to the present survey.

5. The mooring buoy in the Pool, latitude $43^{\circ}26.77'$ longitude $70^{\circ}21.43'$ was added to the Drawing of Chart 231 dated September 11, 1961 from Local Notice to Mariners, Number 16, 1960.

8. Compliance with Project Instructions

The present survey adequately complies with the Project instructions except for the sparse development of features east and southeast of Eagle Island.

9. Additional Fieldwork Recommended

The present survey is considered adequate for charting. However, additional development is desirable to complete the delineation of the irregularities of the bottom east and southeast of Eagle Island. Additional development over the shoal in the vicinity of the 13 in latitude $43^{\circ}26.1'$ longitude $70^{\circ}20.0'$ is also desirable.

Marvin Paulsen
Chief,
Nautical Chart Division

Charles W. Clark
Projects Officer,
Operations Division

Examined and Approved:

J. J. Durman
Assistant Director,
Office of Cartography
Max Skellett
Assistant Director,
Office of Oceanography

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

1 May 1958

Plane of reference approved in
13 volumes of sounding records for

HYDROGRAPHIC SHEET 8257

Locality Fletchers Neck, 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

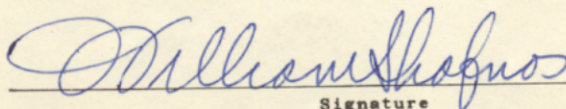
12.8 ft. below B.M. 1 (1955)

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 have been revised in red and verified for
all work following Position 1d in Volume 2.



Signature

Chief, Tides Branch

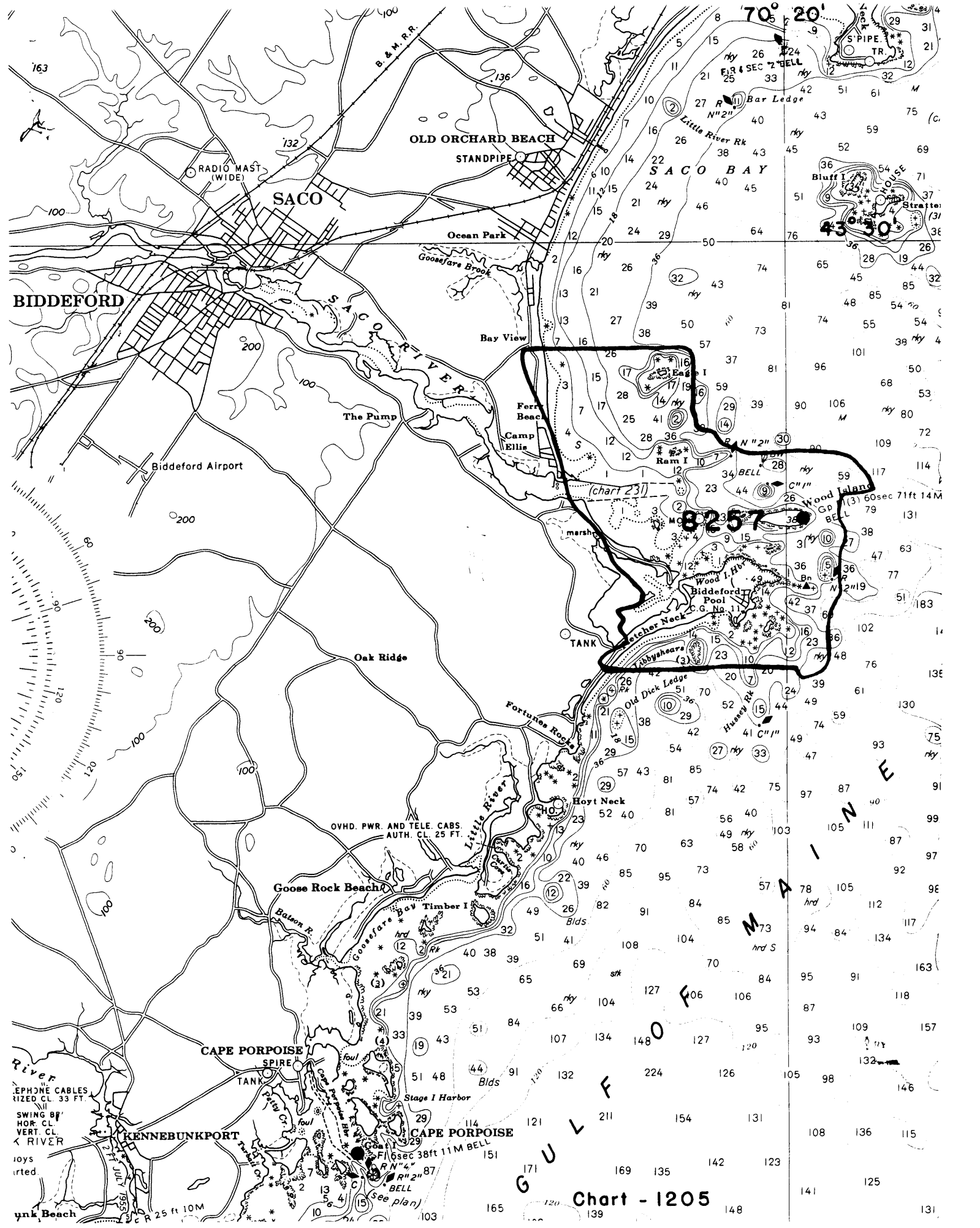


Chart - 1205

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8257

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4/22/58	1265	JAMM	Before After Verification and Review
7-1-58	231		
1 Aug '58	231	H. E. MacEwen	<i>Partially applied</i> Examined but critical sdgs. A few sdgs applied Before After Verification and Review
6-1-59	231	R. E. Elkins	Before After Verification and Review <i>Partly app - Shoal added southwest of Ram I.</i>
12-19-60	231	C. R. Wilkman	Before After Verification and Review <i>Partly applied</i> <i>Revised notes of some adjacent hydro.</i>
6/11/62	231	William H. Hall	Before After Verification and Review <i>Fully applied</i>
7/10/62	1205	William H. Hall	Before After Verification and Review <i>Fully applied</i>
10-25-62	1106	G. R. Johnson	Before After Verification and Review <i>Fully Applied</i> <i>through cht 1205 drg #16</i>
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

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.