

5044

U. S. COAST & GEODETIC SURVEY  
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DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

State: N.Y. N.J.

11-5013

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 3 5044

LOCALITY:

Hudson River

Yonkers to Hastings, N.Y.

Project No. 66

1930

CHIEF OF PARTY:

C. A. Egner, M.V. Natoma

5044

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5044

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. 3

REGISTER NO. 5044

State N.Y. N.J.

General locality Hudson River

Locality Yonkers to Hastings

Scale 1/5000 Date of survey Sept & October, 19 30

Vessel Motor Vessel Natoma

Chief of Party C. A. Egner,

Surveyed by C.A. Egner, and G.R. Shelton

Protracted by Edgar F. Hicks, Jr.,

Soundings penciled by ditto

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by L.S. Straw

Verified by L.S.S.

Instructions dated July 22nd, 1930 & Sept 25, 19 30

Remarks: This is the third of a series of five sheets under project #66.

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SHEET 3 (FIELD)

PROJECT 66

HUDSON RIVER..

AUTHORITY:

The survey of this area was made in accordance with Instructions of July 22, 1930 and Supplemental Instructions of September 25, 1930. ✓

LIMITS:

This sheet is the third of five sheets covering the area of this project, joining sheet #2 on the south and #4 on the north. The southern limit is the Spreckel's Sugar Refinery in South Yonkers and the northern limit is South Hastings. The work extended over the entire width of the river. ✓

CONTROL:

Adequate control was furnished by numerous triangulation stations and accurately located topographic stations. In general, signals along the beach were used and recourse to elevated signals on the Palisades was not necessary. For the work close inshore, it was found that signals on the opposite shore could best be used. Distortion on the boat sheet caused some discrepancies which were not apparent when plotted on the smooth sheet. ✓

METHODS:

All the sounding was done with the hand lead. The channel lines were all run by the Natoma and fall between the five fathom curves. It was found necessary to run these with the current which extended somewhat the time necessary for the survey. Quartermile crosslines were run at slack water. From the five fathom curve to the shore, lines were run by the launch and in these shoal depths, it was found that lines normal to the shore gave satisfactory results. On the east side of the river, south of Ⓞ ACK, deep water approaches the shore so closely that lines run parallel to the shore gave results more efficiently and accurately. ✓

DISCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET NO. 3

HUDSON RIVER - PROJECT 66, 1930

DISCREPANCIES:

Between positions 111 and 112, "F" day, in Latitude  $40^{\circ} 56'.3$ , Long.  $73^{\circ} 54'.9$ , a depth of 22 feet was obtained which the leadsman recognized as unusual and "O.Ked" at once. Later, the launch developed the area as shown and could not check the shoal depth. It is believed that the 22' actually exists and it is recommended that it be charted.

Position 61 "K" day, a depth of 37 feet was found which was like-wise developed by the launch and not checked. Until this is disproved by the wire drag, it is recommended that this depth be charted.

There is no doubt but that accidental dumping has occurred in this river and isolated shoals such as the above spots probably indicate something of this nature.

With the above exceptions, there are no discrepancies on the sheet. Cross-lines checked very nicely as also did the launch and ship work.

DANGERS:

There are no dangers, except as noted under the above section. Boats tied up to the docks should beware of the heavy swells set up by passing river boats. The only safe places to tie up is on the north and south sides of the piers or in the yacht basins.

CHANNELS:

The entire river may be considered as channel area. On the west side the shoal water is used by large tugs with heavy tows when the current is flooding.

ANCHORAGES:

The bottom over the most of the area is soft mud suitable for anchorage. In a few places, the lead struck hard bottom, which was noted on the smooth sheet and record. Unless otherwise indicated, soft mud should be shown. On the east side of the river, near  $\odot$  BIL, several mooring buoys have been established for the use of yachts.

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET NO. 3

HUDSON RIVER - PROJECT 66

1930

(CONTINUED)

GENERAL CONDITIONS-

A ferry line operates between Yonkers, N.Y., and Alpine, N.J., running across the southern limits of this sheet. ✓

There are several docks along the Yonkers waterfront. The Municipal Pier, (see ○ BIN) is used by the "DAY LINE" passenger boats. Small boats can approach docks near ○ PIN, PER, DOG, BIL, and at TWOMBLY and FOREST PARKS. The docks at Yonkers are constantly in use, and are generally lined with barges unloading building material, etc. ✓

The entire west side of the river is set aside as a park, known as the Palisades, Interstate Park. A road parallels the beach up to △ FOREST. ✓

STATISTICS:

Soundings - 5152  
Positions - 1372  
Miles of sounding line 130.9

Respectfully submitted,

*Hubert A. Paton*  
Hubert A. Paton  
Jr. H. & G. Engr.,

*Approved and*  
Forwarded,  
*C. A. Egner*  
C. A. Egner,  
Chief of Party.

*AKK*

*16*

3  
16

December 27, 1930

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in  
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5044

Locality New York and New Jersey (Hudson River)

Chief of Party: C. A. Egger, in 1930  
Plane of reference is mean low water, reading  
2.5 ft. on tide staff at ~~Yak~~ Yonkers  
13.4 ft. below B. M. 1

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

*Paul T. Whitney*

Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *H. 5044*

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

Number of positions on sheet	<i>1372.</i>
Number of positions checked	<i>694.</i>
Number of positions revised	<i>189.</i>
Number of soundings recorded	<i>5152.</i>
Number of soundings revised	<i>538.</i>
Number of signals erroneously plotted or transferred	<i>10.</i>

Date: *July 17, 1931*.....

Cartographer: *L. S. Straw*.....

Section of Field Records  
Surveyed 1930

Report on H 5044.

Chief of Party. C. A. Egnor

Surveyed by C. A. Egnor and G. R. Shelton

Protracted by Edgar F. Hicks Jr.

Soundings plotted by E. F. Hicks Jr.

Verified and Inked by L. S. Straub

1. The records conform to the requirements of the General Instructions ✓
2. The plan and character of development fulfills the requirements of the General Instructions ✓
3. The sounding line crossings are adequate on this survey. ✓
4. The usual depth curves can be completely drawn with the exception of close inshore and close to docks. ✓
5. The field plotting was completed to the extent prescribed in the General Instructions ✓
6. It was necessary to do over a portion of the drafting done by the field due to an erroneous transfer of signal A1 and incorrect location of signal C1.
7. The junctions with adjacent sheets are satisfactory?
8. Further surveying is not required & more fully developed in important areas within the limits of this sheet.



7. Discrepancies: - 2 -

(a) The signal A1 was erroneously transferred from Topographic Sheet T4557. It was plotted on the Smooth Sheet, twelve (12) meters too far south and four (4) meters too far west of true position. The position for this signal has been taken from the Aerial Photograph and it is noted that it does not agree with the location on the Topographic Sheet T4557 in that it is about, five (5) meters to the east.

(b) Signal Ack (Long  $73^{\circ}54'30''$  Lat  $57^{\circ}00'$ ) was moved five (5) meters to the south and west. This position was determined by the Aerial Survey.

(c) Signal Bil, (Long  $73^{\circ}53'30''$  between Lat  $40^{\circ}57'30''$  and  $40^{\circ}58'11''$ ) the docks and shore line have been changed to conform to the Aerial Survey. Bil moved 10 meters south.

(d) Signals Ad, Tor, and Re (Between Long  $73^{\circ}53'30''$  and  $73^{\circ}53'00''$ ; and between Lat  $40^{\circ}58'30''$  and  $40^{\circ}59'00''$ ) were moved 8 meters south in accordance with the Aerial Survey.

(e) Signal Ok (Long  $73^{\circ}30'$  Lat  $40^{\circ}59'$ ) was not identified on the Aerial Survey but it is believed that the same

error occurred in its location as did in that of Re, Tor and Ade. It has therefore been moved 8 m. south along the shore.

It is noted that with the above mentioned adjustment of signals Ok, Re, Tor and Ade that the location of the sounding lines in respect to the docks at triangulation station Forrest 1930 on the West side of the River is improved. A further adjustment of the shore line and these docks was also made. The signals C11<sup>(12m)</sup> and NET<sup>(10m)</sup> on end of docks were moved in about 8 m. <sup>11 and 10 m. respectively.</sup> caused by this correction as based on Aerial photographic Survey.

(g) The correct position of Signal C11 (Long 73° 54' 30" Lat 40° 58' 30") is taken from the Aerial Survey and is 9 m. north of the former location.

Although this signal was not clearly shown in the photograph, the use of it in the position determined by the Aerial Survey gives better agreement in crossings on the east side of the river in the vicinity of Re, Tor & Ade.

It was necessary to replot ten of the short horizontal sounding lines and four of the long longitudinal lines. Some improvement was made in the 30 ft. Curve at pos 160b (blue) and

in the 18 ft. curve at pos 62F (red). In all cases the lines lengthwise with the river, affected by signal C<sup>21</sup>, moved <sup>and to the north</sup> from the shore, and crossings were invariably improved.

Although much of the Hydrography is affected by the change of Signal Cal. in the center of the river it is thought that the connecting of these sounding lines is unwarranted, mainly because it would not alter the depth curves.

(b) Positions 124c & 121c when plotted according to the record fall on the northernmost dock in the vicinity of signal A1. These docks have been changed to conform to the Aerial Topographic Survey. The records state that these positions 121c & 124c are on the north side of the dock, therefore, they have been moved on the line to that position consequently disregarding the 3 point fix. (Pin Rock & Law.)

Respectfully Submitted

L. S. Straw

July 17, 1931 -

AND REFER TO No. 82-DRM

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
WASHINGTON

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 5044

Yonkers to Hastings, Hudson River, N. Y.

Surveyed in 1930

Instructions dated July 22, 1930 and September 25, 1930 (NATOMA)

Chief of Party, C. A. Egner.

Surveyed by C.A.E. and G. R. Shelton

Protracted and soundings plotted by E. F. Hicks, Jr.

Verified and inked by L. S. Straw

1. Comparison with Aerial Topography - This sheet was verified and inked prior to the completion of the aerial topographic sheets, since at the time of such verification it was not anticipated that changes would be made in the ground control topographic sheet. When the aerial sheets were completed it was found that many of the plane table positions differed by an appreciable amount from the aerial determinations. A study was therefore made of the two sheets and the positions of the signals were changed on the hydrographic sheet to conform to the aerial locations, and are shown thereon in green. No changes were made on the ground control survey so that can be used for determining the amount of change that was made in the various signals.

There were a number of plane table signals that were not identified on the photographs and in order to determine whether they were correctly located on the ground control sheet the aerial delineation of the shoreline and docks as well as the changes made in neighboring identified signals were compared with the ground control sheet and changes made wherever it seemed justifiable. The maximum shift of the signals was 12 meters.

Only three signals were changed on the west side of the river,  $\odot$  Ner, Cin and Cal. The first two were probably the result of the erroneous plotting of  $\triangle$  Forest on the ground control sheet.  $\odot$  Cal was not definitely identified on the photograph, but a point was recovered ~~on the photograph~~ which appeared a logical place for the signal and this position was used after a test was made of the sounding lines affected to determine what ~~would be~~ the result of the replotting. <sup>would be</sup> In all

cases the positions of the sounding lines were improved. The aerial location of Ⓞ Cal was therefore accepted.

2. Changes in Hydrography - Only those sounding lines were changed on the smooth sheet (due to change in signals) that affected depth curves or improved crossings. Channel lines, the positions of which shifted north and south, were generally not changed.
3. Sounding line crossings - In general the agreement between cross lines came within a foot. It was, however, noticed in several cases that the ship lines across the channel differed consistently from the channel ship lines and the launch lines by about 2 feet. No satisfactory explanation could be adduced to account for these discrepancies. Inasmuch as these lines differed from all the numerous lines that crossed them, they were omitted from the smooth sheet. This leaves the remainder of the work as a harmonious whole. A list of the sounding lines omitted follows:

Positions	31-33 K	Positions	1-6 K
"	22-24 K	"	122-124 E
"	15-17 K	"	115-120 E

4. Junctions with surveys - The junctions with H. 5045 on the north and H. 5042 on the south are satisfactory.
5. Field plotting - Ⓞ Al was erroneously plotted by the field party, the transfer from the ground control sheet being made from the wrong parallel. The shift amounted to about 12 meters in latitude. This necessitated the shifting of the field plotting of positions 5a to 68a, the shifts varying from 20 to 42 m. offshore or in a direction where the effect on the depth curves would be a maximum. If the field plotter had observed the notes in the <sup>sounding</sup> ~~sounding~~ records or had followed the boat sheet plotting he would himself have discovered the error.
6. Additional work - No additional work is recommended for this area.
7. Reviewed by A. L. Shalowitz, October 1931.

Approved:

*A. M. Sobieralski*  
 Chief, Section of Field Records

*F. S. Borden*  
 Chief, Section of Field Work

*Attention directed to par 3 + notes on this subject in Reports for H 5041 and H 5042.*