

9933

DIAGRAM NUMBER 526

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey .. HYDROGRAPHIC.....  
Field No. .... PE-10-3-81.....  
Office No..... H-9933.....

LOCALITY

State ..... N/A.....  
General Locality .. WEST INDIES.....  
Locality EAST OF NAVASSA ISLAND.....

1981

CHIEF OF PARTY  
D. E. NORTRUP.....

LIBRARY & ARCHIVES

DATE ..... JULY 10, 1981.....

9933

*See  
2-515*

**HYDROGRAPHIC TITLE SHEET**

H-9933

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

FIELD NO.

PE 10-3-81

State N/A

General locality West Indies

Locality East of Navassa Island

Scale 1:10,000 Date of survey 13 Mar 81 - 14 Mar 81

Instructions dated 5 Jan 81 Project No. OPR-S-I 103-PE-81

Vessel NOAA Ship PEIRCE (S-328)

Chief of party Donald E. Nortrup, CDR, NOAA

Surveyed by T.W. Ruszala, E.J. Fields, E.S. Varney, L.F. Simoneaux, J.W. Bailey, R.B. Harris

Soundings taken by echo sounder, hand lead, pole Universal Graphic Recorder Model 196C-23

Graphic record scaled by E.J.F., E.S.V., L.F.S., J.W.B., R.B.H., C.M.

Graphic record checked by E.J.F., L.F.S., C.M.

Protracted by \_\_\_\_\_ Automated plot by XYNETICS 1201 (AMC)

Verification by See Verification Report

Soundings in fathoms feet at ~~XXXX~~ ~~MLLW~~ Low Water Datum

REMARKS: All times in this survey are Greenwich Mean Time

Digital Data Completed by AMC

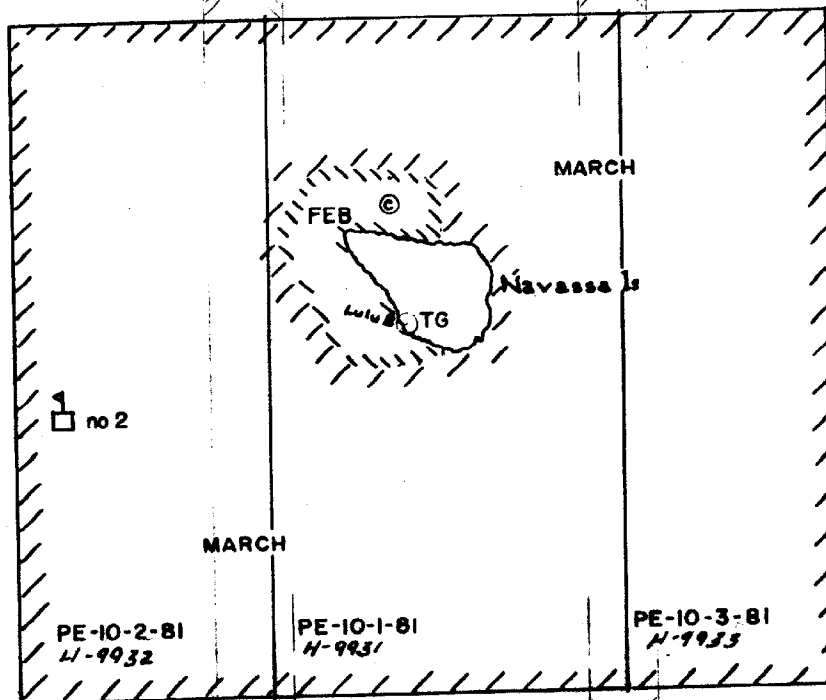
Notes in black made during QC evaluation

APPH. 1-6-82  
WST

PROGRESS SKETCH  
 OPR-S1103  
 NAVASSA ISLAND, WEST INDIES  
 17 FEB - 15 MAR, 1981  
 NOAA Ship PEIRCE  
 DONALD E. NORTRUP, CDR NOAA  
 COMD'G.

From Chart 26191

75° 00'  
 + 18° 30'



74° 55'  
 + 18° 20'

LEGEND

FEB	MAR	
1.5	67.0	SQ NM SOUNDING
34.0	108.0	LN M MISC DISTANCE
0	33.0	LN M DIST TO AND FROM
59.7	383.2	LN M SOUNDING LINE
0	17	BOTTOM SAMPLES (GRAB)
10	7	WATER SAMPLES ANALYZED (salinity)
7	0	CONTROL STATIONS
1	1	NANSEN CAST
1	0	TIDE GAGE
0	1	CURRENT OBSERVATIONS

75° 00'  
 + 18° 15'

DESCRIPTIVE REPORT  
TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-9933  
FIELD NUMBER PE 10-3-81

A. PROJECT

This project provides current soundings of the waters immediately Eastward of Navassa Island. It was accomplished in direct response to a request by the U.S. Naval Oceanographic Office, and was conducted in accordance with instructions dated 5 January 1981 from the Associate Director, Marine Surveys and Maps. These instructions for S-I103-PE-81 were forwarded via the Director, Atlantic Marine Center. There were no changes which affected the survey.

B. AREA SURVEYED

The area surveyed was basically rectangular in shape, with the longer axis oriented N-S. There was an additional small area included in the survey to develop a large rise in the bottom. The outline of the survey area is as follow:

From a point at	18°20.0'N / 74°58.5'W,	North to	→
	18°27.5'N / 74°58.5'W,	Then East to	→
	18°27.5'N / 74°56.3'W,	Then South to	→
	18°24.6'N / 74°56.3'W,	Then East to	→
	18°24.6'N / 74°55.2'W,	Then South to	→
	18°22.2'N / 74°55.2'W,	Then West to	→
	18°22.2'N / 74°56.3'W,	Then South to	→
	18°20.0'N / 74°56.3'W,	Finally West to	→
	18°20.0'N / 74°58.5'W.		

There were no land masses within or adjoining the area surveyed.

Hydrography commenced on 13 March 1981, and was completed on 14 March 1981.

C. SOUNDING VESSEL

Hydrography was conducted utilizing the NOAA Ship PEIRCE (S-328) which was equipped with a Raytheon Universal Graphic Recorder, Model UGR-196C-23.

Vessel number assigned in this survey was:

EDP Vesno  
2830

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

This survey was conducted utilizing a Raytheon Universal Graphic Recorder, Model UGR-196C-23; S/N 164. This unit was combined with a Digitrak Digitizer Model 261C (S/N 227) and a Raytheon PTR (transmitter/receiver) Model 105B (S/N 162).

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS (cont.)

Scale checks were taken thrice daily to ensure the correct scale from which soundings were being taken (0-800 fathoms). Depths encountered during this survey ranged from 218 fathoms to 757 fathoms.

Two Nansen Casts were taken. The first was to a depth of 600 meters. The second to a depth of 800 meters. Results were combined to provide a graph from 0-880 fathoms. Extrapolation was required beyond 422 fm. The corrections were graphed and velocity tables were scaled at 0.1 fathom intervals (20-110 fathoms), and 1.0 fathom intervals (all greater depths) as per the Hydrographic Manual, Table 4-4, Pgs. 4-36.

Further, in accordance with the Hydrographic Manual, the static draft of the ship is implicitly included on the corrector tapes. Positions and dates of the Nansen Casts were as follows:

<u>CAST</u>	<u>DATE</u>	<u>POSITION</u>	
1	26 Feb 1981	18°19'30"N	75°05'42"W
2	16 Mar 1981	18°23'42"N	75°05'54"W

The following velocity table was used for this survey:

TABLE 1	J.D. 060-074	VESNO 2830
---------	--------------	------------

Settlement and squat corrector for PEIRCE is approximately one foot at standard speed. The observed tidal range in the survey area was approximately one foot. The combined settlement and squat, and tide correctors are less than one half of one percent of the shoalest survey depth and are, therefore, negligible.

Velocity tables and TC/TI tape listings are appended to this report.

E. HYDROGRAPHIC SHEETS

The field sheet was plotted on board the PEIRCE by the ship's PDP 8/E computer and complot roll-bed plotter. Field data is presented on two plotter sheets (scale 1:10,000; skew 90°) labeled 1 of 2 and 2 of 2. There are no overlays. The plotter sheets contain all pertinent hydrographic data (mainscheme, crosslines, etc.).

The smooth sheet will be plotted by the Atlantic Marine Center. All field records will be transmitted there for verification. Projection and Electronic Control parameters are appended to this report.

F. CONTROL STATIONS

The following stations were used to control this survey. All are located on Navassa Island proper which was not physically within the survey limits. Hydrography was run in the Range/Azimuth mode with both the Theodolite and Del Norte equipment positioned at the same station.

<u>STATION NO.</u>	<u>NAME</u>	<u>REFERENCE</u>
007	East Side, 1981	AMC, 1981

The datum used is North American 1927. These stations were third order stations established by the Atlantic Marine Center, Operations Division. A list of geographic positions for each station is included in the Signal List. Geodetic abstracts and computations regarding these stations are available from AMC.

G. HYDROGRAPHIC POSITION CONTROL

Sounding line position control used in this survey was Del Norte in the Range/Azumuth mode.

The following electronic and related positioning equipment was used during this survey.

<u>EQUIPMENT</u>	<u>S/N</u>	<u>LOCATION</u>	<u>J.D.</u>
DMU	192	Vesno 2830	072-073
Master	162	Vesno 2830	072-073
Remote (Code 76)	1135	007, East Side 1981	072-073
PDP 8/E	00704	Vesno 2830	072-073
Hydroplot Controller	700003	Venso 2830	072-073
T-2	22153	007, East Side 1981	072
T-2	75507	007, East Side 1981	073

The DMU's were Model R03C. The master and remote trisponders were Model 217C.

Base line calibrations were performed on the following dates:

<u>DATE</u>	<u>J.D.</u>	<u>LOCATION</u>	<u>DISTANCE</u>
9 Feb 1981	040	Guantanamo Bay, Cuba	3625.5 M
6 Mar 1981	065	Guantanamo Bay, Cuba	3625 M

Calibration checks were performed daily on the Del Norte positioning equipment by three point sextant fixes with check angles on horizontal control stations. Computations were accomplished using the RK561, Geodetic Calibration Program. A list of signals and an abstract of correctors are appended.

Calibration checks performed at the beginning and end of each day remained within acceptable limits at the scale of the survey. Therefore, baseline calibration data was applied to positioning data as correctors.

The T-2's were set over known positions and initialed to other known positions in the area. The electronic positioning equipment was set at the same location.

H. SHORELINE

There was no shoreline within the limits of the survey.

I. CROSSLINES *See Verification Report*

Crosslines constituted 25.3% of the miles of hydrography run. Crosslines showed good agreement with mainscheme lines (1-4 fathoms) with the exception of an area at  $18^{\circ}23.1'N$  and  $74^{\circ}55.6'W$ . This area is characterized by a quickly shoaling bottom (420 fathoms to 220 fathoms in less than 1 mile).

J. JUNCTIONS

This survey does not junction with any prior survey. It does junction with survey PE 10-1-81 (H-9931) which was being accomplished concurrently. The junction area is along the western edge of this survey. Junctioning on H-9931 is very good. The trends are consistent from one sheet (H-9931) to the next (H-9933) indicating no breaks or irregularities in the bottom contours.

K. PRIOR SURVEYS

As stated in the project instructions, prior surveys are from other than NOS sources, and, in most cases, date to 1803. Therefore, no comparison is available.

L. COMPARISON WITH THE CHART *See Verification Report*

There is no applicable NOS chart of the area surveyed. There are, however, several small scale charts published by DMA which give some coverage of the area. These charts are:

DMA #26191 15th ed., Aug 30, 1975; scale 1:300,000.  
#26220 2nd ed., June 1, 1964; scale 1:145,940.

Each of these charts show reported soundings, <sup>(reported 1167)</sup> of 33 fathoms ( $18^{\circ}21.2'N/74^{\circ}58.6'W$ ) and 8 fathoms ( $18^{\circ}20.4'N, 74^{\circ}57.2'W$ ). With the ship running 650 M line spacing over the area, no indication of such shoaling was present, and it is believed that these are not present.

The 860 fathom sounding at  $18^{\circ}21.0'N/74^{\circ}56.3'W$  (DMA #26191) lies just east of the survey area, but again there is no indication or trend which would indicate its presence.

A shoaling area, centered at  $18^{\circ}23.3'N 74^{\circ}56.1'W$  was located just beyond the original eastern limits of the survey, this area was developed and shows a rise in the ocean floor from approximately 450 fathoms to 218 fathoms (shoalest sounding). This does not appear on any current chart.

In general, the DMA charts report shoaler (20-100 fathoms) soundings than found by this survey.

M. ADEQUACY OF SURVEY

This survey is complete and adequate for charting purposes.

N. AIDS TO NAVIGATION

There were no aids to navigation located within the limits of this survey.

O. STATISTICS

<u>CATEGORY</u>	<u>VESNO 2830</u>	<u>TOTAL</u>
Positions	306	306
Nautical Miles of Sounding Line	93.1	93.1
Square Nautical Miles of Hydro	16.0	16.0
Nansen Casts	2	2
Bottom Samples	0	0
Tide Stations	1	1

P. MISCELLANEOUS

No significant features, other than those previously noted, were apparent during this survey.

Q. RECOMMENDATIONS

The survey, as completed, is considered adequate for charting purposes. No further field work is considered necessary at this time.

R. AUTOMATED DATA PROCESSING

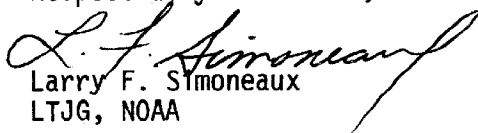
<u>PROGRAM NO.</u>	<u>NAME</u>	<u>VERSION DATE</u>
FA 181	Range Azimuth Logger	23 Feb 1978
RK 201	Grid, Signal & Lattice Plot	18 Apr 1975
RK 212	Visual Station Table Load & Plot	5 Feb 1976
RK 330	Reformat & Data Check	4 May 1976
RK 360	Electronic Corrector Abstract	2 Feb 1976
RK 500	Predicted Tide Generator	10 Nov 1972
RK 530	Layer Corrections for Velocity	10 May 1976
RK 561	H/R Geodetic Calibration	19 Feb 1975
AM 602	Extended Line Oriented Editor	20 May 1975



S. REFERENCE TO REPORTS

Ship's personnel installed one tide gage during this survey (see field tide note, appended). This report, leveling records and monthly tide records have been submitted to the Tides and Water Levels Branch, Rockville, Maryland.

Respectfully submitted,

  
Larry F. Simoneaux  
LTJG, NOAA

APPROVAL SHEET  
H-9933

Field operations contributing to the accomplishment of this survey were conducted under my supervision with frequent personal checks of progress and adequacy. This report and the final field sheet have been closely reviewed and found to represent a complete survey adequate to supersede all prior surveys for charting purposes.



D. E. Nortrup  
CDR., NOAA  
Commanding Officer  
NOAA Ship PEIRCE S-328

LIST OF STATIONS

OPR 3-1 193

WEST INDIAN

NAVASSA ISLAND

H-9933

(DE 10-3-91)

~~001 7 18 23 42652 075 01 00000 050 0012 000000~~  
~~002 7 17 23 57015 075 01 19226 130 0002 000000~~  
~~003 7 18 24 37434 075 01 43059 050 0047 000000~~  
~~004 7 13 23 41799 075 00 50676 130 0064 000000~~  
~~005 7 17 23 47945 075 00 47526 130 0110 000000~~  
~~006 7 18 24 46978 075 01 40030 050 0040 000000~~  
~~007 7 13 23 55726 075 00 16480 250 0069 000000~~  
~~008 8 13 23 47922 075 00 47560 130 0000 000000 Stat~~

DESCRIPTIONS OF STATIONS

~~001 LULU, 1931~~

~~002 ANCHORAGE, 1931~~

~~003 PHOSPHATE, 1931~~

~~004 UPPER, 1931~~

~~005 NAVASSA, 1931~~

~~006 NORTHWEST POINT, 1931~~

007 EAST SIDE, 1931

~~008 NAVASSA ISLAND LIGHTHOUSE, 1931 Stet~~

VELOCITY TAPE LISTING

S-1103

WEST INDIES

EAST OF NAVASSA ISLAND

000110 0 0000 0001 001 283000 010381  
000300 0 0010  
000490 0 0020  
000670 0 0030  
000850 0 0040  
001040 0 0050  
001270 0 0060  
001510 0 0070  
001780 0 0080  
002050 0 0090  
002330 0 0100  
002610 0 0110  
002900 0 0120  
003210 0 0130  
003600 0 0140  
004010 0 0150  
004450 0 0160  
004900 0 0170  
005400 0 0180  
005880 0 0190  
006360 0 0200  
006870 0 0210  
007410 0 0220  
007970 0 0230  
008560 0 0240  
999999 0 0240

## FIELD TIDE NOTE

Field tide reduction of soundings was based on predicted tides from Galveston, Texas and were interpolated by the PDP 8/E computer utilizing AM 500. All times of both predicted and reported tides are GMT. Times on the marigram and daily station record were local (+4) and were converted to GMT.

One Metercraft bubbler gage was installed in the project area. Location and period of operation were as follows:

<u>SITE</u>	<u>LOCATION</u>	<u>PERIOD</u>
Lulu Bay, Navassa Island	18°24.0'N 75°01.2'W	14-16 Feb 16-24 Feb 25 Feb-8 Mar 9-15 Mar

Lulu Bay (Metercraft Mod 7601, S/N 7536-22) Gage was installed and began operations on 14 February 1981. The staff was installed and leveled the same day. Marigram times during the period 14-16 February and for the last day of operation (15 March...0800 local, 1200 GMT) are suspect due to improper paper advance. On 16 February, 1130 hr. GMT, the orifice tubing pulled free at a swage-lok fitting. At this time, repairs were made to the orifice and the paper was reset at 1623 hr. The paper was apparently coming off or out of line with the sprocket mechanism. No further timing problems were encountered until (as noted) 15 March.

The trace was lost on 25 February, 1235 hr. due to repairs on the staff which was damaged by severe (8-10') surge activity in Lulu Bay. The staff was repaired and re-leveled on 25 February and the gage continued in operation until 8 March 1115 hr. when it and the site at Lulu Bay were vandalized by a party of Haitian fishermen. The gage was re-started on 9 March and continued in operation until removal on 15 March.

The marigram was set at the mean of the high/low points of the constant surge and reads within a foot of the mean of the staff values (the average is approximately .44' lower than the staff).

Levels In a comparison of level records, the staff agreed to within allowable limits (.011') over the period in which it was installed.

Zoning No tide correctors are appropriate.

5/11/81

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): 974-2222 Navassa Island, Caribbean Sea

Period: February 17-March 15, 1981

HYDROGRAPHIC SHEET: H-9931, H-<sup>9932</sup>~~9932~~, H-9933

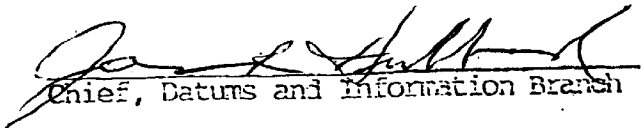
OPR: S-1103

Locality: Navassa Island

Plane of reference (~~mean low water~~ low water datum): 2.7 ft.

Height of Mean High Water above Plane of Reference is 0.9 ft.

REMARKS: Zone Direct

  
Chief, Datums and Information Branch

GEOGRAPHIC NAMES

H-9933

Name on Survey

A ON CHART NO. 26191  
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

Name on Survey	A	B	C	D	E	F	G	H	K	
Caribbean Sea	X									1
Navassa Knoll (pending BGN approval early Dec. 1981) C&H C3x5										2
Hydrographer may wish to change title										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
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										23
										24
										25

Approved:

*Chas E. Harrington*  
Chief Geographer - C3x5

5 Nov. 1981



APPROVAL SHEET  
FOR  
SURVEY H-9933

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verification Report.

Date: June 9, 1981

Signed: R. D. Samaki  
Chief, Verification Branch

## HYDROGRAPHIC SURVEY STATISTICS

H-9933

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION	AMOUNT		
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS	2 $\frac{1}{2}$		
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS <sup>1</sup> & ARC, EXCESS	2		
DESCRIP- TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	2					1-Bundle (in box)
CAHIERS						
VOLUMES	2	1				
BOXES			1-Box with vols & all misc. data & smooth printout, Fathograms			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) 2 Control Reports

## OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE- VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			306
POSITIONS CHECKED		306	306
POSITIONS REVISED			
SOUNDINGS REVISED		2	2
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2		2
VERIFICATION OF CONTROL		1	1
VERIFICATION OF POSITIONS		7	7
VERIFICATION OF SOUNDINGS		9	9
COMPILATION OF SMOOTH SHEET		12	12
APPLICATION OF TOPOGRAPHY			
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		1	1
COMPARISON WITH PRIOR SURVEYS & CHARTS		2	2
VERIFIER'S REPORT		9	9
OTHER		17	17
<b>TOTALS</b>	<b>2</b>	<b>58</b>	<b>60</b>
Pre-Verification by L.G. Cram, J.S. Bradford	Beginning Date 4/30/81	Ending Date 5/1/81	
Verification by R.L. Keene, J.S. Bradford	Beginning Date 5/4/81	Ending Date 5/20/81	
Verification Check by H.R. Smith	Time (Hours) 4	Date 5/15/81	
Marine Center Inspection by HIT	Time (Hours) 4	Date 5/22/81	
Quality Control Inspection by J. Baumgardner	Time (Hours) 9	Date 9/22/81	
Requirements Evaluation by J. Hill	Time (Hours) 1	Date 11/23/81	

J. M. ... 4 hrs, 10/16/81

REGISTRY NO. 9933

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

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

MAGNETIC TAPE CORRECTED

DATE \_\_\_\_\_ TIME REQUIRED \_\_\_\_\_ INITIALS \_\_\_\_\_

REMARKS:

No additional completion of digital records  
required by AMC. SOB 1/13/81

ATLANTIC MARINE CENTER  
VERIFICATION REPORT

REGISTRY NO.: H-9933

FIELD NO.: PE-10-3-81

West Indies, Navassa Island

SURVEYED: March 13 through March 14, 1981

SCALE: 1:10,000

PROJECT NO.: S-1103-PE-81

SOUNDINGS: Raytheon Universal  
Graphic Recorder

CONTROL: Range/Azimuth  
(Del Norte/Theodolite)

Chief of Party .....	D. E. Nortrup
Surveyed by .....	T. W. Ruzala
.....	E. J. Fields
.....	E. S. Varney
.....	L. F. Simoneaux
.....	J. W. Bailey
.....	R. B. Harris
Automated Plot by .....	Xynetics 1201 Plotter (AMC)

1. INTRODUCTION

a. The sounding datum in this area is a local low water datum referred to as Low Water Datum. Tidal conditions are such that Mean Low Water is not definable.

b. Tide correctors were not applied in accordance with section 4.9.2 of the Hydrographic Manual.

c. All notes in red in the Descriptive Report were made during verification.

2. CONTROL AND SHORELINE

a. Control is adequately discussed in sections F and G of the Descriptive Report and is supplemented by "Project Report, Navassa Island, Caribbean Sea" and "Report on Doppler Station 51196, Navassa Island, Caribbean Sea". These two reports will be submitted with the survey and survey data.

b. There is no shoreline in the survey area.

3. HYDROGRAPHY

a. Soundings at crossings are in excellent agreement. Crossings vary from one (1) to two (2) fathoms in depths of 200 to 700 fathoms.

b. The standard curves could be adequately delineated.

c. The development of the bottom configuration and determination of least depths is adequate, however, additional lines of hydrography would have provided a better definition of the 217-fathom seamount in the vicinity of latitude  $18^{\circ}23.3'$  N, longitude  $74^{\circ}56.1'$  W.

#### 4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports comply with the Hydrographic Manual with the following exceptions:

a. The distance between position fixes exceeds the maximum distance of 4 cm for lines without a fix for each sounding specified in section 1.4.5.1 of the Hydrographic Manual. The average distance between position fixes is 4.5 cm.

b. Even though the percentage of crosslines prescribed in section 1.4.2 of the Hydrographic Manual was exceeded, additional crosslines south of latitude  $18^{\circ}22'30''N$  where none exist would have provided checks on the main scheme hydrography in the southern area of the survey.

c. The ~~410~~<sup>1</sup>-fathom sounding found between positions 120 and 121<sup>(lat.  $18^{\circ}22'30''$ , long.  $74^{\circ}57'25''$ )</sup> is the result of an apparent side echo. This side echo is approximately 40-fathoms shoaler than the surrounding depths. A thorough investigation of this feature should have been performed. Do not concur.

#### 5. JUNCTIONS

An adequate junction was effected with H-9931 (1981) to the west. No other junctional surveys exist.

#### 6. COMPARISON WITH PRIOR SURVEYS

Section 6.10 of the Project Instructions states, "Prior Surveys are from other than NOS sources and in most cases date to 1803; therefore, no comparison is required." No comparisons to prior surveys were made. See section 7.a. of this report.

#### 7. COMPARISON WITH CHARTS

##### a. Hydrography

No NOS chart covers the survey area; however, two (2) DMA charts provide limited coverage of the survey area. They are:

26191 (15th Edition, Aug 30, 1975)  
26220 (2nd Edition, June 1, 1964)

There are eleven (11) charted soundings that fall within the survey area. Seven (7) compare favorably (50-70 fathoms shoaler). No indication of the charted eight (8) or thirty three (33) fathom soundings was found. A charted 860-fathom sounding was not found. The 860-fathom sounding is approximately 400-fathoms deeper than the hydrography present survey depths. See D.R., sec. L for G.P.'s of charted depths.

This survey is adequate to supersede the charted data in the common area.

##### b. Aids to Navigation

There are no charted aids to navigation within the survey area.


8. COMPLIANCE WITH INSTRUCTIONS

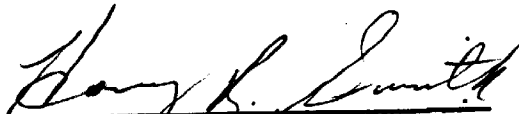
This survey adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an adequate basic survey; no additional field work is recommended.

  
J. Scott Bradford  
Cartographic Technician

  
Robert G. Roberson  
Cartographer

  
Harry R. Smith  
Senior Cartographic Technician  
Team Leader

INSPECTION REPORT  
H-9933

This survey has been inspected by the Hydrographic Inspection Team with regard to survey coverage, delineation of depth contours, development of critical depths, cartographic symbolization, and verification or disproof of charted data. The Verification Report has presented the facts accurately and properly, the procedures used were appropriate, and the recommendations are logical and justifiable. The survey complies with National Ocean Survey requirements except as noted in the Verification Report.

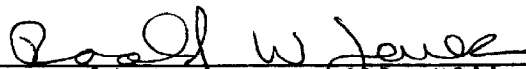
The Hydrographic Inspection Team notes that additional crosslines, investigations of side echoes, and better development of the bottom configuration could have been performed on this survey. Only two days of field operation was carried out on this sheet. Additional field work would have removed all questions on the thoroughness of the field operation.

The survey records comply with NOS requirements except where noted in the Verification Report. The Hydrographic Inspection Team concurs with the verifier's findings, actions, and recommendations.

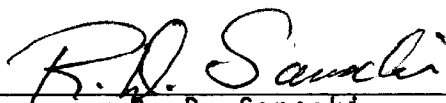
Examined and Approved  
Hydrographic Inspection Team



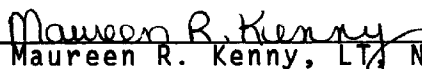
Karl Wm. Kieninger, CDR, NOAA  
Chief, Processing Division



Ronald W. Jones, LCDR, NOAA  
Field Procedures Officer  
Operations Division



R. D. Sanocki  
Chief, Verification Branch  
Processing Division



Maureen R. Kenny, LTJ, NOAA  
Chief, EDP Branch  
Processing Division

Approved/Forwarded  
June 8, 1981



Richard H. Houlder, RADM, NOAA  
Director, Atlantic Marine Center



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SURVEY  
Rockville, Md. 20852

OA/C352:SRB

September 22, 1981

TO: Glen R. Schaefer  
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch *gm*

FROM: Stephen R. Baumgardner *Stephen R. Baumgardner*  
Quality Evaluator

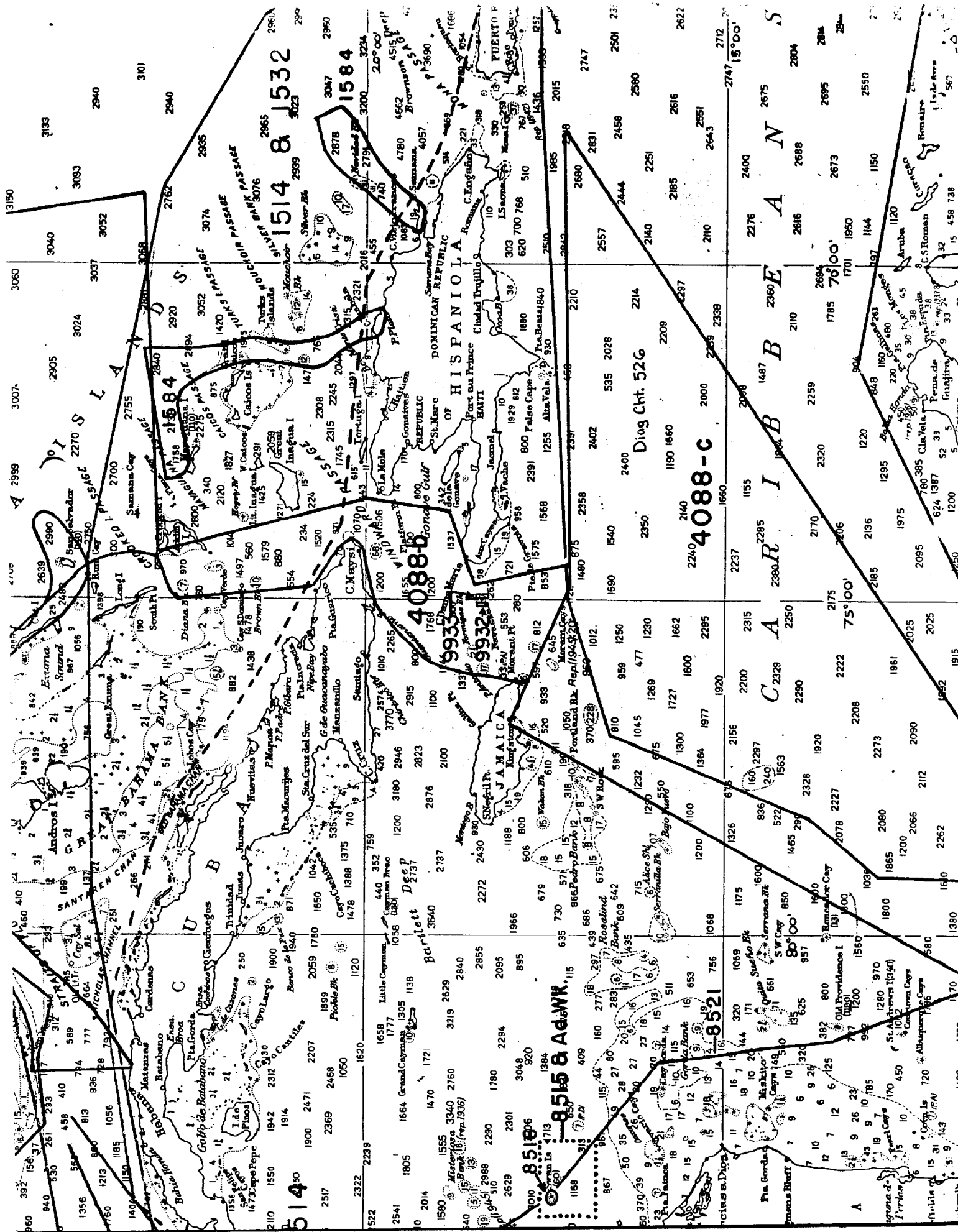
SUBJECT: Quality Control Report for H-9933 (1981), West Indies, East of  
Navassa Island

A quality control inspection of H-9933 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a one-half scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report, and the HIT Report.

cc:  
OA/C351









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

OA/C351:DJH

DEC 4 1981

TO: OA/CAM - Richard H. Houlder

FROM: ~~OA/C3~~ Roger F. Lanier

SUBJECT: H-9933 (1981), S-I103, West Indies, East of Navassa Island, Report  
of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated September 22, 1981 (copy attached), and the Hydrographic Survey Inspection Team Report, dated June 8, 1981, is complete and adequate for the purposes intended and is in compliance with Project Instructions S-I103-PE-81, dated January 5, 1981.

Attachment

cc:  
OA/C352 w/o att.



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9933

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
26194	2-16-82	J.A-Graham	<del>Full Part Before After Verification Review</del> Inspection Signed Via
			Drawing No. Fully appld hydro to new
			Navassa Island reconstruction
			<del>Full Part Before After Verification Review</del> Inspection Signed Via
			Drawing No.
			<del>Full Part Before After Verification Review</del> Inspection Signed Via
			Drawing No.
			<del>Full Part Before After Verification Review</del> Inspection Signed Via
			Drawing No.
			<del>Full Part Before After Verification Review</del> Inspection Signed Via
			Drawing No.
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