

8094

Diag. Cht. Nos. 229 and 1206-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECFP-1753 Office No. H-3094

LOCALITY

State Maine - New Hampshire

General locality Portsmouth, New Hampshire

Locality Upper Piscataqua River and Tributaries.

1945-54

CHIEF OF PARTY

Clarence R. Reed

LIBRARY & ARCHIVES

DATE November 14, 1955

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 - 8094

Field No. ECFP-1753

State Maine - New Hampshire

General locality Portsmouth, New Hampshire

Locality Upper Piscataqua River and tributaries

Scale 1:10,000 Date of survey 4/29/53 - 7/31/53
8/12/54 - 9/2/54

Instructions dated 6 March 1953

Vessel East Coast Field Party

Chief of party Clarence R. Reed

Surveyed by L.D. Kelley & R.B. Noble & C.E. Horne

Soundings taken by ~~fathometer~~, graphic recorder, hand lead, ~~wire~~ sounding pole

Fathograms scaled by Party personnel

Fathograms checked by L.D. Kelley

Protracted by Allen K. Schugeld

Soundings penciled by Allen K. Schugeld

Soundings in ~~fathoms~~ feet at MLW ~~XXXXXX~~ and are true depths

REMARKS: See attached supplement covering work done during the 1954 season

NOTES FOR DESCRIPTIVE
REPORT TO ACCOMPANY

HYDROGRAPHIC SHEET H-8094 , (FIELD NO. ECFP 1753)

Upper Piscataqua River and Tributaries

EAST COAST FIELD PARTY

CLARENCE R. REED, CHIEF OF PARTY

PROJECT CS-355

1953

Scale 1:10,000

* * * * *

PROJECT This survey was accomplished under instructions dated 6 March, 1953; calling for a modern hydrographic survey of the coastal regions of New Hampshire and Northern Massachusetts.

SURVEY LIMITS The survey on Sheet H-8094 , (FIELD NO. ECFP 1753) covers an area bounded by the shoreline of Little Bay north of latitude 43°-06.5', the Oyster, Bellamy, and Cocheco Rivers to the head of navigation and the Piscataqua River from latitude 43°-07.25' north to the Salmon Falls River to the limits of Chart 229. Junctions were made with contemporary surveys on Sheets H-8093 (FIELD NO. ECFP 1653) and H-8092 (FIELD NO. ECFP 1553). Work commenced on 29 April 1953 and was completed 31 July, 1953.

VESSELS & EQUIPMENT Aluminum launch No. 168 was used primarily for the survey. The launch operated from a mooring at Dover Point. All echo soundings were obtained with Graphic Recorder 138SPX. The transducers were mounted inboard.

Launch 82 was used to complete the survey after launch 168 had returned to its base in Newburyport. All echo sounding from launch 82 were with Graphic Recorder 67. The transducers were mounted inboard.

A 14 foot outboard skiff was used with a sounding pole in some shallow areas where launches could not operate.

TIDES & CURRENTS The tidal note is attached to this report. No current observations were taken.

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

CONTROL STATIONS The control consisted mainly of photogrammetric stations. These were transferred from Air Compilation Sheets T-11139, T-11140, T-11141, T-11142, and T-11143. Above Salmon Falls River Bridge, control was taken from Planetable Survey Sheet No. ECFP-Ab-53. (subsequently destroyed) (1951-54)

SHORELINE AND TOPOGRAPHY The shoreline and topography detail were transferred from Air Compilation Sheets T-11139, T-11140, T-11141, T-11142, and T-11143, except for an area above Salmon Falls River Bridge which was transferred from Planetable Survey Sheet*ECFP-Ab-53. Any inaccuracies were resolved in the field and sketched directly on the boat sheet. (See Processing Office Notes) R1
* subsequently destroyed

SOUNDINGS The depths were measured with graphic recorders, sounding poles and hand leads. Bottom samples were obtained from armed hand leads.

* Desc. Report for ECFP-Ab-53 filed with H-8092 (1953-54) and a copy also included in the D. Report of the present survey.

CONTROL OF HYDROGRAPHY

The sounding lines of this survey were controlled by the three-point-sextant-fix method. There were no unusual jumps when changing control stations. Fixes were taken at 1 to 1½ minute intervals. In narrow rivers where control was lacking, positions of sounding lines were referred to distinctive shoreline details. Appropriate remarks were entered in the sounding volumes. *Review, #7*

ADEQUACY OF SURVEY

This survey is complete and considered adequate to supersede prior surveys. The junction with the adjoining sheets is satisfactory as depth curves can be drawn and there are no holidays.

CROSSLINES

Sufficient crosslines were run as prescribed. ✓

COMPARISON WITH PRIOR SURVEYS

A comparison with Sheet H-3524 and Chart 229 showed some discrepancies. These items and those mentioned in the Preliminary Review as prepared by the Division of Charts were investigated and are listed below. *See also pars. 5 & 6 of the Review*

COMPARISON WITH CHARTSCHART 229

LATITUDE	LONGITUDE	CHART	1953 SURVEY	REMARKS
43°-06.90✓	70°-51.20 ⁶⁹	4	21 ft } steep	Item 11, Prelim Review } <i>Review, #5</i> Item 11, Prelim Review } <i>agrees with prior depth of</i> Item 11, Prelim Review } <i>46 ft.</i> Item 10, Prelim Review } These soundings are shoalest soundings on Fox Point which is composed of glacial till. There are many small rocks on this bar which protrudes into Little Bay.
43°-07.01✓	70°-51.73✓	4	35 ft } slopes	
43°-06.96✓	70°-51.71✓	---	2 ft * (2)	
43°-07.31✓	70°-51.86✓	---	45 ft ✓	
43°-07.19✓	70°-51.65✓	6	82	} { There are many small rocks on this bar which protrudes into Little Bay.
43°-07.24✓	70°-51.69✓	4	4-1	
43°-07.25✓	70°-51.77✓	6	83	
43°-07.24✓	70°-51.74✓	---	2	
43°-07.48✓	70°-51.85✓	10	7 RK ✓	Item 9, Prelim Review (chart 7)
43°-07.44✓	70°-51.32✓	4	Stone-pier ✓	Item 8, Prelim Review
			<i>chart stone pier as shown on present survey</i>	This sounding is the position of the remains of a stone pier which will remain bare at all tides. There is a 4' sounding SE of the other pier which is charted which probably is fallen rubble from the pier.
43°-07.52✓	70°-51.10✓	7	812 (11 nearby)	Shoalest sounding (7' fwd. from H-3524)
43°-07.03✓	70°-50.22✓	13	8- (on S.E.)	Shoalest sounding (8 now charted)
43°-07.12✓	70°-49.53✓	7	78 (pos. 52)	Shoalest sounding (7' fwd. from H-3524)
43°-07.13✓	70°-49.70✓	---	---	Item 1 - Prelim Review
				The Rocks awash in this area have been located in the sounding volumes.
43°-07.68 ⁶⁹	70°-49.69✓	2	1-3	Shoalest sounding 1-ft. sdgs. to north
43°-08.02✓	70°-49.92✓	4	3✓	Shoalest sounding N. end shoal area
				Item 2 of Prelim Review, soft black mud bottom.
43°-09.19✓	70°-49.98 ⁹	8	88	Shoalest sounding
			89 presently charted	Item 3 Prelim Review soft bottom
43°-09.39✓	70°-49.90✓	---	---	Item 4 of Prelim Review, Sounding lines were run to edge of channel.

LATITUDE LONGITUDE CHART 1953 SURVEY REMARKS

charted infor. now
correct

(Cont'd from page 2)

43°-10.31 ✓ 70°-49.63 ✓ 9 13-16

↓ Disregard

43°-10.38 ✓ 70°-49.56 ✓ 6 21 14

Review, #5

The channel does follow charted course and it is recommended that it be continued.

Item 5 - Prelim Review. Review, #5

No obstruction was found. -

Shoalest sounding of line.

Item 6 - Prelim Review.

A 2 ft. sounding was obtained by sounding line, but after probing on 2 different days, this line was rejected as nothing to support the soundings was found. The control was dependent on two large transmission towers close by and rapidly changing angles. The line probably goes on the bank to the west of the channel. No evidence of either a 2' or 6' shoal was found. ✓

43°-10.90 ✓ 70°-49.65 ✓ 1 7-8

Item 7 - Prelim Review. (Review, #5)
Searched for but not found. ✓

See Chart
Letter 58 (1954)

43°-11.84 ✓ 70°-52.20 ✓ --- +35' (MHW)

43°-11.83 ✓ 70°-51.88 ✓ --- +34' (MHW)

43°-11.72 ✓ 70°-51.65 ✓ --- +83' (MHW)

43°-11.44 ✓ 70°-49.55 ✓ --- 36' (Hort.)

43°-10.33 ✓ 70°-49.61 ✓ --- +5.5 (Vert) (MHW)

43°-08.05 ✓ 70°-54.40 ✓ --- +114' (MHW)

43°-07.77 ✓ 70°-49.66 ✓ --- +109' (MLW)

43°-07.56 ✓ 70°-49.54 ✓ --- +5' "

43°-07.57 ✓ 70°-49.49 ✓ --- +11' "

43°-07.53 ✓ 70°-49.45 ✓ --- +10' "

43°-08.03 ✓ 70°-49.77 ✓ --- +3.6 (4) "

43°-07.32 ✓ 70°-49.58 ✓ bare 82

Item 12 - Prelim Review

Item 12 - Prelim Review

Item 12 - Prelim Review

Bridge & cable crossing

Item 12 - Prelim Review

Item 12 - Prelim Review

No longer in existence ✓

Piling ✓ uncharted pilings ✓

" used for ✓

" ice breakers

Uncharted rock (now charted) hand correction

This area is charted as bare but there is water at this position at all tides. The 12' sounding is the shoalest. Rocky bottom. ✓

43°-07.38 70°-52.85 20 10 (1954)

Disregard

See suppl. Desc. Report
for 1954 which indicates
a controlling depth of 10 ft.

The entrance to Oyster River shows a charted 20' but sounding lines show 3 ft. When running these lines, the launch kicked up mud indicating a mud bar across this mouth. It may be possible that a narrow 6 ft. channel leads into this river.

43°-07.45 ✓ 70°-51.69 ✓ 28 18 16

43°-07.36 ✓ 70°-51.33 ✓ 37 (H-3524) 26 27

Shoalest sounding ✓ chart 16

Prior survey indicates a controlling depth of this channel at 37'. This survey reveals a 26' controlling depth. These depths are probably the ledges upon which form Goat Island and the remains of old bridge piers. ✓

COAST PILOT NOTES

A separate report was submitted to the Coast Pilot Section regarding changes on 23 October, 1953. ✓

AIDS TO NAVIGATION
located as follows:

The following floating aids to navigation were

See Processing Office List of Floating Aids

LATITUDE	LONGITUDE	BUOY	DEPTH	DATE
43°-07.37	70°-51.33	Can "1"	20 ft.	6/23/53
43°-07.37	70°-51.82	Nun "2"	17	6/23/53
43°-07.18	70°-51.86	Can "3"	29	6/23/53 <i>G.P.'s ✓ ed</i>
43°-06.97	70°-51.70	Nun "4"	22	6/23/53 <i>on Processing</i>
43°-07.37	70°-49.49	Nun "4"	20	7/2/53 <i>Office List</i>
43°-07.57	70°-49.66	Can "5"	13	7/9/53
43°-07.96	70°-49.82	Nun "6"	20	7/2/53
43°-08.24	70°-49.90	Can "7"	1	7/9/53
43°-09.33	70°-49.89	Nun "8"	15	7/2/53
43°-09.61	70°-49.71	Can "9"	15	7/2/53

LANDMARKS FOR CHARTS

There are no landmarks to report. ✓

GEOGRAPHIC NAMES

No changes or additions were found. ✓

MISCELLANEOUS

The areas of this sheet are very seldom used except for outboard pleasure skiffs. A few lobster fishermen fish Little Bay but in general water traffic is small in this area. ✓

Clearances and locations of bridges and cable crossings have been forwarded in a separate report dated 20 January 1954. (C.L. 58, 1954) ✓

Respectfully submitted,

Lionel D. Kelley
Lionel D. Kelley
ENS., USC&GS

Approved and forwarded,

Clarence R. Reed
Clarence R. Reed, CDR, USC&GS
Chief of Party

TIDAL NOTE TO ACCOMPANY

Hydrographic Survey Sheet H-8094 , (FIELD NO. ECFP 1753)

Observations were obtained at two tide stations where portable automatic gages were maintained. The gage at Newington was used in reducing all soundings except those in the Piscataqua, Cocheco , and Salmon Falls Rivers north of latitude $43^{\circ}-08.8'$.

The gage at Salmon Falls River Highway Bridge was used to reduce the remainder of the soundings. Planes of references were furnished by the Washington Office.

STATIONS	LATITUDE	LONGITUDE	MLW ON STAFF
Newington	$43^{\circ}-07.95^{\sim}$	$70^{\circ}-48.71^{\circ}$	+2.6
Salmon Falls River	$43^{\circ}-11.44^{\sim}$	$70^{\circ}-49.55^{\sim}$	+2.6

Tidal control was inadequate; see Review, par. 7

FATHOMETER CORRECTIONS

PROJECT CS-355

Hydrographic Survey Sheet H-8094, (FIELD NO. ECFP 1753)

The corrections tabulated below are based on an initial set at zero on the fathogram. Where the initial varies from zero on the fathogram INDEX CORRECTIONS must be entered in the sounding volumes.

FATHOMETER NO. 138 SPX

19 June - 14 July 1953

Launch No. 168

Corrections	Depth	
	From	To
A Range		
+0.2	3.0	55.0
B Range		
-3.2	40.0	55.0

The following corrections apply to the soundings taken in fathoms and converted to feet, using Fathometer No. 138 SPX.

Correction	Depth	
	From	To
0.0	0.0	24.0
-0.2	24.1	37.8
-0.4	37.9	50.5
-0.6	50.6	63.0
-0.8	63.1	75.0

STATISTICS TO ACCOMPANY

Hydrographic Sheet H-8094 , (FIELD NO. 1753)

DATE 1953	DAY LTR	VOL NO	LEAD LINES	NO. OF POSITIONS	STAT. MI. SDGS.
19 June	a	1	71	102	11.7
22 "	b	1	26	98	14.6
23 "	c	2	230	74	13.4
30 "	d	2	24	89	7.7
1 July	e	2	2	7	0.8
2 "	f	3	255	192	22.1
3 "	g	3	0	43	4.6
7 "	h	4	83	79	9.6
8 "	j	4&5	282	119	10.5
9 "	k	5	210	118	10.2
10 "	l	5	73	81	5.0
14 "	m	5	2	2	—
27 "	a(skiff)	6	269	59	5.7
5 Aug.	b "	6	67	20	1.5
31 July	a(lch 82)	7	2	66	4.9
TOTALS			1596	1149	131.3

Area in ^{Square} statute miles -- 4.8

Field
LIST OF SIGNALS

HYDROGRAPHIC SHEET H-8094, (FIELD NO. ECFF 1753)

ABE-----T-11143	LIZ-----T-11143
ADN-----T-11140	LOW-----T-11143
ARM-----T-11139	MAC-----T-11143
ASH-----T-11141	MAX-----T-11141
BAT-----T-11143	MEL-----T-11143
BED-----T-11139	MIL-----T-11140
BUD-----T-11141	MOO-----T-11143
BUG-----T-11143	MUG-----T-11141
BUS-----T-11141	NAG-----T-11140
CHRW-----Durham Comm.Ch. Spire 1850-1908	NAY-----T-11141
COD-----T-11140	NBO-----T-11139
COW-----Planetable Sheet (FIELD NO. ECFF-Ab-53)	NIK-----T-11141
DAN-----T-11143	NIL-----T-11141
DAY-----T-11140	NUL-----T-11141
DIG-----T-11141	ODD-----T-11139
DOT-----T-11143	OWL-----T-11141
DUD-----T-11143	PAR-----T-11143
DUN-----Planetable Sheet (FIELD NO. ECFF-Ab-53)	PAT-----T-11143
EVA-----T-11141	PIE-----T-11143
END-----T-11141	PIG-----T-11141
ERG-----T-11143	PIH-----T-11141
FAG-----T-11139	PLY-----T-11139
FAN-----T-11139	POL-----T-11141
FID-----T-11139	POP-----T-11141
FIX-----T-11141	PUG-----T-11141
FUR-----T-11143	PUP-----T-11143
GIN-----T-11143	RAN-----T-11139
GOT-----T-11142	RAT-----Planetable Sheet (FIELD NO. ECFF-Ab-53)
GUS-----T-11141	RAY-----T-11141
HAT-----T-11140	RED-----T-11141
HER-----T-11143	RICK-----Dover Pacific Mills Large Red Brick Stack 1913
HIM-----T-11141	RIP-----T-11141
HOG-----T-11141	ROE-----T-11141
IKE-----T-11141	ROW-----T-11139
ITS-----T-11143	ROY-----T-11140
IVI-----T-11140	RYE-----T-11143
JAM-----T-11141	SAL-----Planetable Sheet (FIELD NO. ECFF-Ab-53)
JAY-----T-11141	SAN-----T-11141
JIM-----T-11143	SAP-----T-11143
JOE-----T-11141	SAY-----T-11143
KAD-----T-11141	SEA-----T-11143
KEG-----T-11143	SIG-----T-11141
KIP-----Planetable Sheet (FIELD NO. ECFF-Ab-53)	SIL-----T-11141
LAD-----T-11143	SIM-----Planetable Sheet (FIELD NO. ECFF-Ab-53)
LAW-----Planetable Sheet (FIELD NO. ECFF-Ab-53)	SON-----T-11143
LEG-----T-11141	SOX-----T-11143
*HIT-----T-11141	

LIST OF SIGNALS (CONT'D)

STA-----T-11141
TAX-----T-11139
TEA-----Planetable Sheet
 (FIELD NO. ECFF-Ab-53)
TEN-----Planetable Sheet
 (FIELD NO. ECFF-Ab-53)
TIP-----T-11141
TOP-----Planetable Sheet
 (FIELD NO. ECFF-Ab-53)
TOY-----T-11141
TRIB-----Yellow Cupola, Horizontal
 stripes, 1908
UMP-----T-11139
USE-----T-11141
VAL-----T-11141
VAT-----T-11143
VEX-----T-11141
WAG-----T-11141
WAX-----T-11143
WED-----T-11141
YAP-----T-11141
YML-----T-11143
ZAG-----T-11141
ZIP-----Planetable Sheet
 (FIELD NO. ECFF-Ab-53)

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8094

The records and boat sheets for Hydrographic Survey
H-8094 have been inspected by me and are approved.

Clarence R. Reed

Clarence R. Reed
CDR, USCGS
OinC, East Coast Field Party

FLOATING AIDS TO NAVIGATION
H-8094

<u>BUOY</u>	<u>LAT.</u>	<u>LONG.</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
Little Bay, Eight Foot Rock, Buoy 2	43-07.37	70-51.82	17'	71c	6-23-53
Little Bay, Fox Pt. Rock Buoy 3	43-07.18	70-51.86	29'	72c	" " "
Little Bay, The Rocks Buoy 4	43-06.97	70-51.70	21'	73c	" " "
Little Bay, Hen Island ledge, Buoy 1	43-07.3 ³ 7	70-51.33	19'	74c	" " "
Piscataqua River Buoy 4	43-07.37	70-49.49	19'	1f	7-2-53
Piscataqua River Buoy 6	43-07.96	70-49.82	20'	42f	" " "
Piscataqua River Buoy 9	43-09.61	70-49.71	14'	157f	" " "
Piscataqua River Buoy 8	43-09.33	70-49.89	14'	163f	" " "
Piscataqua River Buoy 5	43-07.57	70-49.66	13'	115k	7-9-53
Piscataqua River Buoy 7	43-08.24	70-49.90	18'	117k	7-9-53

G.P.'s ckd. R.E.E.

Corrections
in Feet
-1.0 0.0 +1.0

5

10

15

20

25

30

35

40

45

50

Depth in Feet

A Scale

Corrections (A scale)

Depth from	to	Correction
3.0	limit A scale	+0.2

Corrections (B scale)

Depth from	to	Correction
40.0	55.0	-3.2

-3.0'

B Scale

Velocity Corrections
Launch 82

See Descriptive Report

Sheet ECFP1553

LIST OF SIGNALS
H-8094

TRIANGULATION STATIONS

CHEW DURHAM COMMUNITY CHURCH, SPIRE, 1850-1943
RICK DOVER PACIFIC MILLS STACK, RED BRICK, LARGE, 1913
TRIP YELLOW CUPOLA, HORIZONTAL STRIPES, 1908

TOPOGRAPHIC STATIONS

SOURCE T-11139

Arm	Bed	Fag	Fan	Fid	Neo	Odd	Ply	Ran	Row
Tax	Ump								

SOURCE T-11140

Ade	Cod	Day	Hat	Ivy	Mil	Nag	Roy
-----	-----	-----	-----	-----	-----	-----	-----

SOURCE T-11141

Ash	Bud	Bus	Dig	Eva	End	Fix	Gus	Him	Hit	Hog
Ike	Jam	Jay	Joe	Kad	Leg	Max	Mug	Nay	Nic	Nil
Nul	Owl	Pig	Pin	Pol	Pop	Pug	Ray	Red	Rip	Rob
Sam	Sic	Sil	Sta	Tip	Toy	Use	Val	Vex	Wag	Wed
Yap	Zag									

SOURCE T-11142

Got

SOURCE T-11143

Abe	Bat	Bug	Dan	Dot	Dud	Erg	Fur	Gin	Ham	Her
Its	Jim	Keg	Lad	Liz	Lon	Mac	Mel	Moo	Par	Pat
Pie	Pup	Rye	Sap	Say	Sea	Son	Sox	Vat	Wax	Yel

SOURCE ECFF-Ab-53

Cow	Dun	Kip	Law	Rat	Sal	Sin	Tea	Ten	Top	Zip
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

HYDROGRAPHIC STATIONS

Lub Vol. 4, pg. 4

SUPPLEMENT TO DESCRIPTIVE REPORT

(Field Party Notes from Boat Sheet)

HYDROGRAPHIC SHEET ECFP-1753(H-8094)

Maine & New Hampshire

Upper Piscataqua River and tributaries

1954

Chief of Party - Clarence R. Reed

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET (AMENDED 1954)

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-8094

Field No. ECFP-1753

State Maine - New Hampshire

General locality Portsmouth, New Hampshire

Locality Upper Piscataqua River and tributaries

Scale 1:10,000 Date of survey 4/29/53 - 7/31/53
8/12/54 - 9/2/54

Instructions dated 6 March 1953 - letter dated 2 April 1954 (Subject: Additional Field
Work in Careas Surveyed in 1953)

Vessel East Coast Field Party

Chief of party Clarence R. Reed

Surveyed by L.D. Kelley, R.B. Noble & C.E. Horne

Soundings taken by ~~fathometer~~ graphic recorder, hand lead, ~~vice~~ sounding pole

Fathograms scaled by Party personnel

Fathograms checked by L.D. Kelley, C.R. Reed & C.E. Horne

Protracted by A.K. Schugeld

Soundings penciled by A.K. Schugeld

Soundings in ~~fathoms~~ feet at MLW ~~XXXXXX~~

REMARKS: _____

Previous hydrography on this sheet

executed in the summer of 1953. Completed in 1954.

NOTES FOR SUPPLEMENTAL DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET H-8094(Field No. ECFP-1753)

Upper Piscataqua River and Tributaries

EAST COAST FIELD PARTY

CLARENCE R. REED, CHIEF OF PARTY

PROJECT CS-355

1953 & 1954

Scale 1:10,000

* * * * *

PROJECT This survey was accomplished under instructions dated 6 March 1953, supplemental instructions dated 29 January 1954, and a letter dated 2 April 1954. (Subject: Additional Field Work in Areas Surveyed in 1953)

VESSELS AND EQUIPMENT For the supplemental field work done on this sheet in 1954, a Catamaran was used. It consisted of two aluminum skiffs (one 16', the other 14') held rigidly parallel to one another approximately 1½' apart by bolts to two 2" X 6" planks and a 2" X 4" which were laid across the skiffs.

Echo soundings were obtained with graphic recorders No. 77, and 119S. The transducers were mounted in a fish which was secured between the skiffs.

TIDES AND CURRENTS No tide gages were established for the supplemental hydrography. Tides were furnished by the Washington Office.
Tides from Simplex Wharf at Newington

CONTROL STATIONS Control Signals established in 1953 were recovered and used to control hydrography in 1954.

COMPARISON WITH CHART 229 ENS. L. D. Kelley noted in his Descriptive Report (1953) that the controlling depth of the channel leading into the Oyster River (Lat. 43° 07.38' Long. 70° 52.85') was probably 6'. Chart 229 shows a depth of 12' at this point. Further investigation revealed a well defined channel with a probable controlling depth of 10'. It is recommended that this depth be charted.

DANGERS AND SHOALS A wreck was found and located at Lat. 43° 09.38' Long. 70° 49.77'. It was recorded as position 48e. It is part of the hull of a 60' boat and bares 3' at MLW.

A shoal was found and developed at Lat. 43° 07.36' Long. 70° 50.77'. A least depth 11' was found by fathometer and recorded as position 13f.

A shoal was found and developed at Lat. 43° 07.46' Long. 70° 50.97'. On this shoal a least depth of 18' on a sounding line between 14d & 15d. Further investigation with a hand lead revealed nothing shoaler than 17'. It is recommended that the 15' depth be charted, because a clear sharp trace was obtained on the fathogram.

A rocky shoal was discovered and developed at Lat. 43° 07.50' Long. 70° 51.74'. A least depth of 7' was found with a hand lead. (hand correction)

Another rocky shoal was found and developed at Lat. 43° 07.54' Long. 70° 51.58'. On this shoal, a sounding pole revealed a least depth of 7'. (6' fath. sdg. on pos. 26c, red)

It is recommended that all of the preceeding dangers and shoals be charted.

Approved and forwarded

Clarence R. Reed
Clarence R. Reed
Chief of Party

Respectfully submitted

Charles E. Horne
Charles E. Horne
ENS. USC&GS

SUPPLEMENTAL FATHOMETER CORRECTIONS

The corrections listed below are based on an initial set at zero on the fathogram. Where the initial varies from zero on the fathogram index corrections must be entered in the sounding volumes.

FATHOMETER NO. 119S

12 August - 2 September 1954

Catamaran

A RANGE

Depth		Correction
From	To	
0.0	-55.0	+0.8

B RANGE

35.0	48.0	+0.6
48.2	59.0	+0.4
59.2	70.0	+0.2

FATHOMETER NO. 77

12 August - 2 September 1954

Catamaran

A RANGE

Depth		Correction
From	To	
0.0	3.8	+1.0
3.9	8.4	+0.8
8.5	24.0	+0.6
24.2	Limit of A Range	+0.4

B RANGE

35.0	70.0	+1.2
------	------	------

SUPPLEMENTAL STATISTICS TO ACCOMPANY

Hydrographic Sheet H-8094(Field No. ECFP 1753)

DATE 1954	DAY LTR.	VOL. NO.	LEAD LINES	NO. OF POS.	STAT. MI. OF SDG. LINE
12 Aug.	a	1	0	50	4.3
13 "	b	1	0	32	3.1
19 "	c	1	0	52	4.6
20 "	d	1	0	76	7.1
23 "	e	2	0	57	5.1
24 "	f	2	5	27	2.1
2 Sept.	g	2	1	17	1.4
		TOTALS	6	311	27.7

Sq. stat. mi. of area: Uncertain

(Sounding consisted of development and splits
on work done previously)

Field -

SUPPLEMENTAL LIST OF SIGNALS TO ACCOMPANY

Hydrographic Sheet H-8094(Field No. ECFP 1753)

MAD-----T-11143 (White wash on south side of pier
of Dover Pt. Bridge, not used in
1953)

*This station was used in 1953 and called
"BAT" - All fixes using "MAD" were changed
to "BAT" in the records -*

APPROVAL SHEET FOR
1954 ADDITIONAL WORK ON
HYDROGRAPHIC SHEET H- 8094

The 1954 records and boat sheet for Hydrographic
Survey H-8094 (ECFP-1753) have also been inspected by
me and are approved.

Clarence R. Reed

Clarence R. Reed
CDR, USC&GS
OinC, East Coast Field Party

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8094 (Field No. ECFP-1753)

SHORELINE AND CONTROL

Control for that part of Salmon Falls River falling north of the bridge, was transferred from graphic control survey*ECFP-Ab-53. The shoreline for the same area was transferred from compilation T-11139 and was left in pencil on the smooth sheet. **subsequently destroyed*

There is an apparent discrepancy in azimuth between the graphic control survey and the compilation. As a means of adjusting the control to the air-photo shoreline, stations FID and Law which appear on both surveys, were held as common points and used to adjust the remaining control to the shoreline. (adjustment O.K.)

DISCREPANCIES

Most of the positions falling in the upper reaches of the rivers on this survey, were referenced on topographic features and estimated distances from the shoreline. On the boat sheet, hydrographic lines were run and positions were referenced on shoreline taken from the old compilation. Numerous changes appear in the shoreline on the latest compilations which were used on the smooth sheet. Also, position points in some instances, were indefinite on the boat sheet. This, combined with the shoreline changes, made it extremely difficult to obtain reliable positions for the soundings. *Review, par. 7C.*

The following positions and soundings were not smooth plotted for reasons explained by notes in the sounding volumes.

Volume 1, pages 18 & 19, positions 58 and 59a
Volume 2, pages 13& 14, positions 35 to 40c
Volume 3, page 53 , ~~positions 13.5 to 13.7f~~ position 184f
Volume 5, page 20 , positions 13.5 to 13.7f

Respectfully submitted,

Hugh L. Proffitt
Hugh L. Proffitt
Cartographer.

Norfolk, Va.
27 October 1955

DESCRIPTIVE REPORT
TO ACCOMPANY

GRAPHIC CONTROL SHEETS

Project CS-355, Ipswich Bay, Mass. to Piscataqua River, N.H.

SHEETS

FIELD NO. ECFP-Aa-53	1:10,000- 1953
FIELD NO. ECFP-Ab-53 ✓	1:10,000- 1953

CONTROL

The control on sheet FIELD NO. Aa-53 consisted of photo - hydro stations FIG and CAT and one triangulation station, KITTERY NAVY YARD TANK, 1943. The photo - hydro stations were located by field radial plot by the photogrammetric party of Mr. J.G. Lajoie and transferred to the graphic control sheet from Shoreline Manuscript No. T-11144. On sheet FIELD NO. ECFP-Ab-53 three photo hydro stations FID, MAY and ARM were transferred from Shoreline Manuscript No. T-11139.

METHODS USED

On sheet FIELD NO. ECFP-Aa-53 the planetable was located by setting up on range with photo hydro station CAT and the KITTERY NAVY YARD TANK, and resecting from photo hydro station FIG. A 1975 meter traverse was run up the west shore of Spruce Creek to locate hydrographic signals and shoreline. The traverse was not closed as there was no triangulation or other control in the area. The traverse was checked by several shots downstream to photo hydro station CAT which seemed to verify the azimuth of the planetable. At one set up, in the vicinity of signal ICE, resection from station FIG verified the position of the planetable closely.

On sheet FIELD NO. ECFP-Ab-53 the location of the plane table was accomplished by setting up on range with photo hydro stations FID and GIN and resecting from station ARM. Stadia distance from ARM verified the position of the plane table. A 1425 meter traverse was run, mostly on the east shore, up the Salmon Falls River to locate hydrographic signals and shoreline. This traverse was not closed at the north end as there was no triangulation or other control in the area.

SHEET COVERAGE

Each sheet covered an area as follows:

Sheet No.	FIELD NO. ECFP-Aa-53, 1953;	Spruce Creek north of Latitude 43° -06.00'
	FIELD NO. ECFP-Ab-53, 1953;	Salmon Falls River from bridge at Latitude 43° -11.43' to Latitude 43° -12.10'

MISCELLANEOUS

The shoreline in Spruce Creek is marshy, except for hard beach south of signal WOW and ledge in the vicinity of signals NEP, BUD and GUY. A satisfactory junction was made at the southern end of sheet FIELD NO. ECFP-Aa-53 with the shoreline transferred from Shoreline Manuscript No. T-11139. The shoreline shown on the sheet, except in the areas mentioned above, is the outer edge of the tall marsh grass which is the mean high - water line.

The shoreline in the Salmon Falls River is entirely marshy. The shoreline shown on sheet FIELD NO. ECFP-Ab-53 is the outer edge of the tall marsh grass which is the mean high-water line.

These graphic control sheets, despite the fact that starting control was weak and there were insufficient checks, are considered complete and adequate for their required purpose.

The shoreline on H-8094 is from T-11139 as revised

Respectfully Submitted,

Robert B. Noble
ENS. USCGS

NOTE BY CHIEF OF PARTY:

The purpose of these plane table surveys was to supply shoreline and signals for hydrography in areas for which no air photographs were available. Additional triangulation was not warranted to control these marginal areas in which there is no through navigation. It is understood that photographs have become available for the Spruce Creek area. It is probable that the positions of the hydrographic signals in the north end of Spruce Creek can be adjusted by photogrammetric methods to give a more nearly correct geographic position. However, the relative positions of the signals and the high water line as shown on the plane table sheets should be held as much as possible.

Approved and forwarded
with added note.

Clarence R. Reed
CDR, USCGS
OinC, East Coast Field Party

GEOGRAPHIC NAMES

Survey No. H-8094

Name on Survey	A	B	C	D	E	F	G	H	K	
Bellamy R. ✓										1
Broad Cove ✓										2
Cocheco R. ✓ (confirmed by A.J.W. 3-22-57 VIA TELEPHONE) J.A.D.										3
Cocheco R.										4
Dover Pt. ✓										5
Fox Pt. ✓										6
Goat I. ✓										7
Little Bay ✓										8
Lower Narrows ✓										9
Piscataqua R. ✓										10
Salmon Falls R. ✓										11
Stacy Cr. ✓										12
Sturgeon Cr. ✓										13
Oyster R. ✓										14
Upper Narrows ✓										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names approved

10-17-55

A.J.W.

TOPOGRAPHIC TITLE SHEET

FIELD NO. ECFP-Ab-53

Each Planetable and Graphic Control Sheet should be accompanied by this form, completed so far as practicable, when forwarded to the Washington Office.

STATE

New Hampshire - Maine

GENERAL LOCALITY

Piscataqua River

LOCALITY

Salmon Falls River

SCALE

1/10,000

DATE OF SURVEY

July, 1953

VESSEL

East Coast Field Party

CHIEF OF PARTY

Clarence R. Reed

SURVEYED BY

Robert B. Noble

INKED BY

Robert B. Noble

HEIGHTS IN FEET ABOVE MHW OR

☐ TO GROUND☐ TO TOPS OF TREES

CONTOUR

APPROXIMATE CONTOUR

FORM LINE INTERVAL FEET

PROJECT NUMBER

CS-355

REMARKS

This G. Control survey sheet will be destroyed subsequent to the review of H-8094 as all useful information has been transferred to the hydrographic sheet. The Hess. Report for this G.C. sheet is filed with H-8092 (1953-54) and also with the present survey.

J.A. Winsmore

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 3094.....

Records accompanying survey:

Boat sheets .1...; sounding vols. ..2...; wire drag vols.;
bomb vols.; graphic recorder rolls .7-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	1460
Number of positions checked	
Number of positions revised	20 (per by estimator)
Number of soundings revised (refers to depth only)	500 (2 ft + side corrections)
Number of soundings erroneously spaced	
Number of signals erroneously plotted or transferred	
Topographic details	Time	16
Junctions	Time	8
Verification of soundings from graphic record	Time	30
Verification by <u>CE KUBICE</u>	Time	332
<u>RE Ekins</u>	Time	54
Verification by.....Total time	Time	386
	Date	Feb. 18, 1957
Reviewed by <u>J. A. Winsmore</u>	Time	48
	Date	22 Mar. 1957

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8094

FIELD NO. ECFP-1753

Maine, New Hampshire, Portsmouth, New Hampshire, Upper
Piscataqua River and Tributaries

Project No. CS-355

Surveyed - April 1953 - Sept. 1954

Scale 1:10,000

Soundings:

Control:

808 Fathometer
Hand lead
Pole

Sextant fixes on
shore signals

Chief of Party - C. R. Reed
Surveyed by - L. D. Kelley, R. B. Noble and C. E. Horne
Protracted by - A. K. Schugeld
Soundings plotted by - A. K. Schugeld
Verified and inked by - C. F. Kupiec
Reviewed by - T. A. Dinsmore 22 March 1957
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the reviewed manuscripts of air-photographic surveys T-11139, T-11140, T-11141, T-11142 and T-11143 of 1951-54.

The origin of the signals is given in the Descriptive Report. Graphic control survey sheet ECFP-Ab-53 will be destroyed as all useful information has been transferred to the present survey smooth sheet.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement after making the revisions and adjustments noted in paragraph 7 of this review.

3. Depth Curves and Bottom Configuration

The depth curves for the most part are adequately delineated. However, in a few localities in the tributaries, the sounding lines do not furnish complete channel continuity. Although air photographs were utilized in verification, doubtful channel

delineations such as occur in lat. $43^{\circ}09.1'$, long. $70^{\circ}50.9'$, still remain on the smooth sheet.

Numerous pinnacle rocks and shoals contribute to the general irregularities in the bottom

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-8092 (1953-54) on the southeast and with H-8093 (1953-54) on the south.

5. Comparison with Prior Surveys

H-3524 (1913) 1:10,000

Except in Cocheo River and the upper reaches of Bellamy River, this prior survey covers the area of the present survey. A comparison of the prior and present surveys reveals no important changes in bottom. However, the more intensive development on the present survey reveals much critical information not disclosed by the wider spaced sounding lines on the prior survey.

The following discrepancies are noted:

(1) The 1-ft. sounding charted in lat. $43^{\circ}10.9'$, long. $70^{\circ}49.65'$, from H-3524 should be disregarded. Falling in mid-channel depths of 7 - 8 ft. on both the prior and present surveys, the prior sounding is considered to be out of position and should actually fall on the shoal bank about 30 meters westward.

(2) The 6-ft. sounding charted in lat. $43^{\circ}10.38'$, long. $70^{\circ}49.56'$, from H-3524 should be disregarded. Falling in 14-ft. depths on both the prior and present surveys, the prior sounding is considered to be out of position and should actually fall on the slope slightly westward.

(3) The 9-ft. sounding charted in lat. $43^{\circ}10.3'$, long. $70^{\circ}49.63'$, from H-3524 should be disregarded. The 9 was found to be misplotted on the prior survey and has been subsequently corrected. Depths of 16 ft. actually occur in the above locality on the prior survey.

(4) The 1-ft. sounding charted in lat. $43^{\circ}07.53'$, long. $70^{\circ}51.47'$, from H-3524 should be disregarded. Falling in present depths of 30 ft., the prior sounding is considered to be out of position and should actually fall about 85 meters south-eastward where comparable depths were obtained on the present survey.

(5) The two 4-ft. soundings charted in lat. $43^{\circ}06.9'$, long. $70^{\circ}51.69'$, and lat. $43^{\circ}07.01'$, long. $70^{\circ}51.73'$, from H-3524 fall in depths of 20 and 35 ft., respectively, on both the prior and present surveys. The prior soundings obtained on the same line are considered to be out of position due to faulty spacing and should actually fall on the slopes of the reef lying between them. The unsupported prior depths should be disregarded.

Although the delineation of bottom features is generally more complete on the present survey, several prior soundings have been carried forward to supplement present depths. A few bottom characteristics were also retained from the prior survey.

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

6. Comparison with Chart 229 (Latest print date 1/26/53)

A. Hydrography

Charted hydrography originates principally with the previously discussed survey which needs no further consideration. The present survey has been partially applied to the chart prior to verification and review through advance information shown on blueprint 51185 (copy of the boat sheet) and critical depths reported in H. O. Notice to Mariners No. 49 (1955). Numerous revisions both in depth and position have been made to smooth-sheet soundings during verification.

The following discrepancies are specifically noted:

(1) The 13-ft. sounding charted in lat. $43^{\circ}07.11'$, long. $70^{\circ}49.4'$, from the boat sheet of the present survey should be disregarded. The 13 was found to be erroneous during verification. The present smooth sheet now shows 18 - 19 ft. in the above locality.

(2) The following soundings charted from advance information (unverified) of the present survey should be revised as indicated:

<u>Latitude</u>	<u>Longitude</u>	<u>Charted depth</u>	<u>Smooth-Sheet depth</u>
$43^{\circ}10.59'$	$70^{\circ}49.60'$	4	6
$43^{\circ}10.41'$	$70^{\circ}49.51'$	8	14
$43^{\circ}08.60'$	$70^{\circ}50.80'$	2	7
$43^{\circ}07.35'$	$70^{\circ}50.76'$	18	11
$43^{\circ}07.3'$	$70^{\circ}51.09'$	not charted	7
$43^{\circ}07.38'$	$70^{\circ}52.41'$	3	20-ft. channel

depth slightly northward. However, the controlling depth of 10 ft. slightly westward should be charted.

The present survey entirely supersedes the charted information.

B. Aids to Navigation

The buoy charted in lat. $43^{\circ}07.25'$, long. $70^{\circ}51.79'$, was located about 150 meters southwestward on the present survey. The charted position preferably marks the outer limits of the shoal extending from Fox Point.

The buoy charted in lat. $43^{\circ}07.51'$, long. $70^{\circ}49.6'$, was located about 120 meters northwestward on the present survey. The survey position preferably serves the purpose intended.

Except as noted, the aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

7. Condition of Survey

a. The sounding records are complete; the Descriptive Report covers all matters of importance.

b. The smooth plotting was generally accurate, except as noted in the following paragraph.

c. Numerous sounding lines positioned by estimated distances from shoreline features were adjusted during verification. The field party used an erroneous photogrammetric compilation delimiting fast land as the shoreline. This compilation was later extensively revised to include marsh areas and was furnished to the Processing Office for use in smooth plotting. On the smooth sheet the hydrography relative to this new shoreline delineation which had omitted many of the reference points, was plotted out of position. By use of the photographs, the verifier was able to identify the feature to which the hydrographer had made reference and thereby adjust the sounding lines to their probable relative positions.

d. Several lines at the junction with H-8092 on the southeast are dependent on weak sextant fixes and were repositioned on the smooth sheet by matching the present survey lines with the hydrography on the prior survey H-3524 (1913).

e. Tidal observations did not reveal the tidal characteristics of the entire area of the survey. An additional tide-reducing correction of 1 - 2 ft. was applied to some sounding lines in Little Bay and in Bellamy River in order to eliminate conflicts between sounding lines run at different stages of the tide. The conflicts between the soundings indicates that the tides in

Little Bay are more closely related to the tidal characteristics of Great Bay than to the characteristics of Piscataqua River as used by the field party; and the conflicts indicate that the tidal period in Ballamy River is about one hour later than the period in Piscataqua River as used by the field party.

f. Clearances for the following cable crossings and bridges were not furnished by the field party:

<u>Feature</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Source of charted clearances</u>
Cable crossing	43°11.85'	70°52.2'	C.L. 299 (1953)
" "	43°11.8'	70°51.8'	C.L. 653 (1953)
Bridge	43°7.1'	70°49.6'	C.L. 653 (1953)
" "	43°7.75'	70°50.95'	Bridge Book

8. Compliance with Project Instructions

Except as noted in paragraph 7f., the survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered to be basic and no further field work is recommended.

Examined and Approved:

Max G. Ricketts

Max G. Ricketts
Chief, Nautical Chart Branch

Charles A. Schanck
Charles A. Schanck
Chief, Division of Charts

Karl B. Jeffers

Karl B. Jeffers
Chief, Hydrography Branch

Samuel B. Grenell
Samuel B. Grenell

Chief, Division of Coastal Surveys

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

28 November 1955

~~DIVISION OF COASTAL SURVEYS~~

Division of Charts: R. H. Carstens

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET

8094

Locality Maine and New Hampshire

Chief of Party: C. R. Reed in 1953-54

Plane of reference is mean low water

2.6 ft. on tide staff at Newington (Atlantic Terminal Pier)
13.8 ft. below B. M. 1 (1953) *(used in 1953)*

4.3 ft. on tide staff at Newington (Simplex Wharf)
15.0 ft. below B.M. 1 (1954) *(used in 1954)*

1.6 ft. on tide staff at Salmon Falls River Bridge
22.9 ft. below B.M. 1 (1926) *(used in 1953)*

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

Newington: 6.5 ft.
Simplex Wharf: 6.5 ft.
Salmon Fall R.: 6.6 ft.

Condition of records satisfactory except as noted below:

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

Vol.
7

Positions
28a - 66a

(sds reduced by re-survey)

William H. Hapner

Branch
Acting Chief, ~~DIVISION OF~~ Tides and Currents.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8094

Record of Application to Charts

[illegible]

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.

