9226

Diag. Cht. No. 1208-2

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. PE-20-1-71 Office No. H-9226

LOCALITY

State MASSACHUSETTS

General locality East Coast of CAPE COD

Locality ~~PAMET RIVER~~ Vicinity Cape Cod Light To Nauset Beach Light

19 71

CHIEF OF PARTY

CDR. BRUCE I. WILLIAMS

LIBRARY & ARCHIVES

DATE ~~JANUARY 1972~~ Apr. 17 1978

USCOMM-DC 37022-P66

9226

Area 1

Charts

13003
13006
13009
13260
13200
13246

HPD 3/9/82

FORM C&GS-537 (8-66)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

REGISTER NO.

H- 9226

HYDROGRAPHIC TITLE SHEET

FIELD NO.

PE-20-1-71

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State MASSACHUSETTS

General locality East Coast of CAPE COD

Locality Vicinity of Cape Cod Light to Nauset Beach Light ~~PAMET RIVER~~

Scale 1:20,000- Date of survey 30 June-27 October, 1971 *

Instructions dated 27 April, 1971 Project No. OPR-473-PE-71

Vessel NOAA Ship PEIRCE

Chief of party CDR BRUCE I. WILLIAMS

Surveyed by LTJG THOMAS W. RICHARDS

Soundings taken by echo sounder, ~~XXXXXXX~~, pole Launch- Raytheon 723's #'s 260 & 921; skiff- pole

Graphic record scaled by SHIP'S PERSONNEL

Graphic record checked by SHIP'S PERSONNEL

Protracted by LTJG THOMAS W. RICHARDS Automated plot by Calcomp-618 Amc ---

Soundings penciled by --- Verification by: B.J. Stephenson

Soundings in ~~XXXXX~~ feet at MLW ~~XXXX~~

REMARKS: * The survey was discontinued on July 8th while the ship was performing Oceanographic studies in the Gulf of Maine and Massachusetts Bay and while the ship underwent shipyard repairs the first two weeks of August in Norfolk. Hydrography resumed August 23 and was completed on September 27 except for bottom samples obtained October 27th.

Applied to stds 4/21/78
CAB

USCOMM-DC 37009-P66

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DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-9226, PE-20-1-71

NOAA Ship PEIRCE — Scale- 1:20,000

Bruce I. Williams — CHIEF OF PARTY

A. PROJECT

This survey was accomplished under original project instructions OPR-473-PE-71, CAPE ANN TO CAPE COD, MASSACHUSETTS, dated 27 April 1971 and change number 1, AMENDMENT TO PROJECT INSTRUCTIONS, dated 24 May 1971. These instructions supersede all previous instructions.

B. AREA SURVEYED

The general area is on the eastern coast of Cape Cod between Peaked Hill Bar and Wellfleet. The survey is bounded on the west by the high water line and contemporary survey H-9225, PE 20-2-71, 1:10,000, 1971. The coast on this edge of the boatsheet is composed of steep sand cliffs which are being actively eroded. The cliffs are generally 50 to 100 feet in height. It is bounded on the north by survey H-9011, PE 20-2-68, 1:40,000, 1968. It is bounded on the east by contemporary survey H-9232, PE 20-2-71, 1:20,000, 1971. Finally it is bounded on the south by contemporary survey H-9233, PE 20-3-71, 1:20,000, 1971.

Hydrography extended from the low water line out to junctions with the other surveys approximately 2 miles offshore. Junctions were made with all the surveys listed above. Hydrography commenced on June 30 and was completed on September 27, 1971. In addition bottom samples were taken by the ship on October 27, 1971 to complete coverage on the survey.

C. SOUNDING VESSELS

All hydrography was accomplished with launch PE-2 and skiff PE-3. Launch positions were inked in red. Skiff positions are inked in green. The ship gathered bottom samples on day 300 and all depths of bottom samples were logged as misses.

D. SOUNDING EQUIPMENT

Raytheon 723 fathometers were used for sounding. Serial number 260 was used from day 181 through 189. Serial number 921

was used from day 235 until the completion of the survey. Depths were recorded up to 209 feet. Bar checks were taken twice a day as wind and sea conditions permitted. Bar check results were then tabulated and the mean fathometer error at each depth obtained. For greater depths, velocity corrections were obtained by using Nansen cast oceanographic stations #2 and #3. Depth and temperature were recorded in the field. Salinity was determined by means of a salinometer carried aboard the PEIRCE. Results from the observations were used in determining relative layer velocities for sound. These values were then graphed in conjunction with bar check data and correctors picked off in 0.2 foot increments. The initial on the fathograms was maintained at 2.0 feet.

Fathometer #260 had a phase error, a good example of which can be seen on the fathogram for day 148 fix number 370 on boatsheet PE-10-1-71, H-9224. A phase correction was applied for the four days when this fathometer was used. Original data and fathograms used to determine this correction are contained with the data for survey PE-10-1-71. A graduated sounding pole was used for all soundings obtained by the skiff.

E. SMOOTH SHEET

The field records for this survey will be transmitted to the Atlantic Marine Center, ATTN: CAM3 for smooth processing. Field records were encoded on punched paper tapes in accordance with instructions and formats contained in the AMC MANUAL, Chapter 3, dated June 30, 1971. A single on time position and sounding tape is used for all raw data.

F. CONTROL

Visual control was used for all position information. Three point sextant fixes were utilized on triangulation and photo points. The fixes were plotted by three-arm plastic protractors in the field. Photogrammetric signals were located in the field by E. W. Hartford, Chief field photo party 62. The signals were pricked on 1:10,000 scale manuscripts. The ship personnel scaled the signal values from the 1:10,000 manuscripts in degrees, minutes, and meters. The signals were then plotted with the use of a meter bar and beam compass onto the 1:20,000 scale boat sheet. The following incomplete manuscripts contain the original signal locations:

TP-00169	1:10,000	Compilation complete pending field edit April 1971
TP-00168	1:10,000	Compilation complete pending field edit May 1971
TP-00167 (2 copies)	1:10,000	Compilation complete pending field edit May 1971
TP-00166	1:10,000	Compilation complete pending field edit May 1971

Prior to submitting the field records for smooth processing a signal overlay at scale 1:20,000 was obtained from Atlantic Marine Center and the logged data checked against the signals plotted on the boat sheet and discrepancies rescaled from the manuscripts for accuracy.

G. SHORELINE ✓

Shoreline was transferred to the boatsheet from 1:20,000 reductions of the 1:10,000 manuscripts listed in section F. No portion of the high water line was revised by the hydrographer. The low water line was obtained by running the launch at high water on calm days. The days available for low water line determination were limited as surf conditions persisted in many areas throughout the period of the survey. See Verifier's Note. ✓

H. CROSSLINES ✓

Crosslines were run at 13% of the total mileage of sounding lines. Crosslines were in good agreement with the regular system of sounding lines. ✓

I. JUNCTIONS ✓

Junctions on the northwestern and southern edges of the survey with soundings obtained on contemporary surveys H-9225 PE 16-2-71 and H-9233 PE 20-3-71 which used launch PE-1 were in good agreement. ✓

Junctions with survey H-9011 PE 40-2-68 and survey H-9232 PE-20-2-71 showed that the soundings on this survey are generally 2 to 5 feet deeper than those on H-9011 PE 40-2-68 and H-9232. PE 20-2-71 All the soundings on these surveys had not yet been corrected for velocity, settlement and squat, and phase error. Surveys H-9011 PE 40-2-68 and H-9232 PE 20-2-71 were both ship PEIRCE surveys and require settlement and squat corrections of + 0.9 foot to be applied to all soundings. Velocity corrections yet to be applied to sheets H-9011 PE 40-2-68 and H-9232 PE 20-2-71 are also on the order of 2 to 3 feet for the depths at the junction. Finally, phase error corrections to be applied to the launch work are - 1.1 to - 2.8 feet for the days when fathometer #260 was in use. The application of these correctors to the soundings on these three surveys will bring them into good agreement at the junctions. See Verifier's Note. ✓

J. COMPARISON WITH PRIOR SURVEYS ✓

The presurvey review 42 foot sounding located at Latitude 42° 03.2' N. and Longitude 70° 03.0' W. on chart 1208 was reported to be in error. It was stated that this sounding should be a 46 foot sounding. The survey investigation on day 244 however showed that both the charted 42 foot sounding and the reported 46 foot sounding were in error and that the charted 42 foot sounding should be replaced by a 60 foot sounding. A plot of the positions for this investigation will be found on page 5 of the sounding volume for this survey. The investigation

consisted of a tight grid pattern of sounding lines and involved 3/4 hour of on line hydro time. In the opinion of the hydrographer the 60 foot sounding, once final correctors have been applied, should be charted instead of the 42 or 46 foot soundings. Position 780 - 803

The presurvey review questionable sounding of 17 feet located at Latitude 42° 00.4' N. and Longitude 70° 00.8' W. was investigated on day 258. The investigation showed the area to be approximately 38 to 40 feet deep. In the hydrographer's opinion the the 17 foot sounding has been disproven and the 38 to 40 foot sounding should be charted once final correctors have been applied to these soundings. A plot of the positions and soundings found on this investigation will be found on page 9 of the sounding volume for this survey. The investigation consisted of a tight grid pattern of sounding lines and involved 1/2 hour of on line hydro time. Position 1313 - 1323

NPN NEL 4/21/82

The presurvey review questionable 10 foot sounding located at Latitude 41° 56.4' N. and Longitude 69° 58.7' W. was investigated on day 270 and the 10 foot questionable sounding was disproven. The investigation showed the area to be approximately 18 to 24 feet deep. The hydrographer feels that the corrected survey soundings should be charted and the 10 foot questionable sounding eliminated. A plot of the positions and soundings obtained during this investigation can be found on page 10 of the sounding volume for this survey. The investigation consisted of a tight grid pattern of sounding lines and involved 1/4 hour of on line hydro time. Position 1759 - 1768

NPN NEL 4/21/82

K. COMPARISON WITH THE CHART

All charted soundings from chart 1208, print date October 31, 1970 were penciled on the boat sheet. In the offshore areas the charted soundings are generally 5 to 20 feet shoaler than than the soundings taken on this survey. In the nearshore area a great deal of change has occurred so that most of the soundings charted in the 1886 to 1888 surveys are in disagreement with those taken on this survey. In some cases near the shore the charted soundings are shoaler than the soundings on this survey and in other cases they are deeper than this survey's soundings. Strong currents and a bottom consisting of unconsolidated sands has caused many changes since the last survey.

An abstract of newly found dangers follows:

ABSTRACT OF NEWLY FOUND DANGERS

Pos. #	Description of Danger	Latitude	Longitude	at time & day
2003	Large rock boulder at least 3 ft. in diameter, rock bares 2 feet	42° 02' 27"	70° 03' 37" Bares (5) @ MLW	144500 252 day
2004	Large rock boulder at least 5 ft. in diameter, rock bares 1½ feet	42° 02' 28"	70° 03' 38" Bares (4) @ MLW	145100 252 day
2005	Large rock boulder at least 10 ft. in diameter, rock bares 2 feet	42° 02' 28"	70° 03' 39" Not smooth plotted, rock mentioned above outboard of this.	150200 252 day
2006	West end of wreck, wreck awash	42° 03' 21"	70° 05' 08" wreck plotted from shoreline manuscript	174600 256 day
2007	East end of wreck, wreck awash	42° 03' 21"	70° 05' 06" Wreck plotted from shoreline manuscript	175000 256 day

L. ADEQUACY OF SURVEY ✓

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

M. AIDS TO NAVIGATION ✓

Reports on landmarks for charts and fixed aids to navigation ✓ were compiled by E. W. Hartford, Photo Party #62. They were checked from seaward by NOAA Ship PEIRCE personnel and found acceptable. The forms were submitted to Photo Division, Atlantic Marine Center for position verification and they will submit the final reports to Rockville for landmark charting, revision, and deletion. ✓

Two floating aids were located on this survey. They were "2PH" lighted, 4 sec., whistle buoy and "2PH" nun reference buoy. The lighted whistle buoy had been positioned with sufficient accuracy by the U. S. Coast Guard to serve the purpose for which it was established. The nun reference buoy is not presently charted but is mentioned in Volume I of the 1971 Light List along with the lighted whistle buoy on page 7. The nun reference buoy is positioned very near the lighted whistle buoy. A letter recommending signals to be used in locating these buoys has been sent to Commander, First Coast Guard District, dated 8 December 1971 with a copy trough Atlantic Marine Center to Rockville.

N. STATISTICS

On this survey there were 1837 positions obtained, of which, 1819 were obtained by launch PE-2, 13 were obtained by ship PEIRCE, and 5 were obtained by the skiff PE-3. There were 35 square miles and 375 lineal miles of hydrography completed on this survey. One tide gage was installed; 50 hydrographic signals were built; 26 bottom samples were obtained; and 3 rocks, 2 buoys and a wreck were located.

O. MISCELLANEOUS

This report contains no miscellaneous information.

P. RECOMMENDATIONS

The National Park Service is very concerned about erosion in the area adjacent to this survey along Cape Cod National Seashore. The changes in soundings found on this survey as compared with the surveys of 1886 to 1888 are indicative of widespread erosion in the area. The park superintendent, Leslie P. Arnberger, has requested to be notified of our findings resulting from this survey. Therefore, the hydrographer recommends that as soon as this survey has been verified the processing division send a copy of the smooth sheet of this survey to Superintendent, Cape Cod National Seashore, South Wellfleet, Massachusetts, 02663 in reference to his letter N3043. In addition a copy of the smooth sheets from the 1886 to 1888 surveys of this area should be sent to the Park Service as an aid in establishing the rates of erosion taking place offshore.

The Coast Pilot, Volume II page 66 refers to currents in the area of this survey as being generally less than a knot. During the survey however, the hydrographer noted that the currents were stronger than this. His observations were completely qualitative and were made by noting the amount the launch was affected by the currents and by observing the response of the ship to the currents at her anchorage in the working grounds. Quantitative measurements of the currents in this area should be supplied to C325 so that they can adjust the description in the Coast Pilot. A qualitative description of the currents has been supplied to C325 in the PEIRCE's 1971 Coast Pilot Report.

Q. REFERENCE TO REPORTS

Season's Report, NOAA Ship PEIRCE, 1971
Report on Corrections to Echo Soundings, OPR-473-PE-71
Coast Pilot Report, OPR-473-PE-71
Report on Landmarks for Charts (Submitted by Photo Party 62)
Advance Report of Wreck, October 1, 1971
Recommended Signals for Buoy Location, December 8, 1971

Respectfully submitted,
Thomas W. Richards
Thomas W. Richards
LTJG, NOAA

Approved and Forwarded
Bruce I. Williams
Bruce I. Williams, CDR NOAA
Commanding Officer, NOAA Ship PEIRCE

APPROVAL SHEET

Survey PE-20-1-71, (H-9226)

Field work and data processing on the survey was under my immediate daily supervision. The boat sheet and all 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

ATLANTIC MARINE CENTER

TIDE NOTE
H-9226

1. Project No: OPR-473 2. Vessel/Field Unit: NOAA Ship PEIRCE

3. Year: 1971 4. Meridian Time Zone: GMT

5. Tide Station Name: Little America (Head of Pamet River)

6. Position: Lat. 42 ° 00.5 ' Long. 70 ° 01.5 '

7. Plane of Reference: [X] MLW, [ ] MLLW corresponds to _____ feet on the tide staff for the period _____.

8. Hourly Heights: [ ] Standard Gauge, furnished from Rockville.

[X] Scaled and logged from field marigrams.

9. Tidal Zoning: [ ] Not applicable.

[ ] By two or more gauges automatically zoned.

[ ] By applying tidal differences and constants for the area(s): a. _____

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

b. _____

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

c. Include additional areas on separate sheet(s).

10. Remarks: New datum begins 1 Sept. 1971.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

Date: 12 November 1971

Reply to Attn of: Commanding Officer
NOAA Ship PEIRCE

H-9226

Subject: Hourly Heights, OPR-473, Sheet 20-1-71

To: Chief Tides Section
C3312

1. Please provide hourly heights for the Boston Standard Tide Gage for the following dates:

	GMT
July 6	1400
Aug. 23	1500-2000
Aug. 24	1300-2000
Aug. 25	1200-1800
Aug. 26	1200-2000
Aug. 27	1200-1400
Aug. 30	1300-2000
Aug. 31	1200-2000
Sept.1	1200-2100
Sept.13	1700-1800
Sept.14	1200-2000
Sept.15	1200-1500
Sept.16	1200-2000
Sept.20	1400-2000
Sept.23	1200-2000
Sept.24	1200-1600
Sept.27	1400-2100

2. Please provide a time and height correction to the Boston Gage for the Little America (Head of Pamet River) Tide Gage.

3. Please provide the Heighth of MLW on the staff of the Little America (Head of Pamet River) Tide Gage. Note: New datum begins date 1 Sept. 1971.

4. Please recommend any zoning required on sheet 20-1-71, a copy of chart 1208 showing the area survey is enclosed.
(copy of 1208 not included in letter to CAM3)

Respectfully
J.O. Rolland

J.O. Rolland

for
B.I. Williams
C.O. PEIRCE

F00

F11-

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

Date: January 13, 1972

Reply to Attn of: C3312-24-NOAAS

Subject: Little America (Head of Pamet River, Mass.)

To: Commanding Officer BLW
NOAA Ship PEIRCE

In reply to your request of November 12, 1971, we are unable to furnish MLW on the marigram for Little America. The tide curve was distorted and did not accurately respond to change in water heights.

Hourly heights for Boston are enclosed. To refer tabulated heights to MLW, subtract 3.58 feet.

Questions on zoning will be answered soon by the Datum Planes Section.

To provide tidal data during periods when the Boston gage record is unavailable, I include hourly heights for Sandwich, Mass. To refer tabulated heights at Sandwich to MLW, subtract 5.60 feet. The Table 2 reference number is station number 997, East Coast tide tables

Saul C. Berkman

Saul C. Berkman
Acting Chief, Processing Section
Tides Branch
Oceanographic Division

Enclosures

Hourly heights on Boston Gage for June 30th not supplied.
TWR

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

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

Period: June 30 - October 27, 1971

HYDROGRAPHIC SHEET: PE 20-1-71 H-9226

OPR: 473

Locality: Off the eastern coast of Cape Cod

Plane of reference (mean ~~lower~~ low water): 3.6 ft.

Height of Mean High Water above Plane of Reference is 7.4 ft.

Remarks: Recommended zoning:

	Range Ratio	Time Correction
VII	North of 42°04' x 0.84	+ 15 min.
VI	From 42°02' to 42°04' x 0.82	
V	From 41°59' to 42°02' x 0.80	
IV	From 41°57'.5 to 41°59' x 0.78	
III	From 41°56' to 41°57'.5 x 0.76	
II	From 41°54'.5 to 41°56' x 0.74	
I	From 41°53' to 41°54'.5 x 0.72	

Zones

James R Hubbard
for Chief, Tides Branch

ABSTRACT OF VELOCITY CORRECTIONS

H-9226

PE 20-1-71

Velocity corrections for this survey were obtained by combining one Nansen cast with the bar check results of launch PE-2 for appropriate days of work and a second cast for the remaining days. Nansen cast at station# 2 was taken on 14 June 1971 at latitude 42° 05' 47", longitude 70° 13' 04". Nansen cast at station # 3 was taken on 7, September 1971 at latutude 42° 00' 00", longitude 69° 57' 00". The slopes of the velocity correction curve was used to extend the bar check results form 45 feet downward.

Raytheon fathometer # 260 was used for all soundings between 30 June 1971 and 8 July 1971 while # 921 was used between 23 August and 27 September 1971.

Velocity table 1 applies to all work done by PE-2 on days 181, 187, 188 and 189.

Velocity table 2 applies to all work done by PE-2 on days 235, 236, 237, 238, 239, 242, 243, 244, 245, 251, 252, 253, 257, 258, 259, 263, 266, 267, 270.

Velocity table 3 applies to skiff work on days 189, 252, 256, 300.

Velocity Table 1

Depth	Corr.
2.9	-0.2
4.0	-0.4
5.7	-0.6
15.0	-0.8
22.0	-0.6
25.6	-0.4
31.0	-0.2
38.2	0.0
113.0	+0.2
200.0	0.0
999.9	-0.2

Velocity Table 2

Depth	Corr.
2.8	-0.2
3.4	-0.4
4.2	-0.6
6.0	-0.8
20.0	-1.0
26.2	-0.8
31.0	-0.6
36.2	-0.4
45.0	-0.2
64.0	0.0
85.5	+0.2
110.0	+0.4
136.0	+0.6
161.0	+0.8
186.2	+1.0
210.0	+1.2
999.9	+1.4

Velocity Table 3

Depth	Corr.
999.0	0.0

VELOCITY TAPE
OPR 473
PE 20-1-71
H-9226

DEPTH	IND	VEL CORR	TAB NO	UNIT	VES ID	SHEET
000029	1	0002	0001	000	283200	009226
000040	1	0004				
000057	1	0006				
000150	1	0008				
000220	1	0006				
000256	1	0004				
000310	1	0002				
000382	1	0000				
001130	0	0002				
002000	0	0000				
999999	1	0002				
000028	1	0002	0002	000	283200	009226
000034	1	0004				
000042	1	0006				
000060	1	0008				
000200	1	0010				
000262	1	0008				
000310	1	0006				
000362	1	0004				
000450	1	0002				
000640	0	0000				
000855	0	0002				
001100	0	0004				
001360	0	0006				
001610	0	0008				
001862	0	0010				
002100	0	0012				
999999	0	0014				
999999	0	0000	0003	000	283200	009226

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/TI 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 runs were made in 30 to 35 feet of water which is 7 times the draft of the launch. Observations were made at stop, and for 800, 1000, 1200, 1400, 1600, 1800, 2000, and 2200 RPM'S. Readings on a tide staff were made for each level observation on the launch. Water was calm, wind calm. Tide was high ± 1 hour. The original data is found under Settlement and Squat in Echo Soundings Corrections, PE 10-1-71.

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 first four days of this survey (#260) did have a phase error. Three separate determinations and bar checks with the instrument in good adjustment indicated the following corrections should be applied:

AtoB	-1.1
BtoC	-0.5
CtoD	-0.2
DtoE	-1.0

Therefore the corrections applied to the soundings are:

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

The bar check volume for survey H-9224 contains the original data used to determine this correction. Observations were taken on days 152, 158, and 168.

The fathometer used on the rest of this survey did not have any phase error (#921).

ABSTRACT OF SCALE CHANGES (for fathometer #260 only)

DAY#	TIME FROM	SCALE	CORR'N	DAY#	TIME FROM	SCALE	CORR'N
181	130500	A	0.0	188	122230	A	0.0
	131030	B	-1.1		143445	B	-1.1
	131420	C	-1.6		144445	A	0.0
	142230	A	0.0		145605	B	-1.1
	142831	B	-1.1		150020	C	-1.6
	143220	C	-1.6		150745	D	-1.8
	151130	B	-1.1		154230	C	-1.6
	151445	A	0.0		155015	B	-1.1
	154435	B	-1.1		155415	A	0.0
	154840	C	-1.6		164415	B	-1.1
	161230	B	-1.1		165415	A	0.0
	170000	A	0.0		170435	B	-1.1
	170505	B	-1.1		170930	C	-1.6
	172900	A	0.0		171720	D	-1.8
	173410	B	-1.1		174145	C	-1.6
	182100	A	0.0		175110	B	-1.1
	180555	B	-1.1		175520	A	0.0
					182545	B	-1.1
187	141200	A	0.0		185700	A	0.0
	141515	B	-1.1		190005	B	-1.1
	142305	A	0.0		190515	C	-1.6
	145340	B	-1.1		191235	D	-1.8
	145805	C	-1.6				
	150540	D	-1.8	189	123500	B	-1.1
	152650	C	-1.6		123810	C	-1.6
	153445	B	-1.1		133530	D	-1.8
	154630	C	-1.6		133920	C	-1.6
	155020	D	-1.8		134900	D	-1.8
	165735	C	-1.6		144200	C	-1.6
	171130	B	-1.1		152230	A	0.0
	171435	A	0.0		152625	B	-1.1
	171910	B	-1.1		153510	A	0.0
	172310	C	-1.6		170315	B	-1.1
					170815	C	-1.6
					171610	D	-1.8

ABSTRACT OF SPEED CHANGES (only those causing change in corrector)

Day #	TIME FROM	SPEED RPM'S	CORRECTION
181	130500	2000	+0.2
239	123200	0000	0.0
242	142800	2000	+0.2
243	122000	0000	0.0
	133230	2000	+0.2
258	121000	0000	0.0
	122930	1500	+0.2
300	140500	0000	0.0

ABSTRACT OF INITIAL CORRECTIONS

The following corrections are applied to the indicated days of work

DAY#	TIME (FROM)	CORRECTION
181	130500	0.0
	151130	-0.2
	151445	0.0
	172900	-0.2
	173050	0.0
	183700	-0.2
	184015	0.0
	185430	-0.2
187	141200	-0.2
	141400	0.0
	152630	-0.2
	153330	0.0
188	122230	0.0
	133245	+0.2
	133355	0.0
	143030	+0.2
	143145	0.0
189	123500	0.0
235	153030	0.0
	155630	-0.2
	160030	0.0
236	133900	0.0
	152600	-0.2
	153630	0.0
	170545	-0.2
	172450	0.0
237	123200	0.0
	125100	-0.2
	130945	0.0
238	123200	0.0
	130115	+0.2
	130515	+0.4
	130930	0.0
	135130	+0.2
	135900	0.0
239	123200	0.0
242	142800	0.0
	143830	-0.2
	144345	0.0
	153415	+0.2
	153530	+0.4
	153715	0.0
243	122000	0.0
	194830	+0.2
244	123130	0.0
245	122900	0.0
	125500	-0.2
	130915	0.0
251	124000	0.0
	130330	+0.2
	130525	0.0
	132045	+0.2
	132200	0.0
	133800	+0.2
	134945	0.0
	163900	+0.2
	165700	0.0
252	143700	0.0
253	124700	0.0
257	122130	0.0
	131700	+0.2
	131735	0.0
	135330	+0.2
	133900	0.0
258	121000	0.0
259	122930	0.0
	151130	+0.2
	152540	0.0
263	142500	0.0
	150930	+0.2
	151230	0.0
	151730	+0.2
	154000	0.0
266	122630	0.0
	185200	+0.2
	190500	0.0
267	123230	0.0
270	141030	0.0
300	140500	0.0

The TC/TI tape printout follows.

TC/TI TAPE
OPR 473
PE 20-1-71
H-9226

TIME	IND	TRA	OTI	VTI	DAY	VES	ID	SHEET
130500	0	0002	0001		181	283200		009226
131030	0	1009						
131420	0	1014						
142230	0	0002						
142831	0	1009						
143220	0	1014						
151130	0	1011						
151445	0	0002						
154435	0	1009						
154840	0	1014						
161230	0	1009						
170000	0	0002						
170505	0	1009						
172900	0	0000						
173050	0	0002						
173410	0	1009						
182100	0	0002						
183700	0	0000						
184015	0	0002						
185055	0	1009						
185430	0	1011						
141200	0	0000	0001		187	283200		009226
141400	0	0002						
141515	0	1009						
142305	0	0002						
145340	0	1009						
145805	0	1014						
150540	0	1016						
152630	0	1018						
152650	0	1016						
153330	0	1014						
153445	0	1009						
154630	0	1014						
155020	0	1016						
165735	0	1014						
171130	0	1009						
171435	0	0002						
171910	0	1009						
172310	0	1014						
122230	0	0002	0001		188	283200		009226
133245	0	0004						
133355	0	0002						
143030	0	0004						
143145	0	0002						

```
143445 0 1009
144445 0 0002
145605 0 1009
150020 0 1014
150745 0 1016
154230 0 1014
155015 0 1009
155415 0 0002
164415 0 1009
165415 0 0002
170435 0 1009
170930 0 1014
171720 0 1016
174145 0 1014
175110 0 1009
175520 0 0002
182545 0 1009
185700 0 0002
190005 0 1009
190515 0 1014
191235 0 1016
123500 0 1009 0001 189 283200 009226
123810 0 1014
133530 0 1016
133920 0 1014
134900 0 1016
144200 0 1014
152230 0 0002
152625 0 1009
153510 0 0002
170315 0 1009
170815 0 1014
171610 0 1016
153030 0 0002 0002 235 283200 009226
155630 0 0000
160030 0 0002
133900 0 0002 0002 236 283200 009226
152600 0 0000
153630 0 0002
170545 0 0000
172450 0 0002
123200 0 0002 0002 237 283200 009226
125100 0 0000
130945 0 0002
123200 0 0002 0002 238 283200 009226
130115 0 0004
130515 0 0006
130930 0 0002
135130 0 0004
135900 0 0002
123200 0 0000 0002 239 283200 009226
142800 0 0002 0002 242 283200 009226
143830 0 0000
144345 0 0002
153415 0 0004
153530 0 0006
153715 0 0002
122000 0 0000 0002 243 283200 009226
133230 0 0002
194830 0 0004
123130 0 0002 0002 244 283200 009226
122900 0 0002 0002 245 283200 009226
125500 0 0000
```

```
130915 0 0002
124000 0 0002 0002 251 283200 009226
130330 0 0004
130525 0 0002
132045 0 0004
132200 0 0002
133800 0 0004
134945 0 0002
163900 0 0004
165700 0 0002
143700 0 0002 0002 252 283200 009226
124700 0 0002 0002 253 283200 009226
122130 0 0002 0002 257 283200 009226
131700 0 0004
131735 0 0002
135330 0 0004
133900 0 0002
121000 0 0000 0002 258 283200 009226
122930 0 0002
122930 0 0002 0002 259 283200 009226
151130 0 0004
152540 0 0002
142500 0 0002 0002 263 283200 009226
150930 0 0004
151230 0 0002
151730 0 0004
154000 0 0002
122630 0 0002 0002 266 283200 009226
185200 0 0004
190500 0 0002
123230 0 0002 0002 267 283200 009226
141030 0 0002 0002 270 283200 009226
140500 0 0000 0000 300 283200 009226
141900 0 0000 0003 189 283300 009226
144500 0 0000 0003 252 283300 009226
175600 0 0000 0003 256 283300 009226
```

ABSTRACT OF DAILY POSITIONS

OPR-473

PE-20-1-71, H-9226

Position #	Date	Day#	Vessel	Remarks
0001-0057	30 June	181	2832	
0058-0106	6 July	187		
0107-0220	7 July	188		
0221-0269	8 July	189		
0270-0304	23 Aug.	235		
0305-0377	24 Aug.	236		
0378-0459	25 Aug.	237		
0460-0569	26 Aug.	238		
0570-0572	27 Aug.	239		
0573-0635	30 Aug.	242		
0636-0730	31 Aug.	243		#708 missing
0731-0858	1 Sept	244		
0859-0994	2 Sept	245		
0995-1065	8 Sept	251		
1066-1103	9 Sept	252		
1104-1224	10 Sept	253		
1225-1310	14 Sept	257		
1311-1335	15 Sept	258		
1336-1460	16 Sept	259		
1461-1551	20 Sept	263		
1552-1680	23 Sept	266		
1681-1734	24 Sept	267		
1735-1820	27 Sept	270		
1821-1833	27 Oct.	300	2830	
2001-2002	8 July	189	2833	#1834-2000 skipped
2003-2005	9 Sept	252	2833	
2006-2007	13 Sept	256	2833	

LIST OF SIGNALS ON H-9226

EDP#	SOURCE	REMARKS
100	CAPE COD LIGHTHOUSE 1877	
101	PILGRIM MONUMENT 1909	does not plot on boat sheet
102	BALL'S HOUSE FLAGPOLE 1933	
103	CAMP WELLFLEET FIRING RANGE TANK 1958	
104	FRAZIER 1957	
010	TP-00166	does not plot on boat sheet, it is a fat green tank built above MT. GILBOA 1940 triangulation.
012	TP-00166	
014	"	
016	"	
018	"	
020	"	
022	"	
024	"	
026	"	
028	TP-00167	
030	"	
032	"	
034	"	
036	"	
038	"	
040	"	
042	"	
044	"	
046	"	
048	"	
050	"	
052	"	
054	"	
056	"	
058	"	
059	"	
060	"	
062	"	
064	"	
066	"	
068	"	
070	"	
072	"	
074	"	
076	"	
078	"	
080	TP-00168	
082	"	
084	"	
086	"	
087	"	
088	"	

LIST OF SIGNALS ON H-9226 (Cont.)

EDP#	SOURCE	REMARKS
090	TP-00168	
092	"	
094	"	
096	"	
098	"	
200	"	
202	"	
204	"	
206	"	
208	"	
210	"	
212	"	
214	"	
216	"	
218	"	
220	"	
222	"	
224	"	
226	TP-00169	
228	"	
230	"	
232	"	
234	"	
236	"	
238	"	
240	"	
242	"	
244	"	
246	"	
248	"	
250	"	

Signal Tape
OPR-473
PE-20-1-71

Signal Number	Degrees of LAT	MIN of LAT	METERS	Degrees of LONG	MIN of LONG	METERS
100	42	02	0696	070	03	0916
101	42	03	0234	070	11	0483
102	42	00	1622	070	02	0148
103	41	54	0681	069	58	0610
104	41	56	0993	069	59	0237
010	42	03	1657	070	09	0710
012	42	04	0120	070	07	0227
014	42	03	1796	070	06	1174
016	42	03	1549	070	06	0678
018	42	03	1397	070	06	0353
020	42	03	1220	070	05	1337
022	42	03	0976	070	05	0902
024	42	03	0729	070	05	0488
026	42	03	0479	070	05	0075
028	42	03	0181	070	04	0997
030	42	03	0009	070	04	0946
032	42	02	1801	070	04	0708
034	42	02	1458	070	04	0233
036	42	02	1182	070	03	1290
038	42	02	0874	070	03	0944
040	42	02	0741	070	03	0921
042	42	02	0470	070	03	0552
044	42	02	0080	070	03	0168
046	42	02	0119	070	03	0474
048	42	02	0071	070	03	0372
050	42	02	0000	070	03	0287
052	42	01	1797	070	03	0419
054	42	01	1647	070	03	0331
056	42	01	1612	070	02	1271
058	42	01	1263	070	02	0972
060	42	01	0697	070	02	0572
062	42	01	0589	070	02	0650
064	42	01	0323	070	02	0291
066	42	01	0167	070	02	0281
068	42	00	1729	070	02	0005
070	42	00	1265	070	01	1078
072	42	00	0898	070	01	0846

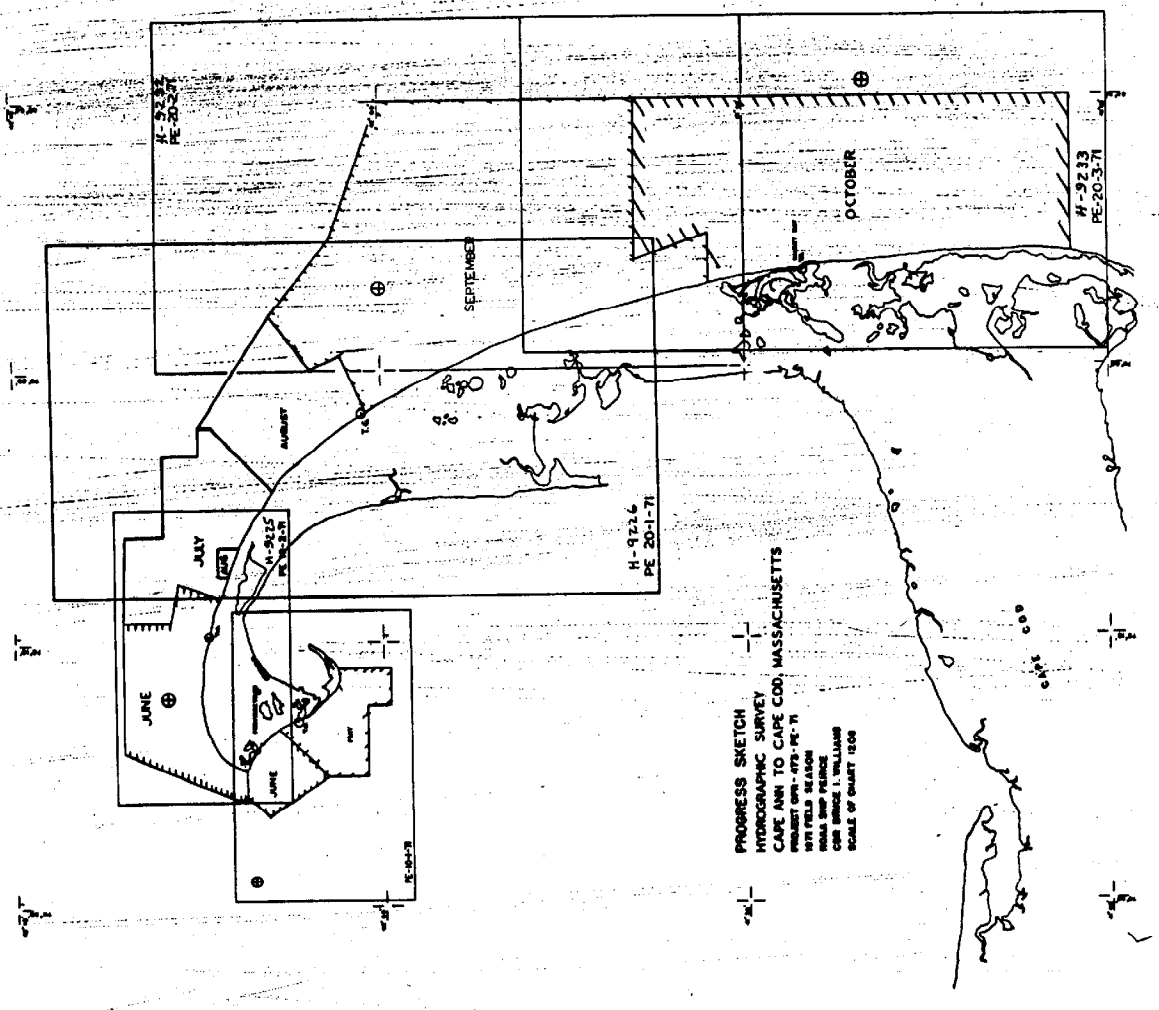
074	42	00	0547	070	01	0655
076	42	00	0225	070	01	0521
078	42	00	0213	070	01	0470
080	41	59	1603	070	01	0201
082	41	59	1169	070	00	1368
084	41	59	0596	070	00	1025
086	41	58	1815	070	00	0739
088	41	58	1454	070	00	0541
090	41	58	0944	070	00	0269
092	41	58	0499	070	00	0062
094	41	58	0128	069	59	1298
096	41	57	1551	069	59	1088
098	41	57	1034	069	59	0840
200	41	57	0770	069	59	0903
202	41	57	0436	069	59	0567
204	41	57	0408	069	59	0700
206	41	56	1748	069	59	0312
208	41	56	1199	069	59	0118
210	41	56	0747	069	58	1311
212	41	56	0280	069	58	1145
214	41	55	1625	069	58	0961
216	41	55	1344	069	58	0927
218	41	55	0963	069	58	0835
220	41	55	0882	069	58	0736
222	41	55	0407	069	58	0672
224	41	55	0422	069	58	0568
226	41	54	1797	069	58	0442
228	41	54	1345	069	58	0301
230	41	54	0969	069	58	0198
232	41	54	0440	069	58	0039
234	41	54	0061	069	57	1303
236	41	53	1431	069	57	1171
238	41	53	1107	069	57	1076
240	41	53	0858	069	57	1016
242	41	53	0394	069	57	0880
244	41	53	0013	069	57	0796
246	41	52	1439	069	57	0669
248	41	52	1084	069	57	0587
250	41	52	0765	069	57	0504
059	42	01	1018	070	02	0797
087	41	58	1005	070	01	0667

ABSTRACT OF HYDROGRAPHIC DATA

OPR-473

PE-20-1-71, H-9226

DETACHED POSITION NO.	DATA OBTAINED
0325	Tide Staff Little America Tide Gage
0570	B/S # 1 fne br S
0571	B/S # 2 crs br S fne G
0572	B/S # 3 fne br S
0636	B/S # 4 crs br S Grs
0637	B/S # 5 fne br S clam
0638	B/S # 6 fne br S fne P
1307	B/S # 7 fne br S
1308	B/S # 8 fne br S Grs
1309	B/S # 9 med br S
1310	B/S #10 fne br S
1311	B/S #11 fne br S
1724	B/S #12 fne br S
1725	B/S #13 fne br S
1821	B/S #14 crs br S crs P
1822	B/S #15 crs br S
1823	B/S #16 crs br S
1824	B/S #17 fne G
1825	B/S #18 crs br S P
1826	B/S #19 crs br S G
1827	B/S #20 crs br S P
1828	B/S #21 crs br S P
1829	B/S #22 crs br S P brk Sh
1830	B/S #23 crs br S
1831	B/S #24 crs br S
1832	B/S #25 crs br S
1833	B/S #26 fne br S
2001	Lighted Whistle Buoy "2PH"
2002	Red Nun Buoy "2PH"
2003	Rock bares 2 feet at 144500 252Day
2004	Rock bares 1½ feet at 145100 252Day
2005	Rock bares 2 feet at 150200 252Day
2006	West end of wreck awash
2007	East end of wreck awash


H-9232
PE-20-2-71
SEPTEMBER
OCTOBER
H-9233
PE-20-3-71
AUGUST
JULY
JUNE
H-9225
PE-20-2-71
H-9226
PE 20-1-71
PE-20-4-71
PROGRESS SKETCH
HYDROGRAPHIC SURVEY
CAPE ANN TO CAPE COD, MASSACHUSETTS
PROJECT OPR-475-PE-71
SCALE OF CHART 1:40

2-18-71

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

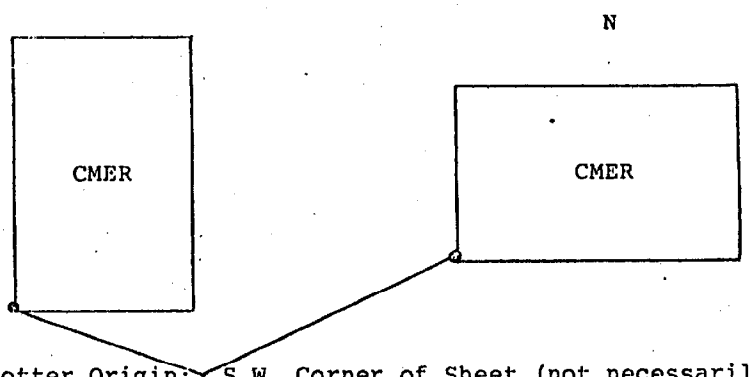
1. Project No. OPR-473 4. Requested By _____
2. Reg. No. H-9226 5. Ship or Office _____
3. Field No. PE 20-1-71 6. Date Required _____

7. Polyconic [X] Modified Transverse Mercator [ ]
8. Central Meridian of Projection 70 ° 01 ' 00 "
9. Survey Scale: 1: 20,000
10. Size of Sheet (check one):

36 x 54 [ ] 36 x 60 [X] Other [ ] Specify _____

11. Sheet Orientation (check one):

NYX = 1 [X] NYX = ø [ ]



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)

Latitude 41 ° 50 ' 50 "

Longitude 70 ° 08 ' 18 "

13. G.P.'s of triangulation and/or signals attached [ ]
14. Material Desired: Tracing Paper [ ] Mylar [ ]

Smooth Sheet [ ] Other [ ] Specify _____

15. Remarks: _____

Verification Notes
H-9226 PE-20-1-71 OPR-473
Category II Survey

There were no unusual problems encountered during the verification of this survey.

The projection prarmeter was revised during verification. The red changes in the Descriptive Report were made by the verifier.

The shoreline originates with final reviewed Photogrammetric Manuscripts TP-00166, TP-00167, TP-00168, and TP-00169 of 1970/73. The original manuscripts were 1:10,000 and had to be reduced before applying to the smooth sheet.

The standard depth curves were adequately delineated.

Adequate junctions were effected with the following contemporary surveys:

H-9225 (1971) to the northwest
H-9232 (1971) to the east
H-9233 (1971) to the south .

The junction with previously verified survey H-9011 (1968) was not made by the verifier and should be made in Rockville.

The comparison with prior surveys and charts were adequately described in the Descriptive Report.

This survey was well done and adequately defines the bottom features. No additional work is recommended.

Respectfully Submitted,

Robert A. Trauschke

Robert A. Trauschke, CDR, NOAA
Chief, Processing Division, AMC

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9226

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
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NO.

HYDROGRAPHIC SURVEY STATISTICS

H-9226

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	1
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	2

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS SOURCE DOCUMENTS
ENVELOPES	1		1-smooth			1-env. of misc. data
CAHIERS	1-with printouts		I			
VOLUMES	2					
BOXES						

T-SHEET PRINTS (List) TP-00166, TP-00167, TP-00168, and TP-00169

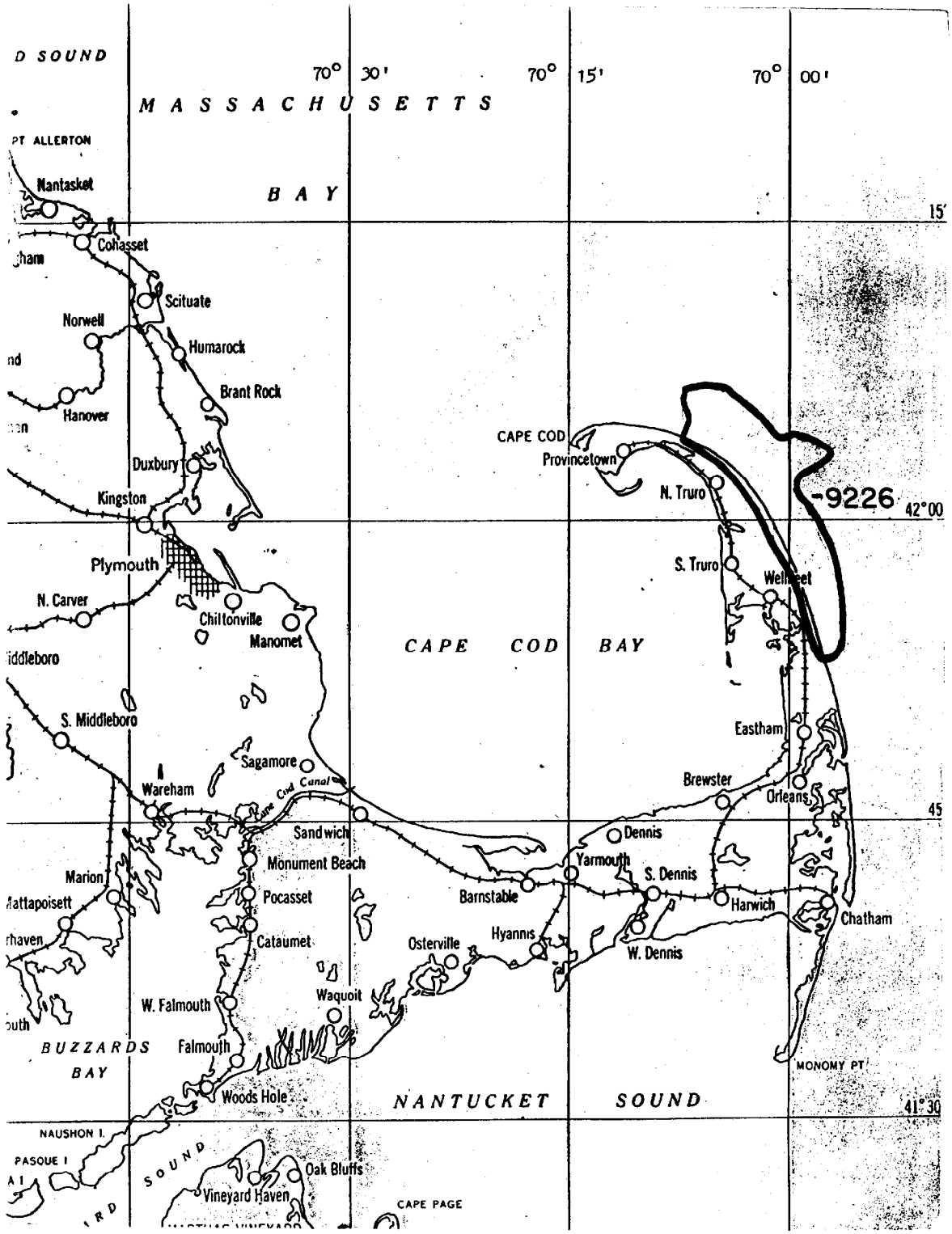
SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	AMOUNTS: VERIFICATION	AMOUNTS: TOTAL
POSITIONS ON SHEET			1837
POSITIONS CHECKED		187	
POSITIONS REVISED		18	
SOUNDINGS REVISED		116	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
		TIME — HOURS	
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)		13	
VERIFICATION OF CONTROL		10	
VERIFICATION OF POSITIONS		24	
VERIFICATION OF SOUNDINGS		87	
COMPILATION OF SMOOTH SHEET		16	
APPLICATION OF TOPOGRAPHY		2	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		6	
COMPARISON WITH PRIOR SURVEYS & CHARTS		NA	
VERIFIER'S REPORT		NA	
OTHER		15	
TOTALS		173	

Pre-Verification by W. H. Guy	*Beginning Date* 12/16/74	*Ending Date* 12/17/74
Verification by W. Guy, F. Saunders, B. Stephenson	*Beginning Date* 03/04/75	*Ending Date* 03/27/78
Verification Check by B. Stephenson	*Time (Hours)* 3	*Date* 03/27/78
Marine Center Inspection by CATEGORY II	*Time (Hours)*	*Date*
Quality Control Inspection by	*Time (Hours)*	*Date*
Requirements Evaluation by	*Time (Hours)*	*Date*


D SOUND
70° 30'
70° 15'
70° 00'
MASSACHUSETTS
PT ALLERTON
Nantasket
BAY
15'
Cohasset
Scituate
Norwell
Humarock
Brant Rock
Hanover
Duxbury
Kingston
CAPE COD
Provincetown
N. Truro
-9226
42°00
Plymouth
S. Truro
Wellfleet
N. Carver
Chiltonville
Manomet
CAPE COD BAY
S. Middleboro
Eastham
Sagamore
Brewster
Wareham
Cape Cod Canal
Orleans
45
Sandwich
Dennis
Monument Beach
Yarmouth
Marion
S. Dennis
Pocasset
Barnstable
Harwich
Chatham
Cataumet
Osterville
Hyannis
W. Dennis
W. Falmouth
Waquoit
BUZZARDS BAY
Falmouth
MONOMY PT
Woods Hole
NANTUCKET SOUND
41°30
NAUSHON I.
PASQUE I
SOUND
Oak Bluffs
Vineyard Haven
CAPE PAGE

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9226

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	Final REMARKS
13246	3/9/82	WINKFIELD	~~Full Part Before~~ After Verification ~~Review Inspection~~ Signed Via
			Drawing No. 40 EXAMINED For critical corrections
			& ADDED SOUNDINGS from Boat Sheet 1 line
13267	4/27/82	Winkfield	~~Full Part Before~~ After Verification ~~Review Inspection~~ Signed Via
			Drawing No. EXAMINED FOR CRITICAL Corrections
			& ADDED SOUNDINGS From Boat Sheet 15 lines
13003	2/28/82	James T. Cassidy	Full Part Before After Verification ~~Review Inspection~~ Signed Via
			Drawing No. 39 Examined for critical corrections from
			boat sheet – used 13267 dls #42 13246 #s 40
13006	2-15-90	Russell P Kennedy	~~Full Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. 47 Adequately applied
13260	2-23-90	Russell P Kennedy	~~Full Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 39 Adequately applied
13200	3-25-92	Ed Martin	Adequate ~~Full Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. 37 thru inspection of 13246
13009	8-20-93	Jerry Schroeder	Adequate ~~Full Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. 40 thru inspection of 13200
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

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