

5286

Form 504  
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

JUL 18 1933

State: New York

Acc. No.

DESCRIPTIVE REPORT

5286

~~Topographic~~  
Hydrographic

Sheet No.

5

LOCALITY

Hudson River

Roa Hook

~~Jones Point to Con Hook~~

19 32

CHIEF OF PARTY

C. A. Egner

5286

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5286

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.

Field No. 5

REGISTER NO. 5286

State New York

General locality Hudson River

Locality Rea Hook to Gen Hook

Scale 1:5,000 Date of survey October, 19 32

Vessel M. V. NATOMA (Motor Launch)

Chief of Party C. A. Egnor

Surveyed by Jack C. Sammons

Protracted by F. A. Nielsen

Soundings penciled by F. A. Nielsen

Soundings in ~~fathoms~~ feet

Plane of reference Arbitrary Hudson River datum

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated Continuation of 1930 season, 19

Remarks:

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET

5286 (ADDITIONAL-WORK)

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 5

REGISTER NO. 5286 (ADDITIONAL-WORK)

State New York

General locality Hudson River.

Additional work,  
Locality South of Con Hook and vicinity of Fish Island.

Scale 1:5,000 Date of survey Nov. 10, 1933 ~~1932~~

Vessel NATOMA- Launch

Chief of Party C.A. Egnar.

Surveyed by J.C. Sammons.

Protracted by Paul H. Scherr

Soundings penciled by Paul H. Scherr

Soundings in ~~fathoms~~ feet

Plane of reference Hudson River Datum

Subdivision of wire dragged areas by

Inked by Paul H. Scherr

Verified by Paul H. Scherr.

Instructions dated \_\_\_\_\_, 192

Additional work in accordance with  
Remarks: Paragraph #7 Review H 5286.

R E P O R T

T O A C C O M P A N Y

H Y D R O G R A P H I C S H E E T

N O. 5 ( F I E L D )

H U D S O N R I V E R

P R O J E C T H T - 1 0 8

1 9 3 2

M. V. NATOMA

C. A. EGNER, COM'DG.

I N S T R U C T I O N S  
A N D A U T H O R I T Y :

The work on this sheet was done as a part of the season's work on Combined Operations by the Motor Vessel NATOMA in the Hudson River from June to November 1932. Since it was a continuation of the 1930 work and executed under similar conditions, the Instructions for the previous work were considered to apply. Therefore, except in the case of Tidal Observations, the Instructions for which were dated June 18, 1932, no definite Instructions govern the area surveyed this year.

L I M I T S :

This sheet joins Sheet No. 4 at Jones Point opposite Peekskill and extends northward to Con Hook, about two miles north of Bear Mountain Bridge.

This was the sheet upon which the season's work closed.

H-5285

METHODS:

The work was done with the hand sounding machine in the river proper, supplemented by the hand lead along the banks and in the small areas where it could be used.

As the banks drop into deep water rapidly only a single line of hand lead soundings could, in general, be placed along either bank.

The depth curves, therefore, are very close together along the shore.

CHANGES:

None were noted, not already charted. The construction of Bear Mountain Bridge and development of wharves serving the Day Line Park at Bear Mountain constitute the only artificial changes except where small docks have been put in to serve the Ammunition Depot at Iona Island.

Popolopen Creek is closed off by a trestle railroad bridge except to those small boats which can pass between the piling.

A shoal area south of Con Hook is already charted and buoyed. In fact, little was found on this sheet not already charted, and in such abrupt, rocky, country there can be little change in the bottom over a period of time.

See  
Review

TIDES:

The hydrography was controlled by gages at Peekskill (Standard Automatic) and at Highland Station, or rather, a half mile north of Highland Station. The datum was determined by leveling to First Order Bench Marks at each station.

An arbitrary division was made at Bear Mountain Bridge in distributing the area of this sheet, the work north being assigned to Highland Station, that south to Peekskill.

DANGERS:

None were noted on this sheet.

CONTROL:

Good control, was obtained for the hydrography from a scheme of 3rd. order triangulation on the river banks supplemented by topographic signals located by intersection from the triangulation stations.

ANCHORAGES:

Deep water restricts the available anchorage space on this sheet, though a fairly satisfactory anchorage can be found with fair swinging room just south of Iona Island in about ten fathoms of water. Also, south of Con Hook a fairly satisfactory anchorage is found under similar conditions.

The most troublesome factor in this respect is the swift current and the variable air currents due to this canyon-like valley.

IN CHARGE:

Lieut. J. C. Sammons was in charge of the hydrography on this sheet.

STATISTICS:

Statute miles of sounding lines	53.4
Number of soundings	1810
Number of positions	526

TIDAL DATA:

Tidal data was forwarded to the Office on February 3 - 11, 1933.

Respectfully submitted,

*C. A. Egner*  
 C. A. Egner  
 Hyd. & Geod. Engineer  
 Commanding M. V. NATOMA.

## HYDROGRAPHIC STATISTICS

HUDSON RIVER, NEW YORK

SHEET NO. 5

DATE 1932	DAY	VOLUME	BOAT	STATUTE MILES SOUNDINGS	NUMBER OF SOUNDINGS	NUMBER OF POSITIONS
10/21	a	1	Launch	1.0	31	10
10/24	b	1	"	18.0	366	126
10/25	c	1	"	12.1	535	133
10/25	c	2	"	2.3	81	26
10/26	d	2	"	14.0	514	153
10/27	e	2	"	6.0	283	78
		TOTALS		53.4	1810	526

etc

July 29, 1933.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5286

Locality Roa Hook to Con Hook, Hudson River, N.Y.

Chief of Party: C. A. Egner in 1932

Plane of reference is Hudson River Datum (Mean low water during lowest river stages)  
4.1 ft. on tide staff at Peekskill

11.5 ft. below B. M. 4

0.8 ft. on tide staff at <sup>Manitou</sup> ~~Highland Station~~

U. S. G. S.

8.9 ft. below B. M. Serial No. 1561

Height of mean high water above plane of reference is 3.0 feet.

Condition of records satisfactory except as noted below:

*Paul Whitney*  
Chief, Division of Tides and Currents



October 4, 1933

Section of Field Records

Report on H. 5286

Roa Hook to Can Hook - Hudson River

New York

Instructions dated - Continuation of 1930 Season.

Chief of party - C. A. Egner

Surveyed by - J. C. Sammons

Protracted by - F. A. Nielsen

Soundings plotted by - F. A. Nielsen

Verified and inked by - L. E. DeMent

- 1 The records conform to the requirements of the Hydrographic Manual. ✓
- 2 ~~The plan & character of development satisfy the specific instructions~~ ✓
- 3 ~~The plan and extent of development satisfies the specific instructions except the area surrounding Fish Island.~~

#

~~Approx Long  $73^{\circ} 57' - 33.5''$  is rather~~  
~~Lat  $41^{\circ} 18' - 02''$~~   
indefinite

- 4 Sounding line crossings are in general agreement, except as follows.
- (a) Where the 30' curve runs close to the shore west of  $\odot$  T.C. &  $\odot$  SHELL
  - (b) South of Fish Island a 7' sounding appears beside one of 40', and ~~50', 43', 65'~~ soundings appear in that order and very close together. the latter group of sds. respaced according to time - Rule
- 5 The 6, 12, 18, 30, 60, 120 foot curves are drawn wherever possible. ✓
- 6 The field plotting was completed to the extent prescribed in the Hydrographic Manual. ✓
- 7 Drafting was done as follows  
a Degree, Minute & Second symbols were added to the ✓

- b Fish Island (Omitted by the field party) was drawn on the smooth sheet. ✓
- (c) The dock at approx } Long  $73^{\circ}59'08''$  was  
erased and redrawn to conform with ✓  
Lat  $41^{\circ}18'52''$   
S 4739
- (d) Detail contours, placed by the field party had to be redrawn. ✓
- (e) No junction can be made at this time as sheet #5285 is not ✓  
verified

9 Remarks.

No stray or ~~other~~ impossible soundings were found, with ✓  
the possible exception of those at Fish Island, already mentioned

Respectfully Submitted

Ralph E. Dement.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5286.....

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

Number of positions on sheet	526 .....
Number of positions checked	165 .....
Number of positions revised	9 .....
Number of soundings recorded	1810 .....
Number of soundings revised	8 .....
Number of signals erroneously plotted or transferred	0 .....

Date: *October 4, 1933*.....

Cartographer: *Ralph E. DeMeant*.....

Add'l WORK

5286

5286

Form 504  
Ed. June, 1928

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
R. S. Patton, Director

State: NEW YORK

**DESCRIPTIVE REPORT**

~~Tidegauge~~ } Sheet No. 5 5286  
~~Hydrographic~~ }

LOCALITY

Hudson River.

Additional work south of Con Hook  
and in the vicinity of Fish Island.

1933.

CHIEF OF PARTY

C. A. Egner.

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

DEC 19 1933

Acc. No. \_\_\_\_\_

REPORT TO ACCOMPANY ADDITIONAL  
WORK DONE ON  
HYDROGRAPHIC SHEET NO. 5286

ROA HOOK -- CON HOOK  
NEW YORK.

REPORT TO ACCOMPANY ADDITIONAL

WORK DONE ON

HYDROGRAPHIC SHEET NO. 5286

ROA HOOK -- CON HOOK

NEW YORK

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Additional work called for after a review of this sheet is contained in Paragraph #7 of the review.

(a) Examination in the vicinity of Fish Id. to enable definite curves to be drawn.

(b) More lines in the vicinity of 7-foot shoal in Lat. 41-20.8 -- Long. 73-57.9 to determine the full extent of the shoal.

This additional work has been done. As the tide staff located at Dennings Landing ( $\frac{1}{2}$  mile north of Highland Station) was still in good condition, readings were made before and after the hydrography for reduction of the soundings for the work called for under "b" above.

For the work under "a" it was necessary to use predicted tides for the reductions.

Respectfully submitted,

*JACK C. SAMMONS*

Jack C. Sammons, *by G.H.*  
H. & G. E.  
U.S.C. & G. Survey.

Approved and Forwarded:

*C. A. Egner*  
C. A. Egner,  
Chief of Party.

## Section of Field Work.

Report on Additional Work for H. 5286

Chief of Party . C. A. Egner

Surveyed by J. C. Dammons.

Protracted, and inked by Paul A. Scherr

This work of 168 soundings, 53 positions is in the vicinity of the 7 foot shoal in Lat.  $41^{\circ}20'.8$ ; Long  $73^{\circ}57'.9$ ; and also in the vicinity of Fish Island.

In the first vicinity mentioned, a 19 foot sounding 30 meters north of the 11 foot sounding replaced a 57 foot sounding from the previous survey by this party; and a 13 foot sounding between the 20 and 26 foot soundings replaced a 15 foot sounding. The 14 foot sounding taken from H. 2742 and the 28 foot sounding from H. 630



## II

were plotted on this sheet.

The depth curves can be drawn completely in both instances. The records followed the General Instructions except in giving a bottom characteristic as "rock".

Respectfully submitted

Paul H. Scher

December 29<sup>th</sup>, 1933.

SECTION OF FIELD RECORDS

Review of Hydrographic Survey No. 5286.  
Roa Hook to Con Hook, Hudson River, New York.  
Surveyed in 1932.  
Instructions dated July 22, 1930 (Natoma).

Chief of Party - C. A. Egner.  
Surveyed by - J. C. Sammons.  
Protracted and soundings plotted by - F. A. Neilson.  
Verified and inked by - R. E. De Ment.

1. Records.

The records conform to the requirements of the Hydrographic Manual with the following exceptions:

a. Tide reducers were entered to the nearest foot for depths under 10 fathoms instead of the nearest half foot as called for in paragraph 134 of the Manual. These have been changed by the Division of Tides at the instance of the Section of Field Records and the soundings corrected accordingly.

b. Dates of establishment of triangulation stations were omitted from the smooth sheet (see paragraph 23 of the Hydrographic Manual).

c. The geographic position of some triangulation point on the sheet was omitted as per paragraph 25 of the Hydrographic Manual.

2. Instructions for the Project.

The plan and extent of development are in general in conformity with the instructions for the project except as follows:

a. No cross lines were run within the limits of this survey. The instructions call for quarter mile cross lines.

b. The channel lines are spaced 100 meters apart instead of 50 meters. The depths on this sheet being much greater than on the 1930 work, the wider spacing of lines is probably justified.

c. There is an insufficient development in the vicinity of Fish I. (lat.  $41^{\circ}18'$  long.  $73^{\circ}57'.6$ ). It is impossible to correctly delineate the 6 and 12 foot curves in this area. The survey of 1901 and 1903 (H. 2564a) shows shoal water extending to the northwestward of the island.

d. The area in the vicinity of the 7 foot shoal in lat.  $41^{\circ}20'.8$  long.  $73^{\circ}57'.9$  has not been adequately investigated. The survey of 1905 (H. 2742) shows this shoal as extending northeasterly for about 90 meters with a depth of  $14\frac{1}{2}$  feet (pos. 113-114b) at its northern extremity. It is uncertain whether this sounding is a detached shoal or a continuation of the 7 foot shoal. The survey of 1857 (H. 630) shows shoal water extending northeasterly for about 50 meters and shows a 28 foot sounding about 80 meters southwest-erly from the center of the shoal. This 28 falls between two lines on the present survey with depths of 36 to 54 feet. It is also noted that the position of the shoal as located in 1857 (H. 630) agrees closely with the position determined in 1905 (H. 2742) which position is about 30 meters to the north-eastward of the shoalest spot found on the present survey.

3. Depth Curves.

The usual depth curves can be drawn except in the area mentioned in paragraphs 2, b and c, above and in some stretches along the shore.

4. Junctions with Surveys.

The junction with the contemporary survey, H. 5285 on the south is satisfactory. The junction with H. 5307 on the north will be considered in the review of that sheet.

5. Field Drafting.

The usual amount of field plotting was accomplished and was generally satisfactory. Some changes were necessary in the wharf southward of Bear Mt. Bridge to make it conform to the topographic delineation.

6. Comparison with old surveys.

Apart from the incompleteness of the present survey as noted in paragraph 2, above, the agreement between this survey and the surveys of 1901 to 1905 (H. 2564a and H. 2742) is very good. In several of the deeps shown on the present survey, the old surveys show deeper water. These greater depths were not disproved by the present survey but usually fell between two sounding lines. As this survey is to be the basic survey of this area, it was considered advisable to transfer such soundings to the present survey as contributed to the Hydrographic knowledge of the area. The 14 foot sounding in the vicinity of the 7 foot shoal mentioned in paragraph 2 d, of the review as well as several soundings in the vicinity of Fish Id. have been transferred to the new survey pending a further examination of the areas. These transferred soundings have been indicated in blue and are appropriately identified on the sheet. They can be removed if the new examination proves conditions to be otherwise.

The charted 9 foot rock northwestward of Iona Light (lat. 41°18'.75 long. 73°58'.9) was located on the present survey in its charted position but with a least depth of 10 feet over it. The original depth of 9 feet was determined by applying a ~~tide reducer~~ ~~tide~~ based on predicted tides. ~~to the sounding.~~ (See Chart Letter 352 of 1914). In view of this, it is recommended that the 9 foot sounding be omitted in future charting.

No detailed comparison was made with H. 459 (survey of 1854) nor with H. 630 (survey of 1857) except where important shoals or critical depths were involved. These have already been noted in a previous paragraph. When the additional work that is being requested is accomplished, it will be possible to supersede these surveys in their entirety.

7. Additional Work.

The following additional work is required to satisfactorily complete the survey of this area:

a. An examination in the vicinity of Fish Is. to enable the definite drawing of the depth curves as well as the development of the shoal area

H. 5286 - 3.

to the northwestward mentioned in paragraph 2, <sup>c</sup> of this review.

b. More lines in the vicinity of the 7 foot shoal in lat.  $41^{\circ}20'.8$  long.  $73^{\circ}57'.9$  to determine the full extent of the shoal (see paragraph 2, <sup>d</sup> of this review). The work should also extend to the westward and southward of the shoal to permit the definite drawing of the 30 foot curve. The nature of the bottom on this shoal should also be verified. The previous surveys indicate a "rocky" bottom, whereas the present survey notes a "soft" bottom (pos. 115d).

8. Note to Compiler.

The present survey with the indicated additions from the old surveys contains all the information necessary for charting this area without any further reference to the old sheets. It should be considered the basic survey of the area and should supersede all previous surveys within its limits.

9. Reviewed by A. L. Shalowitz, Nov. 1933.

~~Examined and approved:~~

~~Chief, Field Records Section.~~

~~Chief, Division of Charts.~~

~~Chief, Field Work Section.~~

~~Chief, Division of H. & T.~~

Addenda to Review H-5286.

The additional work called for in paragraph 7 of the review for this sheet has been accomplished. The additional development in the vicinity of Fish I. is adequate for the drawing of the depth curves.


In the vicinity of the 7 foot shoal in lat. 41°20.8 long. 73°-57'.9, the additional examination proved that the shoal extends much further to the northeastward than was shown by the 1932 survey and generally verifies the survey of 1905 as to the existence of a 14 foot sounding at its northern extremity. The additional work located a 16 foot sounding nearby. In both cases the soundings were regular soundings on line. It is therefore uncertain whether the least depth has been obtained. The 14 from the 1905 survey as well as the 28 from the 1857 survey (both mentioned in par. 7, d of the review) have been carried forward to the new survey, which becomes the basic survey of this area.

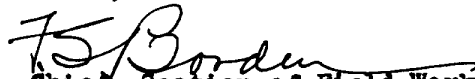
The additional examinations made in 1933 are plotted in black on the sheet, but the position numbers and day letters have been indicated in red.

Reviewed by - A. L. Shalowitz, Dec. 1933.

In reference to the lack of development mentioned in the paragraph immediately above, it should be noted that the distance between soundings on line is over 100 meters. - L. O. C.

Examined and approved:

  
L. O. Colbert,  
Chief, Section of Field Records.

  
Chief, Section of Field Work.

  
Chief, Division of Charts.

  
Chief, Division of H. & T.

Rae

December 26, 1933.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
1 volume~~s~~ of sounding records for

HYDROGRAPHIC SHEET 5286 (Additional Work)

Locality South of Con Hook and Vicinity of Fish Island, Hudson River, N.Y.


Chief of Party: C. A. Egner in 1933

Plane of reference is Hudson River Datum (mean low water during lowest  
0.8 ft. on tide staff at Highland Station river stages)

8.9 ft. below B. M. Serial No. 1561

Height of mean high water above plane of reference is 3.0 feet

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents

APPLIED TO ALUMINUM-MOUNTED DRAFTING OF THE  
RECONSTRUCTION OF CHART NO. 282

J. M. Albert

Dec. 1934