

6330

U. S. COAST & GEODETIC SURVEY
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Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, Director

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 6330
Hydrographic }

~~Approaches to New York~~

State New York - Rhode Island

LOCALITY
South of Block Island Sound
~~022 Long Island & 029 Block Island~~
Block Island to Montauk Point

193 8

CHIEF OF PARTY

Raymond P. Eymann

6330

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 403

REGISTER NO. H-6330 H 6330

State New York - Rhode Island

General locality South of
~~Off Long Island and Off~~ Block Island Sound

Locality Block Island to Montauk Point

Scale 1: 40,000 Date of survey Aug. 4 - Sept. 26, 1938

Vessel LYDONIA

Chief of Party Raymond P. Eyma

Surveyed by Ship's Officers (E. O. Heaton)

Protracted by William R. Jackson

Soundings penciled by William R. Jackson

Soundings in ~~Fathoms~~ feet Feet

Plane of reference M.L.W.

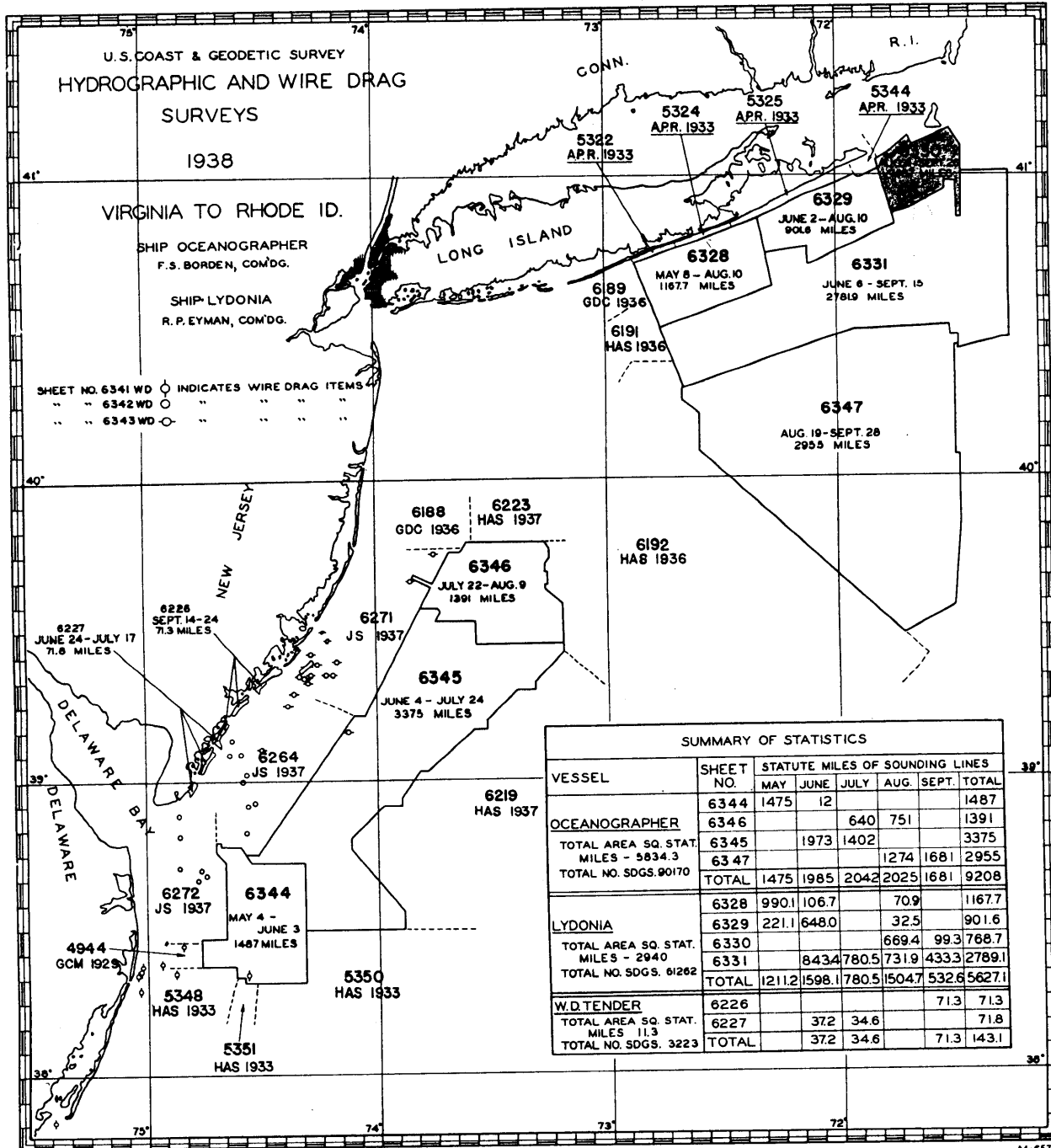
Subdivision of wire dragged areas by —

Inked by Harold W. Murray

Verified by ''

Instructions dated April 9, 1936 & March 4, 1938, 19

Remarks: _____



DESCRIPTIVE REPORT

To Accompany

SHEET NO. 6330 (Field No. 403)

INSTRUCTIONS.

The survey was made in accordance with Instructions from the Director dated April 9, 1936 and Supplemental Instructions dated March 4, 1938.

LIMITS.

The sheet represents an area lying south of a line joining Montauk Point and Block Island Southeast Lighthouse. It is roughly defined by four corners, as follows: Lat. $41^{\circ}03'$, Long. $71^{\circ}50'$ in the north-west; Lat. $41^{\circ}09'$, Long. $71^{\circ}30'$ in the north-east; Lat. $40^{\circ}51'$, Long. $71^{\circ}28'$ in the south-east; and Lat. $40^{\circ}52'$, Long. $71^{\circ}44'$ in the south-west.

The sheet joins sheet No. 6331⁽¹⁹³⁸⁾ along its southern edge and sheet No. 6329⁽¹⁹³⁸⁾ along its western edge.

SURVEY METHODS.

The whole hydrographic survey was made by means of visual fixes on shore objects and survey buoys. All soundings were taken with the Dorsey fathometer No. 1. The survey buoys were located by taut wire measurements and sun azimuths, adjusted between three point fixes. Further information on the buoy traverse can be found in a separate report on that subject. (see descriptive report sheet No 6331)

DISCREPANCIES.

There are no discrepancies in locations of triangulation stations or topographic signals. There are no discrepancies in the buoy positions, beyond the scope of the buoys.

Discrepancies in soundings at crossings are few and of small amount. An analysis of the crossings is approximately as follows:

66% of crossings are in perfect agreement.

22% differ by 1 foot.

10% differ by 2 feet.

2% differ by 3 feet or slightly over.

The crossings showing a discrepancy of 3 feet or more are

as follows:

A three foot discrepancy in Lat. $41^{\circ} 01.4$, Long. $71^{\circ} - 40.2$, between positions 78 - 79D (158 ft.) and 82F (161 ft.). A slight displacement of one sounding interval would reduce this discrepancy to 1 or 2 feet.

A $3\frac{1}{2}$ foot discrepancy in Lat. $41^{\circ} - 02.7$, Long. $71^{\circ} - 41.7$, Pos. 109 - 110D (146 $\frac{1}{2}$ ft.) and 40 - 41H (143 ft.). Here the bottom has considerable slope and a small shift in position will account for most of the difference.

A three foot discrepancy in Lat. $41^{\circ} - 02.5$ Long. $71^{\circ} - 32.4$, positions 30 - 31D (141 ft.) and 148 - 149H (138 ft.). A displacement will help some.

A 3 foot discrepancy in Lat. $40^{\circ} - 59.5$, Long. $71^{\circ} - 32.2$, positions 49 - 50B (159 ft.), and 154 - 155H (162 ft.). A small displacement of either line will reduce the difference.

A $2\frac{1}{2}$ foot discrepancy in Lat. $41^{\circ} - 02.9$, Long. $71^{\circ} - 31.3$, positions 32 - 33D (141 $\frac{1}{2}$ ft.), and positions 161 - 162H (138 - 139 ft.). A small horizontal displacement will account for most of the difference.

A 3 foot discrepancy in Lat. $40^{\circ} - 58.5$, Long. $71^{\circ} - 47.6$, positions 66 - 67D (114 $\frac{1}{2}$ ft.) and 88M (111 $\frac{1}{2}$ ft.). A displacement of one sounding interval will account for most of this difference.

COMPARISON WITH OTHER SURVEYS.

The junction with Sheet No. 6329⁽¹⁹³⁸⁾ on the west is very satisfactory. Will be considered in rev. of H-6329.

The junction with Sheet No. 6331⁽¹⁹³⁸⁾ on the south is also very satisfactory.

The junction with Sheet No. 5344⁽¹⁹³³⁻³⁴⁾ is satisfactory. Difference of 2 or 3 feet occur in places, which are probably due to irregular bottom. In Lat. $41^{\circ} - 02.6$, Long $71^{\circ} - 48.5$, the present survey shows a sounding of 39 feet while the older sheet shows 44 feet as the least depth.

See Rev.
part. 4c.

COMPARISON WITH CHART 1211.

Many of the soundings on the chart are in exact agreement with those on sheet 6330; however, there are numerous instances where the soundings disagree. In portions of the chart where the bottom has considerable slope, some discrepancy is to be expected. However, several soundings can not be explained in that manner. A partial list of discrepancies follows:

Sdg. on Chart #1211	Sdg. on Sheet in same place or nearby	Latitude	Longitude	Authority
34 ft.	66 ft.	41°- 07.66	71°-34.15	H-4041(1918-19)W.D. Carried forward.
55	101	41 - 04.25	71 - 32.30	See Rev., par. 7a. Retain on Chart ✓
64	8264	41 - 04.66	71 - 29.87	Verified
60	71	41 - 06.75	71 - 35.73	H-2227(1896), carried forward
60	67	41 - 06.88	71 - 37.75	H-84(1839) Disregard, See Rev., par. 5a
64	77	41 - 06.43	71 - 35.02	H-2227(1896). Shoal line, disregard. See Rev., par. 5d(4).

The last sounding in the above list, 64 ft. falls between two sounding lines on the sheet. No development of this spot was made to disprove the existence of the shoaler sounding but it is planned to make the development in the coming season. ✓

DANGERS.

No dangers were found whose existence was not known already. The ship hydrography was run only up to the danger areas off Montauk Point and Block Island. Hydrographic and wire drag surveys of Endeavor Shoal and Southwest Ledge already exist. ✓

FATHOMETER SOUNDINGS.

For a detailed description of the method of making fathometer corrections see Descriptive Report to accompany Sheet (Field) No. 801, Register No. 6331.(1938) ✓

J. C. Bose
J. C. Bose.
H & G Engr.

LIST OF SIGNALS TO ACCOMPANY SHEET No. 6330 (403 - 1938)

Hydro. Name	Name	Location
MAS	Radio Mast (Mas)	Topo. Chart Let. 735, 1933.
RE	Radio Mast (Ire)	Topo. Chart Let. 735. 1933.
YON	Highest chimney, 6-story brick building.	Topo. Chart Let. 735, 1933.
FIN	Montauk Manor, Finial on highest tower, 1932.	Triangulation
CHIM	Eastermost house, large chimney, 1911	Triangulation
MON	Montauk Point Lighthouse, 1882-1932	Triangulation
CHY	Chim, 1912	Triangulation
EDGE	Edge ₂ , 1938	Triangulation
BAR	Barlows House Cupola, 1911	Triangulation
BLOCK	Block Island S.E. Light-house, 1874-1932	Triangulation
AB	Ab	Survey Buoy
BE	Be	" "
CY	Cy	" "
DO	Do	" "
ET	Et	" "
FU	Fu	" "
WIS	Wis	Whistle buoy
JA	Ja	Survey Buoy

74767

Statistics for Sheet 6330 (403)

U. S. C. & G. S. Ship L Y D O N I A

- 1938 -

<u>Day letter</u>	<u>Date 1938</u>	<u>Number of positions</u>	<u>Number of Soundings</u>	<u>Statute Miles</u>	<u>Volume Number</u>
A	Aug. 4	15	97	8.5	1
B	" 7	51	354	26.3	1
C	" 8	142	884	84.4	1
D	" 19	118	727	67.5	1 & 2
E	" 23	158	918	81.8	2
F	" 24	110	672	56.2	2
G	" 25	172	952	91.8	2 & 3
H	" 26	260	1400	130.5	3
J	" 27	30	163	14.7	4
K	" 28	251	1193	107.7	4
L	Sept. 9	32	139	11.5	4
	" 21	Date of Hurricane			
M	" 26	224	1044	87.8	4 & 5.
Totals		1563	8543	768.7	

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6330**

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

Number of positions on sheet	1563.
Number of positions checked	..3..
Number of positions revised	..0..
Number of soundings recorded	8543.
Number of soundings revised2.
Number of soundings erroneously spaced8.
Number of signals erroneously plotted or transferred✓

Date: **Aug. 18, 1939**

Verification by **Harold W. Murray**

Time: **34½ hrs.**

Review by

..

Time: **28 hrs.**

HYDROGRAPHIC SURVEY NO. H6330

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 5 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Vol.#1

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party None

Recoverable Station Cards (Form 524) ---

Special Chart for Lighthouse Service Yes
(Circular Nov.30, 1933)

Hydrography: Total Days 12 ; Last Date September 26, 1938

Remarks _____

Remarks

Decisions

	Remarks	Decisions
1		410718
2		410719
3		411715
4		410717
5		411716
6		411719
7	Location of tide gage	411715
8		410717 U S G B
9		410717
10		
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GEOGRAPHIC NAMES

Survey No. **H6330**

1060
1211

Name on Survey	A, On Chart No.	B, On previous survey No.	C, On U. S. Quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K
<u>Montauk Point</u>									1
<u>Montauk Manor</u>									2
<u>Block Island</u>									3
<u>Endeavor Shoals</u>									4
<u>Southwest Ledge</u>									5
<u>Block Island Sound</u>									6
<u>Old Harbor</u>									7
<u>Phelps Ledge</u>									8
<u>Great Eastern Rock</u>									9
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L. Heck 5/29/39

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT } No. H -6330
~~PHOTOSTAT OF~~ } ~~No. T~~

{ received April 26, 1939
 { registered May 17, 1939
 { verified
 { reviewed
 { approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
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62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
----	------------

✓ *TBR*

TIDAL NOTE
(Sheet No. 6330)

H6330

A standard automatic tide gage was maintained during most of the season on the east side of Block Island, R. I. at Old Harbor.

This standard gage was destroyed by the hurricane of September 21, 1938 and with it the record dating from September 1st.

A portable tide gage (automatic) was installed in place of the destroyed standard gage on September 24 and maintained until the end of the season on September 30, 1938.

For the standard gage, the datum plane of mean low water corresponded to a reading of 3.0 feet on the tide staff, as stated in a letter from the Director dated November 14, 1938, Ref. 30-FLM.

For the portable gage, from September 24 to September 30, a reading of 2.8 feet on the staff corresponded to the plane of mean low water. However, no work was done on this sheet between those dates.

In accordance with a letter from the Director dated October 20, 1938, Ref. 34-CS, the soundings taken during the interval for which the Block Island gage record was lost, were reduced by the record obtained at Newport, R. I.

Block Id. reducers were used from August 3 to August 28, 1938.

Newport, R. I. tide records were used from September 9 to September 26. A range factor of 0.9 was used to reduce the Newport records to Block Island.

No sounding was done from August 29 to September 8, inclusive.

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 10, 1939

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 6330

Locality Block Island to Montauk Point

Chief of Party: R. P. Eymann in 1938
Plane of reference is mean low water reading
3.0 ft. on tide staff at Block Island (standard gage)
ft. below B. M.
2.8 ft. on tide staff at Block Island (portable gage)
13.4 ft. below B.M. 3

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.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6330 (1938) FIELD NO. 403

Block Island to Montauk Pt., South of Block Island Sound
New York - Rhode Island

Surveyed in August - September 1938 Scale 1:40,000
Instructions dated April 9, 1936 and March 4, 1938
(LYDONIA)

Dorsey Fathometer Soundings. 3 Point fixes on shore signals
and survey buoys.

Chief of Party - R. P. Eyman.
Surveyed by - E. O. Heaton.
Protracted by - W. R. Jackson.
Soundings plotted by - W. R. Jackson.
Verified and inked by - Harold W. Murray.

1. Shoreline and Signals.

- a. This is an offshore survey and no shoreline is shown.
- b. Shore signals originate with triangulation stations and T-4767 (1933). The positions of the topographic signals were taken from a copy of Chart Letter 735 1933.

Buoy signals were located by taut wire measurements and sun azimuths adjusted between three point fixes. The buoy control data is filed in cahier marked "Buoy Control Data, Ship LYDONIA, R. P. Eyman, (Library No. S-1698)".

2. Sounding Line Crossings.

Agreement of sounding line crossings is very good. A detailed analysis is contained in the Descriptive Report, pages 1 and 2.

3. Depth Curves.

The usual depth curves may be satisfactorily drawn.

4. Junctions with Surveys.

- a. The junction on the south with H-6331 (1938) is excellent.
- b. The junction on the west with H-6329 (1931) will be considered in the review of that survey.

- c. The present survey joins H-5344 (1933-34) on the northwest. The bottom here is very irregular. In several instances shoaler areas with depths of around 40 feet drop immediately to 60 feet. Only a fringe of soundings have been added from the 1933-34 survey. For charting purposes, the present survey should be used to its limits and charting then continued from H-5344. The latter work may also be used to supplement the present survey in areas where the sounding line spacing is rather large.
- d. The junction with the surveys on the east and northeast will be considered when that work is received from the field.

5. Comparison with Prior Surveys.

- a. H-84 (1839) and H-86 (1839), 1:20,000.
H-100 (1842), H-101 (1844), H-162 (1845) and
H-670 (1859), 1:400,000.

Each of the above sparsely covered surveys cover portions of the present survey. They are among the first surveys made by this Bureau and contain no information not adequately covered by the present survey. They should be superseded by the present survey. Mention is made, however, of the 60-foot sounding (charted) in lat. $41^{\circ} 06.9'$, long. $71^{\circ} 37.7'$, which falls in depths of 68 feet on the present survey. This sounding is one of two soundings of like depth obtained on line. The development on the present survey is sufficiently close to disprove these soundings. Another 60 foot sounding (charted) in lat. $41^{\circ} 07.4'$, long. $71^{\circ} 33.6'$, falls in depths of 67 feet on the present survey. This 60 is one of several soundings of like depth obtained on line. The present survey development is sufficiently close to disprove these soundings.

- b. H-1396a (1878), H-1396b (1878), H-1397 (1878),
H-1529a (1882) and H-1787 (1887), 1:10,000 and
40,000.

A fringe of soundings from these surveys fall just within the present survey limits on the north and northeast. The depths are in general good agreement with the present survey. A 46 foot sounding (charted) originating with H-1397 (1878) in lat. $41^{\circ} 06.2'$, long. $71^{\circ} 40.6'$ falls in depths of 69

feet on the present survey. The 46 is a single sounding on line obtained on a position. The present survey development consisting of lines spaced 130 m. apart is not sufficiently close to disprove the 46 and it has, therefore, been carried forward. The present survey with this addition should supersede these surveys.

c. H-1558 (1882-83) and H-1782 (1887), 1:300,000.

These small scale surveys taken together cover the entire area of the present survey. They contain no information not adequately covered by the present survey and should be superseded.

d. H-2227 (1896), H-2228 (1895), H-2261 (1896), H-2262 (1896), and H-2313 (1897), 1:10,000, 1:20,000 and 1:40,000.

In general, a fringe of soundings from the above surveys fall just within the present survey limits on the north. Of the above surveys, most of the information on H-2261 and H-2262 have been re-plotted on H-2228 and H-2227 respectively. H-2227 with the addition of H-2262 covers the entire area of the present survey. The depths are generally in fair agreement with the present survey except that changes in bottom of 6 to 20 feet are noted in small areas on the northwest. Specific mention is made of:

- (1) The 34 foot sounding (charted) originating with H-2228 in lat. $41^{\circ} 01.9'$, long. $71^{\circ} 48.9'$ falls in depths of 46 feet on the present survey but is 200 m. north of two 39 foot depths. The 34 is a single sounding obtained on line. The old survey, however, shows several detached 36 and 37 foot spots nearby. The development on the present survey is sufficiently close to verify one or more of these features if they exist. The area, therefore, appears to have deepened and the 34 should be disregarded in future charting.
- (2) In lat. $41^{\circ} 04.0'$, long. $71^{\circ} 46.6'$, a 36 foot sounding on H-2227 agrees closely in position with another 36 foot depth on H-2262. These are the shoalest depths on a small ridge which falls in depths of about 55 feet on the present survey. The present survey, however, shows a similar ridge about 300 m. southwestward with a least depth of 39 feet. An examination of the records shows that a rather weak fix, two

signals of which were hydrographic stations, was used in this area on H-2262. It is probable that this fact, together with distortion in the paper on the old survey accounts for the change. The 36 foot depths should be disregarded in future charting.

- (3) A 60 foot sounding (charted) in lat. $41^{\circ} 06.8'$, long. $71^{\circ} 35.5'$, originating with H-2227 falls in depths of 72 feet on the present survey. The 60 is a single sounding obtained on line and is marked "OK" in the sounding records. The present survey line spacing of 100 m. is not considered sufficiently close to disprove the 60 and it has, therefore, been carried forward.
- (4) A 64 foot sounding (charted) in lat. $41^{\circ} 06.5'$ long. $71^{\circ} 35.0'$, originates with H-2227 and falls between lines spaced $3/4$ miles apart but in estimated depths of 77 feet. The 64 is one of 5 successive soundings of similar depths obtained on line. This line is considered to be too shoal because (1) A note in the sounding record states that the speed of the boat was increased 2 minutes before the first shoal sounding was obtained. It is possible that the leadsman had not adjusted the throw of the lead to the new speed. (2) Another sounding line on H-2227 crosses directly over the series of shoaler soundings and shows no evidence of them. Soundings on this second line, however, agree favorably with the present survey depths. These shoal soundings should be disregarded in future charting.

6. Comparison with Wire Drag Surveys.

H-3380 W.D. (1912), H-3907 W.D. (1916), H-4041 W.D. (1918-19) and H-4042 W.D. (1918-19), 1:20,000, 1:40,000, 1:50,000.

These wire drag surveys taken together cover a small portion of the present survey on the north. The effective depths do not conflict with the present survey except that in some instances the effective depth exceeds the present survey depths by 1 to 2 feet. For example, in lat. $41^{\circ} 02.6'$, long. $71^{\circ} 48.6'$, two 39 foot depths on the present survey are covered by a 40 foot strip on H-3907 W.D., and a 40 foot depth about 200 m. northwestward is covered by a 42 foot strip. These differences may be accounted for by the fact

that the drag strips may have had more lift than realized, and passed over the soundings without grounding.

Several drag soundings and groundings were carried forward on the present survey from H-4041. In lat. $41^{\circ} 07.0'$, long. $71^{\circ} 33.4'$, where the present survey shows depths of 64 to 70 feet, a grounding occurred at 54 feet. The grounding has not been brought forward as the actual position on the bottom wire was not given in the records. This area was later cleared at 48 feet. On H-3380 W.D., a 37 (charted), 38, 40 and 43 foot sounding obtained on a ridge about 1500 m. long in lat. $41^{\circ} 04'$, long. $71^{\circ} 46'$, were not carried forward, the present survey showing 48 to 55 feet in the former area but 39 to 46 foot depths about 300 m. southwestward.

Carried forward.
Confirmed by
later survey, H-
6443 (1939)
H.W.M. 6/21/40

7. Comparison with Chart 1211 (New Print dated April 17, 1939)

a. Hydrography.

Hydrography on the chart originates with surveys discussed in the preceding paragraphs except the 55 foot sounding in lat. $41^{\circ} 04.3'$, long. $71^{\circ} 32.2'$ which falls in depth of 99 feet on the present survey. This sounding should be retained on the chart as it is a wreck which showed at one time but was cleared of obstruction to 55 feet (See Notice to Mariners 23 of 1932 and 19 of 1933).

b. Aids to Navigation.

The buoy in lat. $41^{\circ} 01.7'$, long. $71^{\circ} 47.3'$ agrees closely with the charted position. The remaining two buoys off Block Island were located in positions differing about 225 m. from those charted. The aids as shown on the chart or on the present survey satisfactorily mark the features intended. The present survey position of the buoy in lat. $41^{\circ} 06.5'$, long. $71^{\circ} 40.5'$, however, is more desirable since it is further away from the shoaler depths to the northeastward.

8. Condition of Survey.

- a. The sounding records are neat and legible.
- b. The descriptive report is satisfactory.
- c. The field plotting is satisfactory.
- d. Additional bottom characteristics for charting purposes may be obtained from H-2262 (1896) and H-2227 (1896).

9. Compliance with Instructions for the Project.

Satisfactory.

10. Additional Field Work Recommended.

It would be desirable to have a closer development in the vicinity of the 54 foot grounding (H-4041) referred to in paragraph 6.


11. Superseded Surveys.

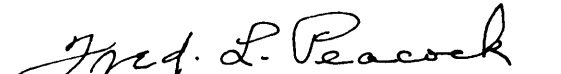
H-84	(1839)	In Part	H-1529a	(1882)	In Part
H-86	(1839)	" "	H-1558	(1882-3)	In Part
H-100	(1842)	" "	H-1782	(1887)	" "
H-101	(1844)	" "	H-1787	(1887)	" "
H-162	(1845)	" "	H-2227	(1896)	" "
H-670	(1859)	" "	H-2228	(1895)	" "
H-1396a	(1878)	" "	H-2261	(1896)	" "
H-1396b	(1878)	" "	H-2262	(1896)	" "
H-1397	(1878)	" "	H-2313	(1897)	" "


12. Reviewed by - Harold W. Murray, August 18, 1939.

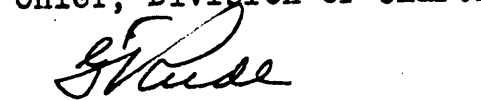
Inspected by - H. R. Edmonston, August 22, 1939.

Examined and approved:


T. B. Reed,
Chief, Section of Field Records.


Fred L. Peacock,
Chief, Section of Field Work.


K.T. Adams,
Chief, Division of Charts.


G. F. Wade,
Chief, Division of H.&T.

Applied to Cht. 1211

Apr. 17, 1940

K.P.

Applied to Chart 70.

Aug 2, 1940.

F. A. Mulvaney,

" " " 362

Sept. 6, 1949

Goodrich

" " " 269

1951

L.A.M.

CHART 1210 EXTENSION

Applied JUNE 1964

S.R.M.