

8615

Diag. Cht. No. 1211-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No WA-HI-10-1-63 Office No. H-8615

LOCALITY

State Rhode Island

General locality Block Island Sound

Locality Ninigret Pond to Nebraska

Shoal

19.61-63

CHIEF OF PARTY

D. G. Rushford

LIBRARY & ARCHIVES

DATE June 13, 1963

USCOMM-DC 5087

8615

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. H-8615

Field No. WAHI-10-1-61

State RHODE ISLAND

General locality BLOCK ISLAND SOUND

Locality NEBRASKA SHOAL

Scale 1:10,000 Date of survey 11 MAY - 30 JULY 1961 and 9 October 1963

Instructions dated 24 March 1960 - Sup. 19 December 1960

Vessel WAINWRIGHT & HILGARD

Chief of party LCDR D. G. RUSHFORD and E. K. MC CAFFREY

Surveyed by LCDR D.G. RUSHFORD, ENS. D. SCHWANTES, LTJG C. W. RANDALL

Soundings taken by fathometer, ~~graphical, or other means~~

Fathograms scaled by Personell WAINWRIGHT & HILGARD

Fathograms checked by " " " " & Norfolk Processing Off.

Protracted by Dorothy C. Calland (Norfolk Processing Office)

Soundings penciled by W.L. Jonns " " "

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

REMARKS:

Int. S.
J.M.D.

H-8615 INK of 1963

UNITED STATES GOVERNMENT

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

Memorandum

IN REPLY REFER TO:

HCA

TO: Director
Coast & Geodetic Survey
U. S. Dept. of Commerce Bldg.,
Washington 25, D. C.

DATE: 12/26/63

*22 71° 20.58
71 39.4*

FROM: Commanding Officer
USC&GS Ships WAINWRIGHT & HILGARD
102 W. Olney Road, Norfolk 10, Va.

SUBJECT: SPECIAL REPORT, SPECIAL PROJECT 1-63

REFERENCE: Instructions (Supplemental) 211-pt S-2-WA-HI

In accordance with supplemental instructions dated Aug. 9, 1963 additional hydrographic and wire drag investigations were carried out in latitude 41° 20.7'N, longitude 71° 39.3'W to verify or disprove the existence of the 14' and 21' soundings shown on contemporary survey WAHI 10-1-61. (*H-8615 [1961-63]*)

The area was developed with closely spaced sounding lines, using HILGARD equipped with DE-723 type fathometer #257. No indication of a shoal was found using this method.

An approximate ~~2.0~~ square mile area was wire dragged to an effective depth of 21', in search of the indicated 14' sounding. Although one grounding occurred in latitude 41° 20.67'N, longitude 71° 39.6'W, no investigation was made here as it is on a known shoal. *See attached wire-drag overlay*

Newport, Rhode Island standard tide gage was used for tidal data, with hourly heights furnished by the Washington Office. Because of significant time and range differences, the following corrections were taken from tide tables for Point Judith, R. I. and applied to actual heights observed at Newport.

High Water	- 0.4'	-07 minutes
Low Water	0.0'	+22 minutes

IN.M.5 FEB 1 1964

*14' noted as questionable in
Processing Office Addendum.
Not charted on 1211 per
recommendation in this letter
GRM 8-21-64*


No further investigation is deemed necessary and it is recommended that the 14' sounding be removed from the contemporary chart. Not on Chart 1211 (11th Ed. 1/24/66)

The 22-foot cited in the above investigations was ^{not} disproved. It was cleared by wire drag to 21' and a deeper drag was not attempted because of the controlling 25' foot depth in the vicinity of this spot. ✓

Accepted hydrographic methods were followed with 3-point sextant fixes used for control. Existing control points on WAHI 10-1-61 were used in all cases.
(H-8615[1961-63])

Velocity corrections for HILGARD fathometer #257 follows:

<u>Depth</u> Ft.	<u>Correction</u> Ft.
0.0	0.0
1.8	+0.2
5.8	+0.4
10.0	+0.6
14.8	+0.8
20.0	+1.0
28.3	+1.2
40.0	+1.4
& on	


Edwin K. McCaffrey

LEG/jrb

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8615 (WAHL-10-1-61)

PROJECT OPR-414

RHODE ISLAND COAST

Dewey G. Rushford - Chief of Party

A. PROJECT:

Instructions CS-414 dated 24 March 1960. Supplemental Instructions OPR-414 dated 19 December 1960.

B. SURVEY LIMITS AND DATES:

This sheet covers an area from latitude $41^{\circ} 17'.0N$ to $41^{\circ} 23'.0N$; longitude $71^{\circ} 32'.0W$ to $71^{\circ} 42'.5W$. This survey junctions with (1948) H-7640 along the Eastern boundary, H-6443 along the Southern boundary and WAHL-10-2-61 on the Western Boundary. (1939)
H-8616 (1961)

Field work began on 11 May 1961 and was completed on 30 July 1961.

C. SOUNDING VESSELS:

<u>Vessels used</u>	<u>Designated by</u>
USC&GSS WAINWRIGHT	Red ink, capital letters
USC&GSS HILGARD	Blue ink, capital letters for 1961 AND 1963 work
Launch CS-181	Blue ink, lower-case letters
Aluminum skiff	Red purple ink, lower-case letters
Jeep (automobile)	purple, lower case (low-water line survey)

D. SOUNDING EQUIPMENT:

The following 808 type fathometers were used:

<u>Vessel</u>	<u>Fath. Serial No.</u>	<u>Days Used</u>	<u>Feet Depth Range</u>
USC&GSS WAINWRIGHT	139-SP	A - E, N	24 - 100
USC&GSS WAINWRIGHT	138-SPX	F - M, P	24 - 100
USC&GSS HILGARD	57-33	A, C - F	30 - 75
USC&GSS ■ HILGARD	58-S	B	30 - 75
Launch CS-181	58-S	a, b, d-f, j-n	3 - 50
Launch CS-181	57-33	c	3 - 50

In addition, pole soundings were taken from Launch CS-181 on g & h days and all skiff work was done with a pole ✓

Fathometer corrections were determined by bar checks, temperature and salinity observations and phase comparisons. ✓

E. SMOOTH SHEET:

To be done by Norfolk Processing Office.

F. CONTROL:

All hydrographic control was visual using the three-point fix method. All control stations were located by conventional methods. A list of signals is attached to this report. The photogrammetric manuscripts used are: T-11436, RS-710, RS-716 & RS-717. ✓

RS-710, 716 and 717 reviewed in 1960

T-11436 is an advance manuscript print dated unknown. ✓
T-11436 is an unreviewed topo-survey based upon 1954 photographs.

G. SHORELINE:

Shoreline was transferred from blue line manuscripts T-11436, RS-710, RS-716, and RS-717 by the photogrammetric support party. ✓

Due to heavy surf normally present, low tidal range and steep drop off near the shoreline it was not possible to establish the low water line by soundings. However, measurements were taken from various signals to the water line in an effort to define the water line. a, b, c days, purple, vol. 25 *In shore delineation generally adequate*

For the most part there appeared to be very little difference between the shoreline compilations and the actual shoreline. ✓

H. CROSSLINES:

The percentage of crosslines run was approximately 10%. Fairly good agreement was obtained. The discrepancies present were attributed to the use of different sounding machines and tide discrepancies. (Note #1 "Addendum, N.P.O." this D.R.)

I. JUNCTIONS:

There was good agreement at survey junctions. More discrepancies were found at deeper depths than at shallow depths; this is probably due to phase differences.
Phase correctors revised in junctional areas.

J. COMPARISON WITH PRIOR SURVEYS:

The only pre-survey review items on this survey are two "B" items (shoal isolated soundings). The first "B" item, at latitude $41^{\circ} 20'.10$; longitude $71^{\circ} 39'.85$, could not be confirmed and it is recommended it be removed from the chart. The second "B" item, at latitude $41^{\circ} 19'.45$; longitude $71^{\circ} 40'.50$, was confirmed by several shoal soundings in the vicinity. The mooring buoy indicated on the chart at latitude $41^{\circ} 20'.00$, longitude $71^{\circ} 40'.00$ is non-existent. The soundings check out favorably with H-6443. H-6443(1939) does not extend far enough North to cover this area.

Discredited by deeper soundings →

← ✓

← ✓

K. COMPARISON WITH C&GS CHART 1211:

C&GS Chart 1211, August 6, 1960, was used. Generally there is fairly good agreement between the chart and this survey. However a few discrepancies were noticed. The isolated sounding shown on the chart at latitude $41^{\circ} 21'.35$, longitude $71^{\circ} 35.30$ is part of the general bottom and is not isolated at all. The two 30' soundings, which were pre-survey items "B" mentioned in the previous paragraph, appear to be misplotted. The mooring buoy previously mentioned should be removed from the chart.

✓
Chart revised

Ninigret Pond shown on Chart 1211 was surveyed for the first time. This was thought being necessary as the Navy has a base on this pond and they are considering dredging in one area. There is also considerable traffic on this pond.

✓

L. ADEQUACY OF SURVEY:

This survey is considered adequate and complete and should supercede all prior surveys. ✓

M. AIDS TO NAVIGATION:

There is only one aid to navigation in the area of this survey and it is properly charted and listed. (Nebraska Shoal buoy)

N. STATISTICS:

	<u>Positions</u>	<u>Nautical Miles -Sounding Line</u>	<u>Number of Days Worked</u>
USC&GSS WAINWRIGHT	1352	223.5	15
USC&GSS HILGARD	813	151.6	6
Launch CS-181	1267	152.1	13
Aluminum skiff	844	57.2	7
TOTALS	4276	584.4	41

The total area surveyed was 17.67 square miles. 89 bottom samples were taken by armed lead line. ✓

O. MISCELLANEOUS:

Submerged rocks are numerous near the shore line in several places. This accounts for the detached shoal soundings near the shore. Large areas on the south side of Minigret pond were inaccessible mud flats with scattered patches of sea weed. ✓

P. RECOMMENDATIONS:

There are no recommendations for additional work. ✓

Q. REFERENCE TO REPORTS:

No separate reports were submitted to the Washington Office or District Office. ✓

R. LIST OF ATTACHMENTS:

1. Tide Note ✓
2. Velocity Corrections ✓
3. List of Signals ✓

Respectfully submitted:

J. Rodney Lewis
E. Douglas Schwantes
for

E. Douglas Schwantes
Ensign, C&GS

Approved and Forwarded:

Kenneth A. MacDonald
For.

E. G. Rushford, Lt. Commander, C&GS
Chief of Party

EDS/jrb

Submitted by,

J. Rodney Lewis
for

E. Douglas Schwantes, Jr.
Ensign, C&GS

Approved & Forwarded,

Kenneth A. Mac Donald
for

D. G. Rushford, Lt. Commander, C&GS
Chief of Party

EDG/jrb

T I D E N O T E

Two
~~Only one~~ tide stations ^{were} used for this survey. No corrections were applied.

A portable tide gage was installed on the Eastern Breakwater of the Harbor of Refuge, Pt. Judith, Rhode Island (latitude $41^{\circ} 21.6'$ longitude $71^{\circ} 29.4'$). Tides were referenced to Mean Low Water. The height of MLW on the staff was 3.2'. The time used during the survey was $60^{\circ}W$ meridian time. The gage was not within the limits of this survey. This gage was used for entire survey covered by this sheet except Ninigret Pond. ✓

A portable tide gage was installed at Ninigret Pond, N.A.L.F., at Lat. $41^{\circ} 21.5'$ and Long. $71^{\circ} 39.6'$. Tides were referenced to M.L.W. The height of M.L.W. on the tide staff was 2.5 ft. This gage was used for survey of Ninigret Pond and Charlestown Inlet.

VELOCITY CORRECTIONS

Bar checks were taken daily to a maximum depth of 60'. Temperature and salinity observations were taken to extend the curve to the maximum depth of the survey. Results of these checks were plotted on a smooth curve and the following corrections were scaled off: see "Addendum", N.P.O., this D.R.

WAINWRIGHT - Echo Sounder No. 138-SPX

<u>Depth (Feet)</u>	<u>Correction (feet)</u>	<u>Phase Comparison</u>	
0.0 to 10.0	- 0.2		
10.1 to 20.0	0.0	A - B	-1.8
20.1 to 49.2	+0.2	B - C	-2.2
49.3 to 58.6	0.0	C - D	-1.7
58.7 to 68.0	-0.2		
68.1 to 94.8	-0.4		
94.9 to 110.0	-0.6		

WAINWRIGHT - Echo Sounder No. 139-SP

0.0 to 22.2	+0.4		
22.3 - 37.7	+0.2	A - B	+2.4
37.8 - 46.8	0.0	B - C	+2.3
46.9 - 65.7	-0.2		
65.8 - 84.9	-0.4		
85.0 - 99.9	-0.6		
100.0 - 110.0	-0.8		

HILGARD - Echo Sounder 57-33

0.0 - 10.0	+0.4	A - B	+1.5
10.1 - 19.4	+0.2	B - C	- 0.7
19.5 - 30.5	0.0	C - D	-2.0
30.6 - 56.8	-0.2		
56.9 - 93.2	-0.4		
93.3 - on	-0.6		

Launch CS-181 - Echo Sounder 58-S

0.0 - 3.9	+0.6		
4.0 - 15.0	+0.4		
15.1 - 22.2	+0.2		
22.3 - 27.8	0.0		
27.9 - 56.7	-0.2		
56.8 - 92.3	-0.4		

LIST OF SIGNALS

<u>Name</u>	<u>Origin</u>	<u>Name</u>	<u>Origin</u>
ABE	T-11436	GAS	RS-717
ACE	RS-716	GIN	RS-716
ADD	RS-717	GOV	RS-716
ASK	RS-717, 716	HAG	RS-717, 716
AZO	RS-716	HAT	T-11436
BAD	Lab-181 Vol. ¹⁸ 5 P 50	HEX	RS-716
BAG	T-11436	HIS	RS-717
BAT	RS-716	ICE	T-11436
BEA	RS-717, 716	IVY	RS-717
BIB	RS-717	JAP	RS-716
BOB	RS-717, 716	JAY	RS-716
BOT	RS-716	JIB	T-11436
BUM	RS-716	JUG	RS-717
CAB	RS-716	JUT	RS-716
COD	RS-717	KID	T-11436
COP	RS-716	KIT	RS-717
CRY	RS-717, 716	LAD	RS-717
DAW	RS-717, 716	LAM	T-11436
DIF	RS-717	LAY	RS-716
DIP	RS-716	LEO	RS-716
DIX	RS-717, 716	MAG	t-11436
DOT	RS-716	MAR	RS-717
EAR	RS-716	MAX	RS-716
EAT	RS-717, 716	NAT	RS-717
EBB	RS-717	NED	T-11436
EEL	RS-717, 716	NEW	RS-716
EVA	RS-716	NIT	RS-716
FAT	RS-716	NOR	RS-716
FAR	RS-717, 716	NOT	RS-717
FED	RS-717, 716	NOW	RS-716
FIG	RS-716	NUX	RS-717
FLAG	RS-716	OAR	T-11436
GAD	RS-717, 716	OIL	RS-716
GAG	RS-716	OUT	RS-716
GAL	RS-717, 716	PAD	T-11436

(Continued on sheet 2)

LIST OF SIGNALS - CONTINUED

<u>Name</u>	<u>Origin</u>
PEG	RS-717
PIL	RS-716
PIN	RS-717
POL	RS-716
PUG	RS-716
RAG	T-11436
REV	RS-716
RIO	RS-717
ROT	RS-716
SAL	RS-717
SAM	T-11436
SIS	RS-717
SIT	RS-716
SKY	RS-717
TAN	RS-717
TANK	RS-716
TAP	T-11436
TEA	RS-710
TON	RS-717
TOP	RS-717
TOWER	RS-717
TRU	RS-717
USE	RS-716
VAL	RS-717
VET	T-11436
VIA	RS-716
VOG	RS-716
WAD	T-11436
WAX	RS-716
WEE	RS-716
WIG	RS-717
YAK	T-11436
YEL	RS-717
ZAG	T-11436

△ CARPENTER (USE) 1909 RS 717

△ GOVERNORS ISLAND 1873 RS 716

△ GREEN Hill 1834 RS 717

These △ were not used on this hydro-survey.

NORFOLK PROCESSING OFFICE
 ADDENDUM
 To Accompany

HYDROGRAPHIC SURVEY H-8615 (Wa-Hi-10-1-61)

GENERAL

A considerable amount of difficulty was experienced during the smooth plot of this survey. This was caused mainly by the poor operation of obsolescent 808 fathometers. The phasing was extremely erratic, the bottom delineation was sometimes poor making fathogram interpretation questionable on boulders and in shoal rocky areas, and much of the work was done in choppy seas which, combined with a rather high percentage of questionable angles on some days, tended to slow the plotting because of erratic speed and courses.

With the exception of the discrepancies listed below soundings are in resonable agreement, how-ever, to accomplish this the smooth plotter had to rescan numerous soundings to mean-out wave action, recompile velocity corrections where they differed from the seasonal mean, and reapply phase corrections as indicated on individual scale changes because of worn phasing heads.

SOUNDINGS

Soundings at crossings, when obtained on the A scale, usually agree to with-in one foot. On the deeper scales there are scattered instances of two foot discrepancies.

Velocity corrections were recompiled for E,K & G days, Ship Wainwright, and for A day, Ship Hilgard, as bar check returns were at variance with the seasonal average.

Phasing was erratic and frequently differed from the results of the comparisons, so numerous changes were made to bring soundings into agreement on the deeper scales. These corrections were applied on an individual basis as they depended on the amount indicated on the fathogram at the time of phase change.

Since the bottom delineation on the fathograms was generally poor, in shoal areas it was sometimes difficult to distinguish between rocks and possible grass and kelp formations. For this reason it is reccommended that any critical soundings chosen for preliminary charting be verified first on the fathograms. Typical examples of this condition may be found at the following positions.

Area cleared by wire-drag at 20 feet. See letter front of this report.

Lat. 41-20.71'	Long. 71-29.27 - 14'	sdg. after pos. 511,	Lch. 181
Lat. 22.00'	Long. 33.42' - 21 ¹ / ₂ '	" " " 46c,	" " - OK RHC
Lat. 20.93'	Long. 38.97' - 17'	" " " 116m,	" " - OK RHC
Lat. 20.58'	Long. 39.40' - 14 ¹ / ₂ '	" on " 87G,	Wainwright

Con't.

ADDENDUM

(continuation)

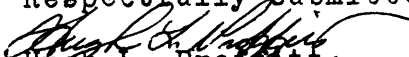
SOUNDINGS

A considerable amount of trouble was experienced with the plotting of positions 61 thru 150D, Ship Wainwright, because of erratic times and courses which were apparently caused by poor observations of the left angle. The soundings were not plotted on positions 146 thru 150D as they average 2 to 3 feet deeper than surrounding hydrography

Incorrect statement. Replotted by reviewer. Excellent to fair agreement between positions 146-148 "D", Wainwright. Beyond pos. 148 to pos. 150 line averages 1 to 3 feet shaller than surrounding hydro. Soundings between pos. 146-150 added to S.S.

Note:- 'B'day, ship Hilgard, 9 Oct. 1963 was not plotted on S.S. and no overlay submitted by Norfolk. An overlay was made by Veriflex, who also inked these depths on the smooth sheet.

Respectfully submitted,

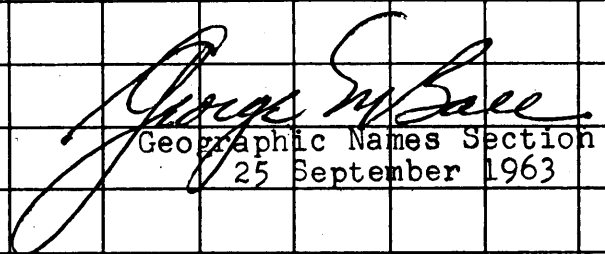

Hugh L. Proffitt
Cartographer

Norfolk, Va.
6 June 1963

GEOGRAPHIC NAMES

Survey No. 8615

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On Chart No. 1211</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On previous survey No.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On U. S. quadrangle Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">From local information</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On local Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">P. O. Guide or Map</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Rand McNally Atlas</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">U. S. Light List</div> </div>											
	A	B	C	D	E	F	G	H	K			
Block Island Sound	x										1	
Charlestown	x										2	
Charlestown Beach	x										3	
Charlestown Inlet	x										4	
Green Hill Point	x										5	
Matunuck Point	x										6	
Nebraska Shoal	x								x		7	
Ninigret Pond	x										8	
											9	
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 Geographic Names Section
 25 September 1963

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8615...

Records accompanying survey: Smooth sheets .1...;
 boat sheets *#.2*; *to the field* sounding vols. *.25+1*; wire drag vols. .2...;
 Descriptive Reports .1...; graphic recorder envelopes *.14+1*;
 special reports, etc. *!-Overlay Sheet*

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

		REVIEW (hours)
Number of positions on sheet	4276	
Number of positions checked	446	38
Number of positions revised	0	1 148 "D" Wainwright
Number of soundings revised (refers to depth only)	75	32 at junction 11-8616
Number of soundings erroneously spaced	15	
Number of signals erroneously plotted or transferred	0	
Topographic details	Time 24	1
Junctions	Time 36	13
Verification of soundings from graphic record	Time 8	2
Special adjustments	Time 12	2 "D" day Wainwright conflict

Verification by *J. B. Chambers* Total time *340 hrs* Date *3/25/65*

Reviewed by *S. Rose* Time *235 hrs.* Date *4/28/66*

TIDE NOTE FOR HYDROGRAPHIC SHEET

October 17, 1963

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
25 volumes of sounding records for

HYDROGRAPHIC SHEET 8615

Locality Block Island Sound, Rhode Island

Chief of Party: D. G. Rushford 1961

Plane of reference is mean low water, reading

3.2 ft. on tide staff at Eastern Breakwater, Point Judith

15.5 ft. below B. M. 6 (1948)

2.5 ft. on tide staff at Ninigret Pond, N.A.L.F.

6.1 ft. below B. M. 1 (1961)

Height of mean high water above plane of reference is as follows:

Eastern Breakwater, Point Judith 3.1 feet
Ninigret Pond, N.A.L.F. 0.4 feet

Lat. 41° 21' 5"
Long. 71° 39' 6"

Condition of records satisfactory except as noted below:

NOTE: Tide reducers for positions listed below have been re-vised and verified.

<u>Vol.</u>	<u>Position</u>
17	1E ^e - 27E ^e
19	77L ^l - 116L ^l

J. M. Symons
Chief, Tides and Currents Branch

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

January 31, 1964

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
3 volumes of sounding records for
and wire drag volumes for

HYDROGRAPHIC SHEET 8615 *Add. - WK.*

Locality Block Island Sound
Charlestown, Rhode Island

Chief of Party: Edwin K. McCaffey in 1963

Plane of reference is mean low water.

ft. on tide staff at

ft. below B. M.

Height of mean high water above plane of reference at the
working grounds is 3 feet.

Condition of records satisfactory except as noted below:

Tide reducers for the following positions have been
changed in red and verified.

Volume	Position
Soundings	1 B-59B ✓
Wire Drag ✓	9J-21J - w. D. ✓

J. M. Symons

 Chief, Tides and Currents Branch

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY
REVIEW SECTION -- MARINE CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8615 (1961-63)

FIELD NO. WA-HI 10-1-61

Rhode Island, Block Island Sound, Nebraska Shoal to
Ninigret Pond

SURVEYED: May 11, 1961 - July 30, 1961 and October 9, 1963

SCALE: 1:10,000

PROJECT NO. OPR 414 and Spec. Proj. 1-63

SOUNDINGS: 808 Depth Recorders

CONTROL: Sextant Fixes
on Shore Signals

Chief of Party-----Dewey G. Rushford (Hydrographic
Survey in 1961)
Edwin K. McCaffrey (Wire-drag
Survey in 1963)

Surveyed by-----D. G. Rushford
E. D. Schwantes
C. W. Randall
E. K. McCaffrey

Protracted by-----Dorothy C. Calland (Hydrographic
Survey)
E. K. McCaffrey (Wire-drag Survey)

Soundings plotted by-----W. L. Jonns (Hydrographic Survey)
E. K. McCaffrey (Wire-drag
strips and A. and D. Sheet)

Verified and inked by-----James C. Chambers

Reviewed by-----S. Rose

Inspected by-----R. H. Carstens

Date: April 27, 1966

1. Description of the Area

This survey covers an area Westward from Matunuck Point, covering Nebraska Shoal and Ninigret Point, and extending into Block Island Sound to the ten-fathom curve on the east half of the sheet, and to the 15-fathom curve on the west half.

The bottom is stable, and consists largely of hard-packed sand. Irregular bottom is found within a mile of the shoreline. A comparison of the shoreline with 1839 and 1882 surveys indicates no significant erosion. Heavy surf and foul-bottom prevented a survey of the bottom close inshore in several areas.

2. Control and Shoreline

The source of the control is adequately described in the Descriptive Report. The shoreline originates with advance manuscript of T-11,436 (1954) and revision sheets RS-710, RS-716 and RS-717 reviewed in 1960.

3. Hydrography

- a. Crossing-discrepancies of 1-2 feet in some areas are generally due to fathometer malfunctioning, resulting in occasional ragged-initial, bad bottom-trace and erratic phase-differences.
- b. The usual depth curves were adequately delineated. Shoals and peaks are emphasized by curves.
- c. The development of the bottom-configuration and determination of least depths is considered adequate.

4. Condition of the Survey

The field-plotting, sounding records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual; however, considerable re-scanning of the fathograms was necessary by the smooth-plotter in order to bring into agreement crossings, and the junction with H8616.

5. Junctions

The junction with H-7640 (1948) on the east is excellent.

A holiday of about 400 Meters exists between sections of the present survey and H-6443 (1939) on the south.

After phase-correction revisions were made by the reviewer, the junction with H-8616 (1961) on the west is adequate.

6. Comparison with Prior Surveys

- A. H-84 (1:20,000) 1839
H-1529a (1:40,000) 1882

Taken together, these surveys comprise the prior sounding-coverage of the area of the present survey. The shoreline of the present survey shows surprising similarity with that of the old surveys. The widely-spaced lines and lack of complete development of the old surveys preclude a detailed comparison of the bottom; nevertheless, with few exceptions, peaks on the old surveys are corroborated by similar soundings on the new survey. Differences in the position of some features result from the less-accurate control on the prior surveys.

The following two "B" items of the presurvey review are superseded by present depths:

1. The 30-ft. depth charted at Lat. $41^{\circ}20.10'$ -- Long. $71^{\circ}39.85'$ from H-84 (1839) is considered disproved by present depths and should be disregarded.
2. The 30-ft. depth charted at Lat. $41^{\circ}19.45'$ -- Long. $71^{\circ}40.50'$ from H-84 (1839) is discredited in its charted position by present depths, and should be disregarded.

A charted 15-ft. sounding was carried forward from H-1529a (1882) at Lat. $41^{\circ}21.10'$ --Long. $71^{\circ}38.10'$ although its existence is doubtful. It is the high-point of a ridge according to H-1529a, although the present survey does not substantiate this feature. The area, however, has several peaks, therefore the sounding was carried forward.

Shoal soundings to the westward lessen the importance of this 15-ft. depth.

- B. H-3378 (1912) WD - 1:20,000
- H-4005 (1917-18) WD - 1:50,000
- H-4098 (1919) WD - 1:20,000
- H-8615 (1963) WD - 1:10,000

The effective-depths of these wiredrag surveys do not conflict with depths of the present survey. Several soundings from the wiredrag surveys were carried forward to supplement present depths.

The present survey, because of its closely-spaced lines, supersedes the prior surveys within the common area.

7. Comparison with Chart 1211, Eleventh edition, Rev. Jan 24, 1966

A. Hydrography

The charted hydrography in the area of the present survey is from the previously-discussed prior surveys, and from the boatsheet of the present survey.

- A charted shoal-area extending East-West between a 15-ft. and 17-ft. depth at Lat $41^{\circ}21.10'$ directly West of Long. $71^{\circ}38'$ from H-1529a (1882) is incorrectly shown on that survey. This area should be charted from the deeper soundings of the present survey.

Major changes made to soundings charted from the boatsheet are shown in the following tabulation:

<u>Location:</u>		<u>Charted as:</u>	H-8615 <u>(1961-63)</u>
Lat. - $41^{\circ}20.70'$	Long. - $71^{\circ}36.47'$	44 ft.	50 ft.
$41^{\circ}20.65'$	- $71^{\circ}37.80'$	43 ft.	48 ft.
$41^{\circ}18.85'$	- $71^{\circ}39.95'$	85 ⁴ ft.	87 ft.
$41^{\circ}19.65'$	- $71^{\circ}37.18'$	56 ft.	59 ft.
$41^{\circ}19.57'$	- $71^{\circ}40.78'$	27 ft.	29 ft.
$41^{\circ}19.24'$	- $71^{\circ}38.58'$	54 ft.	57 ft.
$41^{\circ}19.60'$	- $71^{\circ}38.84'$	41 ft.	51 ft.
$41^{\circ}19.80'$	- $71^{\circ}37.90'$	52 ft.	56 ft.
$41^{\circ}20.82'$	- $71^{\circ}34.47'$	33 ft.	41 ft.
$41^{\circ}20.65'$	- $71^{\circ}38.75'$	29 ft.	31 ft.
$41^{\circ}19.95'$	- $71^{\circ}39.20'$	46 ft.	50 ft.
$41^{\circ}19.65'$	- $71^{\circ}39.75'$	37 ft.	45 ft.

Attention is also directed to the rocks west of the entrance to Charlestown Inlet which are apparently charted from H-84 (1839). The position of these rocks differs slightly from that determined from color-photographs of 1965 which have been applied to new chart 271. These rocks were not located on the present survey because the heavy surf prevented hydrography close inshore.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The buoy on Nebraska Shoal is the only floating aid to navigation on this survey. It is in agreement with its charted position, and adequately marks the feature intended.

8. Compliance with Instructions


The survey adequately complies with the project instructions.

9. Additional Field Work

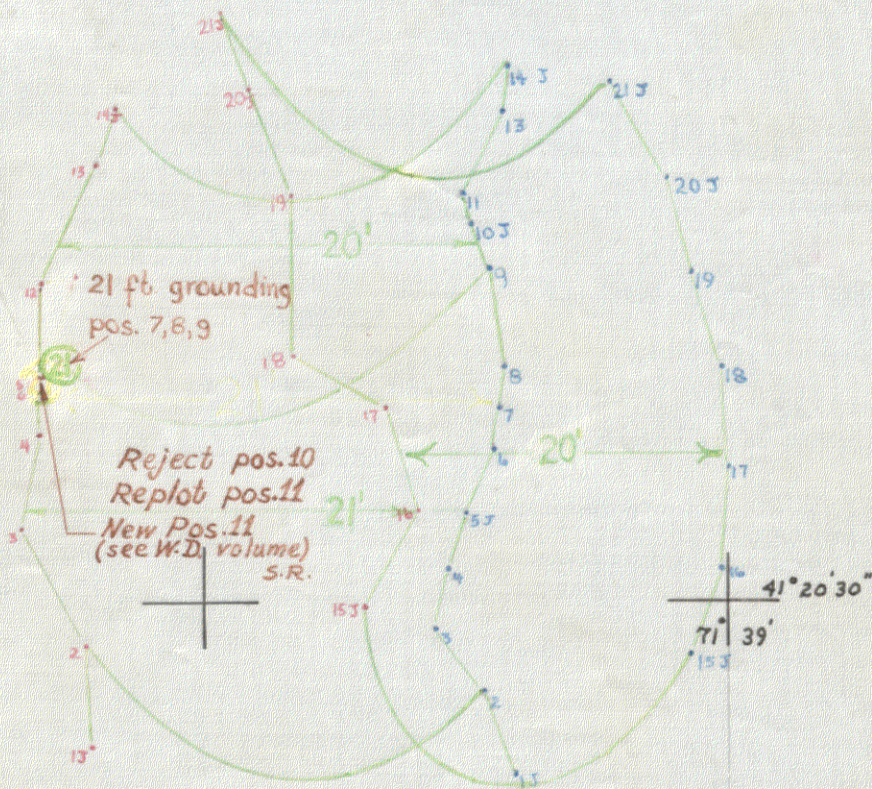
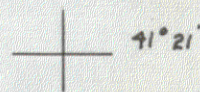
This is an adequate basic survey requiring no additional field work.

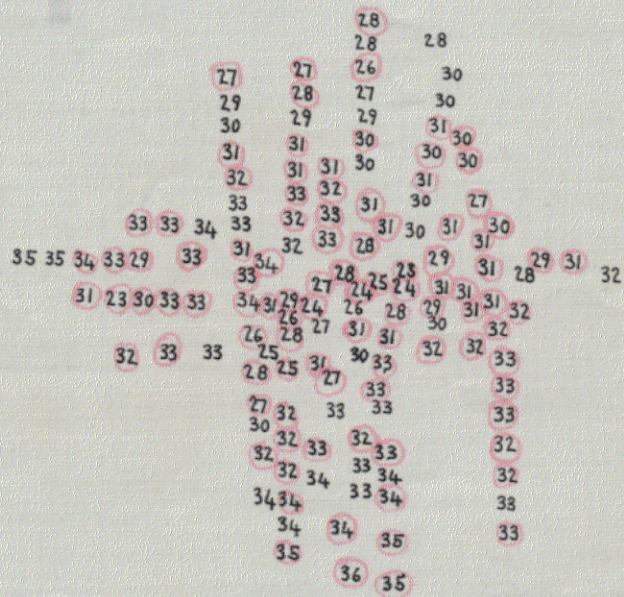
Examined and Approved:

Chief, 
Marine Chart Division


Associate Director,
Hydrography and
Oceanography

WIRE DRAG SPEC. PROJ. 1-63
 CHARLESTOWN, R.I.
 WAINWRIGHT & HILGARD
 E.K. McCAFFREY COMDG.
 9 OCTOBER 1963
 Scale 1:10,000





Work of 1963
 Selected soundings transferred to
 smooth sheet

No positions plotted on this
 overlay, only sdgs.

41°20'

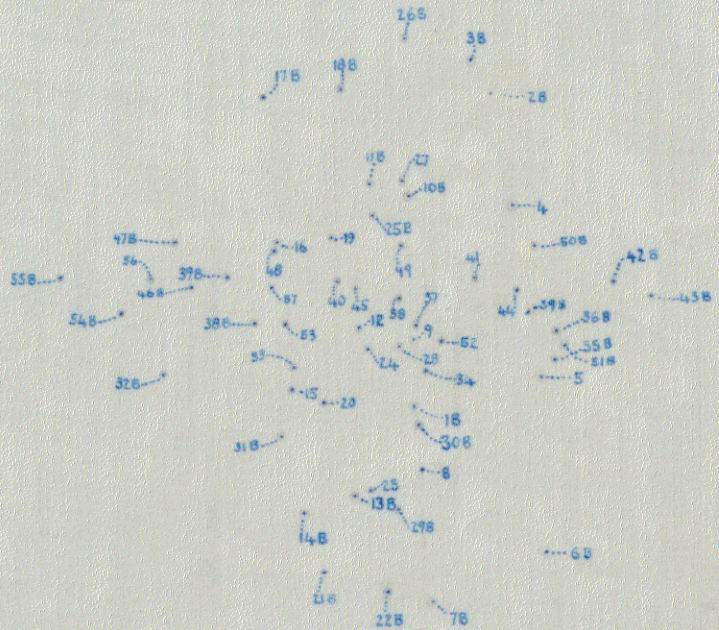



71°40'


41°20'

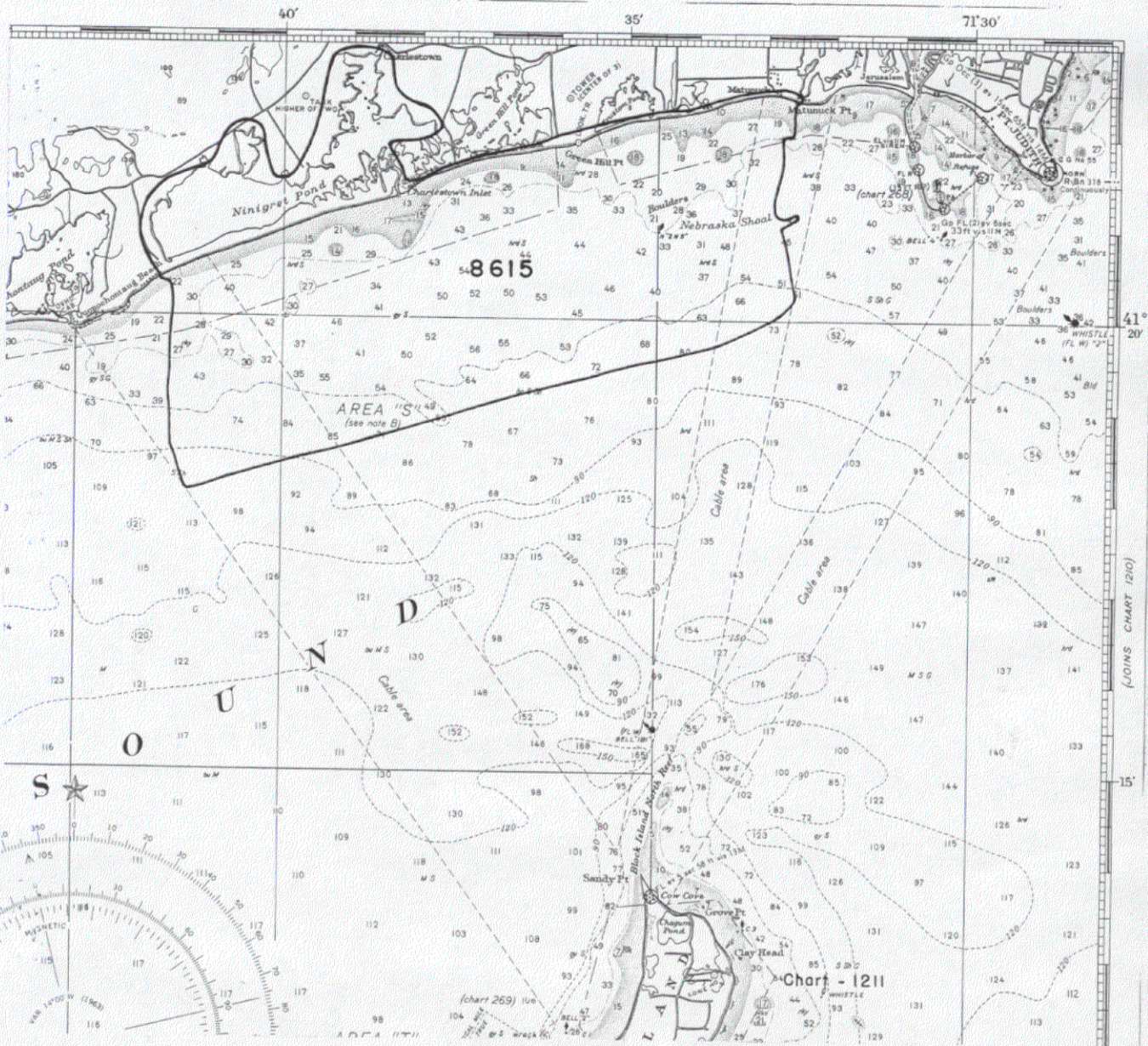


71°39'



41°20' 
71°40'

 41°20'
71°39'



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8615

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
1211	10-15-63	John W Knoop	Full Part Before After Verification Review Inspection Signed Via Drawing No.
70	10/20/63	L.A.M.	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Exam. only.</i>
1210	10/28-63	<i>W. Rogers</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No.
1108	10-17-63	G.R. McCann	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>No revision</i>
1210	6-22-64	G.R. McCann	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>44 & 44M</i>
1211	8-21-64	G.R. McCann	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>32 & 35 fully appld thru DWG 271 ✓</i>
1211	10-26-66	J.T. Gallahan	
268	10-6-64	J.D. Mc Evoy	Full Part Before After Verification Review Inspection Signed Via Drawing No. # 7
271	3-3-66	h.j. Keeler	Full Part Before After ^{Fully after} Verification Review Inspection Signed Via ^{before} Drawing No. # 1
1210	5/18/66	<i>M.H. Mad</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Fully applied, applied ^{in part} thru CHT 271 and vid to rev. & reviewed smooth sheet</i>
271	5-19-66	h.j. Keeler	Full Part Before After Verification Review Inspection Signed Via Drawing No. # 1 <i>Added two sdgs carried forward from old WD surveys.</i>
271	10-28-66	J.T. Gallahan	<i>Dwg #2 fully appld after review added 15 fms rky from old survey also 13 fms depth current</i>
1108	1-18-67	<i>M.H. Mad</i>	<i>Fully app. after V. R. & INSPECTION, app thru 1211 Dwg # 35</i>
268	6-23-72	G. Bailey	<i>Fully applied after INSPECTION</i>
70	12-12-72	D. Chapman	<i>NO Hydro in area. NO corr. considered fully appld</i>