

9224

Diag. Cht. No. 1208-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC
Field No. PE-10-1-71
Office No. H-9224

LOCALITY

State Massachusetts
General Locality Cape Cod
Locality Race Point to Wood End

1971

CHIEF OF PARTY
Bruce I. Williams

LIBRARY & ARCHIVES

DATE January 6, 1977

9224

Area 1
CMT
13006 75 HR
13009 71 HR
13249 550 HR
13260 1106 HR
13208 1107 HR
13267 1307 HR
13246 1208 HR
13002 1000 HR

HYDROGRAPHIC TITLE SHEET

H-9224

INSTRUCTIONS - 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.

PE-10-1-71

State Massachusetts

General locality Cape Cod

Locality Race Point to Wood End

Scale 1:10,000

Date of survey 25 May - 17 June, 1971

Instructions dated 27 April, 1971

Project No. OPR-473-PE-71

Vessel NOAA Ship PEIRCE (launch and skiff)

Chief of party Cdr. Bruce I. Williams

Surveyed by LTJG Tom Richards

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by ships personnel

Graphic record checked by ships officers

L. G. Cram

Protracted by LTJG Richards EDP-AMC

Automated plot by -- ~~EDP-AMC~~ CALCOMP 618

Soundings penciled by -- ~~EDP-AMC~~

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXXX~~

REMARKS: Verification by L.G. Cram

Misc items were removed from this D.R. and are filed in the Cahier with the field records.

HDEG Category 2 - Revised to Category 4, 11-9-72

Applied to stds 1-24-77
CRB

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DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY PE-10-1-71

1971 FIELD SEASON

NOAA Ship PEIRCE
Bruce I. Williams

Scale 1:10,000
Chief of Party

A. PROJECT

This survey was accomplished under PROJECT OPR-473-PE-71, CAPE ANN TO CAPE COD, MASSACHUSETTS. The survey was done under PROJECT INSTRUCTIONS dated 27 April, 1971, and CHANGE NO. 1 AMENDMENT TO PROJECT INSTRUCTIONS dated 24 May, 1971. These instructions supersede all previous instructions for this project. ✓

B. AREA SURVEYED

The area surveyed is in Massachusetts Bay near the tip of Cape Cod from Long Point to Race Point. ✓

The survey is bounded on the west by survey H-9013, 1:40,000, 1968. It is bounded on the south by H-6563, 1:40,000, 1940. It is bounded on the east by the high water line and survey H-5400, 1:20,000, 1933. It is bounded on the north by contemporary survey H-9225, 1:10,000, 1971. ✓

Hydrography commenced on 25 May and was completed on 17 June, 1971. ✓

C. SOUNDING VESSEL

Hydrography was accomplished using one launch (PE-2), one skiff, and the ship PEIRCE. In addition soundings were obtained by walking the shoreline. Position numbers for launch PE-2 were inked in red. The bottom samples taken by the ship were inked in red and processed in the various tapes as if they had been taken by the launch PE-2. Soundings obtained by walking the shoreline are inked in red also and processed in the various tapes as if they had been taken with the skiff. The skiff was assigned position numbers 900 through 931. ✓

D. SOUNDING EQUIPMENT

One Raytheon (type 723) fathometer and sounding poles were used on this survey. Fathometer #260 was used to obtain all soundings. Reduced soundings were taken up to 192 feet. ✓

The skiff soundings were obtained by taking a fix at the waters edge or by using a 16 foot pole graduated at one foot increments. No large area skiff hydrography was done. ✓

Bar checks were taken two times a day as weather permitted. Bar check results were tabulated and a mean fathometer error at each depth up to 50 feet was determined. ✓

The final velocity corrections for all depths were obtained by adjusting the results of one nansen cast to the bar check results. ✓

The initial on the fathogram was maintained at 2.0 feet throughout the survey. ✓

Phase error was definitely noted during the survey and data was obtained at all scales used during the survey to obtain the proper phase correction. ✓

E. SMOOTH SHEET

The smooth sheet will be computer plotted at the Atlantic Marine Center. Field records were encoded on punched paper tape in accordance with instructions and formats listed in the ATLANTIC MARINE CENTER MANUAL. A single 'on-line' position and sounding tape was used by the sounding vessels. ✓

F. CONTROL

Visual control was used for all positions taken during this survey. Three-point sextant fixes were utilized on triangulation and photogrammetric points. The fixes were plotted with a three arm plastic protractor. ✓

Photogrammetric signals were located by photogrammetric field party 62 under the direction of E. W. Hartford. The photo points were pricked and transferred directly to the boat sheet from 1:10,000 manuscript TP-00165 (compilation complete pending field edit dated March 1971). ✓

Positions of photo signals were scaled in degrees, minutes, and meters from the manuscript and logged on a signal tape to be submitted for smooth plotting. ✓

Triangulation station positions were logged to the nearest meter as obtained from the G.P. cards. ✓

G. SHORELINE

The shoreline was transferred to the boat sheet from manuscript TP-00165. No portion of the high water line was revised by the hydrographer. The low water line was obtained both by running soundings at high water and walking the shoreline at low water. ✓

H. CROSSLINES

Crosslines were run at 18% of the total mileage. Crosslines were in good agreement. ✓

I. JUNCTIONS

Junction with surveys H-5400, H-6563, and H-9013 were in good agreement with soundings generally within 2 feet or less. This is good and agreement should improve when all corrections have been applied to this survey. ✓
H-9225 (1971) PE-10-2-71

J. COMPARISON WITH PRIOR SURVEYS

Presurvey review item 93

A development was run over the charted wreck in Latitude $42^{\circ} 02' 53.8''$, Longitude $70^{\circ} 15' 37.3''$. No indication of this wreck was observed on the fathograms. Positions 698 to 709 on day 159 cover the area. ✓

The ~~wire drag~~ sounding at Latitude $42^{\circ} 01.95'$, Longitude $70^{\circ} 13.28'$ was not investigated nor was investigation required. It lies on the steep cliff which drops from 22 feet to 138 feet in approximately 100 meters. No evidence of a Wire Drag sounding on Chart 580, 3rd Ed. Aug 10/64 or on surveys.

K. COMPARISON WITH THE CHART

A comparison was made with C&GS Chart 580, 5th Edition, December 12, 1970. Soundings and depth curves were in excellent agreement. ✓

In response to a request from photo party 62 a mast charted in Provincetown Harbor was relocated by a sextant fix and plotted on the boat sheet at Latitude $42^{\circ} 02' 22''$, Longitude $70^{\circ} 11' 12''$. *Covered 2' at M.L.W* ✓

L. ADEQUACY OF THE SURVEY

This survey is complete and adequate to supersede prior surveys for charting. ✓

M. AIDS TO NAVIGATION

The four charted buoys on this sheet were found to be within 2 seconds of their charted positions and were found to be as described in 1971 U.S. COAST GUARD LIGHT LIST, page 108 Volume I. (See Review pgs 6 B)

The signal mast at Wood End has been destroyed and was so reported on form 76-40 submitted by photo party 62.

N. STATISTICS

Number of positions	921
Nautical miles of sounding line	115.2
Area surveyed (sq. nm.)	10
Bottom samples	25
Nansen cast	1

O. MISCELLANEOUS

All data was recorded using Greenwich mean time.

This survey was begun under original project instructions dated 27 April, 1971. A tide gage was installed at Peaked Hill Bar, Latitude 42° 04' 45", Longitude 70° 09' 45", on 24 May 1971. On June 6 amended instructions were received which required a gage to be installed between Race Point and Wood End within the area of this survey. The gage was installed June 9. At this time the survey was 80% complete. The gage was installed to provide a time and height difference to the survey area.

P. REFERENCES TO REPORTS

REPORT ON CORRECTIONS TO ECHO SOUNDINGS, OPR-473-PE-71, 1971 FIELD SEASON

SEASONS REPORT, NOAA SHIP PEIRCE, 1971 FIELD SEASON

Very Respectfully

John O. Rolland

John O. Rolland
Lt., NOAA

Approved and Forwarded

Bruce I. Williams
Bruce I. Williams
Cdr., NOAA

APPROVAL SHEET

The boat sheet and field records have been reviewed and are approved. This survey is complete and adequate to supersede prior surveys for charting.



Bruce I. Williams
Cdr., NOAA
Commanding Officer
NOAA Ship PEIRCE

3/11/75

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Herring Cove, Massachusetts
Boston, Massachusetts

Period: May 26 - June 17, 1971

HYDROGRAPHIC SHEET: H-9224

OPR: 473

Locality: Cape Cod Bay,

Plane of reference (mean ~~lower~~ low water): 4.6 ft. - Herring Cove
3.6 ft. - Boston

Height of Mean High Water above Plane of Reference is 9.1 ft.

Remarks: Recommended zoning:

Herring Cove: zone direct

Use Boston heights when Herring Cove is unavailable.

Time Corrections

+12 min.

Range Ratio

Apply x 0.96

James R. Hubbard
for Chief, Tides Branch

ABSTRACT OF VELOCITY CORRECTIONS

The velocity tables were computed by combining the results of bar checks and one nansen cast.

Velocity table #1 applies to all work done on days 146, 147, 148, 152, 153, 158, 159, 161, 165, 166, and 167.

Velocity table #2 applies to all work on days 145, 162, and 168.

Velocity Table 1

<u>Depth (to)</u>	<u>Corr.</u>
8.0	-1.0
18.0	-0.8
26.0	-0.6
33.0	-0.4
40.0	-0.2
120.0	0.0
183.5	-0.2
999.9	-0.4

Velocity Table 2

<u>Depth (to)</u>	<u>Corr.</u>
999.9	0.0

Velocity Table Tape
PE-10-1-71 (H-9224)
OPR-473-PE-71

14

Depth (to)	I N	Tab D	Corr. #	Vessel	Sheet #
000080	1	0010	0001	000 283200	010171
000180	1	0008			
000260	1	0006			
000330	1	0004			
000400	1	0002			
001200	0	0000			
001835	1	0002			
999999	1	0004			
999999	0	0000	0002	000 283300	010171

IND= 1 = minus correction

ABSTRACT OF TRA CORRECTIONS

The TRA corrector is a combination of several factors and applies only to depths taken by electronic methods. All soundings obtained by walking the shoreline and bottom samples taken by the ship have a zero TRA value. The TRA correction is applied to the soundings on the survey through the use of the TC/II tape.

TRA is defined as follows:

Transducer draft	Fathometer speed correction
Instrumental error	Phase correction
Settlement and Squat	Initial correction

Transducer draft

No draft correction is applied. The day to day change for the launch is considered negligible and any error is averaged out by the daily bar checks.

Instrumental Error

Velocity corrections obtained by bar checks incorporate this error in the velocity correction.

Settlement and Squat

A determination was made for PE-2 on 17 September, 1971. The results were as follows:

<u>RPM (to)</u>	<u>Correction</u>
840	0.0
1160	+0.1
2160	+0.2
2350	+0.1

Refer to the 1971 Report on Corrections to Echo Soundings for the complete data.

Fathometer speed correction

The power supplies for the fathometer were maintained so that the instrument operated at 60 cycles and no correction is necessary.

Phase correction

The fathometer used on the survey (#260) did have a phase error. Three separate determinations with the instrument

in good adjustment indicated the following corrections should be applied:

A-B	-1.1
B-C	-0.5
C-D	-0.2
D-E	-1.0

Therefore the correction applied to the soundings are as follows:

Soundings on A scale	0.0
Soundings on B scale	-1.1
Soundings on C scale	-1.6
Soundings on D scale	-1.8
Soundings on E scale	-2.8

Refer to the Report on corrections to echo soundings for the complete determination of the TRA and TC/TI tape.

The TC/TI tape printout follows.

LIST OF SIGNALS ON H-9224

<u>EDP #</u>	<u>SOURCE</u>
002	LONG POINT LIGHTHOUSE 1877 _{r 1958}
004	LONG POINT INNER RANGE BEACON 1 1933 _{r 1971}
006	LONG POINT OUTER RANGE BEACON 1 1933
008	LONG POINT INNER RANGE BEACON 2 1933
010	LONG POINT OUTER RANGE BEACON 2 1933
012	LONG POINT INNER RANGE BEACON 3 1933
014	LONG POINT OUTER RANGE BEACON 3 1933
016	WOOD END LIGHTHOUSE 1877 _{r 1971}
018	TP-00165
020	TP-00165
022	TP-00165
024	PROVINCETOWN SOUTHEAST RANGE, FRONT BEACON 1906 _{r 1971}
026	PROVINCETOWN SOUTHEAST RANGE, REAR BEACON 1906 _{r 1971}
028	TP-00165
030	PROVINCETOWN NORTHWEST RANGE, FRONT BEACON 1906 _{r 1971}
032	PROVINCETOWN NORTHWEST RANGE, REAR BEACON 1906
034	PROVINCETOWN COURSE D, FRONT RANGE BEACON 1947
036	PROVINCETOWN COURSE D, REAR RANGE BEACON 1947
038	RACE POINT LIGHTHOUSE 1877 _{r 1933}
040	PILGRIM MONUMENT 1909 _{r 1971}
042	PROVINCETOWN STANDPIPE 1933 _{r 1971}
044	WEST TRACKING STATION *
046	TP-00165
048	TP-00165
050	TP-00165

* See attached reference for station 044

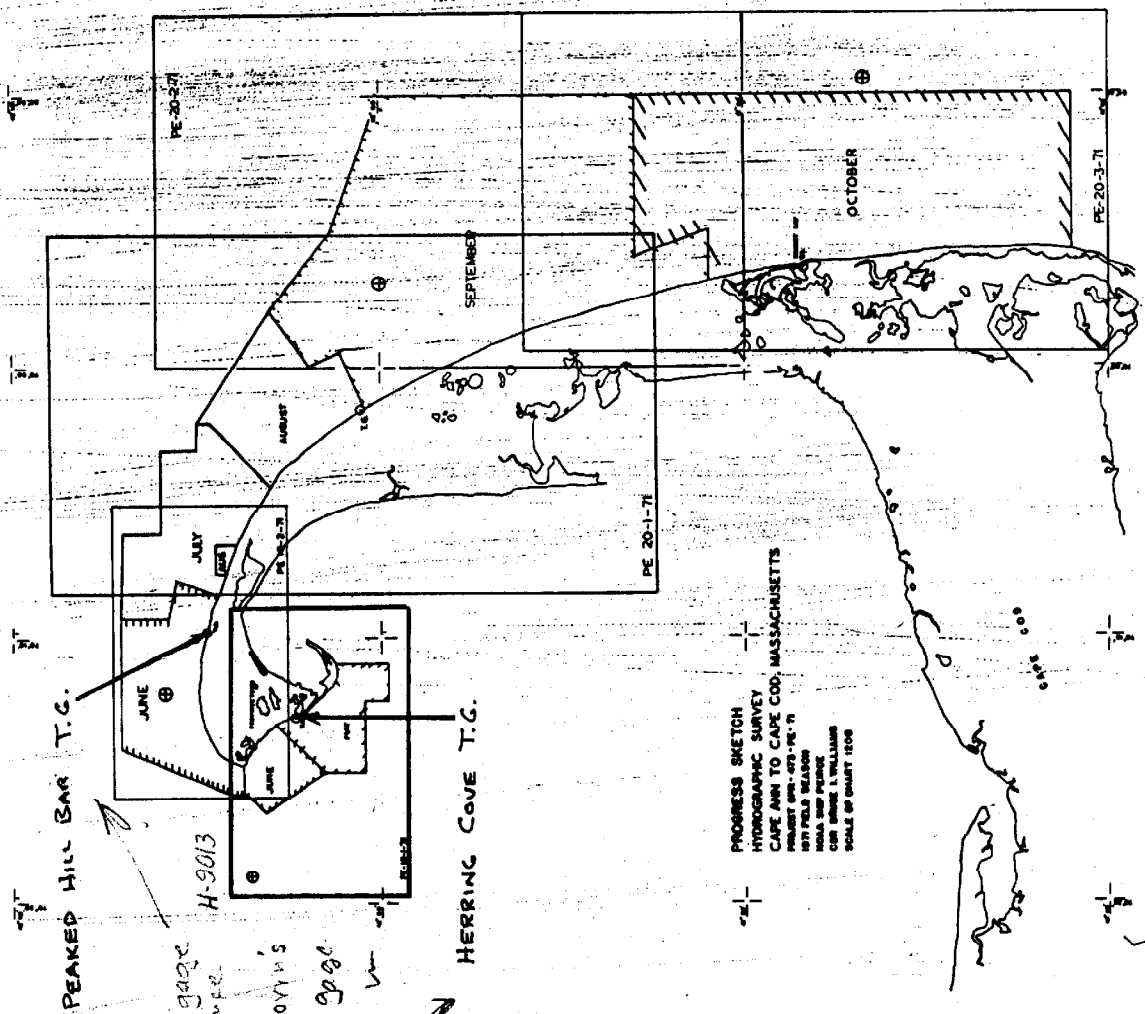
Reference

FORACS IV

RANGE PARAMETERS

The following Range Parameters are the results of a complete computer check by the Geodesy Section, Pacific Missile Range, Pt. Mugu, California, on all the land surveys performed on this range (15 October 1969):

<u>NAME</u>	<u>GEOGRAPHIC</u>	<u>LAMBERT PLANE</u>	<u>LOCAL PLANE</u>	<u>θ & Z</u>
<u>TRACKING STATIONS</u>				
EAST	$\phi=42^{\circ} 04' 52.811''$ $\lambda=70 12 03.441$	Y=396,718.66' X=952,639.94	Y=46,718.66' X=52,639.94	$\theta=+0^{\circ} 52' 21.3787$
MID	$\phi=42^{\circ} 04' 43.538''$ $\lambda=70 13 17.327$	Y=395,695.95' X=947,082.98	Y=45,695.95' X=47,082.98	$\theta=+0^{\circ} 51' 31.7474$
WEST	$\phi=42^{\circ} 03' 55.034''$ $\lambda=70 14 41.017$	Y=390,693.11' X=940,844.70	Y=40,693.11' X=40,844.70	$\theta=+0^{\circ} 50' 35.5305$
<u>REFERENCE MARKS</u>				
EAST RM-1	$\phi=42^{\circ} 04' 52.268''$ $\lambda=70 12 05.785$	Y=396,661.02' X=952,464.03	Y=46,661.02' X=52,464.03	$\theta=+0^{\circ} 52' 19.8042$
MID RM-1	$\phi=42^{\circ} 04' 43.626''$ $\lambda=70 13 18.435$	Y=395,703.61' X=946,999.30	Y=45,703.61' X=46,999.30	$\theta=+0^{\circ} 51' 31.0031$
WEST RM-1	$\phi=42^{\circ} 03' 53.326''$ $\lambda=70 14 41.521$	Y=390,519.63' X=940,809.25	Y=40,519.63' X=40,809.25	$\theta=+0^{\circ} 50' 35.1919$
<u>BACK SIGHTS</u>				
RM-4	$\phi=42^{\circ} 04' 23.884''$ $\lambda=70 12 28.223$	Y=393,762.55' X=950,815.72	Y=43,762.55' X=50,815.72	$\theta=+0^{\circ} 52' 04.7319$
RACE POINT LIGHT HOUSE	$\phi=42^{\circ} 03' 43.967''$ $\lambda=70 14 37.024$	Y=399,577.39' X=941,162.38	Y=39,577.39' X=41,162.38	$\theta=+0^{\circ} 50' 38.2127$
<u>PASSIVE RADAR REFLECTOR</u>				
LE REFLECTOR	$\phi=42^{\circ} 03' 59.412''$ $\lambda=70 14 25.181$	Y=391,153.78' X=942,032.52	Y=41,153.78' X=42,032.52	$\theta=+0^{\circ} 50' 46.1679$



PEAKED HILL BAR T.G.

Use this gage for Reference. Compute contents from this gage

HERRING COVE T.G.

PROGRESS SKETCH
 HYDROGRAPHIC SURVEY
 CAPE ANN TO CAPE COD, MASSACHUSETTS
 PROJECT 491-473-10-71
 1970 FIELD SEASON
 WASA AND PERAC
 CDR BRUCE I. WILLIAMS
 SCALE OF SHEET 1:1000

Verifier:...E.Fields

Norfolk,va.
Nov.22,1972

VERIFICATION NOTE TO EDP.(AMC)
SURVEY H-9224 (PE-10-1-71)

This branch has completed the verification of the control overlay for this survey.


It was found that signal 50 plotted off the sheet to the north. Please move the point of origin 250 meters to the north to allow all signals to be plotted with-in the sheet limits. ✓

The following signals are to be changed to triangulation symbols:

002 -	012 -	030 -	040 -
004 -	014 -	032 -	042 -
006 -	016 -	034 -	
008 -	024 -	036 -	
010 -	026 -	038 -	

After the above changes have been made please furnish this office with a position overlay.

WLJ


Hugh L. Proffitt
Chief, Ver. Br. AMC

Verifier:..H.R.Smith

Norfolk, Va.
Dec. 19, 1972

VERIFICATION NOTE TO EDP. (AMC)
SURVEY H-9224 (PE-10-1-71)


This branch has completed the verification of the position overlay for this survey.

There were about 53 records destroyed, due to logging errors, ²7 positional changes as shown on the printout in red pencil.

Personnel of this branch have key punched cards for the needed changes and they accompany this note.

After the needed changes have been made, please furnish this branch with a sounding overlay.

WLJ


Hugh L. Proffitt
Chief, Ver. Br. AMC.

Verifier: R. Gram

3 November 1975


Verification Note to EDP (AMC)
Survey H-9224 (PE-10-1-71) OPR-473

This office has completed the verification of the preliminary sounding overlay. All needed changes are shown in red pen on the preliminary sounding printout.

There were approximately 15 soundings to be corrected and 40 soundings to be excessed. There are three signal numbers not to be plotted. They are as follows: 10, 6, and 2.

All cards were punched for excess and sounding changes, the No plot position numbers were not plotted.

See accompanying letter for all other changes to this survey.

William L. Jonns 
Chief, Verification Branch
AMC

GEOGRAPHIC NAMES

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	RAND McNALLY ATLAS	U.S. LIGHT LIST				
HATCHES HARBOR	/											1
HERRING COVE	/											2
CAPE COD	/											3
LONG POINT	/											4
WOOD END	/											5
RACE POINT	/											6
PROVINCETOWN BEACH	/											7
SHANK PAINTER BAR	/											8
WOOD END BAR	/											9
HERRING COVE BEACH	/											10
CAPE COD BAY	/											11
PROVINCETOWN	/											12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25

APPROVED

Chas. E. Hartigan

CHIEF GEOGRAPHER - C3x8

9 Nov 1978

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9224

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS (mylar)		1	
DESCRIPTIVE REPORT		1	OVERLAYS (prelim. & misc.)		4	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
RECORDING ENVELOPES	1		1			
CAHIERS	1-with printouts		1			
VOLUMES	2					
BOXES						
T-SHEET PRINTS (List) TP-00165 (reviewed)						
SPECIAL REPORTS (List) NONE						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				921
POSITIONS CHECKED		92		
POSITIONS REVISED		9		
DEPTH SOUNDINGS REVISED		200		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		17		
JUNCTIONS		6		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		16		
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		52		
TOTALS		91		
PRE-VERIFICATION BY E.J. Fields and H.R. Smith		BEGINNING DATE 11/21/72	ENDING DATE 12/19/72	
VERIFICATION BY L.G. Cram		BEGINNING DATE 05/02/76	ENDING DATE 05/03/76	
REVIEW BY <i>[Signature]</i>		BEGINNING DATE 05/01/78	ENDING DATE 22 May 78	

Curson Inspection J.W. Wellman 11-9-76
D. ENGLE 23 hrs 2-15-79
112 104 hrs

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H-9224

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

Date: Dec. 3, 1976

Signed: William L. Jones

Title: Chief, Verification Branch

- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: 12/14/76

Signed: Robert A. Trumbull

Title: Chief, Processing Division

OFFICE OF MARINE SURVEYS AND MAPS
HYDROGRAPHIC SURVEYS DIVISION
MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9224

FIELD NO. PE-10-1-71

Massachusetts, Cape Cod, Race Point to Wood End

SURVEYED: May 25 - June 17, 1971

SCALE: 1:10,000

PROJECT NO.: OPR-473

SOUNDINGS: DE-723 Depth Recorder

CONTROL: Sextant Fixes on
Shore Signals

Chief of Party	B. I. Williams
Surveyed by	T. Richards
Automated Plot by	Calcomp 618 (AMC)
Verified by	L. G. Cram
Reviewed by	L. Quinlan
	Date: May 22, 1978
Cursory inspection made--survey	K. W. Wellman
processing considered complete	November 9, 1978

1. Control and Shoreline

The source of the control is adequately covered in part F of the Descriptive Report.

The shoreline originates with final reviewed topographic manuscript TP-00165 dated 1970-1971.

The mean high water line is shown for guidance only. Its true position is shown on the topographic survey previously mentioned.

2. Hydrography

- a. The depths at crossings are in excellent agreement.
- b. The usual depth curves are adequately delineated.
- c. The development of the bottom configuration and investigation of least depths are considered adequate.

3. Condition of Survey

The field work, survey records, automated plotting, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic

Manual and Instruction Manual for Automated Hydrographic Surveys except as follows:

- a. Landmarks were not properly identified on the smooth sheet during verification.
- b. Signals are not identified with the acceptable three-digit number; e.g., 002 rather than 2.

4. Junctions

An examination of the junction with H-9225 (1971) on the north reveals scattered depth differences of 1 to 3 feet in general depths exceeding 180 feet. The noted depth differences are attributed to sea conditions. Inasmuch as the noted differences do not adversely affect the agreement of the junctional depth curves, no reexamination of the records is considered necessary. Accordingly, an adequate junction has been effected with H-9225 (1971) on the north. The junction with H-9013 (1968) on the west has been discussed in the review of that survey. No contemporary surveys junction with the present survey on the south or east; however, charted and present survey depths are in agreement in those areas.

5. Comparison with Prior Surveys

a.	H-516	(1854-55)	1:80,000
	H-519	(1855-56)	1:40,000
	H-578	(1856)	1:40,000
	H-1952	(1889)	1:10,000
	H-2594	(1902)	1:10,000
	H-5543	(1934)	1:20,000
	H-6563	(1940)	1:40,000

These early prior surveys lack sufficient information for a comparison of any cartographic value and are considered to be superseded by the present survey within the common area.

b.	<u>H-5400</u>	(1933)	1:20,000
----	---------------	--------	----------

This prior survey covers most of the area of the present survey. A comparison between the present and prior survey reveals present depths to be generally 1 to 4 feet shoaler than prior depths with scattered indications of relatively good agreement of depths. It is noted that the 120-foot depth curve in the southeast portion of the present survey reflects a net northwesterly migration of approximately 200 meters. In addition, it is noted that the position of the general dropoff to deeper depths vis-a-vis

The shoreline is relatively stable as indicated by the positional stability of the depth curves paralleling the shoreline.

The general shoreline appears to be relatively stable with noted random variations; i.e., accretion and erosion, within a range of 40 meters.

The noted depth and shoreline differences are attributed to natural causes. The prior survey is superseded by the present survey within the common area.

6. Comparison with Chart 13249 (580), 9th Edition, December 24, 1977

a. Hydrography

Almost all of the charted hydrography originates with the present survey after verification, supplemented by a few depths from prior surveys which require no further consideration.

Attention is directed to the Submerged Wreck (Presurvey Review Item 93) charted in the vicinity of latitude $42^{\circ}02.90'$, longitude $70^{\circ}15.62'$ which originates with Notice to Mariners 51 of 1940. It was neither verified nor disproved by the present survey. It is recommended that it be charted as a NONDANGEROUS wreck since the minimum depth found in the area is 177 feet.

Except as noted above, the present survey is adequate to supersede the charted information within the common area.

b. Aids to Navigation

The charted floating aid to navigation identified as Bell "I" falls in proximity to a buoy identified on the present survey as Bell "D" (privately maintained). The charted buoy adequately marks the intended feature.

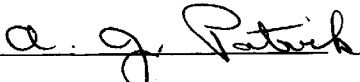
7. Compliance with Instructions


The survey adequately complies with the project instructions.

8. Additional Field Work

This survey is considered to be a good basic survey and no additional field work is recommended.

Examined and Approved:


Chief
Hydrographic Surveys Division


Associate Director
Office of Marine Surveys
and Maps

REGISTRY NO. H-9224

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. _____

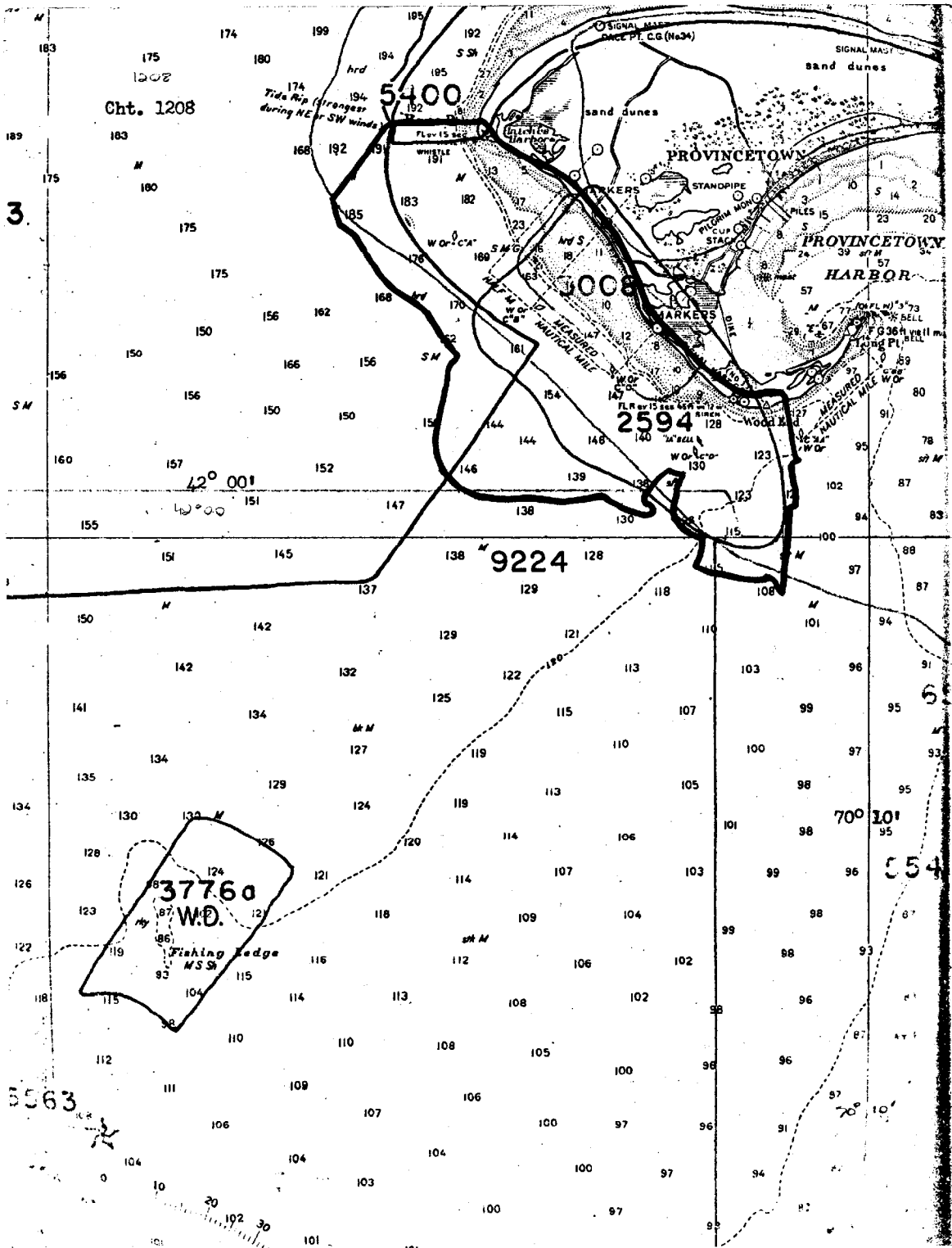
The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9224

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
580	1-12-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 18 - REV. SDGS & CURVES.
1207	7-22-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 38 - Revised few soundings.
1208	7-22-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 36 Revised for soundings
71	7-22-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 31 Exam no corr
1000	7-22-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 54 Exam no corr
1106	7-22-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 32
70	7-22-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 42
1107	10-3-77	Stephen M. Hill	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 30
580 (13249)	10-26-79	H. Radtzen	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 19 ^{Review & Insp} Minor revisions
13267 (1207)	10-30-79	H. Radtzen	FINAL Full Part Before After Verification Review Inspection Signed Via Drawing No. 39 Minor revisions
13246 (1268)	10-30-79	H. Radtzen	Full After Verif, Review & Insp. Drg. #38 Minor revisions
13260	10-31-79	H. Radtzen	Full After Verif, Rev. & Insp.
13260	10-31-79	H. Radtzen	" " " " " "
13009	10-31-79	H. Radtzen	" " " " " "
13006	10-31-79	H. Radtzen	" " " " " "
13003	10-31-79	H. Radtzen	" " " " " "