

5234b 5234a

5234b 5234a

Form 504  
Ed. June, 1928

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

State: New Jersey

---

**DESCRIPTIVE REPORT**

<i>Topographic</i> <i>Hydrographic</i>	} Sheet No.	5234 <sup>b</sup>
	} A - B	5234a

---

LOCALITY

Sandy Hook

---

Sandy Hook Bay and Main Channel

---



---

1932  
*Add'l Work '34*

CHIEF OF PARTY

---

H. A. Cotton

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES  
MAR 13 1933  
Acc. No. \_\_\_\_\_

DESCRIPTIVE REPORT  
TO ACCOMPANY HYDROGRAPHIC SHEETS "A" & "B"  
VICINITY OF SANDY HOOK, N. J.  
PROJECT H T 112

DESCRIPTIVE REPORT  
TO ACCOMPANY HYDROGRAPHIC SHEETS "A" & "B"  
VICINITY OF SANDY HOOK, N. J.

PROJECT H T 112

a- Date of Instructions:

The work embraced by these sheets was done under the "Instructions" from the Director, U.S. Coast and Geodetic Survey to the Inspector, New York Field Station dated September 24, 1932.

Such work as is plotted on sheet "B" was done at the urgent request of the Army Engineers, New York City.

b- Survey Methods:

The usual hydrographic surveying methods were used throughout the work. Control was furnished by triangulation stations and topographically located signals. Wherever possible fixes were taken on triangulation stations. All soundings were taken by means of the hand lead. The frequency of misses, which will be noted, was due to the comparative inexperience of the leadsman and to rough weather.

Considerable shrinkage was noted in the first leadline used. This line had been forwarded to the New York Office and there thoroughly cured several months before the beginning of the work at Sandy Hook. Before marking this line it was again given a thorough soaking. However, on use, daily changes were apparent. On reducing the records the leadline corrections were taken from the curves plotted from the daily leadline measurement. These curves are attached to this report.

All soundings were reduced to feet in the records and the tidal data is attached to this report.

In general, a line spacing of 200 meters was used, but additional lines were run for development inside the two fathom curve, in the channels, and especially on the bar and in the channel leading to Highlands.

c- Discrepancies: *This sounding (pos. 82 O) was originally erroneously plotted on boat sheet and hence was not found by the drift soundings. Its correct position is close to the 30 foot curve inshore. A.S.*

There are no unadjusted discrepancies on the sheet. A.S.

A 33 foot sounding ( see boat sheet) Latitude 40 28.3, Longitude 74 01.4 was noted and drift soundings were taken in this vicinity, see positions 56 to 59 v, 43 to 48 u. No sounding of like depth was found in this vicinity.

d- Dangers:

1- Sunken Piers, Latitude 40 28.4, Longitude 74 01.0, Positions 90 a, 91a, 92a, Volume 1. These piers are the remains of an old dock at "Hilton", midway between Highlands and Atlantic Highlands and showed on former editions of chart 543. ✓

2- Eleven foot spot, Latitude 40 28.8, Longitude 73 59.8, Position 89m to 90m, Volume 5. This is the shoal sounding on False Hook, southwest of buoy 9 (gong) ✓

3- Thirty-one foot spot, position 105c, volume 2, Latitude 40 28.6, Longitude 74 01.4. This shoal spot in the Main Channel was verified by drift soundings, see positions 119 to 123 q. *30 ft* ✓

4- Twenty-nine foot spot, position 19r to 20 r, Latitude 40 28.5, Longitude 74 01.8. This shoal spot in the Main Channel was verified by drift soundings 61v to 66v. ✓

5- Twenty-seven foot spot, position 36 d, Latitude 40-28.5, Longitude 74 02. This sounding in the main channel was verified by drift soundings 117 to 118 q. ✓

6- Seventeen foot spot, position 54v, Latitude 40 28.2, Longitude 74 01.5. This was the least depth found by drift sounding in this vicinity when checking the 18 foot soundings between positions 102c and 103c. ✓

7- Thirty-one foot spot (see sheet "B"), position 38v, Latitude 40 29.2, Longitude 74 02.9. This is the shoal spot or an indication of the shoal between buoys C 13 and N20 showing on present editions of the chart of this vicinity. No further development of this area than could be accomplished by running channel lines was attempted. ✓

8- The remains of the two wrecks, Latitude 40 25.4, Longitude 74 03 bare at all stages of the tide. ✓

*Washed* 9- An upturned barge lies in Latitude 40 25, Longitude 74 00. This danger apparently shifts slightly during periods of storm. ✓

10- There is a 5 foot spot on the north side of the ~~the~~ channel off the town of Highlands, position 146 K. Drift soundings were taken in this vicinity and no less depth found, see positions 72p and 73p.

e- Channels

Main Channel- The Main Channel was not completely surveyed to its connection with Gedney Channel. The controlling depth in the channel, due to the shoal spot, Latitude 40 28.5, Longitude 74 02. Other shoals as previously noted as "Dangers" lie in this channel.

Channel to Raritan Bay- The channel westward from buoy C11 for the distance surveyed has a controlling depth of 31 ft. The channel northward from buoy Gong 18 has a controlling depth of 31 feet for the distance surveyed.

Channel to Highlands- The controlling depth in this channel (from soundings on boat sheet, to be verified when smooth sheet is completed) was found to be 7 feet (see position 40 1) ~~although 8 feet can be carried by passing close to buoy N 2.~~ The two shoal spots, bare at low water between the bell buoy and N2 as indicated on the photostatic copy of chart 543 as furnished by the office are not in evidence. These were thrown up by the dredge working in this area previous to undertaking this survey but storms and tidal action have caused them to disappear. The entrance to the Highlands Channel is made by passing the Bell buoy close aboard on a southerly course until N 2 and W Spermaceti Beacon are in range and then heading on this range.

South Channel to Highlands- A narrow channel leads in along the face of the docks at Highlands from immediately south of the Bell buoy. This channel has a controlling depth of 6 feet. Considerable portions of the bar immediately north of this channel bare at low water.

f- Comparison with Previous Surveys:

Very little change has occurred in this section since the previous survey except as noted below.

Changes in the configuration of Sandy Hook Point which has built out to the northward places deep water comparatively close inshore at this point. Buoy C11 marks the edge of the shoal water to the westward.

The channel entrance off Buoy N 2 to Highlands has widened and deepened.

Soundings of 12 feet were noted in the previous work in Latitude 40 25, Longitude 73 58.4. The 14 foot soundings on the line across this area are possible indications of shoaler water but no further development was possible due to rough weather and the necessity of closing work on a specified date.

See Review regarding controlling depth in this channel  
13 on H 5234  
Previous survey shows 12 ft east of this line

## g- Incomplete Portions:

No inshore development was done westward of the C R R N J dock at Atlantic Highlands.

Additional inshore development lines would have been run along the ocean shore of Sandy Hook had weather and tidal conditions permitted.

The 14 foot indications mentioned above remained uninvestigated.

No attempt was made to sound in Spermaceti Cove as the entrance is now closed. Considerable shoaling was noted in the cove.

## h- Sheet "B"

The hydrography plotted on sheet "B" covers an area which the Army Engineers were unable to survey after their dredging operations in the vicinity of Sandy Hook. A request for this special work was made of the Inspector, New York Field Station, in order that their dredging records might be completed. In order to facilitate smooth-plotting the work in the area requested was plotted on a separate sheet along with sufficient lines on sheet "A" to give a satisfactory junction. The work on sheet "B" is composed of the following:

Positions:	73 g	to	82 g
	120 g	to	138 g
	20 m	to	29 m
	124 m	to	132 m
	20 o	to	40 o
	1 s	to	3 s
	51 s	to	83 s
	87 t	to	128 t
	1 v	to	50 v
	23 r	to	26 r

## i- Statistics:

The statistics given below embrace both sheets "A" and "B".

Number of positions	2236
Number of soundings	7459
Statute miles of sounding lines	272.9
Area in square miles	22

## j- Positions of Buoys:

The position numbers of such buoys as were located by the hydrographic party are attached hereto

Respectfully submitted

Earle A. Deily  
H. & G. Engr.

Chart Division.

22-LE  
1990 - Adams

809  
812  
June 7, 1933.

To: Lieutenant Earle A. Dally,  
U. S. Coast and Geodetic Survey,  
Room 808, Customhouse,  
Boston, Massachusetts.

Through: Inspector, Boston Field Station.

From: The Director,  
U. S. Coast and Geodetic Survey.

Subject: Surveys, Vicinity of Sandy Hook.

For your information and future guidance there is furnished you herewith copy of the review of hydrographic and topographic sheets showing surveys made by you during November and December 1932 in the vicinity of Sandy Hook.

This survey neglects such important features as the delineation of channel limits and depths across bars. There is no development of them other than that obtained by the general spacing of lines, either by lines parallel to the ends of the channels or by split lines. The result is that the information in the vicinity of some of the important features is inadequate for charting.

Aside from the above criticism the hydrography is entirely satisfactory and, considering the unfavorable season of the year in which it was done, is very creditable work.

(Signed) J. H. HAWLEY

Acting Director.

Enclosure.

POSITIONS OF BUOYS

C 11	Position	46c	Volume 1, Page 64 ✓
C 1	Position	1n	Volume 5, Page 19 ✓
N 4	Position	2n	Volume 5, Page 19 ✓
<del>N</del> C 12	Position	13 r	Volume 6, Page 18 ✓
<del>N</del> FIR 12	Position	14r	Volume 6, Page 18 ✓
N 14	Position	15r	Volume 6, Page 18 ✓
N 16	Position	23r	Volume 6, Page 19 ✓
Gong "18"	Position	24r	Volume 6, Page 19 ✓ ✓
<del>N</del> <del>Gen</del> 18	Position	25r	Volume 6, Page 19 ✓
C 11	Position	26r	Volume 6, Page 20 ✓
N 20	Position	3s	Volume 6, Page 23 ✓
C 7	Position	12s	Volume 6, Page 25 ✓
	Position	29t	Volume 6, Page 46 ✓
N 10	Position	17t	Volume 6, Page 44 ✓
Gong "9"	Position	18t	Volume 6, Page 44 ✓
C 13	Position	128 t	Volume 6, Page 63 ✓



March 18, 1933.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
7 volumes of sounding records for

HYDROGRAPHIC SHEET 5234a and 5234b

Locality Sandy Hook, N. J.

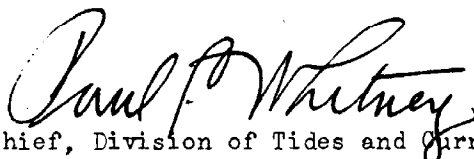
Chief of Party: H. A. Cotton in 1932

Plane of reference is mean low water, reading  
1.5 ft. on tide staff at Sandy Hook, N. J. (Fort Hancock)  
9.7 ft. below B. M. 2

Height of mean high water above plane of reference is 4.7 feet

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.

  
Chief, Division of Tides and Currents.

## Section of Field Records

Sheet No 5234a

Surveyed in 1932

Chief of Party - Harold A. Cotton

Surveyed by - Earle A. Deily

Protracted by - Earle A. Deily and

Soundings plotted by - Earle A. Deily  
C.R. Bush

and J.W. Walker

Verified and inked by - E.C. McDonald

1. The records conform to the ✓ requirements of the general instructions.
2. The plan and character of development fulfill the requirements of the general instructions.
3. The plan and extent of development satisfies the ✓ specific instructions.
4. There are no series of cross lines on this sheet ✓ but where crossings ~~are found~~

- occur, they are found to be satisfactory.
5. The usual depth curves can be completely drawn within the limits of the sheet.
  6. The field plotting was not completed, however the sheet was finished in the office and the entire plotting was found to be satisfactory except as noted on statistic sheet.
  7. The office draftsman did not have to do over any part of drafting done by field party.
  8. There are no contemporary adjacent sheets at this time.

Respectfully submitted,  
E. C. McGlosson

## SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5234 A & B.  
Sandy Hook Bay and Main Channel, Sandy Hook, New Jersey.  
Surveyed Nov. - Dec. 1932.  
Instructions dated September 24, 1932 (Inspector N. Y.).

Chief of Party - H. A. Cotton.  
Surveyed by - Earle A. Deily.  
Protracted by - E. A. Deily and C. R. Bush.  
Soundings plotted by E. A. Deily and J. T. Walker.  
Verified and inked by - G. C. McGlasson.

1. The records conform to the requirements of the Hydrographic Manual.
2. The plan and extent of development satisfy the specific instructions and the requirements of the Hydrographic Manual. (see memorandum by A. L. S.).
3. Soundings are consistent. There is no system of cross lines. Drift sounding with recording of characteristic soundings was resorted to as additional development where necessary. The Descriptive Report under "Dangers" gives a list of such spots with a reference to the records in which the work was recorded.
4. Depth curves can be drawn satisfactorily. The apparently inconsistent curves in a few places in or near the channels are probably due to past dredging operations and are generally supported by former surveys.
5. Junctions. There are no contemporary surveys in this vicinity.
6. Comparisons with H. 3777 (survey of 1915) shows fair agreement in general features with many changes in details. The high water line at Sandy Hook Point has receded eastward and extended northward. The area of the shoal water north-eastward is less extensive and the crest seems to have moved to the eastward. False Hook Channel has about 4 feet less water with slightly more water over the shoal area to the eastward of it. The controlling depth in main channel has been reduced to 27 feet as noted in the Descriptive Report.

Sandy Hook Bay (H. 1712 surveyed in 1886) is in good agreement except close inshore and in the channel leading to Highland where many changes have taken place.

Charts 543 and 369 show many changes from the earlier surveys due to improvement of water front and channels. The wreck at the entrance to the Shrewsbury River has shifted to northward and a larger area of the bar bares at low water.

7. The field drafting was generally good. However, there was some carelessness in the use of symbols. Symbols for can and nun buoys were transposed and mixed, the latter were corrected on the smooth sheet. Most of the soundings were penciled on the smooth sheet in the office. The survey seems to have been carefully made and is satisfactory.

*In charting*  
*Retain shoal spots*  
*on English survey of Sept, 32*  
*not covered by this*  
*survey*  
*S.L.T.*

H. 5234 A & B.

8. Recommendation. This sheet (H. 5234a and 5234b) should supersede all previous surveys for charting the area covered by it.

No further surveys are deemed necessary at this time. Certain parts of the area covered by the sheet are changeable in nature also channels may be further improved in the future.

9. Reviewed by R. J. Christman - May 15, 1933.

10. Sheet Inspected by A. L. Shalowitz

Memorandum by A. L. Shalowitz.

1. Additional work is required as follows:

a. In the main channel to Highlands.

The controlling depth in this channel is uncertain due to a lack of development in its most critical part - across the bar at the entrance. This was particularly called for in the S. I. (par. 6). The spacing of the lines here are wider than in any other part of the channel and it is highly doubtful whether the 6 foot curve can be shown open here. There should also be more development between buoys N2 and N4.

The three charted shoals spots (bare at low water) about 250 meters northwest of buoy N2 and reported in letter 647-1932 are not considered sufficiently disproved to warrant removal from the charts, particularly the middle one and the easternmost one which fall between two sounding lines that were run with a 2 and 3 foot tide. The only evidence of their non-existence is the statement in the Descriptive Report that "they were thrown up by the dredges working in this area previous to undertaking this survey but storms and tidal action have caused them to disappear". It should also be noted that only a period of two months had elapsed between the reporting of these shoals and the present survey.

More development should also have been made between buoys N2 and C1 to determine the 6 foot curve on the west side of the channel and the 6 foot curve on the east side of the channel in the vicinity of the 4 foot spot. It is such places as have been mentioned in the foregoing paragraphs that are the critical points of a survey and should be concentrated on if necessary at the expense of lesser important areas.

It is recommended that the present delineation on chart 543 across the bar at the entrance to the main channel to Highlands be retained until a further examination is made.

b. In the south channel to Highlands.

This channel should be more completely developed particularly in the area to the north of O School.

H. 5234 A & B.

Memorandum by Chief Section of Field Records.

This survey neglects such important features as the delineation of channel limits and depths across bars although the instructions mention development of the channels to the Highlands. There is no divergence from the usual spacing of lines when the system crosses these channels, nor is there any development of them by lines parallel to their direction. The information in their vicinity is entirely inadequate for charting.

In view of the fact that Lieut. Deily was in charge of the hydrographic party it is suggested that this criticism be called to his attention in order to advance his appreciation of charting and navigational requirements. It is considered that such action will be helpful to him in future work.

*L. O. Colbert.*

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

Approved:-

*W. H. ...*  
Chief, Division of Charts.

*G. H. ...*  
Chief, Div. of H. & S.

*J. B. ...*  
Chief, Section of Field Work



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5234<sup>b</sup>

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. B

REGISTER NO. 5234<sup>b</sup>

State New Jersey

General locality Sandy Hook

Locality North of Sandy Hook Bay

Scale: 10,000 Date of survey Nov. & Dec., 1932

Vessel New York Field Station

Chief of Party Harold A. Cotton

Surveyed by Earle A. Deily, H. & G. E.

Protracted by Earle A. Deily, H. & G. E., C. R. Bush

Soundings penciled by Earle A. Daily

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated September 24, 1932

Remarks:



Mr. Ellis

2ac

December 12, 1934.

Division of Hydrography and Topography:

✓ Division of Charts:

E.P. Ellis

Tide Reducers are approved in  
2 volumes of sounding records for

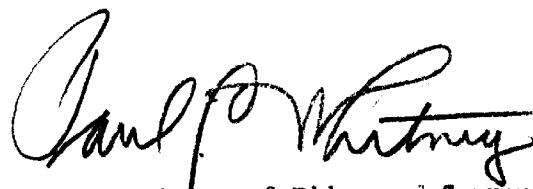
HYDROGRAPHIC SHEET 5234a(Additional Work)

Locality Sandy Hook Bay and Main Channel, N. J.

Chief of Party: E. R. McCarthy in 1934  
Plane of reference is mean low water, reading  
1.8 ft. on tide staff at Sandy Hook  
9.4 ft. below B.M. 2

Height of mean high water above plane of reference is 4.7 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

5-21-69 chest 544 HR

5234a

Additional work

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES  
DEC 18 1934  
Acc. No. \_\_\_\_\_

5234a

Additional work

Form 504  
Ed. June, 1928

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

State: New Jersey

DESCRIPTIVE REPORT  
5234a

{  
 Typographic }  
 Hydrographic } Sheet No. 5234a  
 Additional Work

LOCALITY

Sandy Hook

Sandy Hook Bay to Main Channel

1934  
Additional work  
CHIEF OF PARTY

E. R. McCarthy

DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT  
to accompany  
ADDITIONAL WORK  
on  
HYDROGRAPHIC SHEET  
No. 5234a

NEW JERSEY

1934

SHORE PARTY No. 14

E. R. McCARTHY,  
Lieutenant (j.g.)  
CHIEF OF PARTY.

DESCRIPTIVE REPORT

to accompany

Additional Work on Sheet No. 5234a.

AUTHORITY:

Instructions of Director dated May 10, 1934.

LIMITS:

Development work on Sheet No. 5234a - vicinity of  
Sandy Hook.

METHODS:

Usual methods for hand lead sounding. Positions was  
fixed by sextant angles on known points and soundings were taken  
with wire centered lead line.

AGREEMENT WITH ORIGINAL WORK:

The area at the entrance to the Shrewsbury River was  
developed in order to investigate changes reported by local water-  
men. It was found that the new soundings agreed quite well except  
that the channel had shifted somewhat. ✓

The area in the vicinity of Sandy Hook Bight was develop-  
ed with 50 meter lines as this is used considerably by the Coast  
Guard and it was felt that additional work was desirable. ✓

In the area of Sandy Hook, some additional development  
work was done but no new shoals were found. It is the belief of  
the writer based on some observations and from reports of local  
fishermen and pilots that the shoals in this area are constantly  
shifting and changing in area and depth. ✓

In the area east of Sandy Hook some development was done and the sheet squared off to join with Sheet No. 8 (1934 work).

There is no entrance to Spermacetti Cove as the channel has filled in. At high water a small boat may enter thru a break in the bulkhead.

LANDMARKS:

The landmarks as shown on the chart are correct except that the Postal Tower in the vicinity of Navesink Light has been removed.

MISCELLANEOUS:

Statistics are attached.

The hydrography was done by the launch "Nanuk". R. A. Philleo in charge and plotted on the original sheet in Washington by T. R. Felts.

Respectfully submitted.

*E. R. McCarthy*

E. R. McCarthy,  
Lieutenant (jg.) C. & G. Survey,  
Chief of Party.

STATISTICS SHEET No. 5234a.

Launch - - - Sheet No. 5234a.

( Sandy Hook Bay)

Day	Date	Mileage	Soundings	Positions
a	9- 13 - 34	9.5	401	101
b	9- 14 - 34	3.2	134	28
c	9- 21 - 34	3.7	145	39
d	9- 26 - 34	11.1	340	89
e	10-10 - 34	4.1	102	20
f	10-17- 34	7.0	290	72
g	10-18 - 34	3.5	121	36
Totals		42.1	1533	385

TIDAL NOTE TO ACCOMPANY SHEET #5234a

The standard tide gage at Sandy Hook was used for the reduction of all soundings.

In the area north and east of the Hook the reducers were entered directly from the tide curve.

In the Shrewsbury River Entrance a correction of plus fifteen minutes and 0.9 range was made based on the 1932 observations.

Position of Sandy Hook Tide Gage.

Long.  $74^{\circ} 00.7'$   
Lat.  $40^{\circ} 28.0'$

Mean Low water - 1.8 ft. on staff.

*ER Mc Carthy*

E. R. McCarthy,  
Lieutenant (j.g.) C. & G. S.  
Chief of Party.



MEMORANDUM BY CHIEF OF PARTY TO ACCOMPANY REPORT FOR SHEET No. 5234a.

The records and boat sheet have been under constant supervision. The area is now completed except for Spermacetti Cove, but as this has no importance, since the entrance now bares at low water it was not sounded out.

*E. R. McCarthy*

E. R. McCarthy,  
Lieutenant (j.g.) U. S. G. S.  
Chief of Party

Sep - Oct 1934  
10000  
E.R. MCCARTHY  
R.A. Philleo

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. *H5234A* (Add'l Wk)

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

Number of positions on sheet	.. <i>385</i> ..
Number of positions checked	.. <i>34</i> ..
Number of positions revised	.. <i>NONE</i> ..
Number of soundings recorded	.. <i>1533</i> ..
Number of soundings revised	.. <i>12</i> ..
Number of signals erroneously plotted or transferred	.. <i>NONE</i> ..

Date: *Dec 19, 1934*

Verification by *M.S. GURNER* Time: *22 1/2* Hours

Review by *R.L. Johnston* Time: *6 1/2* hrs

# ✓ Verification Report - H 5234 A - Additional Work ✓

## I Conformity to Hydrographic Manual

The records are neat and legible, and conform to the requirements of the Hydrographic Manual

## II Depth Curves

The usual depth curves are completely drawn, using the additional work as the deciding authority where variances occur. Such soundings on the 1932 survey ~~which~~ <sup>as</sup> disagreed with the curves as determined by the additional work were changed to purple in color.

## III Field and Office Plotting

The field plotting was well done. A careful comparison with the Boat Sheet and replotting of all doubtful positions failed to disclose any positions misplotted.

## IV Junctions

None

## V Remarks

1. At the entrance to Shawaberry River, the channel ~~apparently~~ seems to be shifting to the westward and the depths average about one foot greater. North of Sandy Hook, the changes are not clearly delineated, and substantiate the theory of constantly shifting shoals.
2. The ~~buoy positions in Sept 1934~~ show entirely in Red as located in Sept 1934. Three pronounced changes are noticed, i.e., Bell Bury, H4, and C1, all near Spinnaceti Cove.

Respectfully Submitted,  
Frank J. [Signature]

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5234 a (Additional Work, 1934)

Sandy Hook Bay and Main Channel - Sandy Hook - New Jersey.  
Instructions dated May 10, 1934 (E.R. McCarthy)  
Date of Survey Sept. 13 to Oct. 18, 1934.

Hand Lead Soundings - - - - - 3-Point Fixes on Shore Signals.

Chief of Party - E.R. McCarthy  
Surveyed by - R.A. Philleo  
Protracted and soundings penciled by T.R. Felts  
Verified and inked by - M.S. Gurnee

1. Purpose of Survey.

The purpose of this additional work was to further develop certain areas noted in the review of the original survey, H-5234 a (1932)

2. Results of Survey.

(a) In the main channel to Highlands.

The additional sounding lines develop this channel very well. The 6 foot curve on the east and west side of the channel between buoys N 2 and C 1 is now well determined. The controlling depth in this channel now appears to be 7 feet.

The three shoal spots (bare at low water) about 250 meters northwest of buoy N 2 were reported in chart letter 647 - 1932. There is a statement in the 1932 Descriptive Report that "They were thrown up by dredges working in the area previous to undertaking this survey but storms and tidal action have caused them to disappear". The additional work done in this vicinity proves their non-existence at the present time. They have already been removed from the chart.

(b) In the south channel to Highlands.

A more complete development of this channel in the area northward from School, was recommended in the 1932 review. This work was not accomplished.

(c) Sandy Hook Bight.

Additional sounding lines were run in the vicinity of the wharf south east from Sandy Hook Point.

(d) North and East from Sandy Hook.

Other additional development was done on the shoals north and east from Sandy Hook. No new shoals were found and the work is in fair agreement with the soundings of 1932. The chief of party believes that these shoals are constantly shifting.

3. Superseding Previous Work.

From a comparison of the 1932 work and the 1934 work, it is evident that some changes have taken place in the various areas. These soundings of the 1932 work that are considered as being superseded by the later work have been shown in purple. The new locations of the various buoys are shown in red.

4. Reviewed by R.L.Johnston Dec. 1934.

Inspected by - A.L.Shalowitz

Examined and approved:

Chas K. Green, *C. K. Green*  
Chief, Section of Field Records.  
*H. Borden*  
Chief, Section of Field Work

*R. O. Lobbut*  
Chief, Division of Charts  
*G. W. Tude*  
Chief, Division of H. and T.

Chart Division

22-AB  
1990 (14)

*Expedite*

*KTA*  
*Place in JR*

December 11, 1934.

To: Lieutenant (j.g.) E. R. McCarthy,  
U. S. Coast & Geodetic Survey,  
P. O. Box 468,  
Miami, Florida.

From: The Director,  
U. S. Coast & Geodetic Survey.

Subject: Hydrographic Sheet 5234a. ✓

Referring to your request of November 26 for a photostatic copy of sheet No. 5234a for your use in preparing descriptive report on the additional work accomplished by your party and plotted in this office by Mr. Felts, you are informed that a photostatic copy will not show clearly the additional penciled work.

It has been decided therefore to verify and ink the sheet in this office and send you a copy of the review with a copy of the sheet. You will then be in a position to include in the report information that will help to clear up any problems that arise in connection with the review.

(Signed) R. S. PATTON

Director.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5234a*

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

Number of positions on sheet	<i>2170</i>
Number of positions checked	<i>43</i>
Number of positions revised	<i>9</i>
Number of soundings recorded	<i>7291</i>
Number of soundings revised	<i>52</i>
Number of signals erroneously plotted or transferred	<i>None</i>

Date: *8 May 1933*

*Jr.* Cartographer: *A. C. McGlosson*

Applied to Drawing of Chart 543, May 1935, H.B.