

4609

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

E. Lester Jones, Director

C. & G. SURVEY

L. & A

MAR 21 1927

Acc. No.

State: New Jersey

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 41 4609
Hydrographic }

LOCALITY

Off Sandy Hook
~~Off Entrance to New York Harbor~~

Vicinity of Scotland Light Vessel

1926

CHIEF OF PARTY

R. F. A. Studds

GOVERNMENT PRINTING OFFICE

4609

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 41

Off Entrance to New York Harbor, Vicinity Scotland Light Vessel.

INTRODUCTION

This survey was made at the request of Captain K. M. Bennett, U.S. Navy, Supervisor of New York Harbor. Records on file in his office show that in the past ten years over 100,000,000 cubic yards of material had been dumped in the vicinity of Scotland Light Vessel. It was desired to investigate this dumping area to determine if shoaling had occurred that could be regarded as a menace to navigation.

METHODS

As a close development was desired, parallel lines were run and spaced 200 meters apart on a scale of 1/40,000. A 13-pound hand lead with phosphor-bronz center, mahogany line was used.

Soundings could not be obtained in the depths surveyed without stopping and backing the launch. This slowed up the work considerably, but gave excellent up and down soundings.

Natural objects, located by triangulation, were used for the fixes. Some of these went below the horizon on the outer portion of the lines and excellent visibility was needed in order to see the signals at all.

TIDES

An automatic tide gauge was kept in continuous operation at Sandy Hook for the reduction of soundings to mean low water.

WEATHER

Very unseasonable weather prevailed thruout the entire season and as a result the survey was not completed to the limits defined in the Instructions. Cross lines and development of shoals were deferred and as a result these were not completed by the time survey operations had to be suspended on account of approaching winter. Light northwesterly breezes seemed to give the best surveying conditions. Anything south of northwest would cause smoke from the cities to obscure the signals. Southerly breezes usually carried a haze or fog and easterly and northeasterly breezes were usually accompanied by a rough or choppy sea.

CHANGES

Along the western edge of the survey the depths are now slightly greater than shown on the chart. In the eastern part of the northern section of the area, shoaling has taken place to a minimum depth of 79' where formerly there were depths of 84' to 96'. The 48' and 49' spots eastsoutheast of the Light Vessel have been leveled down to a depth of not less than 51', but shoaling has occurred in an area about three miles southeast of the light ship. The maximum change seems to be in this area, there now being a minimum depth of 64' where there was formerly about 82'.

No evidence was found that the wreck, formerly charted in this vicinity, exists and the buoy marking it has been removed. A thoro investigation, however, was not made. *Notice to Mariners 31 1926*

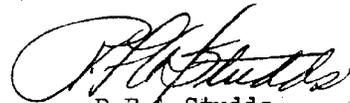
RESULTS AND CONCLUSION

With the exception of a 61' spot, about a mile southeast of the light vessel, the depth curves indicate that the area surveyed was well covered. It appears that while changes have taken place, there has been no shoaling as yet that could be regarded as a menace to navigation.

The Chief of Division of Hydrography and Topography has communicated to the Supervisor of New York Harbor and the latter has concurred in the former's opinion that additional work is unnecessary at this time, in the light of the results obtained from this survey. (See letter 14 rs, dated December 23, 1926, to Supervisor, New York Harbor).

In accordance with the verbal instructions of the Chief of Section of Field Work, only the boat sheet is submitted, no smooth sheet having been made. The soundings shown in black have been reduced for tide, but not checked. Soundings shown in green ink were taken from the chart for purposes of comparison.

Respectfully submitted:



R.F.A. Studds
Jr. H. & G.E.,
Chief of Party.

Statistics for Hydrographic Sheet 41

Date, 1926.	Letter	Volume	Positions	Soundings	Miles, Statute	Vessel
August 11	A	1	51	113	5.3	Launch ELSIE
30	B	1	91	182	16.7	"
31	C	1	57	117	11.5	"
September 14	D	2	93	198	19.6	"
15	E	2	3	6	0.3	"
22	F	2	111	231	22.4	"
	Totals.....		406	847	75.8	

Only 7 bottom characteristics given.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

July 29, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4609

Vicinity of Scotland Light Vessel, Entrance to New York Harbor

Surveyed in 1926

Instructions dated July 22, 1926.

Chief of Party, R. F. A. Studds.

Surveyed by R. F. A. S.

Protracted and soundings plotted by R. F. A. S.

Inked by R. F. A. S., R. C. Rowse.

Verified by R. C. R.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the surveying fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossing is adequate.
5. The usual depth curves can be completely drawn.
6. The field plotting was completed to the extent prescribed in the General Instructions.
7. A small portion of the protracting and a great many soundings had to be corrected in the office.
8. The junction with sheet 4610 is satisfactory.

9. No further surveying is required to fully develop important areas within the limits of the sheet.
10. This sheet is a boat sheet, no smooth sheet being submitted (cf. descriptive report, page 2, last paragraph). Consequently the drafting, appearance, etc. are below the average quality for smooth sheets. These, however, do not detract from the value of the results obtained.

The protracting was in general accurate, as shown by the following statistics:

Number of positions	406
Number tested	82
Number found wrong	18
Percent found wrong, $18/82 \times 100 =$	22.0
Percent of total found wrong, $18/406 \times 100 =$	4.4

In plotting the soundings in the field, poor results were obtained through the use of incorrect tide reducers. About 46% of the soundings as plotted differed from their true values by from one to three feet, and had to be corrected in the office. This was probably due to the use of predicted tides in calculating the reducers used.

Depth curves were drawn in the field for every fathom from nine fathoms to fifteen fathoms. So many curves are not necessary, the ten fathom curve being the only one required by the General Instructions for the depths covered by this survey.

11. Character and scope of surveying, excellent.
Field drafting - boat sheet used for smooth sheet.
12. Reviewed by R. C. Rowse, July, 1927.

Approved:

Chief, Section of Field Records (Charts)

L. O. Zolner

Chief, Section of Field Work (H. & T.)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4609

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. 41

REGISTER NO. 4609

State New Jersey

General locality Off Sandy Hook
~~Off entrance to New York Harbor~~

Locality Vicinity of Scotland Light Vessel

Scale 1/40,000 Date of survey Aug. 11 - Sept. 22, 1926.

Vessel Launch ELSIE

Chief of Party R.F.A. Studds

Surveyed by R.F.A. Studds

Protracted by

Soundings penciled by

Soundings in ~~fathoms~~ feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated July 22, 1926

Remarks: ~~No smooth sheet submitted per verbal instructions of Chief of Section of Field Work.~~