

8330 WIRE DRAG

Diag Cht. Nos. 369-5 and 1215-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Wire Drag

Field No. 2556 Office No. H-8330 W.D.

LOCALITY

State New York

General locality Entrance Channels, Lower Bay.

Locality New York Harbor

194 56

CHIEF OF PARTY

John C. Ellerbe

LIBRARY & ARCHIVES

DATE December 10, 1956

8-1870-1 (1)

8330
WIRE DRAG

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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.

REGISTER No.

Field No. 2556

State NEW YORK

General locality ENTRANCE CHANNELS, LOWER BAY
~~LOWER BAY, NEW YORK~~

Locality NEW YORK HARBOR
~~ENTRANCE CHANNELS, LOWER BAY~~

Scale 1:25,000 Date of survey 24 SEPT.-10 OCT. 1956

Instructions dated 12 SEPTEMBER - PROJECT NO. 10,000-803 .

Vessel WAINWRIGHT & HILGARD

Chief of party John C. Ellerbe

Surveyed by WAINWRIGHT & HILGARD

Soundings taken by ~~fathometer, graphic recorder, hand lead,~~ wire

Fathograms scaled by Don A. Jones

Fathograms checked by Jack E. Guth

Protracted by Jack E. Guth
W.D. Smaath Sheet - Field party

Soundings penciled by ~~Jack E. Guth~~ I.M. Zeskind

Soundings in fathoms feet at MLW ~~MLW~~ and are true depths.

REMARKS: A & D Sheet plotted in the Washington Office.

DESCRIPTIVE REPORT

PROJECT 10,000-803-WD

WIRE DRAG FIELD SHEET NO. WA-HI ~~12~~2556,WD

NEW YORK, LOWER BAY 1956

SCALE 1:25,000

John C. Ellerbe, Chief of Party

1956

A. PROJECT

Instructions dated 12 September 1956, WAINWRIGHT - HILGARD,
Project 10,000-803, Special Wire Drag Survey for the U. S. Engineers
*and Director's letter dated 9-26-56 (See letter C.O. Wainwright & Hilgard
dated 9-24-56)*

B. SURVEY LIMITS AND DATES

Survey includes Lower New York Harbor ship channels from
Latitude $40^{\circ} 24'N$ to Latitude $40^{\circ} 37'N$ and Longitude $73^{\circ} 46'W$ to
Longitude $74^{\circ} 12'W$. Field work was started on 24 September 1956
and was completed on 10 October 1956.

C. VESSELS AND EQUIPMENT

The Ships WAINWRIGHT and HILGARD acted as Guide Launch and
End Launch respectively. A 36 foot Corps of Engineers Launch and
a 40 foot Coast Guard Boat were used as the drag tender. A 83
foot Coast Guard Patrol Boat and a 95 foot Coast Guard Patrol
Boat were available to control traffic.

- 2 -

The Ship WAINWRIGHT was equipped with fathometer No. 58S, the HILGARD with fathometer No. 139SP, and the tender with an unnumbered fathometer.

D. TIDE STATIONS

Hourly heights for the reduction of soundings were obtained from a standard automatic tide gage at Sandy Hook, N. J., and forwarded from the Washington Office.

E. SMOOTH SHEET

The End Launch Boat Sheet was used as the Smooth Sheet. The polyconic projection was made in the Washington Office and the shoreline and signals were penciled on in the Washington Office, and later inked on in the field.

Because the End Launch Boat Sheet was used for the Smooth Sheet, the End Launch position numbers are in ink. Time ticks have been shown on every fifth position except where none have been shown for clarity. The color scheme specified in the Wire Drag Manual has been used to indicate the drag strip outlines, effective areas, and effective depths.

The hydrographic development in vicinity of Buoy "9", Sandy Hook Channel (Latitude $40^{\circ} 28.9'$; Longitude $73^{\circ} 59.7'$) has not been plotted. This development was undertaken in the area where the submerged barge was last seen in an effort to locate the barge by fathometer indications. No soundings were taken by the wire drag tender, only general soundings, and none were plotted on the smooth sheet. Certain Aids to Navigation had been inked on the End Launch Sheet during the field work and the remainder of aids located on the survey were transferred from the Guide Launch Sheet and inked on the Smooth Sheet.

*Hydrog.
plotted on
cloth tracing
and attached
to this Desc.
Report.*

F. CONTROL STATIONS

Most control stations for the Wire Drag survey were plotted on the End Launch Boat Sheet in the Washington Office. Additional signals were located by sextant cuts and plotted on the Guide Launch Boat Sheet and then transferred to the End Launch Boat Sheet by tracing paper.

G. SOUNDINGS

All soundings were obtained by using 808 fathometers.

H. ADEQUACY OF SURVEY

This survey is considered adequate for the requirements of the U. S. Corps of Engineers and no further field work is considered necessary.

In addition to dragging the channels the Ship WAINWRIGHT made a hydrographic investigation south of Black Fl G "9" Gong Buoy to determine whether the dump scow "SEA DUCK" had settled in this area.

*See Hang Data
attached*

J. COMPARISON WITH CHARTS

In general the wire drag verified the charted channel depths (Chart 369). See Attachment No. 4 for a tabulation of hangs.

K. AIDS TO NAVIGATION

See Attachment No. 5

L. DANGERS AND SHOALS

In addition to the hangs mentioned in (J) several shoals were found.

As the End Launch ran the Northeast side of Ambrose Channel the 808 fathometer recorded shoals inside the channel of a lesser depth than the chart indicates. These shoals appeared to be soil deposits that have built up on the side of the channel and do not extend into the channel an appreciable amount. The locations are tabulated on Attachment No. 6.

*Review
TP 3*

M. FATHOMETER CORRECTIONS

(a) Bar Checks

Fathometer No. 58S was used on the Ship WAINWRIGHT for the Hydrographic Investigation. The bar checks of 4 August and 6 August were used to determine the fathometer correction. See Attachment No. 3.

(b) Initial

No initial correction was used.

N. TIME

Standard time, 60th Meridian, was used.

ATTACHMENTS

- No. 1 Statistics
- No. 2 List of Signals
- No. 3 Fathometer Corrections
- No. 4 Hang Data
- No. 5 Aids to Navigation
- No. 6 Shoals
- No. 7 Tidal Note

Submitted:

Jack E. Guth
Jack E. Guth
Lieutenant, C&GS

Approved and Forwarded:

John C. Ellerbe
John C. Ellerbe, CDR, C&GS
Chief of Party
per Don Jones

STATISTICS

<u>Volume Number</u>	<u>Day- Letter</u>	<u>Date</u>	<u>Number of Positions</u>	<u>Statute Miles</u>
		(WIRE DRAG)		
1	B	25 Sept. 1956	42	4.6
1	C	29 Sept. 1956	67	9.7
2	D	30 Sept. 1956	11	0.4
2	E	2 Oct. 1956	41	4.9
2	F	3 Oct. 1956	35	4.2
2	G	4 Oct. 1956	47	7.8
2 & 3	H	5 Oct. 1956	79	15.0
		(HYDROGRAPHY)		
1	A	24 Sept. 1956	73	10.6
		TOTALS	395	57.2

LIST OF SIGNALS

<u>Name</u>	<u>Source</u>
AND	Sextant Cuts
AWAY	Triangulation
CONE	Triangulation
GAT	Sextant Cuts
HAM	Triangulation
HARD	Triangulation
HIGH	Triangulation
HOFF	Triangulation
HOOK	Triangulation
NAVE	Triangulation
NORT	Triangulation
PIPE	Triangulation
REX	Sextant Cuts
ROME	Triangulation
ROW	Sextant Cuts
TALL	Triangulation
TOW	Sextant Cuts
WATE	Triangulation
WEST	Triangulation
WORT	Triangulation
YEL	Sextant Cuts

FATHOMETER CORRECTIONS

Ship WAINWRIGHT - Fathometer No. 58S - Initial Set at 2.0 feet

"A" Scale ~~+~~0.4 feet

"B" Scale -1.0 feet

HANG DATA

<u>Latitude</u>	<u>Longitude</u>	<u>Chart Depth</u>	<u>Hang Depth</u>	<u>Position No.</u>	<u>Cleared Depth</u>	<u>Position No.</u>
40° 27.98'	73° 55.68'	About 44	43 } <i>Pos. indefinite - not shown</i>	40B	38	18F <i>See Review</i> <i>TR 5.6</i>
40° 30.66'	74° 01.00'	About 20 ^s	16	12C	14	21E
40° 30.26'	74° 00.78'	About 20	13 } <i>temporary hang</i>	22C	14 14	23E Not plotted
40° 29.20'	73° 58.88' ^{78'}	About 28 ⁹	28	8 YD	23	4E - / <i>Pg 3</i> <i>Descript Rept</i>
40° 28.54'	73° 58.70'	About 23	19	6E	17	15E
40° 28.74'	73° 58.45' ⁰	About 30	24	7E	27 13	19C
40° 34.41'	74° 02.09'	43 ^{1/2}	39	21G	37	27G
40° 30.20'	73° 57.46'	42	39	48G	36	78H
40° 30.37'	73° 57.46'	44 ^{1/2}	40	40H	38	44H

AIDS TO NAVIGATION

<u>Object</u>	<u>Recorded by Ship</u>	<u>Vol.</u>	<u>Page</u>
False Hook Buoy C"3"	WAINWRIGHT	1	8
False Hook Buoy C"5"	WAINWRIGHT	1	9
Sandy Hook Channel "9" buoy	WAINWRIGHT	1	10
Chapel Hill N Channel "13" buoy	WAINWRIGHT	1	19
Swash Channel C"3S" buoy	WAINWRIGHT	1	20
Swash - Sandy Hook Channel RB Lt. buoy	WAINWRIGHT	1	22
Swash Channel C"1S" buoy	WAINWRIGHT	1	23
Sandy Hook - Terminal Channel RB Lt. buoy	WAINWRIGHT	1	26
Sandy Hook Channel "15" buoy	WAINWRIGHT	1	27
Sandy Hook Channel "13" buoy	WAINWRIGHT	1	29
Sandy Hook - South Channel "9" buoy	WAINWRIGHT	1	30
Sandy Hook - Gedney Channel BL&W S"C" buoy	WAINWRIGHT	1	31
Sandy Hook - Gedney Channel GR & W S "B"	WAINWRIGHT	1	31
Sandy Hook - Gedney Channel "7" buoy	WAINWRIGHT	1	31
Gedney Channel Spar w/cross buoy	WAINWRIGHT	1	32
Gedney Channel "5" buoy	WAINWRIGHT	1	32
Gedney Channel "3" buoy	WAINWRIGHT	1	32
Gedney Channel "1" buoy	WAINWRIGHT	1	33
South Channel "5" buoy	WAINWRIGHT	1	43
Swash - Sandy Hook Channel GR & W S "8"	WAINWRIGHT	1	50

(Continued on following page)

<u>Object</u>	<u>Recorded by Ship</u>	<u>Vol.</u>	<u>Page</u>
Lat. 40° 28.68'; Long. 73° 53.71' W & BL	WAINWRIGHT	2	6
Ambrose Channel "1A" buoy	WAINWRIGHT	2	10
Ambrose Channel "1" buoy	WAINWRIGHT	2	10
Ambrose Channel "3" buoy	WAINWRIGHT	2	10
Ambrose Channel "3A" buoy	WAINWRIGHT	2	10
Ambrose Channel "5" buoy	WAINWRIGHT	2	10
Ambrose Channel "5A" buoy	WAINWRIGHT	2	11
Ambrose Channel "7" buoy	WAINWRIGHT	2	11
Ambrose Channel "7A" buoy	WAINWRIGHT	2	11
Ambrose Channel "9" buoy	WAINWRIGHT	2	11
Ambrose Channel "11" buoy	WAINWRIGHT	2	11
Ambrose Channel "13" buoy	WAINWRIGHT	2	12
Ambrose Channel "15" buoy	WAINWRIGHT	2	12
Ambrose Channel "17" buoy	WAINWRIGHT	2	12
Ambrose Channel "19A" buoy	WAINWRIGHT	2	15
South Channel "2" buoy	HILGARD	1	4
South Channel GR & W S "C" buoy	HILGARD	1	5
Swash - Sandy Hook Channel GR & W s "D" buoy	HILG'D	1	5
Swash Channel buoy "6"	HILGARD	1	12
Sandy Hook Channel "16" buoy	HILGARD	1	20
Sandy Hook Channel "14" buoy	HILGARD	1	22
Sandy Hook Channel "12" buoy	HILGARD	1	22

(Continued on following page)

<u>Object</u>	<u>Recorded By Ship</u>	<u>Vol.</u>	<u>Page</u>
Sandy Hook - Swash Ch. R & Bl. Lt. buoy	HILGARD	1	24
Sandy Hook - Gedney Ch. GR & W S "E" buoy	HILGARD	1	25
Gedney Channel buoy "6"	HILGARD	1	26
Gedney Channel buoy "4"	HILGARD	1	27
Gedney Channel buoy "2"	HILGARD	1	27
Swash Channel buoy "4A"	HILGARD	2	12
Swash Channel buoy "4"	HILGARD	2	13
Swash Channel buoy "2S"	HILGARD	2	14
Ambrose Channel buoy "2A"	HILGARD	2	29 - 54
Ambrose Channel buoy "2"	HILGARD	2	29 - 54
Ambrose Channel buoy "4"	HILGARD	2	29 - 53
Ambrose Channel buoy "4A"	HILGARD	2	29 - 52 - 53
Ambrose Channel buoy "6"	HILGARD	2	29 - 51
Ambrose Channel Buoy "6A"	HILGARD	2	30 - 51
Ambrose Channel buoy "8"	HILGARD	2	30 - 51
Ambrose Channel buoy "8A"	HILGARD	2	30 - 50
Ambrose Channel buoy "10"	HILGARD	2	30 - 50
Ambrose Channel buoy "12"	HILGARD	2	30 - 50
Ambrose Channel buoy "14"	HILGARD	2	31 - 50
Ambrose Channel buoy "16"	HILGARD	2	31 - 49

(Continued on following page)

<u>Object</u>	<u>Recorded By Ship</u>	<u>Vol.</u>	<u>Page</u>
Ambrose Channel buoy "18"	HILGARD	2	31
Ambrose Channel buoy "19A"	HILGARD	2	35
Ambrose Channel buoy "17"	HILGARD	2	39
Ambrose Channel buoy "15"	HILGARD	2	39
Ambrose Channel buoy "13"	HILGARD	2	40
Ambrose Channel buoy "11"	HILGARD	2	40
Ambrose Channel buoy "9"	HILGARD	2	41
Ambrose Channel buoy "7A"	HILGARD	2	41
Ambrose Channel buoy "7"	HILGARD	2	41
Ambrose Channel buoy "5A"	HILGARD	2	41
Ambrose Channel buoy "5"	HILGARD	2	42
Ambrose Channel buoy "3A"	HILGARD	2	42
Ambrose Channel buoy "3"	HILGARD	2	42
Ambrose Channel buoy "1A"	HILGARD	3	1
Ambrose Channel buoy "1"	HILGARD	3	1
Ambrose Channel buoy "3"	HILGARD	3	2

SHOALS

(Extending into Ambrose Channel)
(See TPL, p 93)

Location in Ambrose Channel

Between buoys "16" & "14"

"8" & "6A"

"6A" & "6"

"4A" & "4"

TIDAL NOTE

The standard automatic tide gage at Sandy Hook, New Jersey was used for this entire project. Hourly heights were furnished from the Washington Office and smooth curves drawn by the personnel of the Ships WAINWRIGHT and HILGARD

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8330WD

FIELD NO. WA-HI-2556

New York, Entrance Channels - Lower Bay, New York Harbor

Project No. 10,000-803

Surveyed - Sept. - Oct., 1956

Scale 1:25,000

Soundings:

Control:

808 Fathometer

Sextant fixes on
shore signals

Chief of Party - J. C. Ellerbe

Surveyed by - J. C. Ellerbe, D. A. Jones, J. E. Guth and
C. E. Fuller

Protracted by - I. M. Zeskind (Hydrography)
J. E. Guth (Wire-drag)

Soundings plotted by - I. M. Zeskind

Verified and inked by - I. M. Zeskind

Reviewed by - I. M. Zeskind 1-9-57

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline was transferred to the present survey from chart 369 dated August 20, 1956, except at the north end of Sandy Hook, where a change in the shoreline is shown in black on the present survey.

The source of the control is given in the Descriptive Report.

2. Junctions with Wire Drag Surveys

There are no contemporary wire-drag surveys within the area of the present survey.

3. Comparison with Hydrographic Surveys

H-7864 (1950), 1:10,000

H-7866 (1950), 1:10,000

The effective depths of the present wire-drag survey do not conflict with the depths on the above listed hydrographic surveys.

The hydrography northeast of Sandy Hook obtained during the present wire-drag survey is shown on an overlay which is attached to the Descriptive Report. A comparison between the present survey and the above listed prior hydrographic surveys shows changes in bottom configuration, as for example, in lat. 40°28.8', long. 73°59.1' where present depths of 35 ft. falls in prior depths of 50 ft.

4. Comparison with Chart 369 (Latest print date 8-20-56)

A. Hydrography

The charted hydrography originates with H-5735 (1934), H-6190 (1936), H-7864 (1950), H-7866 (1950) and after-dredging surveys by the U. S. Corps of Engineers of 1946-55.

The groundings obtained during the present wire-drag survey are listed on attachment No. 4 of the Descriptive Report. The following differences between the charted obstructions and the groundings on the present survey are noted:

1. The ^{9"}37-ft. obstruction charted in lat. 40°34.20', long. 74°02.15', from advance information of the present survey (chart letter 827, 1956), falls 60 meters north-westward of its location on the present survey.

2. The ^{35.4'}37-ft. obstruction charted in lat. 40°30.26', long. 73°57.43', from advance information of the present survey (chart letter 827, 1956), was hung by a wire-drag whose effective depth was 39 ft. and was cleared by a wire-drag whose effective depth was 36 ft.

3. The ^{49"}18-ft. obstruction charted in lat. 40°28.57', long. 73°58.82', from H. O. N. to M. No. 44, 1956, falls on the present survey 170 meters southeastward from its charted location. The obstruction was hung by a wire-drag whose effective depth was 19 ft. and was cleared by a wire-drag whose effective depth was 17 ft.

The following groundings which were obtained during the present wire-drag survey, fall in greater depths on the chart:

Hang ft.	Cleared depth ft.	Location		Charted depth ft.
		Latitude	Longitude	
40	38	40°30.37'	73°57.46'	43½ - 44½
24	13	40°28.74'	73°58.40'	about 30
28	23	40°29.09'	73°58.78'	29
16	14	40°30.63'	74°01.00'	about 25

Except for the groundings listed in the above paragraph, there are no other conflicts between the charted hydrography and the effective depths of the present wire-drag survey. These groundings should supplement the charted depths. However, the end launch observed depths shoaler than the charted depths inside the northeast edge of Ambrose Channel. (See par. L, pg. 3 and attachment No. 6 of the Descriptive Report.). These depths were not recorded.

B. Aids to Navigation

The present survey positions of aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended, except that the lighted red and black buoy, charted in lat. $40^{\circ}28.35'$, long. $74^{\circ}02.33'$, is located on the present survey about 126 meters northwestward of its charted position. In its charted position the buoy more adequately marks the feature intended.

5. Condition of Survey

- a. The Descriptive Report is complete and comprehensive.
- b. The information recorded in the sounding volumes is adequate, except for the location of a 43-ft. grounding in the vicinity of lat. $40^{\circ}27.98'$, long. $73^{\circ}55.69'$ which could not accurately be determined because of the lack of data in the wire-drag records. The vicinity of the grounding was cleared by a wire-drag whose effective depth was 38 ft. Inasmuch as the grounding falls in comparable charted depths and its exact location could not be determined, the grounding is not shown on the present wire-drag survey.
- c. The A and D sheet and the hydrography northeast of Sandy Hook were smooth-plotted by the Washington Office. The wire-drag sheet was neatly smooth-plotted by the field party, except as follows:
 1. Groundings were not encircled on the smooth sheet.
 2. In several instances the drag bights were smooth plotted either too long or too short. These discrepancies were corrected during the verification of the smooth sheet.

6. Project Instructions

This survey adequately complies with the Project Instructions.

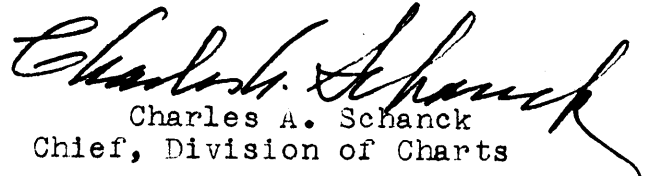
7. Additional Field Work Recommended

No additional field work is recommended.

Examined and Approved:



Max G. Ricketts
Chief, Nautical Chart Branch



Charles A. Schanck
Chief, Division of Charts



Karl B. Jeffers
Chief, Hydrography Branch



Samuel B. Grenell
Chief, Division of Coastal Surveys

GEOGRAPHIC NAMES

Survey No. H-8330 W.D.

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
									1
									2
									3
									4
									5
									6
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									27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8330.W.D.

Records accompanying survey:

Boat sheets ...1.; sounding vols. ...3.; wire drag vols. .5...;
 bomb vols.; graphic recorder rolls 1-Envelope
 special reports, etc. .1-Descriptive report, .1-Smooth sheet,...
 ..1-Smooth tender record, 1-Photostat of Project, and
 1-Film positive of Chart 369 (4 sections): 1-A & D Sheet.

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

		Hydro	WD
Number of positions on sheet		73	348
Number of positions checked		10	48
Number of positions revised		0	5
Number of soundings revised (refers to depth only)		2	-
Number of soundings erroneously spaced		0	-
Number of signals erroneously plotted or transferred		0	-
Topographic details	Time	1	
Junctions	Time	0	0
Verification of soundings from graphic record	Time	1	0
Smooth-plotting A & D Sheet	Time	20	1-4-57
Smooth-plotting Hydro Sheet	Time	2	1-4-57
Verification by <i>W. J. J. J.</i>	Total time	36	1-2-57
Reviewed by <i>W. J. J. J.</i>	Time	69	Date 1-9-57
* { Penning Hydrog. Sheet Rough draft A & D Sheet			

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens:

13 December 1956

Plane of reference approved in

8 volumes of ~~Sounding Records~~ wire drag and sounding records for

HYDROGRAPHIC SHEET 8330

Locality Lower New York Harbor, N.Y.

Chief of Party: J. C. Ellerbe in 1956

Plane of reference is mean low water, reading

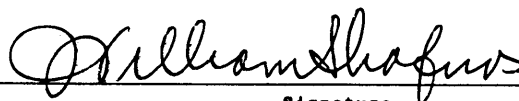
3.8 ft. on tide staff at Sandy Hook, N.J.

9.3 ft. below B.M. 2 (1923)

Height of mean high water above plane of reference is

4.6 feet.

Condition of records satisfactory except as noted below:



Signature

Chief, Tides Branch

40° 30' 01.00"

74° 00'

59' 00"

H - 8330 W.D.

HYDROGRAPHY

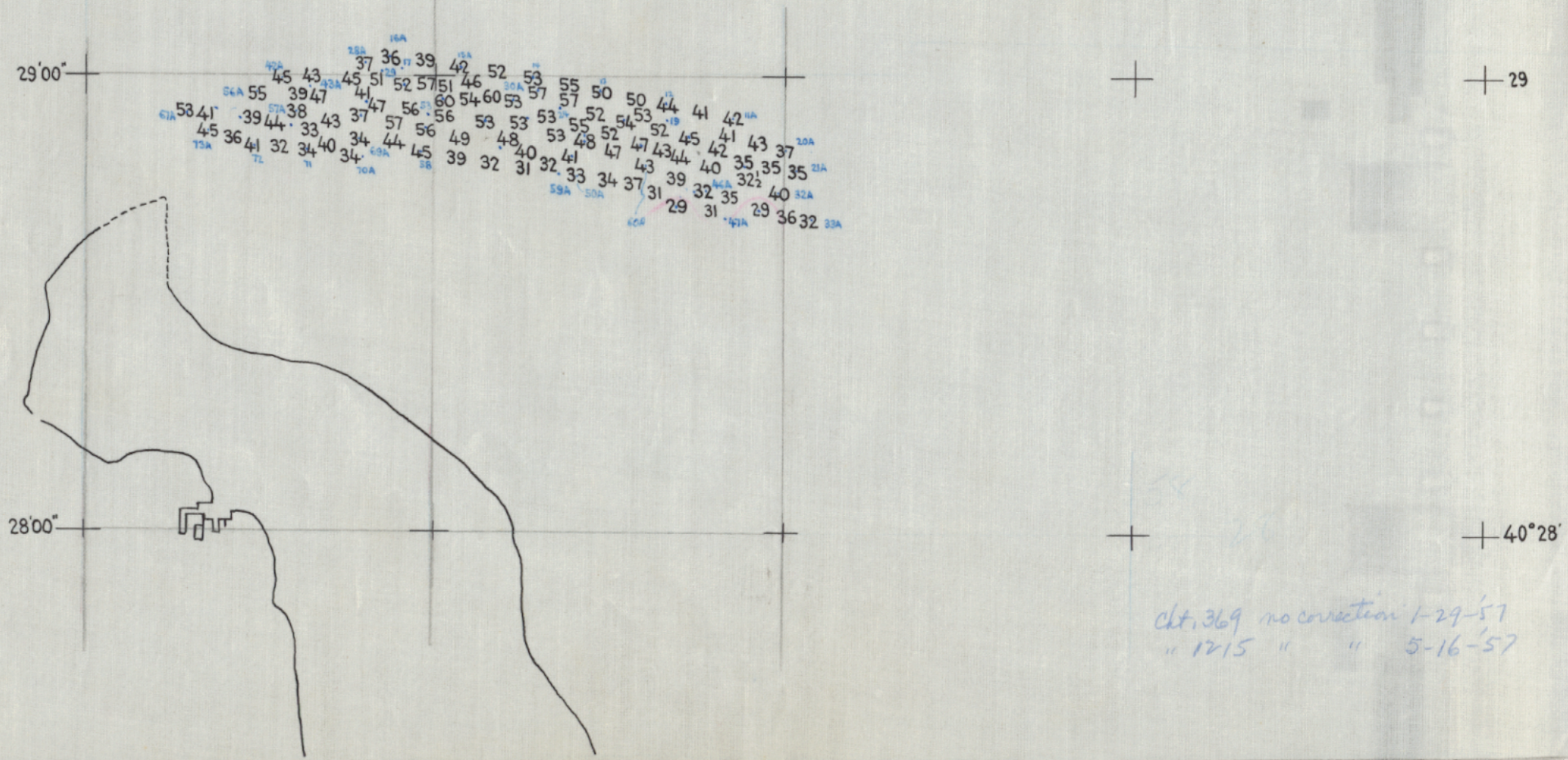
NORTHEAST of SANDY HOOK

Scale 1: 25,000

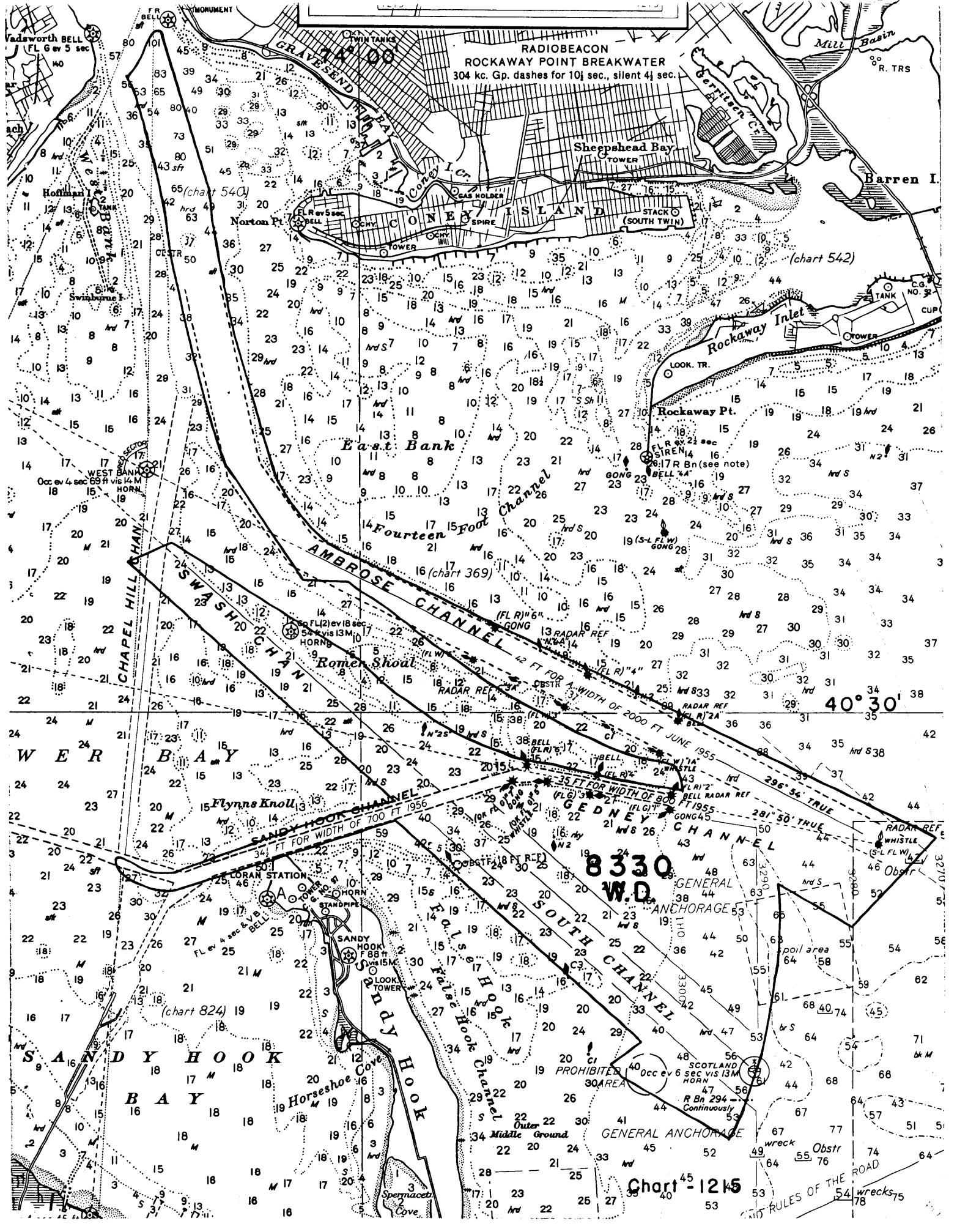
Ships- WAINWRIGHT & HILGARD

Sept.- Oct., 1956

Soundings in feet at MLW.



Ckt. 369 no correction 1-29-57
 " 1215 " " 5-16-57



RADIOBEACON
ROCKAWAY POINT BREAKWATER
304 kc. Gp. dashes for 10j sec., silent 4j sec.

CONEY ISLAND
(SOUTH TWIN)
STACK
TOWER

Rockaway Pt.
LOOK. TR.

40° 30'

8330
W.D.

Chart - 1245

