

8396

Diag. Cht. No. 1210-3.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECFP-1457 Office No. H-8396

LOCALITY

State Rhode Island

General locality Narragansett Bay

Locality Mt. Hope Bay

1957

CHIEF OF PARTY

M. T. Paulson

LIBRARY & ARCHIVES

DATE October 7, 1958

USCOMM-DC 5087

8396

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-8396

Field No. ECFP 1457

State Rhode Island

General locality Narragansett Bay

Locality Mt. Hope Bay

Scale 1:10,000 Date of survey 26 August, 14 October 1957

Instructions dated 22/MEK; East Coast, 31 January 1956 and supplemental instruction project 13870, 15 February 1957

Vessel East Coast Field Party-GS-168

Chief of party Marvin T. Paulson

Surveyed by L. L. Seal

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

Fathograms scaled by Party Personnel

Fathograms checked by Party Personnel

Protracted by L. L. Seal

Soundings penciled by L. L. Seal

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

REMARKS:

25 m.

DESCRIPTIVE REPORT
TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8396, FIELD NO. ECFP-1457
Mt. Hope Bay, Rhode Island

PROJECT 13870

SCALE 1: 10,000

EAST COAST FIELD PARTY

1957

M. T. PAULSON, CH. OF PTY.

SURVEYED BY: L. L Seal

A. PROJECT

Work on project 13870 was executed in accordance with instructions 22/MEK;FP-East Coast, dated 31 January 1956 and Supplemental Instructions Project 13870 dated 15 February 1957

B. SURVEY LIMITS & DATES

The area covered by this survey is Mt. Hope Bay. Limits are from latitude $41^{\circ} 37.3$ to latitude $41^{\circ} 44.$; long. $71^{\circ} 11.5$ to long. $71^{\circ} 15.9$, this survey makes junction with contemporary survey H-8397, (1957) scale 1: 10,000 to the south; along the west by land and H-8395, (1957) scale 1: 10,000 on the north by land, the east by land and sheet GI-1255. Hydrography began 26 August 1957 and ended 14 October 1957
H-8207 (1955)

C. VESSELS AND EQUIPMENT

Launch CS-168 was used entirely on this survey. The launch was based at Tiverton, R. I. and a private dock at Bristol, R. I.,. Launch 168 is a 26 foot Aluminum launch with a turning radius of 50 meters at half rudder and standard speed. This boat has a standard speed of 5.8 knots. EDO fathometer No. 201 with a Kato Converter was used during this survey. The transducer was mounted over the starboard side just aft of amidship.

D. TIDE AND CURRENT STATIONS

A tide gage at Towesett Point, lat. $41^{\circ} 41.88$ N. long. $71^{\circ} 14.45$ W controlled hydrography without time or height correction. When gage was inoperative tides were referred from Fort Adams with a \pm 20 minutes and \pm 0.7 foot height correction. Tides referred from Bristol Point were in accordance with letter 36-315-15b.2 dated 15 August 1957.

E. SMOOTH SHEET

The projection was made by the Washington Office using the Ruling Machine. Controls, soundings and the plotting of hydrography by the East Coast Field Party.

F. CONTROLS STATIONS

The following triangulation control was used in this survey:

STATION	G.P. PAGE	VOL.NO.	CH. OF PTY.
BAPTIST CHURCH SPIRE, 1917	103	1	R.I.Geod.S.
BLACK TANK, 1932	66	1	
BRAYTON (MGS) MASS., 1936			
BLACK TANK, 1932			
BRISTOL BLACK TANK, 1932	67	1	
BRISTOL FERRY LIGHTHOUSE, 1897	142	1	R.I.Geod.S.
BRISTOL STACK, 1952	67	1	
HOG ISLAND SHOAL LIGHTHOUSE, 1913	143	1	J. B. B.
MT. HOPE BRIDGE NORTH TOWER, 1932			
MT. HOPE BRIDGE SOUTH TOWER, 1932			
MUSSEL BED SHOAL LIGHT, 1956			
LEE'S RIVER (MGS), 1934			
BRISTOL SOLDIERS HOME, 1932			

All topographic control was located on photogrammetric manuscripts T-10484, T-10491 and PH-1-F-56, using standard photogrammetric methods. This control was located by Ens. Susi and Ens. Bradford of the Photogrammetric Division. Six (6) hydrographic signals were located with sextant cuts by this party along the eastern shore of the Kikamuit River. Three (3) photo signals were changed to hydrographic signals near the southern limits of the sheet. *Sig. TRY changed to Hydro Sig. by verifier*
Signal Try was changed to Hydro signal during verification.

G. SHORELINE AND TOPOGRAPHY

Shore line and topographic details were obtained from photogrammetric manuscripts T-10484⁽¹⁹⁵⁶⁾, T-10491⁽¹⁹⁵⁶⁾, and T-10490⁽¹⁹⁵⁶⁾. The only change in shoreline and topographic detail not shown on the above mentioned manuscripts is the removal of Stone Bridge Lat. $41^{\circ} 37.5$ Long. $71^{\circ} 13.2$ had begun during this survey, but was not completed. Information was obtained from Boston District Office in a letter dated 11 February 1956, as to the proposed plan of removal. Additional information needed may be obtained by writing Rhode Island Public Works, for sheet H-8396⁽¹⁹⁵⁷⁾. The shore line left in pencil Lat. $41^{\circ} 42.5$ to $41^{\circ} 44.0$ N Long. $71^{\circ} 15$ to $71^{\circ} 16$ W. was transferred by Field Photo Party to manuscript T-10484. *inked on present Survey from final Compilation of T-10484 (unreviewed)*

H. SOUNDINGS

Soundings for the most part were made with an EDO echo sounder with a KATO converter. However, the lead line was used in verification of soundings and bottom samples; and the sounding pole was used in extremely shoal areas.

I. CONTROL OF HYDROGRAPHY

All hydrographic control was by standard visual method with sextant angles taken on shore objects. Positions were taken from 1 to 1½ minutes apart.

J. ADEQUACY OF SURVEY

This survey is considered complete and adequate to supercede all prior surveys for charting purposes. Junctions with contemporary surveys are satisfactory and depth curves can be drawn at junctions.

K. CROSSLINES

The percentage of crosslines run was about 8½%. The crossings were satisfactory with the exception of "v" day. During this day tides were referred from Fort Adams and wind was blowing rather hard. This is the probable reason for the 2 foot discrepancy in crossings. As the crosslines were deeper than the regular system of lines, it is recommended that crosslines be overlooked in drawing the depth curves.

Portions of v day rejected

L. COMPARISON WITH PRIOR SURVEYS

This survey was compared with prior survey H-792a, scale 1:20,000. The soundings were in fair agreement for the greater portion of the bay. However, the area around Spar Island has become from 1 foot to 4 feet shoaler.

Lat 41 degrees 42.57 minutes
Long 71 degrees 13.60 minutes ✓

Trap shown on chart at this location is not here. Delete from chart.

Lat 41 degrees 42.20 minutes ✓
Long 71 degrees 13.57 minutes ✓

Trap shown on chart at this location is not here. Delete from chart.

Lat 41 degrees 40.16 minutes ✓
Long 71 degrees 14.19 minutes ✓

Trap shown on chart at this location is not here. Delete from chart.

Lat 41 degrees 38.70 minutes ✓
Long 71 degrees 13.09 minutes ✓

Breakwater shown on chart at this location is not here. Delete from chart.
removed prior to review.

M. COMPARISON WITH CHART

A comparison was made with chart No. 353 Revised 9/19/55. The new survey and chart were in good agreement with the exceptions noted in sections "L" and "N".

N. DANGER AND SHOALS

Lat 41 degrees 42.53 minutes
Long 71 degrees 12.65 minutes ✓

Pos. 35n
156s

*Inshore end - awash MHW
off shore uncovers 2' MLW*

~~Bare 2' MLW~~ wreck (ribs and keel)
chart position

O. COAST PILOT REPORT

There are no changes to the Coast Pilot to report within the limits of this sheet.

P. AIDS TO NAVIGATION

See report on form 567

Following is a list of all floating aids to navigation:

NAME OR NUMBER	LATITUDE & LONGITUDE	DEPTH OF WATER	VOL. & POS.	DATE LOCATED
Tiverton Channel Buoy 2	41°39.46 71°14.05	39	2 59c	8/28/57
Mt. Hope Bay juct. Lighted Gong Gong Buoy 1 qk. fl. w. Buoy 3	41°39.51 71°14.12	39	2 60c	8/28/57
Lighted Bell Buoy 4 fl.w.; 4 ^s (0.4 ^s fl.)	41°39.54 71°13.20	34	5 190h	9/9/57
Tiverton Upper Channel Buoy 1	41°39.52 71°12.66	37	10 29r	9/23/57
Tiverton Upper Channel Lighted Gong Buoy 3 fl. g. 4 ^s (0.4 ^s fl.)	41°39.82 71°12.43	19	9 15p	9/19/57
Tiverton Upper Channel Buoy 5	41°40.44 71°12.16	36	10 36r	9/23/57
Mt. Hope Bay Channel Buoy 2	41°39.76 71°13.75	29	4 85g	9/6/57
Mt. Hope Pt. Shoal Buoy 3	41°39.88 71°14.13	33	2 61c	8/28/57
<u>MT. HOPE BAY</u>				
Channel lighted Bell Buoy 4 fl. red 4 ^s	41°40.43 71°12.89	21	13 103v	9/27/57
Channel Buoy 5	41°40.63 71°12.77	29	13 102v	9/27/57
Channel Buoy 6	41°40.85 71°12.30	18	13 112v	9/27/57

AIDS TO NAVIGATION CONTINUED

NAME OR NUMBER	LATITUDE & LONGITUDE	DEPTH OF WATER	VOL. & POS.	DATE LOCATED
Channel Buoy 7	41° 40.97 71° 12.35	29'	9 100p	9/19/57
Channel Lighted Bell Buoy 8 fl. red 4 ^s	41° 41.09 71° 12.05	20	13 46v	9/27/57
Channel Buoy 9	41° 41.18 71° 12.05	28	13 114v	9/27/57
<u>NORTH</u> <u>NORTH SIDE</u>				
Spar Island Buoy	41° 41.22 71° 13.40	13	6 135j	9/10/57
Old Bay Rock Buoy 1	41° 41.77 71° 13.55	13	9 84p	9/19/57
<u>KICKAMUIT RIVER</u>				
Buoy 2	41° 41.69 71° 14.69	7	7 41-1	9/16/57
Buoy 4	41° 41.78 ⁹ 71° 14.73	7	7 42-1	9/16/57
Buoy 6	41° 41.93 71° 14.68	15	7 43-1	9/16/57
Buoy 1	41° 42.00 71° 14.69	9	7 44-1	9/16/57
<u>COLE RIVER</u>				
Buoy 2	41° 42.82 71° 13.16	11	11 150s	9/24/57

Q. LANDMARKS FOR CHARTS

3 new landmarks will be reported on form 567

R. GEOGRAPHICAL NAMES

There are no new geographical names to report.

S. SILTED AREAS

Not applicable.

T. BY-PRODUCT INFORMATION

Not applicable.

U-Y MISCELLANEOUS

There were no unusual difficulties encountered.

See sp. Rep 56/137
See Fath Rep 11-8394
D.R.
Sp Reps. 56/137

FATH Rep. See D.R. of 11-8394

Z. TABULATION OF APPLICABLE DATA

The bar check tabulation will be transmitted as a separate report.

Respectfully submitted,

Lawrence L. Seal, Ens. C&GS

ATTACHMENTS

APPENDIX

- A. LIST OF CONTROLS
- B. STATISTICS
- C. TIDAL NOTE
- D. ABSTRACT OF VELOCITY CORRECTIONS
- E. APPROVAL SHEET

APPENDIX A
LIST OF SIGNALS
TO ACCOMPANY

HYDROGRAPHIC SURVEY SHEET H-8396, (FIELD NO. ECFP 1459)

STATIONS	ORIGIN	STATIONS	ORIGIN
ABY	T-10491 Vol	JAB	T-10484
ACT	"	JIG	T-10491
AGO	"	KIM	T-10484
AID	Hydro Vol. #7	KIX	"
AND	Hog Isl. Shoal L. H. 1913	LAC	Black Tank, 1932
AND	T-10484	Lack	Black Tank, 1932
ARC	Hydro	LEE	T-10484
ARN	T-10484	LEES	Lee's River (MGS) 1934
AXF	"	LEO	T-10484
BAR	T-10484	LET	T-10491
BET	T-10491	LIG	"
BEN	"	LOW	T-10491
BIM	"	MAD	T-10484
BIA	T-10491	MEB	T-10484
BOP	"	MEB	T-10491
BOR	T-10484	MIL	T-10484
BRAY	Brayten (MGS) 1934	MIN	"
BUD	T-10484	NED	"
CAD	"	NEW	T-10491
CAR	Hydro. Vol. "7"	NEX	T-10491
CAW	T-10484	NIT	T-10484
COW	"	NOW	"
Cub	T-10491	NUT	T-10491
DAR	T-10484	OBI	T-10484
DAV	Hydro. Vol. "7"	OHM	T-10491
DEB	T-10484	OLD	T-10484
DIG	T-10491	PAD	"
LOC	Hydro. Vol. "7"	PEN	T-10491
DOR	T-10484	PER	T-10484
DUD	"	PIRE	Baptist Church Spire, 1917
ELI	"	PON	T-10484
ELL	T-10491	POT	"
ERR		POG	"
EXO	T-10484	RAG	T-10491
FAD	"	RAT	T-10484
FAN	T-10491	RAW	"
FIR	"	RAX	T-10491
FOE	T-10484	ROO	T-10484
FOG	T-10491	ROW	T-10491 Vol
GAG	T-10484	SAP	
GEO	T-10491	SAX	T-10484
GRO	"	SAY	"
HAD	T-10484	SEA	T-10491
HIC	T-10491	SEL	"
HIP	T-10484	SHE	Hydro Vol. #7
HOP	Mt. Hope Bridge North Tower 1932	SID	T-10491
ILO	T-10484	SOLD	Bristol Soldiers Home, 1934
INA	"	STA	Bristol Stack, 1952
INN	T-10491	TAL	T-10491
ITS	"	TED	
IVY	"		

Stations from blackline sheets which are to be destroyed after review and the present survey is the final authority for station locations. EET.

LIST OF SIGNALS CONTINUED

STATIONS	ORIGIN
TIN-----	T-10491
TON-----	Hydro Vol. #7
TOWE-----	Mt. Hope Bridge South Tower, 1932
TRY-----	T-10491
VER-----	T-10484
VIL-----	"
WAD-----	"
WEE-----	"
WHO-----	"
WHY-----	"
WIG-----	"

APPENDIX B
STATISTICS

DATE	VOL. NO.	DAY LTR.	NO. D. P.	POSITIONS FATH.	STA. MI. SDG.
Launch CS-168					
7/26/57	1	a	13	0.0	0.0
7/27/57	1	b	9	114 2.0	16.7
7/28/57	2	c	11	154.0	13.6
7/29/57	2&3	d	4	171.0	19.8
7/30/57	3	e	31	0.0	0.0
9/5/57	3&4	f	1	174.0	21.8
9/6/57	4	g	21	117.0	15.9
9/9/57	4&5	h	5	201.0	26.7
9/10/57	5&6	j	7	161.0	19.4
9/13/57	6&7	k	0	208.0	25.1
9/16/57	7&8	l	9	156.0	19.3
9/17/57	8	m	34	122.0	15.5
9/18/57	8&9	n	31	143.0	17.7
9/19/57	9&10	p	20	101.0	12.8
9/20/57	10	q	13	107.0	13.3
9/23/57	10	r	5	53.0	4.6
9/24/57	11	s	17	157.0	17.5
9/25/57	11&12	t	5	141.0	12.6
9/26/57	12	u	28	116.0	9.5
9/27/57	13	v	12	103.0	11.5
9/30/57	13	w	74	31.0	2.3
10/1/57	14	x	25	53.0	6.9
10/2/57	14	y	1	93.0	11.6
10/3/57	15	z	10	60.0	6.0
10/10/57	15	aa	3	47.0	8.2
10/11/57	15	ba	0	92.0	13.3
10/14/57	16	ca	<u>11</u>	<u>21.0</u>	<u>1.6</u>
Totals			400	2,924.0	343.2
Square statute miles of sounding					14.4

APPENDIX C
TIDAL NOTE FOR HYDROGRAPHIC SURVEY
H-8396 (ECFP-1457)

All tidal data for reduction of soundings was obtained from portable tide gages at Toweset Point, Mt. Hope Bay, and Fort Adams, Rhode Island.

TOWESET POINT

Gage: lat. $41^{\circ} 41.88N$
long. $71^{\circ} 14.45W$

Staff: Mean low water corresponds to 2.3 feet on staff.

Correction: No time or height correction were applied to the results obtained from the gage in reducing soundings.

FORT ADAMS

Gage: lat. $41^{\circ} 28.89N$
long. $71^{\circ} 14.45W$

Staff: Mean low water corresponds to 5.8 feet on staff.

Correction: Time correction by adding 20 min. and 0.7 foot to the high water heights.

The method of determining tide reducers is in accordance with the following letter; 36-416-15b dated 17 October 1957

APPENDIX D
ABSTRACT OF VELOCITY CORRECTIONS
PROJECT 13870
SHEET H-8396

GROUP 1

LAUNCH CS-168
8/26 to 9/16 and 9/18

FATHOMETER NO. EDO # 201

KATO: 60.0 cycle

TABULATIONS OF RESULTS

DEPTHS (ft.)	CORRECTIONS (ft.)
0.0 to 19.0	/ 0.2
19.1 to 25.0	/ 0.4
25.1 to 32.0	/ 0.6
32.1 to 39.0	/ 0.8
39.1 to 45.0	/ 1.0
45.1 to 51.0	/ 1.2
51.1 to 56.0	/ 1.4
56.1 to 62.0	/ 1.6
62.1 to 66.0	/ 1.8
66.1 deeper	/ 2.0

GROUP II

LAUNCH CS-168
9/17, 9/19 End of season

FATHOMETER NO. EDO # 201

KATO: 61.0 cycle

TABULATION OF RESULTS

DEPTHS (ft.)	CORRECTIONS (ft.)
All depths	0.0

APPENDIX E
APPROVAL SHEET
BOAT SHEET ECFP 1457 (H-8396)

The hydrographic survey of sheet H-8396 is approved and forwarded as complete and adequate.

William A. Hughes, LtJg.
Officer in Charge
East Coast Field Party

GEOGRAPHIC NAMES

Survey No. H-83968

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
Rhode Island			(title)							BGN	1	
Massachusetts			(should be added to title, since a material area of the survey lies in that state)							"		2
Narragansett Bay			(title)							"	3	
Mount Hope Bay ✓			(title)								4	
Tiverton ✓											5	
The Cove ✓											6	
Common Fence Point ✓											7	
Bristol Point ✓											8	
Church Cove											9	
Mt. Hope Point											10	
Bristol Narrows											11	
Chase Cove											12	
Kickamut River											13	
Toweset Point			(Tide Station: not Towesett (14
Cole River											15	
Gardners Neck			(as on chart 353)									16
Lee River											17	
Brayton Point											18	
											19	
											20	
Tide station off sheet:											21	
Fort Adams											22	
											23	
											24	
											25	
											26	
											27	

Names approved 10-16-58
L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. *8396*

Records accompanying survey: Smooth sheets *1*;
 boat sheets *1*; sounding vols. *16*; wire drag vols.;
 Descriptive Reports *1*; graphic recorder envelopes *10*;
 special reports, etc.

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

Number of positions on sheet		<i>3318</i>
Number of positions checked		<i>585</i>
Number of positions revised		<i>196</i>
Number of soundings revised (refers to depth only)		<i>993</i>
Number of soundings erroneously spaced		<i>*</i>
Number of signals erroneously plotted or transferred		<i>1 (TRY)</i>
Topographic details	Time	<i>125</i>
Junctions	Time	<i>16</i>
Verification of soundings from graphic record	Time	<i>40</i>
Special adjustments	Time

Verification by *F.P. SAULSBURY*..... Total time *646 hrs* Date *12-27-61*

Reviewed by *Ernest E. Thomas*..... Time *81* Date *2/14/62*

* Spacing of Sdg's on S.S. was generally poor.
 Approx. 120 intermediate Sdg's. were added to S.S.

OFFICE OF CARTOGRAPHY
REVIEW SECTION -- NAUTICAL CHART DIVISION
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8396

FIELD NO. ECFP-1457

Rhode Island, Narragansett Bay, Mt. Hope Bay

SURVEYED: July - October, 1957

SCALE: 1: 10,000

PROJECT NO. 13870

SOUNDINGS: EDO Depth Recorder
Leadline

CONTROL: Sextant fixes
on shore objects

Chief of Party -----M. T. Paulson
Surveyed by -----L. L. Seal
Protracted by -----L. L. Seal
Soundings plotted by -----L. L. Seal
Verified and inked by -----F. P. Saulsbury
Reviewed by -----E. E. Thomas
Inspected by -----R. H. Carstens

DATE 2-12-62

1. Description of the Area

This survey covers Mt. Hope Bay and its tributaries except Taunton River. The northern entrance to Sakonnet River is also included.

The bottom is generally smooth in much of the north portion of the Bay. The bottom in the south portion of the Bay slopes gradually, except at the entrance to the Sakonnet River, and at the banks of the maintained channels, where slopes are more abrupt. Much of the inshore area is fringed with islets and rocks awash.

2. Control and Shoreline

The control is given in the Descriptive Report

The shoreline originates with unreviewed manuscripts T-10483, T-10484, T-10490, T-10491 of 1956, a reviewed survey T-11428 (1954-56), and revisions in red by the hydrographer.

Use of the photogrammetric location of signal Try resulted in erroneous hydrographic positions. The position of the signal was replotted by the verifier using hydrographic cuts. Only these positions controlling critical information or on lines containing conflicts, were revised using the new position of TRY.

3. Hydrography

Depths at the crossings are in good agreement. The usual depth curves are adequately delineated, except close in-shore where the character of the bottom sometimes prevented development to the low-water line. The least depths on shoals and the bottom configuration were in general adequately developed.

Differences between topographic and hydrographic survey elevations exist on numerous along-shore features. Many items, such as rocks and artificial features which are above MHW and originate with the present survey (and in some instances agree with prior topographic surveys) do not appear on the contemporary photogrammetric Survey. The elevations from the present hydrographic survey are shown on the smooth sheet.

Notations of differences were made to cronaflex copies of T-10483, T-10484, T-10491; the differences for T-10490 were made on an overlay and are called to the attention of the photogrammetric reviewer.

4. Condition of Survey

The records and reports are adequate and conform to the hydrographic Manual. The following deficiencies in smooth plotting were noticed:

- a. Approximately 62 sounding line positions were added during verification which completed development of several shoal indications from the graphs.
- b. It was necessary for the verifier to respace an excessive number of soundings because recorded information was not properly followed during the smooth plot.
- c. Approximately 120 intermediate soundings and 15 bottom characteristics were added to the smooth sheet during verification.

- d. Approximately 850 soundings were revised as much as 4 feet on the smooth sheet. These soundings had been previously revised in the volumes by the field party, but had not been corrected on the smooth sheet.
- e. Numerous revisions were made during verification to rock elevations not correctly shown with respect to the range of tide.
- f. Unnatural irregularities in bottom configuration were eliminated by the use of actual bar checks rather than mean bar checks.
- g. The verifier, confused by the improper labeling of ^x of the more completed photogrammetric survey, was required to re-ink portions of the shoreline twice. *x Refers to "incomplete" vs "ADVANCE"*
- h. The plotted positions of some of the triangulation stations did not have the accuracy prescribed by the Hydrographic Manual. It was necessary for the verifier to revise 4 station positions as much as .7 mm. in order to resolve conflicts in position.

5. Junctions

An adequate junction was effected with H-8397 (1957) on the southeast, with H-8207 (1955) on the east and H-8395 (1957) on the southwest. The survey extends to the project limits on the north, where navigation is impaired by the small vertical bridge clearance on the Cole and Lee Rivers.

6. Comparison with Prior Surveys

- a. Miscellaneous 20 (1832) 1/24,000

USN CHART

This is compiled early reconnaissance hydrography charted from outside sources and lacks sufficient information to make a comparison with the present survey of any cartographic value.

- b. H-792a (1862) 1:10,000 with Add WK (1884)
H-3377 (1912) 1:10,000
H-3996 (1917) 1:10,000

These prior surveys cover the area of the present survey and are prior to any dredged channels. A Comparison in areas where no dredging has occurred reveals that the bottom has shoaled as much as 2 to 3 feet from natural causes.

1. Attention is directed to the vicinity of Spar Island in latitude $41^{\circ} 41.15'$ longitude $71^{\circ} 13.13'$ where a second high-water island has apparently been created by spoil deposits. Also the adjacent 20 foot deep from H-792a (1862) in approximate latitude $41^{\circ} 41.2'$ longitude $71^{\circ} 12.9'$ has been filled and a 12 foot shoal now exists on the present survey.
2. In latitude $41^{\circ} 39.5'$ longitude $71^{\circ} 13.4'$, a 11 to 17 foot shoal protrusion has been dredged to corresponding 19 to 36 foot depths.
3. In Bristol Narrows at latitude $41^{\circ} 41.80'$ longitude $71^{\circ} 14.68'$ the prior natural channel has been constricted by a low water bar. The present marked channel is adjacent to the shoreline west of the shoal.
4. The extensive low-water area charted in Cole River is superseded by the development of the present survey.
5. The bare rock charted in latitude $41^{\circ} 39.91'$ longitude $71^{\circ} 14.90'$ from H-792a is shown on the present survey as a rock awash uncovering 2 feet at MLW. The charted feature should be revised to a rock awash.
6. The 1 foot sdg. charted in latitude $41^{\circ} 43.33'$ longitude $71^{\circ} 13.35'$ falls in present depths of 9 to 11 feet and should be disregarded. There is evidence of erosion in the vicinity since the 1862 survey (H-792a).

The present survey is considerate adequate to supersede these prior surveys within the common area.

7. Comparison with Chart 353 (Latest print date 4-10-61)
350 (Latest print date 12-25-61)
278 (Latest print date 11-27-61)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which need no further consideration, the Corps of Engineers surveys of 1942 to 1958, and critical information from the present survey applied from the boat sheet (Bps 55829 and 55830) and the unverified smooth sheet. Attention is directed to the following discrepancies between charted information and the present survey:

1. Offshore rocks charted in the vicinity of Gardners Neck and Brayton Point from T-5750 are displaced on that survey by 30 meters and should be replotted to those positions shown on the present survey.
2. The rocks charted from air-photograph corrections (BP 49555 of 1952) in latitude $41^{\circ} 42.45'$ longitude $71^{\circ} 14.51'$ and latitude $41^{\circ} 42.55'$ longitude $71^{\circ} 13.55'$ do not appear on contemporary photogrammetric surveys and were not developed on the present survey. The rocks should be charted as shown on the present survey.
3. The 31 ft. charted in latitude $41^{\circ} 39.08'$ longitude $71^{\circ} 12.68'$ from Corps of Engineers survey of December 1958 (BP 58394) is subsequent to the present survey.
4. The 16 ft. charted in latitude $41^{\circ} 39.95'$ longitude $71^{\circ} 13.10'$ from Corps of Engineers survey of 1944 (BP 39021) falls in present depths of 18 to 20 feet and is considered to have eroded.
5. The 15 ft. in latitude $41^{\circ} 39.34'$ longitude $71^{\circ} 14.90'$ was charted prior to the first publication of charts 353 and 1210 from an unknown source. The 15 is discredited by present depths of 19 to 20 feet and should be disregarded.
6. The OBSTR charted in latitude $41^{\circ} 39.73'$ longitude $71^{\circ} 15.13'$ from air-photograph corrections (BP 59555 of 1952) is verified by the present survey as a stone crib at the offshore end of a stone pier.

7. The 13 ft. sounding charted in latitude $41^{\circ} 40.57'$ longitude $71^{\circ} 13.50'$ was originally charted prior to the present chart series as an 18 ft. sounding. The erroneous 13 feet first appeared on the New Edition of 1952.
8. The 1 ft. Rep June 1959 in latitude $41^{\circ} 43.25'$ longitude $71^{\circ} 11.78'$ originates on chart 350 from chart letter 839 (1959) and is subsequent to the present survey.
9. The visible wreck charted in latitude $41^{\circ} 38.26'$ longitude $71^{\circ} 12.72'$ originates with HON to M 50 of 1960 and is subsequent to the present survey.
10. The sunken wreck, 24 ft. Rep charted in latitude $41^{\circ} 37.91'$ longitude $71^{\circ} 12.82'$ originates with HON to M 37 of 1961 and is subsequent to present survey.
11. The 16ft. charted in latitude $41^{\circ} 40.05'$ longitude $71^{\circ} 12.20'$ from Corps of Engineers survey (BP 47394) of 1950 falls between 120-meter spaced sounding lines on the present survey and is not considered disproved. The sounding should be retained on the chart.

Except for items 3 and 8 through 11 above, the present survey is adequate to supersede the charted hydrography within the common area.

B. Controlling Depths

1. Present survey depths in the dredged channels to Taunton River are superseded by the charted controlling depth of 34 feet from Corps of Engineer Survey of 1958 (BP 58395-98)
2. Present survey depths in the dredged main channel of Tiverton Upper Channel are superseded by the charted controlling depths of 35 feet from chart letter 160 of 1960.

C. 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. Seal Rock daybeacon charted in latitude $41^{\circ} 39.75'$ longitude $71^{\circ} 14.80'$ from HON to M 40, 1958 was established subsequent to the present survey.

8. Compliance with Project Instructions

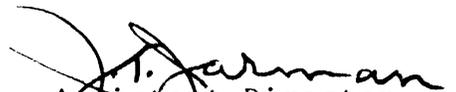
This survey adequately complies with project instructions.

9. Additional Field Work

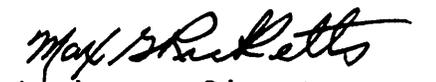
The survey is considered to be a good basic survey and no additional work is required. The Corps of Engineers make periodic surveys in the navigable channels.

Examined and Approved:


Chief,
Nautical Chart Division


Assistant Director,
Office of Cartography


Projects Officer,
Operations Division


Assistant Director,
Office of Oceanography

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

East Coast Field Party

2 October, 19 58

TO BE CHARTED

STRIKE OUT ONE

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on ~~the~~ the charts indicated.

The positions given have been checked after listing by A. G. Davis

15/11/58
Marvin T. Paulson
Chief of Party.

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION		DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
				LATITUDE *	LONGITUDE *							
Rhode Island												
		* Bristol Soldiers Home, 1934	(SOLD)	41 41	71 15	N. A.	T-10490	1957	X			353
		** Mt. Hope Bridge North Tower, 1932 (285 ft. above MHW)	(HOP)	41 38	71 15	"		"	X			"
		** Mt. Hope Bridge South Tower, 1932 (285 ft. above MHW)	(TOWE)	41 38	71 15	633.3 "		"	X			"
		* Elevation was not obtained										
		**Elevation was obtained from T-10490										

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* TABULATE SECONDS AND METERS

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED
~~DO NOT REPLICATE~~ STRIKE OUT ONE

East Coast Field Party

2 October, 1958

I recommend that the following objects which have ~~(been)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(charts)~~ the charts indicated.
The positions given have been checked after listing by A. G. Davis

Mervin T. Paulson
Chief of Party.

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				DATUM	METHOD OF LOCATION SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
				LATITUDE *	LONGITUDE *	D. M. METERS	D. P. METERS							
Rhode Island														
		* Bristol Soldiers Home, 1934	(SOLID)	41 42	71 15	300.0	522.5	N. A.	T-10490	1957	I			353
		** Mt. Hope Bridge North Tower, 1932 (285 ft. above MHW)	(ROP)	41 38	71 15	888.2	782.5	"		"	I			"
		** Mt. Hope Bridge South Tower, 1932 (285 ft. above MHW)	(TOWER)	41 38	71 15	968.9	606.1	"		"	I			"
						550.5	631.5	"						
						1900.6	757.3	"						
		* Elevation was not obtained												
		** Elevation was obtained from T-10490												

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating* aids to navigation, if redetermined, shall be reported on this form. The data should be considered for *side* charts of the area and not by individual field survey sheets. Information under each column heading should be given.
* TABULATE SECONDS AND METERS

July 27, 1962

Attention is directed to the discrepancies noted between the offshore detailing on the contemporary Hydrographic and Photogrammetric surveys discussed in the Hydrographic Survey Review. The differences were noted on cronarflex copies of the following photogrammetric surveys.

T- 10483

10484

10485

10490 (cronarflex not available, vinylite cover sheet used.)

10491

The following was forwarded to ^{Photogrammetric Aug 10, 1962} ~~Photogrammetric~~ records Section to be inserted into each of the above reports.

Cronarflex are filed in review.

E. Thomas
transferred to Photo Review (LANDE) E. Thomas

1-24-64 EET.

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

19 November 1958

Plane of reference approved in
16 volumes of sounding records for

HYDROGRAPHIC SHEET 8396

Locality Narragansett Bay, Rhode Island

Chief of Party: M. T. Paulson in 1957

Plane of reference is mean low water reading

2.3 ft. on tide staff at Towesett Point (Bristol Narrows)

14.1 ft. below B.M. 1 (1957)

5.8 ft. on tide staff at Fort Adams

17.9 ft. below B.M. 1 (1957)

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

Towesett Point = 4.2 feet ← survey area
Fort Adams = 3.4 feet

Condition of records satisfactory except as noted below:



Signature

Chief, Tides Branch

RUMSTICK LEDGE

Three privately maintained daybeacons mark Rumstick Ledge from April 1, to October 1.

N.Y.N.H. & H.R.R.



T-10184
 T-10496
 T-10490

H-8207-10,000-55
 H-8395-10,000-57
 H-8397-10,000-57

