

8780

Diag. Cht. No. 904-2

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. .... WH-20-1-67  
Office No..... H-8780

LOCALITY

State ..... Puerto Rico  
General Locality ..... East Coast  
Locality ..... Vieques Passage & Roosevelt Roads

1967

CHIEF OF PARTY  
Sidney C. Miller

LIBRARY & ARCHIVES

DATE ..... November 8, 1971

8780

HYDROGRAPHIC TITLE SHEET

H-8780

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.

WH 20-1-67

State PUERTO RICO

General locality ~~VIEQUES ISLAND~~ EAST COAST

Locality VIEQUES PASSAGE & ROOSEVELT ROADS

Scale 1:20,000 Date of survey 22 Mar. to 29 Apr. 1967

Instructions dated 1-26-67 & 12-3-66 Project No. OPR-423

Vessel USC&GS SHIP WHITING

Chief of party SIDNEY C. MILLER

Surveyed by R.A. TRAUSCHKE; J.G. CARLEN; J.R. AVAMPATO; P.M. HALL & D. McCALL

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by SHIP PERSONNEL

Graphic record checked by SHIP PERSONNEL

Protracted by GERBER DIGITAL PLOTTER Automated plot by PACIFIC MARINE CENTER

Soundings penciled by GERBER DIGITAL PLOTTER

Soundings in ~~fathoms~~ feet at MLW XXXX

REMARKS:

*Applied to state 11-29-71*  
*COB.*

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8780

FIELD NO. WH-20-1-67

- - - - -

Scale 1:20,000

1967

USC&GS SHIP WHITING

LCDR Sidney C. Miller, USESSA, Commanding

- - - - -

Surveyed by:

LCDR S. C. Miller  
LCDR R.A. Trauschke  
LT J. G. Carlen  
ENS J.R. Avampato  
ENS P.M. Hall  
ENS D. McCall

- - - - -

A. PROJECT:

Authorization for this project is contained in instructions for OPR-423, Vieques Passage and Roosevelt Roads, Puerto Rico, dated 3 December 1965 and Supplemental Instructions dated 26 January 1967.

B. AREA SURVEYED:

The survey is located in Vieques Passage and Roosevelt Roads. Survey area boundaries are as follows: Starting at the Northeastern corner of the sheet  $18^{\circ}15'30''\text{N}$  and  $65^{\circ}30'10''\text{W}$  and extending Southward along  $65^{\circ}30'10''\text{W}$  to Vieques Island, then extending Westward along the Northwestern shore of Vieques Island past Pta Arenas to  $18^{\circ}06'30''\text{N}$  to  $65^{\circ}43'30''$ , then extending Northward along  $65^{\circ}43'30''\text{W}$  to  $18^{\circ}08'20''\text{N}$ , at this point the boundary extends at a true direction of  $079^{\circ}$  to  $18^{\circ}08'55''\text{N}$  and  $65^{\circ}40'25''\text{W}$ , at this point the boundary extends at a true direction of  $061^{\circ}$  to  $18^{\circ}10'55''\text{N}$  and  $65^{\circ}36'26''\text{W}$ , then extending Northward along  $65^{\circ}36'26''\text{W}$  to  $18^{\circ}11'45''\text{N}$ , then extending Eastward along  $18^{\circ}11'45''\text{N}$  to  $65^{\circ}34'00''\text{W}$ , then Northward along  $65^{\circ}34'00''\text{W}$  to  $18^{\circ}15'30''\text{N}$ , then extending Eastward to the starting point along  $18^{\circ}15'30''\text{N}$ .

Since the effective plotting area of the Calcomp Plotter was only 34 inches by 31.4 inches it was necessary to have the plotter make three separate boat sheets in order to completely cover all of the area in the WH 20-1-67 sheet.

The three boat sheets are given the field numbers WH 20-1A-67, WH-20-1B-67, and WH-20-1C-67.

*NE offshore area*                      *inshore area*                      *western area*

The boundaries of the soundings on the WH 20-1A-67 boat sheet are as follows: Starting at the Northeastern corner of the sheet at  $18^{\circ}15'30''\text{N}$  and  $65^{\circ}30'10''\text{W}$  and extending Southward along  $65^{\circ}30'10''\text{W}$  to 1 mile North of Vieques Island, then extending Westward along the Northwestern shore of Vieques Island to  $18^{\circ}07'00''\text{N}$  to  $65^{\circ}36'30''\text{W}$  to  $18^{\circ}12'00''\text{N}$ , then extending Eastward along  $18^{\circ}12'00''\text{N}$  to  $65^{\circ}34'20''\text{W}$ , then extending Northward along  $65^{\circ}34'20''\text{W}$  to  $18^{\circ}15'30''\text{N}$ , then extending Eastward along  $18^{\circ}15'30''\text{N}$  to the starting point

The boundaries of the soundings on the WH 20-1B-67 boat sheet are as follows: Starting at  $65^{\circ}30'00''\text{W}$  and covering the area one and on-half miles North of Vieques Island to  $18^{\circ}08'20''\text{N}$  and  $65^{\circ}33'45''\text{W}$ , at this point the area covered extends closer to the

5 Shoreline and reaches to one-third of a mile from ✓  
the shoreline near the Northwestern tip of Vieques  
Island. This sheet also contains the shoreline on  
the Northwestern Coast of Vieques Island.

The boundaries of the soundings on the WH 20- ✓  
1C-67 boat sheet are as follows: Starting at the  
Northeastern corner of the boat sheet at  $18^{\circ}10'30''\text{N}$   
and  $65^{\circ}36'40''\text{W}$ , then extending South-south East to  
 $18^{\circ}07'00''\text{N}$  and  $65^{\circ}35'30''\text{W}$ , then it extends Westward  
along  $18^{\circ}07'00''\text{N}$  and  $65^{\circ}35'30''\text{W}$ , then it extends  
Northward along  $65^{\circ}43'40''\text{W}$  to  $18^{\circ}08'10''\text{N}$ , and then  
East-northeast to the starting point.

Hydrography on the WH 20-1A-67 boat sheet was ✓  
begun March 22, by the Ship WHITING and ended on  
April 17, 1967.

Hydrography on the WH 20-1A-67 boat sheet was ✓  
begun on March 29 by Launch No. 2 and ended on  
April 20, 1967.

Hydrography on the WH-20-1A-67 boat sheet was ✓  
begun on April 27 by Launch No. 1 and ended April  
29, 1967.

Hydrography on boat sheet WH 20-1B-67 was ✓  
begun on April 3 by launch No. 1 and ended on  
April 20, 1967.

Hydrography on boat sheet WH 20-1C-67 was begun ✓  
April 27 by the Ship WHITING and ended on May 4, 1967.

Junctions with prior and contemporary surveys:

Boat Sheet WH 20-1A-67 *NE offshore area of H-8780*

The survey on this boat sheet joins prior survey  
H-8880, WH 20-1-66 on the East at  $65^{\circ}30'10''\text{W}$ ; joins  
contemporary survey EX 20-1-64<sup>(H-8811)</sup> on the North at  $18^{\circ}15'$   
 $30''\text{N}$  which was completed this year by Launch No. 1  
of the WHITING; joins prior survey H-8811, EX-10-3-62A  
on the West at  $65^{\circ}34'20''\text{W}$  from  $18^{\circ}12'00''\text{N}$  to  $18^{\circ}15'$   
 $30''\text{N}$ ; joins prior survey H-8811,  
H-8811 EX-10-3-62 on the North at  $18^{\circ}12'00''\text{N}$  from  $65^{\circ}34'20''\text{W}$   
to  $65^{\circ}36'30''\text{W}$ ; joins prior survey H8638<sup>(H-8780)</sup>, EX-10-2-62A  
on the West at  $65^{\circ}36'30''\text{W}$  from  $18^{\circ}07'00''\text{N}$  to  $18^{\circ}12'00''\text{N}$ ;  
joins contemporary survey WH-20-1C-67<sup>(H-8780)</sup> on the West at  
 $18^{\circ}07'00''\text{N}$  and joins contemporary survey WH 20-1B-67<sup>(H-8780 - Boat sheet)</sup>  
on and one-half miles North of Vieques Island.

Boat Sheet WH 20-1B-67 (H-8780)

*inshore area of survey*

The survey on this boat sheet joins contemporary survey WH 20-1A-67<sup>(H-8778)</sup> on the North; joins prior survey H-8880, WH 20-1-66 on the East; and joins the Northern shore line of Vieques Island on the South.

Boat Sheet WH 20-1C-67 (H-8780)

*western part of survey*

The survey on this boat sheet joins contemporary survey WH 20-1A-67<sup>(H-8778)</sup> on the East at 65°36'30"W; joins prior survey H-8638<sup>(H-8638)</sup> on the Northwest; joins prior survey H-8637<sup>(H-8637)</sup> on the West; and joins prior survey H-2805, 1906-07 on the South.

Prior surveys in the project area are as follows:

A combined area and depth sheet with a scale of 1:20,000, register No. H-8784<sup>(H-8784)</sup>, 1964, supplemented by H-4287<sup>(H-4287)</sup>, H-4289, H-4291, and H-4292<sup>(H-4292)</sup> of 1922-23.

Earlier surveys in Vieques Passage and Roosevelt Roads include H-2582, 1902 and H-2528, 1902-03, respectively.

C. SOUNDING VESSEL:

The following vessels were used during this survey: ✓

<u>Vessel</u>	<u>Attached to</u>	<u>Sounding color</u>
USC&GSS WHITING	WHITING	Black
Launch No. 1	WHITING	Red
Launch No. 2	WHITING	Green

The computer-plotter system does not write day letters on the boat sheet, hence the fixes are numbered in sequence starting at number one for the first fix of the first day and increasing in magnitude to the last fix on the last day. ✓

The above list only pertains to boat sheets WH-20-1A-67 and WH 20-1C-67 since they were constructed by the computer-plotter system. ✓

The soundings, fix numbers and day letters on boat sheet WH 20-1B-67 were written by hand. This sheet used visual signals for control although the computer-plotter system drew the grid lines. The soundings on this sheet are black and the fix numbers and day letters are in red. ✓

D. SOUNDING EQUIPMENT:

Soundings were recorded by Raytheon DE-723 fathometers. ✓

<u>Vessel</u>	<u>Serial No. of DE-723</u>	<u>Depth Range</u>
WHITING	No. 262	30-100 feet ✓
Launch No. 1	No. 251	10-50 feet ✓
Launch No. 2	No. 213	6-80 feet ✓

E. SMOOTH SHEET:

With the computer-plotter system it was necessary to record all of the information in record volumes and then later on transfer this information into the off-line logger so that a punch tape could be made. Thus, all of the hydrography is stored in three different places; the sounding volumes, the punch tapes, and the hard copies from the ASR-35 teletype. ✓

The present computer program does not correct the soundings to the tides. Hence, all of the soundings on the computer-plotter boat sheets are uncorrected for the tides. The tides in this area ranged only about a foot a day. ✓

The position of any sounding plotted by this system is in the left corner of the right-hand digit. For example: ✓

13 19 X FIX

After about half of the soundings on boat sheet WH 20-1A-67 were plotted, the computer program was changed to make the soundings smaller and rounded out the tenths. All of the soundings on the WH 20-1C-67 boat sheet have the small size numbers. ✓

F. CONTROL:

The hydrography on the WH 20-1B-67 boat sheet was controlled entirely by visual means using three-point fixes. The launch did steer on hyperbolic arcs in the Eastern half of the sheet, from signal MOO Eastward. A total of 29 visual signals were constructed. Seven signals were cut in with sextants, four signals were located with electrotape measurements and theodolite cuts, and the remaining 18 signals were pricked through from manuscripts. It was necessary to add a dogear on the Eastern edge of the boat sheet in order to provide good control for the Eastern edge. Signal OFF is placed on this dogear. ENS David McCall was the photogrammetrist aboard the WHITING.

The manuscript used for the location of visual signals on the WH 20-1B-67 boat sheet was T-12166, 1967 advanced copy.

The hydrography on the WH 20-1A-67 and the WH 20-1C-67 boat sheets ~~were~~<sup>was</sup> controlled entirely by Hi-Fix and the soundings were placed on the boat sheets by the computer-plotter system. The WHITING and both launches steered along hyperbolic arcs and the processing was all performed off-line.

Since Hi-Fix hyperbolic mode was used for control it was necessary to establish three shore stations.

(Frequency 1799.6Kc)  
The master station (MAS) was located on the Northwestern shore of Vieques Island at  $18^{\circ}07'12.62''$  and  $65^{\circ}33'15.38''$ . Slave one (PUN) was located on the North-central shore of Vieques Island near Punta Mulas light house at  $18^{\circ}09'22.70''$  and  $65^{\circ}26'37.84''$ . Slave two (CAB) was located on the Eastern ~~Western~~ shore of Puerto Rico near Isla Cabras light at  $18^{\circ}12'51.41''$  and  $65^{\circ}35'58.79''$ . All three stations were established by triangulation.

In order to provide good intersection of the hyperbolic arcs from slave one and two throughout the entire area covered by the WH 20-1-67 boat sheet it was necessary to move station MAS from Vieques Island to the location of station CAB on Puerto Rico. Station CAB was moved to a new location on the Southwest shore of Puerto Rico near Playa de Humacao at  $18^{\circ}06'58''$  and  $65^{\circ}46'47''$ , called BAT. Station PUN remained at its original location. Station BAT is now slave one and station PUN is slave two. Station BAT is located on triangulation point BATATA.

The Hi-Fix stations were relocated on April 24 and 25.

Before the Hi-Fix stations were moved, boat sheet WH 20-1A-67 was three-fourths complete with hydrography, and boat sheet WH 20-1C-67 had not been constructed. Boat sheet WH 20-1A-67 was completed with hydrography from slave one (PUN) arc 44.2 Eastward to the limit of the sheet. Thus boat sheet WH 20-1A-67 has two sets of hyperbolic arcs drawn on it and boat sheet WH 20-1C-67 only has one set of hyperbolic arcs drawn on it.

See the Hi-Fix Report for additional information concerning the Hi-Fix equipment and calibration.

The shoreline for all three boat sheets was transferred from manuscript T-12166, 1967 advanced copy. The soundings on boat sheet WH 20-1b-67 extend up to 600 feet from the shoreline due to a reef that lies along the entire coast. Hence, it was not possible to define the low water line. *NOTED AS CORAL REEF ON SMOOTH SHEET.*

#### H. CROSSLINES:

Six percent of the soundings lines run by the WHITING were crosslines. Eight percent of the lines run by launches were crosslines.

The soundings generally agreed within one foot at the crossings. The crosslines are considered to be in good agreement.

I. JUNCTIONS:

Boat sheet junctions were as follows:

WH 20-1A-67

The junction with H-8880, WH 20-1-66 was very good; soundings agreed to within one or two feet after the velocity and tide corrections for the present work were applied.

The junction with EX 20-1-64 was very good. There was no need to correct the present work for tides and velocity in order to compare it with this junction since the junction soundings were plotted with the computer-plotter system this year.

The junction with H-8811, EX 10-3-62A was very good; soundings agreed to within one or two feet after the velocity and tide corrections for the present work are applied.

The junction with H-8638, EX 10-2-62A was very good; soundings agreed to within one foot.

The junction with contemporary survey WH 20-1C-67 was very good; soundings agreed to within one foot.

The junction with contemporary survey WH 20-1B-67 was very good; soundings agreed to within one foot.

WH 20-1B-67

The junction with contemporary survey WH 20-1A-67 was very good; soundings agreed to within one foot.

The junction with contemporary survey WH 20-1-66 was very good; soundings agreed to within one foot.

WH 20-1C-67

The junction with contemporary survey WH-20-1A-67 was very good; soundings agreed to within 1-foot.

The junction with survey H-8638 was fair; soundings agreed to within one or two feet.

The junction with survey H-8637 was very good; soundings agreed to within one foot.

J. COMPARISON WITH PRIOR SURVEYS:

(a) Presurvey review items:

1. The 28-foot obstruction at  $18^{\circ}09.99'$  and  $65^{\circ}37.40'$ : Very close to this latitude and longitude on the WH-20-1C-67 boat sheet is a 40-foot sounding. The shoalest depth in this area is a 36-foot sounding located 210 meters from this latitude and longitude. A development was conducted in this area to ~~search for the 28-foot depth~~, but no such ~~depth could be found.~~ This development was conducted at  $18^{\circ}09.90'$   $265^{\circ}37.75'$  ~~and not at the correct position.~~
2. The 34-foot <sup>(obstruction)</sup> sounding at  $18^{\circ}08.99'$  and  $65^{\circ}38.04'$ : This latitude and longitude plots at the exact position of a 40-foot sounding on the WH 20-1C-67 boat sheet. A development with line spacing of 40 meters was run ~~in this area to search for the 34 foot sounding with no results.~~ ~~See review~~
3. The 39-foot sounding at  $18^{\circ}10.56'$  and  $65^{\circ}30.34'$ : This latitude and longitude plots at the exact position of a 54 foot sounding on the WH 20-1A-67 boat sheet. A development with line spacing of 25 meters was run in this area to search for the 39-foot sound- ~~ing with no results.~~ This development is ~~plotted on a mylar overlay.~~ ~~about 200 m to the N.W.~~ ~~There is a 35' sounding plotted~~

(b) Comparison with prior surveys:

Prior survey - H-8784<sup>w.p.</sup>, 1967 supplemented by H-4287, H-4289, H-4291, and H-4292 of 1922-23 -- Scale 1:20,000

This survey was a wire drag survey and thus ~~it was impossible to compare the present survey with it since the wire drag survey does not indicate depth curves.~~ ~~See review, Prior Survey Comparison sub paragraph "B".~~

Prior Survey - H-2582, 1902 & H-2528, 1902-03 ~~See review~~

Copies of these surveys were not available on the WHITING, hence no comparisons could be made.

K. COMPARISON WITH THE CHART:

C&GS Chart No. 940, Passaje de Vieques and Radas ✓  
Roosevelt, 6th Edition, July 25, 1966, 1:25,000.

All of the soundings plotted on the boat sheet are ✓  
uncorrected for tides and sound velocity. The tides  
varied only about one foot and the velocity corrections  
are as follows:

<u>Boat Sheet Sounding</u>	<u>Velocity Correction</u>
30 feet	+1.3 feet
25 feet	+1.1 feet
20 feet	+1.0 feet
15 feet	+1.0 feet
10 feet	+0.5 feet

There appears to be no pronounced change in the ✓  
location and the shape of the numerous shoals; in parti-  
cular the 30-foot curves.

However, there are some minor changes listed below. ✓  
All of these items have been further developed.

- a. Comparison with the WH-20-1A-67 boat sheet:  
(This boat sheet has three (3) mylar overlays)

(1) At the position of latitude  $18^{\circ}09.39'$  and longitude  $65^{\circ}30.90'$  on chart No. 940 a 15-foot sounding appears whereas a 21-foot sounding appears on the boat sheet. *forward from H-4289 W.D.*  
*18' pos. 2455 - Least depth by handlead*

(2) At the position of latitude  $18^{\circ}11.07'$  and longitude  $65^{\circ}30.90'$  on chart No. 940 a 17-foot sounding appears whereas a 23-foot sounding appears on the boat sheet. *forward from H-4289 W.D.*  
It appears that the depths in this shoal (within the 30-17' sounding has  
foot curve) are two to three feet deeper. Also this been carried for-  
shoal is no longer elongated as it appears on the chart, ward from  
but it is split up into two separate shoals. *H-4289 W.D.*  
*18' pos. 2452 - Least depth by handlead*

(3) At the position of latitude  $18^{\circ}11.52'$  and longitude  $65^{\circ}30.95'$  on chart No. 940 a 14-foot sounding appears whereas a 23-foot sounding appears on the boat sheet. *14' sounding has*  
This shoal (within the 30-foot curve) has the same gener-*been carried*  
al shape as the charted shoal. The least depth in this *forward from*  
shoal on the boat sheet is 22 feet. *H-4291 W.D.*  
*19' pos. 2451 - Least depth by handlead*

(4) At the position of latitude  $18^{\circ}12.32'$  and longitude  $65^{\circ}30.95'$  on chart No. 940 a 14-foot sounding appears whereas a 20-foot sounding appears on the boat sheet. This shoal (within the 30-foot curve) has the same general shape as the charted shoal. The least depth on the boat sheet in this shoal is 17 feet. *14' carried forward from H-4291 W.D. There is also a 13' sounding at 1812.50, 2 65 30.90' pos. 6545-46*

(5) Bajo Chinchorrodel Sur Shoal - The 30-foot curve has the same general shape as the charted curve. Due to the rocks in this area a regular fixed line spacing development could not be conducted. Instead the launch followed the natural channels between the rocks and encircled the rocky areas. These soundings are plotted on two mylar overlays: one with a scale of 1:20,000 and one with a scale of 1:10,000. *submerged reef symbol used to fill in. - 18 14.3', 65 31.0' W*

(6) Escollo De Arenas Shoal - The 30-foot and the 18-foot depth curves on the boat sheet appear to be about the same shape of the charted curves. However, the 12-foot depth curve on the boat sheet is broken up into many patches by soundings of 15 feet whereas this depth curve is elongated on the chart. *use present survey info.*

b. Comparison with the WH-20-1B-67 boat sheet:

The depth curves on the boat sheet tend to follow the ones on the chart.

c. Comparison with the WH-20-1C-67 boat sheet:

The Western edge of this boat sheet extends beyond the limits of chart No. 940. Hence, chart No. 917 has been compared with this boat sheet. (No. 917, May 16, 1966, Pasaje de San Juan to Puerto de Humacao)

The few 30-foot shoals in this area compare very well with the ones on the chart. The 60-foot depth curves on the boat sheet tend to follow the same general configuration as on the chart.

L. ADEQUACY OF THE SURVEY:

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

M. AIDS TO NAVIGATION:

The buoys on charts 917 and 940 have been relocated by the U. S. Coast Guard after the last edition on these charts were published. Hence, the detached positions on the buoys for this survey have been compared with the listing of the new locations in the Notice to Mariners, No. 7, 18 February 1967, Section 1, pages 566 and 567.

a. Buoy location on the WH-20-1A-67 boat sheet:

The detached positions on buoys #4, #5, #6, #7, #8, and #9 compare within a few seconds with the latitude and longitude listed in the Notice to Mariners. ~~#9 see record~~  
*There is an additional buoy #7 Lat 18° 13' 52", Long 65° 33' 31"*

However, buoy #11 (at the tip of Escollo de Arenas) ~~see record~~ plots about three-fourths of a mile Northwest of this point.

b. Buoy locations on the WH-20-1B-67 boat sheet: ✓

A mooring buoy is the only buoy on this boat sheet. ✓  
This mooring buoy compares within 20 yards of the charted position. *No longer charted on Chart 25664 Jul/78*

c. Buoy locations on the WH-20-1C-67 boat sheet: ✓

There were no buoys in this area. ✓

N. STATISTICS:

The area surveyed on all three boat sheets amounted ✓ to 60.5 square nautical miles with lineal miles of sounding line and 40 bottom samples. Statistics for each vessel is as follows:

<u>Vessel</u>	<u>No. Positions</u>	<u>Miles Sdg. Line</u>	<u>Total Miles</u>
WHITING	2425	780.7	935.3
Launch No. 1*	918	153.4	246.7
Launch No. 1**	418	96.5	148.4
Launch No. 2	<u>1645</u>	<u>434.6</u>	<u>567.7</u>
TOTALS	5406	1465.2	1898.1

\* Visual      \*\* Electronic

O. MISCELLANEOUS:

To be completed by the smooth plotter. ✓

P. RECOMMENDATIONS:

To be completed by the smooth plotter. ✓

Q. REFERENCES TO REPORTS:

Coast Pilot Report  
Corrections to Echo Soundings  
Field Edit Report  
Aids to Navigation  
Hi-Fix Report

Respectfully submitted:

*Joseph R. Avampato*  
Joseph R. Avampato  
ENS, USESSA

Approved and Forwarded:

*Sidney C. Miller*  
LCDR Sidney C. Miller, USESSA  
Commanding USC&GS Ship WHITING

TIDE NOTE

A portable tide gage at Isable Segunda, Vieques Island was used to record the tides during this survey. It was located at  $18^{\circ}09'12''$ N latitude and  $65^{\circ}26'42''$ W longitude. Tides and the survey were recorded on 60th meridian time. The plane of reference was located at feet of the tide staff.

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 11, 1969

~~Nautical Chart Division~~ Pacific Marine Center

Plane of reference approved in  
~~reference of sounding records~~ for

HYDROGRAPHIC SHEET 8780

Locality: Puerto Rico - Isle of Vieques

Chief of Party: S. C. Miller, 1967

Plane of reference is mean low water

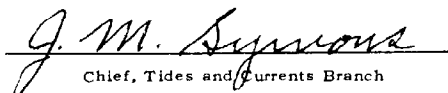
Tide Station Used (Form C&GS-681):

Isabel Segundo

Height of Mean High Water above Plane of Reference is as follows:

0.7 foot

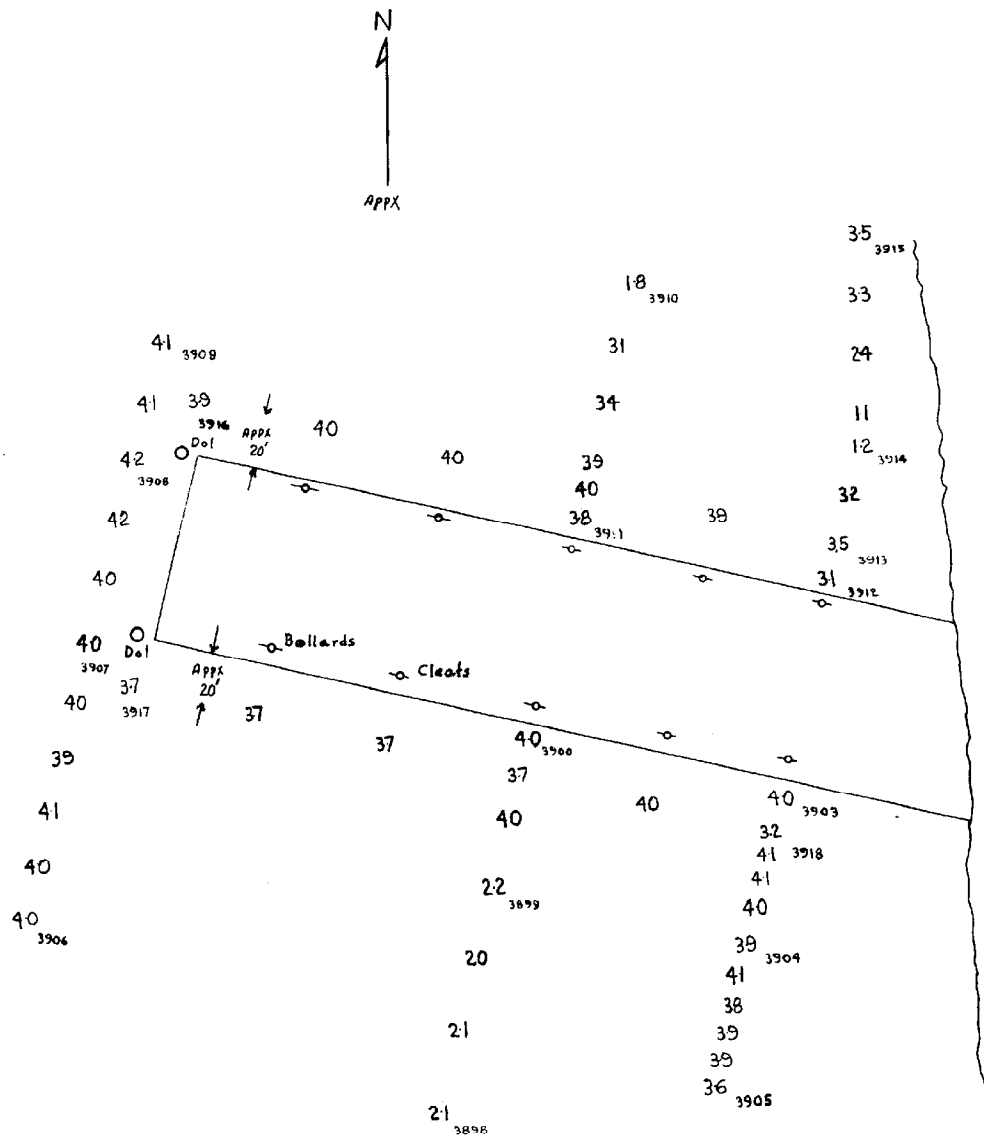
Remarks

  
Chief, Tides and Currents Branch

LIST OF SIGNALS

WH-20-1B-67

037 AIR	T-12166	<i>AIR, 1966</i>	483 LUG	T-12166
032 BIF	T-12166		566 MOO	T-12166
069 BOX	T-12166		538 NIT	TOPOGRAPHIC <i>T-12166</i>
107 CAR	T-12166		622 OFF	T-12166
108 DAV	<del>HYDROGRAPHIC</del>	<i>T-12166</i>	688 OUT	<del>HYDROGRAPHIC</del> <i>T-12166</i>
136 DIP	T-12166		609 PAW	TOPOGRAPHIC <i>T-12166</i>
163 DOG	T-12166		628 PET	<del>HYDROGRAPHIC</del> <i>T-12166</i>
208 EAT	T-12166		686 QUO	TOPOGRAPHIC <i>T-12166</i>
233 FIG	T-12166		708 RAT	T-12166
329 HEX	T-12166		768 ROT	<del>HYDROGRAPHIC</del> <i>T-12166</i>
389 IVY	T-12166		709 SAX	TOPOGRAPHIC <i>T-12166</i>
406 JAP	T-12166		731 SID	T-12166
409 JAW	<del>HYDROGRAPHIC</del>	<i>T-12166</i>	807 TAR	<del>HYDROGRAPHIC</del> <i>T-12166</i>
422 JEF	<del>HYDROGRAPHIC</del>	<i>T-12166</i>	934 WIL	T-12166
429 KEY	T-12166			



Sketch of Mosquito Pier Development

April 20 1967      110 day pos. 3897 thru 3918 Vol. 19

WH-20-1-67 H-8780      Launch I

NOT TO SCALE

*soundings corrected for Tide & Vel.*

CEN-1  
2-18-71

ATLANTIC MARINE CENTER

Sheet 1 of 3

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR 423
- 2. Reg. No. H-8780
- 3. Field No. WH 20-1-67
- 4. Requested By H.L.P.
- 5. Ship or Office Verification Br.
- 6. Date Required ASAP

7. Polyconic  Modified Transverse Mercator

8. Central Meridian of Projection 65 ° 36 ' 00 "

9. Survey Scale: 1: 20,000

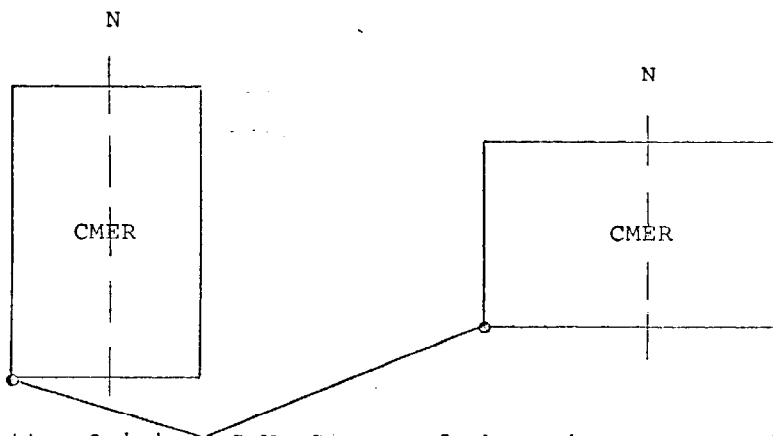
10. Size of Sheet (check one):

36 x 54  36 x 60  Other  Specify 36 1/2 by 56"

11. Sheet Orientation (check one):

NYX = 1

NYX = 0



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

Latitude 18 ° 06 ' 20 "

Longitude 65 ° 44 ' 30 "

13. G.P.'s of triangulation and/or signals attached

14. Material Desired: Tracing Paper  Mylar

Smooth Sheet  Other  Specify \_\_\_\_\_

15. Remarks: Control overlay Two sets of Arcs on this overlay  
2 form QFN2<sup>s</sup> Attached

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

Sheet 2 of 3

1. Project # OPR-423 2. Reg. # H-8780 3. Field # WA 20-1-67  
 4. Type of Control: Hi-Fix (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency 1799.6 KC (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
Station I.D. \_\_\_\_\_  
Range Two (R<sub>2</sub>)  
Station I.D. \_\_\_\_\_

Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
Station I.D. PUN  
Master  
Station I.D. MAS  
Slave Two  
Station I.D. CAB

Lat. 18 ° 09 ' 22.70 "  
 Long. 65 ° 26 ' 37.84 "  
 Lat. 18 ° 07 ' 12.62 "  
 Long. 65 ° 33 ' 15.38 "  
 Lat. 18 ° 12 ' 51.41 "  
 Long. 65 ° 35 ' 58.79 "

7. Location of Survey:

Range-Range

Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.  
 This form applies to all data on this survey.  
 This form applies to part of the data on this survey.

Vessel	From	To	Position Numbers
EDP #	Time	Day	(inclusive)
<u>NA</u>	_____	_____	_____ to _____
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____

9. Remarks: Slave pattern I (Red) pattern (2) (Blue)

ATLANTIC MARINE CENTER  
ELECTRONIC CONTROL PARAMETERS

Sheet 3 of 3

1. Project # OPR-423 2. Reg. # H-8780 3. Field # WH 20-1-67  
 4. Type of Control: HI-FIX (Hi-Fix, Raydist, EPI, etc.)  
 5. Frequency 1799.6 KC (for conversion of electronic lanes to meters)  
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>)  
 Station I.D. \_\_\_\_\_  
 Range Two (R<sub>2</sub>)  
 Station I.D. \_\_\_\_\_

Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. Bat  
 Master  
 Station I.D. Cab  
 Slave Two  
 Station I.D. PUN

Lat. 18 ° 06 ' 58.67 "  
 Long. 65 ° 46 ' 47.10 "  
 Lat. 18 ° 12 ' 57.41 "  
 Long. 65 ° 35 ' 58.79 "  
 Lat. 18 ° 09 ' 22.70 "  
 Long. 65 ° 26 ' 37.84 "

7. Location of Survey:

Range-Range

Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left;

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
<u>NA</u>	_____	_____	_____ to _____
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____

9. Remarks: patten I (Brown) patten II (Green)

AMC VERIFICATION BRANCH  
POSITION NUMBERS  
H-8780

<u>VESSEL</u>	<u>VOL. NO.</u>	<u>OLD POSITION NO.</u>	<u>NEW POSITION NO.</u>	<u>DAY</u>
WHITING	1	1-28		081
	1&2	29-221		093
	2	222-371		094
	2	372-376		096
	2&3	377-488		105
	4&5	489-615		106
	6	616-675		107
	6&7	676-892		117
	7&8	893-1153		118
	8	1154-1199		119
	8, 9&10	1200-1489		120
	10&11	1490-1818		121
	11, 12&13	1819-2155		122
	14&15	2156-2371		123
	15	2372-2425		124
LCH. 1	16	1-88	3001-3088	093
	16	89-196	3089-3196	102
	17	197-307	3197-3307	103
	17	308-410	3308-3410	104
	17&18	411-487	3411-3487	105
	18	488-640	3488-3640	106
	18	641-739	3641-3739	107
	19	740-751	2430-2441	108
	19	752-765	2442-2455	109
	19	766-918	3766-3918	110
	19&20	919-1081	3919-4081	117
	21	1082-1288	4082-4228	118
	22	1229-1321	4229-4321	119
	23	1322-1336	4322-4336	123
	LCH. 2	24	1-125	5001-5125
24&25		126-259	5126-5259	089
25		260-368	5260-5368	091
25		369-408	5369-5408	092
25&26		409-495	5409-5495	096
26		496-589	5496-5589	101
27		590-728	5590-5728	102
28		729-866	5729-5866	103
29		867-990	5867-5990	104
30		991-1009	5991-6009	105
30		1010-1115	6010-6115	106
31		1116-1274	6116-6274	107
32		1275-1409	6275-6409	108
33		1410-1528	6410-6528	109
34		1529-1645	6529-6645	110

# Memorandum

TO : Chief, Hydrographic Processing Branch  
Atlantic Marine Center

THRU : Chief, Processing Division - PMC *mf*

FROM : Branch Chief, EDAT  
Pacific Marine Center

DATE: 3 March 70

In reply refer to:  
CFS 32

SUBJECT: SURVEY - H-8780

We have re-applied new numbers to position and sounding cards as requested in Lt. Wallace's letter dated 26 Feb 69. Since his letter mentions the possibility of Launch #1 visual positions being in error, we plotted a separate overlay of positions 3001-3918. Signals plotted on the P.N.O. are as listed from ship Whiting, and should be verified prior to recomputing visual fixes here at PMC.

*Refers to 10 foot error in program - Negligible on 1:20,000 scale - H.L.P.*

Since arc intersections were not provided, we did not plot intersections on the (electronic) position plot. After reviewing the plot, I am sure you will agree that something is wrong with the ships computation of some electronic positions.

*See Note to EDAT dated Mar. 16, 1970*

We can not determine how extensive the problem is, since we lack descriptive information on this survey. Eventhough the poor quality, we are forwarding the plots (under separate cover) for your inspection, along with a listing of position cards.

*Mel Maki*  
Mel Maki  
LT., USESSA



Norfolk, Va.  
March 16, 1970

AMC PLOTTER NOTE TO EDAT  
SURVEY H-~~8970~~ 8780

This office has inspected the preliminary position overlay for H-8970 and we find that positional problems may be attributed to the fact that the Hi-Fix stations were relocated on April 24 & 25, 1967 (Julian days 114 & 115). When making the conversions from the Whiting system the ship personnel failed to take this into consideration, and some of the work days after the relocation were computed on the original Hi-Fix stations.

The positions affected are listed below and they should be re-computed using the final station locations as furnished.


Recompute electronic positions 0676 (Day 117) thru 2425 (Day 123) using the geographic positions of Hi-Fix station as follows:

MASTER	Lat. 18-12'- 51.41"	<u>Frequency 1799.6kc</u>
	Long. 65-35'- 58.79"	
SLAVE 1	Lat. 18- <del>12</del> <sup>02</sup> '- 58.00"	
	Long. 65-46'- 47.00"	
SLAVE 2	Lat. 18-09'- 22.70"	
	Long. 65-26'- 37.84"	

Positions 3919 (Day 117) thru 4336 (Day 123) fall after the date of station relocations. but they are not affected as they were computed on the correct stations.

In addition to the position printout, we are returning the hydro signal card printout. You will note that the position for signal 032 has been corrected.

When the above corrections have been made, please furnish this office complete new position overlays for the electronically and visually controlled work.

  
Hugh L. Proffitt  
Chief, Hydro Branch. AMC

VERIFIERS: G.F. Trefethen  
B.J. Stephensen

Norfolk, Va.  
July 20, 1970

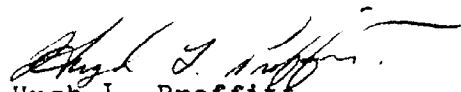
AMC PLOTTER NOTE TO EDAT  
SURVEY H-8780

This office has completed verification of the preliminary visual and Hi-Fix position overlays for this survey. We are returning the position printout with applicable corrections marked in red pencil.

Corrections other than routine will include the following:

1. Positions 3897 thru 3918 have been destroyed. They control sounding data on and around Mosquito Pier and will be plotted manually on the smooth sheet.
2. Positions 372 thru 376, 672 thru 675 and 1197 thru 1199 apparently were not logged with the original raw data. These positions are the locations of bottom samples which do not require the precise locations needed for soundings. Geographic positions were scaled from the boat sheet and attached to the printout in order that they may be included in the survey data.

When the above corrections have been made, please furnish this office a sounding overlay.

  
Hugh L. Proffitt  
Chief, Verification Br., AMC

VERIFIER: W.L. Jonns

Norfolk, Va.  
Oct. 20, 1970

AMC PLOTTER NOTE TO EDAT  
SURVEY H-8780

This office has completed verification of the preliminary position overlay and has accomplished some work on the sounding overlay. You will recall that it was decided to make a new sounding overlay plot because of the many sounding changes and plotter problems experienced on the first sounding overlay. Both the position and sounding card printouts are being returned with applicable changes marked in brown or red pencil.

Please note that this a Whiting survey using Hi-Fix hyperbolic mode control but the position printout shows indicator "2" in some instances. This is believed to be incorrect.

Because of logging errors, on positions 2372 thru 2425 change the Julian Day from 123 to 124. Sounding correctors should be ~~changed~~ applied accordingly.

As you requested in a recent Telcon, we are enclosing 3 lists of corrections which must be made. They are as follows:

- (1) A list of positions which were unnecessarily recomputed because of time changes on printout dated 9-7-70.
- (2) A list of ~~XXXXXXXXXX~~ soundings to be destroyed.
- (3) A list of soundings to be recomputed because of time changes.

We are also enclosing 1 each, tapes & printouts of soundings re-scanned in this office on work of Whiting and Launches 1 & 2.

The sounding changes which were logged are marked in blue on the printout. Other routine changes to be made by your office are marked in brown and red. This will include the changes listed in items 1, 2 & 3.

When the above corrections have been made, please make a new sounding edit and furnish a sounding overlay showing position dots.

  
Hugh L. Proffitt  
Chief, Verification Br., AMC

ITEM 1

The following positions are correct on 1st position P.O. dated 5-19-70 and were recomputed erroneously on 2nd P.O. dated 9-7-70

SHIPS WORK

POS.	Time
0338	125640
0339	125840
0340	130040
0341	130240
0342	130440
0343	130640
0344	130840
0372	103600
0373	104800
0374	105800
0375	110800
0376	111900
0434	123600
0435	123800
0672	135450
0673	140520
0674	141630
0675	143240
1197	144600
1198	153030
1199	154450
1470	172640
<del>2387</del>	<del>104140</del>
<del>2389</del>	<del>104500</del>

LAUNCH WORK

POS.	TIME	DATE
4322	084500	123
5099	144400	088
5100	144630	088
5101	144900	088
5102	145130	088
5103	145400	088
5104	145530	088
5105	151500	088
5106	151730	088
5108	152230	088
5109	152430	088
5110	152700	088
5111	152930	088
5112	153200	088
5113	153430	088
5114	153700	088

NOTE:  
All inbetween soundings pertaining to the above positions must also be recomputed.

The following positions were omitted on the 2nd position P.O. but are included on the sounding P.O. correctly.

5591  
5681

ITEM "2"

The following <sup>Soundings</sup> positions have been destroyed and should be removed from the P.O.

SHIPS WORK

<u>POS.</u>	<u>TIME</u>
003103	084750
012100	121100
019402	145450
043502	123820
133001	123750
193502	105550
193506	105650

LAUNCH WORK

<u>POS.</u>	<u>TIME</u>
302205	114500
302206	114530
302207	114600
302208	114630
303001	133730
303002	133800
303003	133830
303004	133900
504902	113015
507504	134550
508601	141150
509201	142645
510903	152550
533002	132215
537405	085615
541403	082345
541501	082515
541506	082715
575205	093515
582901	135015
586106	151145
594802	115245
634901	120615
635104	132115
639803	150645

ITEM 3

*on soundings*

The following times have been changed and new coordinates will need to be computed before plotting.

SHIPS WORK

<u>POS.</u>	<u>TIME</u>
003401	085430
043401	123600
043402	123620
043403	123640
043404	123700
043405	123720
043501	123800
189101	092535
191703	101905

LAUNCH WORK

<u>POS.</u>	<u>TIME</u>
503401	105310
504102	111105
507402	134220
507505	134615
507402	134220
508902	141945
510103	145015
518801	112715
519101	113445
520102	120030
522602	133330
524802	142415
582802	134815
584401	142815

VERIFIER: Guy F. Trefethen

Norfolk, Va.  
Feb. 9, 1971

AMC PLOTTER NOTE TO EDAT  
SURVEY H-8780

This office is returning the position card printout with needed changes marked in red pencil on positions 3097, 3208, 3296, 3855, 3856 and 5114.

During verification of the sounding overlay it was found that incorrect velocity corrections had been applied to Days and positions as follows:


<u>LAUNCH</u>	<u>JULIAN DAYS</u>	<u>POSITIONS</u>	<u>VELOCITY TABLE TO BE USED</u>
1	119	4229 to 4321	Table 2
2	088, 089, 091	5001 to 5368	" 1

In order for you to change these corrections we are returning the TC/TI and velocity correction printouts recently sent to us by your office.

In addition, we are returning the sounding card printout with applicable changes marked in red pencil. Among these changes you will find numerous soundings which were taken out of excess by Mr Trefethen. Since we will need a new edit because of the velocity correction changes, and also because the original edit appeared questionable due to the extremely large number of deleted soundings, it is suggested that you not make the edit changes marked in the printout but compare them with the printouts and overlays resulting from the new edit.

Altho this survey has presented many problems for both offices, it is felt that it has reached the stage where we might gamble on a smooth sheet rather than making new sounding overlays. If you agree, please go ahead with the smooth plot after the above changes have been made.

The limits of this survey are fairly critical. Please plot it on 42" paper and we will trim it to proper size later.

  
Hugh L. Proffitt  
Chief, Verification Br., AMC

✓

GEOGRAPHIC NAMES

Survey No. H-3780

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
Desembarcadero Mosquito											1
Escolto de Arenas											2
Isla de Vieques											3
Passaje de Vieques											4
Passaje Radas Roosevelt											5
Punta Arenas											6
Radas Roosevelt											7
PUNTA CABALLO											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

PREPARED BY

*Frank W. Pickett*  
 CARTOGRAPHIC ENGINEER

APPROVED BY *CGH* 5/18/79

*A. Joseph Wright*  
 CHIEF GEOGRAPHER

VERIFIER'S REPORT  
HYDROGRAPHIC SURVEY, H 8780

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p>Note: The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	✓		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.</p>	✓	
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>	✓		<p>Part IV - VOLUMES</p> <p>11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None</p>	✓	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	✓				
<p>Part II - SHORELINE AND SIGNALS</p> <p>4. Source of shoreline signals Remarks Required: -- List all surveys T-12166 a. Give earliest and latest dates of photographs April 1969 Feb. 1964 b. Field inspection date c. Field Edit date April 1966 - May 1967 d. Reviewed-Unreviewed</p>	✓				
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>	✓		<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features</p>	✓	
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>	✓				
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still under way.</p>	✓				
<p>Part III - JUNCTIONS</p> <p>Note: Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>	✓				
<p>9. The notation in slanted lettering "JOINS H--- (19 )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	✓		<p>Part V - PROTRACTING</p> <p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>	✓	
			<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	✓	
			<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	✓	

Fig. 20 (cont'd.)  
Form 946 A (back of form)

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	✓		26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓		27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	✓	
<b>Part VI - SOUNDINGS</b>			<b>Part IX - BOAT SHEET</b>		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓		28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓		29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	✓	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓		<b>Part X - GENERAL</b>		
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓		30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
<b>Part VII - CURVES</b>			32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected. <i>WNP</i>	✓		33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓		<b>Part XI - NOTES TO THE REVIEWER</b>		
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓		34. Unresolved discrepancies and questionable soundings.	✓	
			35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	✓	
			36. Supplemental information.	✓	
Verified by <i>G. F. Trefethen</i>			Date <i>1 Oct 1971</i>		

FIG. 18.

DESCRIPTIVE REPORT DATA RECORD			
PART I SMOOTH SHEET PREPARATION		PREPARED BY/OPERATOR	DATE
A. PLOTTER OPERATOR		EDAT PMC	
B. DISTORTION MARKS PLOTTED		EDAT PMC	
C. PROJECTION INTERSECTIONS PLOTTED		EDAT PMC	
D. POINTS OF ELECTRONIC CONTROL ARCS PLOTTED			
E. OVERLAYS PREPARED BY			
1. POSITION NUMBER		EDAT PMC	
2. EXCESS SOUNDINGS		EDAT PMC	
3. PRELIMINARY SMOOTH PLOT		EDAT PMC	
4. LIST OTHERS			
A.			
B.			
F. SOUNDING SELECTION BY		EDAT PMC	
G. PLOTTER INPUT	PREPARED	EDAT PMC	
H.	CHECKED	EDAT PMC	
I. DESCRIPTIVE REPORT ADDENDUMS			
PART II SMOOTH SHEET COMPLETION		CARTOGRAPHER	DATE
A. DISTORTION SCALE TICKS IDENTIFIED BY NOTE		G.F. Trefethen	9 sep 1971
B. PROJECTION INTERSECTIONS VERIFIED BY		G.F. Trefethen	26 Aug 1971
C. PROJECTION LINES RULED BY		G.F. Trefethen	26 Aug 1971
D. ELECTRONIC CONTROL ARCS RULED AND LOCATION VERIFIED		EDP-AMC	23 sep 1971
E. OVERLAYS COMPLETED BY			
1. POSITION NUMBER LEADERS ADDED		G.F. Trefethen	20 sep 1971
2. EXCESS SOUNDING OVERLAY COMPARED		G.F. Trefethen	15 Jan 1971
3. PRELIMINARY SMOOTH PLOTS COMPARED		G.F. Trefethen	15 Jan 1971
4. OTHERS UTILIZED			
A.			
B.			
F. DESCRIPTIVE REPORT ADDENDUM		G.F. Trefethen	1 oct 1971
G. CONTROL STATIONS VERIFIED		A.K. Schugald	3 Nov 1970
H. POSITIONS MANUALLY PLOTTED		G.F. Trefethen	8 June 1970
I. MANUAL PLOT VERIFIED		G.F. Trefethen	21 Dec. 1970
J. SHORELINE APPLIED		G.F. Trefethen	27 Aug 1971
K. BOTTOM CHARACTERISTICS ADDED		G.F. Trefethen	30 Aug 1971
L. NOTES AND DEPTH CURVES ADDED		G.F. Trefethen	23 Sep 1971

FORM C&GS-946  
(REV. 11-65)  
(PRESC. BY  
HYDROGRAPHIC  
MANUAL 20-2,  
6-64, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS  
HYDROGRAPHIC SURVEY NO. H-8780

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & <u>2</u> PNO		<u>1</u>	BOAT SHEETS		<u>3</u> parts	
DESCRIPTIVE REPORT		<u>1</u>	OVERLAYS		<del>13</del> <u>13</u>	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	<del>1</del>					
CAHIERS	<u>2</u>		<del>1</del>			
VOLUMES	<u>34</u>					
BOXES			<u>6</u>			

T-SHEET PRINTS (List)

~~1~~

SPECIAL REPORTS (List)

HI-FIX REPORT & CORR. TO ECHO SOUNDINGS REPORT

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				<u>5406</u>
POSITIONS CHECKED		<u>100</u>		
POSITIONS REVISED		<u>50</u>		
DEPTH SOUNDINGS REVISED		<u>450</u>		
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		<u>8</u>		
JUNCTIONS		<u>0</u>		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		<u>120</u>		
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		<u>552</u>		
TOTALS		<u>680</u>		

PRE-VERIFICATION BY

G. F. Trufelthen & B. J. Stephenson

BEGINNING DATE

3 Nov 1970

ENDING DATE

9 Feb 71

VERIFICATION BY

G. F. Trufelthen

BEGINNING DATE

26 Aug 1971

ENDING DATE

1 Oct 1971

REVIEW BY

BEGINNING DATE

ENDING DATE

H- 8780

A. Additions and corrections have been furnished the plotter  
center by the verification unit. **Except those marked for sub-  
mission by Review**  
Signed *Hugh L. Ruffin*  
Date Oct. 27, 1971 Title Chief, Verification Br., AMC

B. Additions and corrections have been added to the survey  
records and the final smooth sheet forwarded to the ~~verification~~  
~~unit.~~ **Review**  
Signed *Hugh L. Ruffin*  
Date Oct. 27, 1971 Title Chief, Verification Br., AMC

C. The smooth sheet has been inspected, is complete, and  
meets the requirements of the General Instructions for  
automated surveys and the Hydrographic Manual. (Note:  
All exceptions are listed in the verifier's report).  
Signed *Hugh L. Ruffin*  
Date Oct. 27, 1971 Title Chief, Verification Br., AMC

D. Smooth sheet and records forwarded to Rockville, Maryland  
Office.

Date Nov. 1, 1971

AMC VERIFICATION NOTES  
SURVEY H-8780

This survey was one of the first done under the automated system and it presented a great many problems during verification. After numerous changes and revisions, by this Branch and Seattle Plotting Center, it is believed the survey is complete and accurate except for the discrepancies listed below. The enclosed copies of "AMC Plotter Note to EDAT" will list some of the other problems encountered and explain the methods used to resolve them.

VISUAL CONTROL

Numerous weak fixes were used to position Launch 1 on the visually controlled, along-shore hydrography. (Positions 3001 thru 3918). It is believed that reasonable accuracy has been obtained by utilizing available data and adjusting the weaker fixes so that depths would agree with soundings plotted on stronger control.

This office was unable to plot the weak fixes controlling soundings around the pier at Lat. 18-09.0' and Long. 65-30.8'. A smooth tracing was made of the field plot which is attached to page 34, vol. 19. This smooth tracing is included in this report and shows the reduced soundings. The method of positioning on these overlay tracings is unknown and is considered of questionable accuracy.

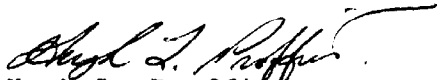
REEF INVESTIGATION

At Lat. 18-14.2 and Long. 65-31.0 the hydrographers observed numerous fixes to delineate the limits of a large reef. They obviously kept the launch in deeper water where the soundings were obtained, and proceeded to outline the reef by reference from about 3 meters distance. The clarity of the water enabled them to see the reef but no depths were obtained inside its limits except for a few hydro lines, some of which showed depths to 9 feet. In three instances, where references were made to shoal awash, reef symbols were inked on the smooth sheet. Penciled symbols were applied to other estimated reef limits although there is no record of water depths in the included areas. The reef is beyond the limits of photo coverage.

OVERLAYS & POSITION NUMBERS

Because of congestion position numbers were plotted on two Mylar overlays. A third overlay shows Hi-Fix hyperbolic arcs plotted at Atlantic Marine Center ~~on~~ <sup>in</sup> a modified Transverse Mercator Projection.

It was necessary to renumber some positions for purposes of automation. A list is appended to this report showing the old and the corresponding new numbers.

  
Hugh L. Proffitt  
Chief, Verification Branch, AMC

Norfolk, Va.  
Oct. 27, 1971



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8780

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
940	1-24-72	C.E. Harrington	<del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. 10
922	2-10-72	C.E. Harrington	<del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. (NO CORR) 10
920	2-14-72	A. Moore	<del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. 23
904	8/16/72	Jamilton Comer	<del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. 22
917	8/31/72	R. A. Hillis	<del>Full Part Before</del> <sup>After</sup> Verification <del>Review</del> <sup>Before</sup> Inspection Signed Via Drawing No. thru chart 940
<del>923</del>	<del>10/13/72</del>	<del>J. Sheehan</del>	<del>Full Part Before</del> <sup>After</sup> Verification <del>Review</del> <sup>Before</sup> Inspection Signed Via Drawing No. 3
923	11/2/77	D.W. Galvin	ADEQUATE <del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. <sup>BEFORE</sup>
25664	8/12/80	B. Fernandez	Adequate <del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. <sup>before</sup>
25663	8/22/80	B. Fernandez	Adequate <del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. applied through chart 25664
25650	2-14-83	E. Bedovine	Adequate <del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. 31
25640	8/18/83	B. Fernandez	Adequately <del>Full Part Before</del> After Verification <del>Review</del> Inspection Signed Via Drawing No. 34