9998

Diagram No. 905-2

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-80-3-82

Office No. H-9998

LOCALITY

State U.S. Virgin Islands

General Locality Mar Caribe

Locality South of St. Croix

1982

CHIEF OF PARTY
CDR. D.E. Nortrup

LIBRARY & ARCHIVES

DATE July 22, 1983

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

9998

AREA 3
CHARTS
25640

TABLE OF CONTENTS

HYDROGRAPHIC TITLE SHEET

A. PROJECT 1

B. AREA SURVEYED 1

C. SOUNDING VESSEL 1

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS 1

E. HYDROGRAPHIC SHEETS 3

F. CONTROL STATIONS 3

G. HYDROGRAPHIC POSITION CONTROL 4

H. SHORELINE 6

I. CROSSLINES 7

J. JUNCTIONS 7

K. COMPARISON WITH PRIOR SURVEYS 7

L. COMPARISON WITH THE CHART 7

M. ADEQUACY OF SURVEY 8

N. AIDS TO NAVIGATION 8

O. STATISTICS 8

P. MISCELLANEOUS 9

Q. RECOMMENDATIONS 9

R. AUTOMATED DATA PROCESSING 9

S. REFERENCE TO REPORTS 10

APPENDICES A-I 12- 39

APPROVAL SHEET 40

NOAA FORM 77-28
(11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9998

FIELD NO. PE-80-3-82

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: U.S. VIRGIN ISLANDS

General locality: ~~ST. CROIX~~ MAR CARIBE

Locality: ~~OFFSHORE~~ SOUTH OF ST. CROIX

Scale: 1:80,000 Date of survey: 15-24 MAR 82

Instructions dated: 27 NOV 81 Project No.: OPR-I149 MI, PE-82

Vessel: NOAA Ship PEIRCE S328 (VESNO 2830)

Chief of party: CDR DONALD E. NORTRUP, COMMANDING OFFICER

Surveyed by: T.W. RUSZALA, G.E. LEIGH, J.W. BAILEY, R.B. HARRIS, S.I. ANDREEVA

Soundings taken by echo sounder, ~~hand lead, pole~~ UNIVERSAL GRAPHIC RECORDER

Graphic record scaled by: SIA, IPR, WRM, JSB

Graphic record checked by: SIA, IPR

Protracted by: Automated plot by: XYNETICS 1201 Plotter (AMC)

Verification by:

Soundings in fathoms feet at MLW MLLW

REMARKS: ALL TIMES RECORDED IN THIS SURVEY ARE GMT.

Notes in the Descriptive Report were made in red during verification.

STANDARDS CHECKED 8-2-83
C. Clay

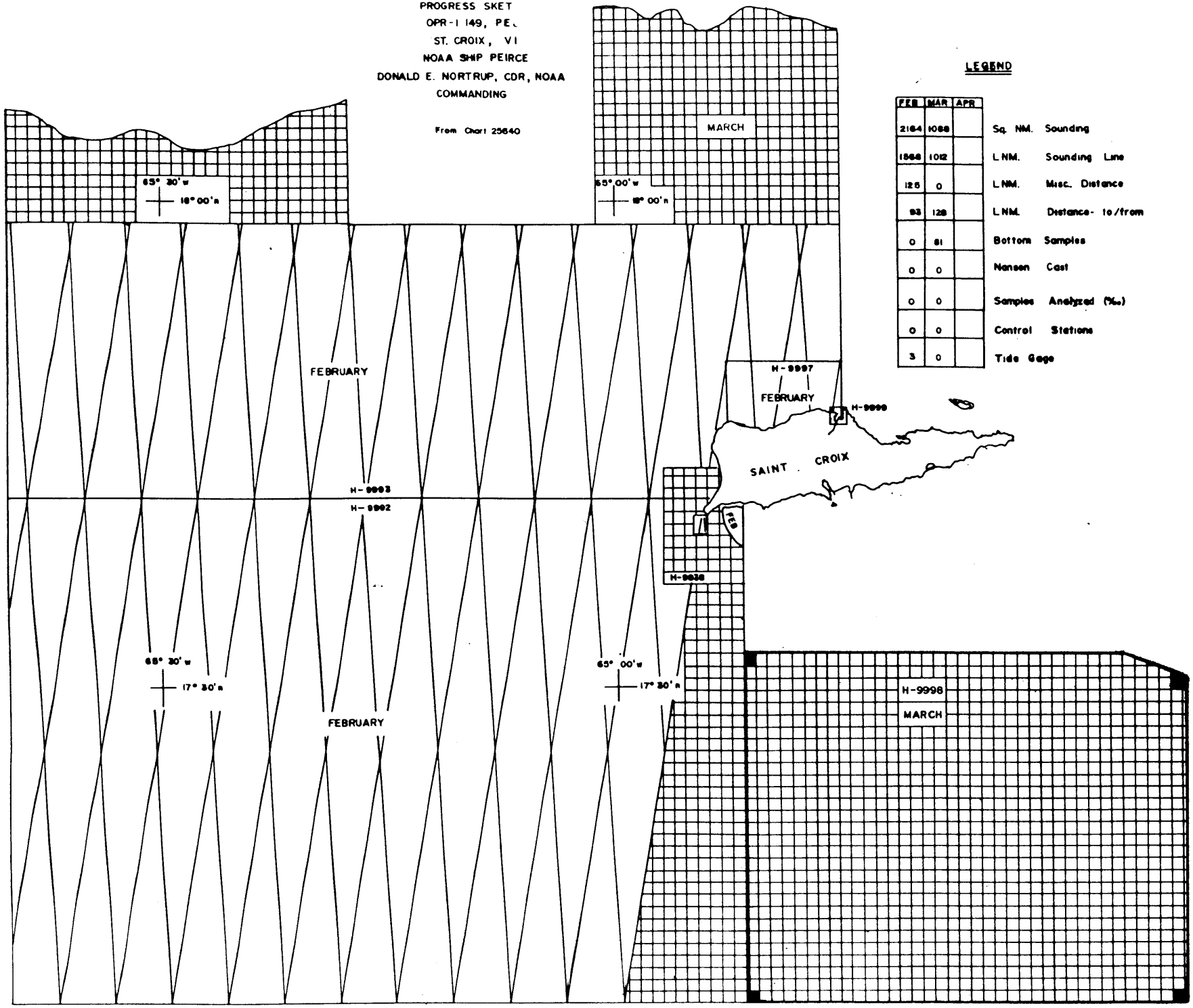
AWOIS Checked RWD 8-5-83

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GPO: 1974-0-768-081/1207

PROGRESS SKET
OPR-I 149, PE
ST. CROIX, VI
NOAA SHIP PEIRCE
DONALD E. NORTRUP, CDR, NOAA
COMMANDING

From Chart 25640



LEGEND

FEB	MAR	APR	
2164	1088		Sq. NM. Sounding
1568	1012		L NM. Sounding Line
125	0		L NM. Misc. Distance
93	128		L NM. Distance- to/from
0	81		Bottom Samples
0	0		Nansen Cast
0	0		Samples Analyzed (‰)
0	0		Control Stations
3	0		Tide Gage

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-9998

FIELD NUMBER PE-80-3-82

CDR. D. E. NORTRUP, COMMANDING OFFICER

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-1149-MI, PE-82 dated 27 November 1981. Four changes to the Project Instructions were made dated 21 December 1981, 11 January 1982, 25 January 1982, and 2 March 1982.

B. AREA SURVEYED

The area surveyed was offshore of the southern coastline of St. Croix. The approximate limits of the survey are 17°10'30"N to 17°32'00"N latitude and 64°22'00"W to 64°51'36"W longitude. This survey was performed between the dates 15 March (J.D. 074) and 24 March (J.D. 083), 1982.

C. SOUNDING VESSEL

Sounding operations were performed by the NOAA Ship PEIRCE (Vesno 2830).

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All soundings were acquired using the Universal Graphic Recorder, Model 196C, S/N 164 in conjunction with a Raytheon PTR, Model 105B, S/N 162 transmitter/receiver and an EDO Western Digitrak Digitizer, Model 261C, S/N 227.

Velocity of sound corrections were based upon two Nansen Casts taken by MT. MITCHELL.

At the time of smooth plotting the second Nansen Cast data was unavailable, the data will be supplied in PEIRCE's Correction to Echo Sounding Report to be submitted separately.

Nansen Cast No.	Vesno	J.D.	Latitude	Longitude
1	2220	051	17°52'12"N	64°49'24"W
2	2220	084	17°53'54"N	64°41'18"W

The collected data from the first cast was tabulated through RK 530, corrections were graphed, and Velocity Table 3 made up by scaling the graph in the following increments:

Depths (Fathoms)	Scaled (Fathoms)
0-20	0.2
20-110	0.5
110	2.0

Velocity correction Table 1 was initially created using the recommended scaling intervals in Table 4-4 of the Hydrographic Manual. In the process of final plotting, it was discovered that the buffer storage capacity of the onboard computer system was incapable of handling the entire tape. Thus, the scaling interval was modified as listed and Table 3 generated. Both versions of the velocity correction tapes are

included in this report as well as the sounding correction abstracts and TC/TI tape listing (Appendix D). Table I was used to plot the smooth sheet while Table 3 was used for smooth field sheet plotting only.

The static draft of the ship (based on a leadline/vertical cast comparison made by PEIRCE on 22 July 1981) is included on the corrector tapes. 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 (Sec. 4.9.2 of the Hydrographic Manual).

E. HYDROGRAPHIC SHEETS

The field sheets for this survey were constructed and drawn on board PEIRCE. They were prepared by the Digital PDP 8/E computer and complot system utilizing Program RK 201.

The survey area was divided into two plotter sheets (East and West) containing the mainscheme hydrography and the crossline. Both sheets are at a 1:80,000 scale with a skew of 90, 18, 54.

All appropriate data and records have been forwarded to the Atlantic Marine Center for final verification and smooth plot.

F. CONTROL STATIONS

Electronic control stations used to control this survey were located at horizontal control stations HOUSE RM3, 1980 (Signal No. 026, QUAD No. N-170614)

and ~~GRAPE TREE~~ GRAPETREE, 1982 (Signal No. 045). Visual horizontal control stations used for system calibrations were ALEX HAMILTON AERO LIGHT (Signal No. 001), SOUTHWEST CAPE LIGHT, 1980 (Signal No. 020), MARTIN MARIETTA, 1982 (Signal No. 042), LONG POINT, 1982 (Signal No. 044), and LONG POINT RM 1, 1982 (Signal No. 048). All except one of the above mentioned stations were established by Third Order Class I traverse methods by personnel from the Operations Division of the Atlantic Marine Center. Signal No. 001 was established in 1965 by Third Order triangulation methods by personnel from Airport Surveys Section, Coastal Mapping Division. The datum used was Puerto Rico.

G. HYDROGRAPHIC POSITION CONTROL

The positional control system used for this survey was the Cubic Western DM-54 Automatic Ranging Grid Overlay (ARGO) positioning system. Time slots utilized for this survey were 01/05/00/00 with a smoothing code of 02 and a frequency of 1646.7 KHz. Fixed shore station AGC values and antenna range tune values were recorded hourly during the hours of hydrography and are included in the supplemental data to this report.

The electronic equipment used for this survey is as follows:

Equipment Vesno 2830	S/N	J.D.
RPU	RO47854	074-083
CDU	C037744	074-083

Equipment

Vesno 2830	S/N	J.D.
ALU	A0379123	074-083
Power Supply	V038167	074-083
Gould Strip Chart Recorder	00146	074-075
Cubic Western Strip Chart Recorder	S097958	074-083
Thermal Printer	2126A06969	074-083

Shore Stations

HOUSE RM3, 1980 (26)		074-083
RPU	R0379117	074-083
ALU	A047859	074-083
POWER SUPPLY	V0379112	074-083

Shore Stations

GRAPE TREE, 1982 (45)

RPU	R047864	074-083
ALU	A0379127	074-083
POWER SUPPLY	V0379124	074-083

The calibration method used was the 3 point sextant fix with check angle. On-line partial correctors were based on the opening calibration and entered into the on-line program RK 112 via the "nav-cal" feature. The average of the opening and closing partial correctors was used as the final corrector value for hydrography completed between the times of each opening and closing calibration.

No closing calibration was taken for data on J.D. 074-075 (pos. 001-040) due to the ARGO Master RPU (Signal 26) malfunction. The hydrography run to that point consisted of a crossline and the first mainscheme line. When hydrography resumed all mainscheme-crossline junction points matched well, suggesting that no loss of lane count had occurred prior to the loss of the master RPU. Careful examination of the strip chart record revealed no indication of loss of lane count. As a further check, part of the first mainscheme line was rerun (pos. 146-148), also showing very good agreement.

H. SHORELINE

There was no shoreline included within the survey limits.

I. CROSSLINES See also Evaluation Report.

Crosslines were run at an angle of 45 degrees to the mainscheme sounding lines and constitute 13% of the total sounding line mileage. Crossline soundings agreed very well with the mainscheme hydrography, falling well under the 1-3% of depth criterion (Sec. 4.6.1 of the Hydrographic Manual).

J. JUNCTIONS See also Evaluation Report.

This survey junctions with H-9992 to the west. These surveys (H-9992, H-9998) were accomplished concurrently, therefore, no overlapping sounding lines were run. The contour lines were continuous through the transition from survey H-9992 to H-9998. No irregularities or breaks in the bottom contours were found.

To the north the survey junctions with a survey currently being conducted by NOAA Ship MT. MITCHELL (Vesno 2220), which is unavailable for comparison at this time. JG H-10004 (1982) joins to the north.

K. COMPARISON WITH PRIOR SURVEYS

There were no prior NOS Surveys with which to compare this survey.

L. COMPARISON WITH THE CHART See also Evaluation Report.

Comparisons were made with Chart No. 25640, 29th Ed., August 22, 1981 at a scale of 1:326, 856. Only seven charted soundings fall within the limits of this

survey. This fact and the 8000 meter line spacing (depth over 1500 fathoms) result in few meaningful comparisons.

Survey soundings were consistently shoaler than charted soundings, with 71 percent (5) of the values differing in depth by 0-5 percent.

The largest depth discrepancy found was at 17°31'06"N latitude, 64°43'00"W longitude, the sounding depth being 1284 fms and the charted depth being 1530 fms.

M. ADEQUACY OF SURVEY

This survey is considered complete and adequate to supersede all charted information.

N. AIDS TO NAVIGATION

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

O. STATISTICS

Category	Vesno 2830
Total Number of Positions	206
Nautical Miles of Sounding Lines	262.5
Square Miles of Hydrography	655
Nansen Casts	2
Tide Stations	5
Bottom Samples	0

P. MISCELLANEOUS

No significant features were apparent during this survey. No bottom samples were taken due to the inadequacy of the shipboard bottom sampling equipment at greater depths.

Q. RECOMMENDATIONS

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

R. AUTOMATED DATA PROCESSING

The following Hydroplot Programs were utilized to acquire and process the survey data:

RK 112	Hyperbolic R/R Hydroplot	08/04/81
RK 201	Grid, Signal and Lattice Plot	04/18/75
RK 211	Range/Range Non Real Time Plot	01/15/76
RK 300	Utility Computations	02/10/76
RK 330	Reformat and Data Check	05/04/76
PM 360	Electronic Correctors Abstract	02/02/76
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocity	05/10/76
RK 561	H/R Geodetic Computation	02/19/75
RK 602	Extended Line Oriented Editor	05/21/75
RK 612	Line Printer Test	03/22/78

S. REFERENCE TO REPORTS

Field tide notes are found in Appendix B of this report. Horizontal control reports are available at the Operations Division of the Atlantic Marine Center. A correction to Echo Soundings Report will be submitted separately.

Respectfully submitted,

Svetlana I. Andreeva

Svetlana I. Andreeva

ENS, NOAA

APPENDICES

A. Hydrographic Sheet Projection and Electronic Control Parameters - removed and placed with miscellaneous data

B. Field Tide Note

C. Geographic Names List ~~(Not applicable)~~

D. Abstracts of Corrections to Echo Soundings

Velocity Table No. 1

Velocity Table No. 3 - removed and placed with miscellaneous data

TCTI Listing

Sounding Correction Abstract

E. Abstract of Corrections to Electronic Position Control

F. List of Stations

G. Abstract of Positions

H. Bottom Samples (N.A.)

I. Landmarks for Charts (N.A.)

J. Approval Sheet

APPENDIX B

FIELD TIDE NOTE

APPENDIX C

GEOGRAPHIC NAMES LIST ~~(NOT APPLICABLE)~~

APPENDIX D

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

FIELD TIDE NOTE

Field tide reduction of soundings were based on predicted tides from Galveston, Texas, corrected to Charlotte Amalie, St. Thomas, U.S. Virgin Island, and were interpolated by PDP 8/E computer utilizing AM 500. All times of both predicted and recorded tides are Greenwich Mean Time.

Four tide stations were in operation during hydrographic operations performed by PEIRCE. The location and period of operation of all stations are listed below:

Station	Location	Period of Operation
Frederiksted, St. Croix (975-1584)	17 42.8 N 64 53.0 W	3 Febraury 1982 - 26 March 1982
Limetree Bay, St. Croix (975-1401)	17 42.0 N 64 45.2 W	2 February 1982 - end April 1982
Christiansted, St. Croix (975-1364)	17 45.0 N 64 42.3 W	1 February 1982, end April 1982
Charlotte Amalie, St. Thomas (975-1639)	18 20.1 N 64 55.1W	Primary Tide Station

Stations Frederiksted, Christiansted, and Limetree Bay were installed and maintained by personnel from PEIRCE. Station Charlotte Amalie was operational and under the jurisdiction of Atlantic Marine Center, Tides and Water Levels Branch throughout the survey.

Frederiksted, St. Croix - Fisher-Porter 1550, S/N 2R60301A4338M13 gage was installed on 3 February 1982 and began operations on 4 February 1982. The staff was installed on 1 February 1982 and leveled on 4 February 1982.

Upon inspection of the gage and staff on 26 February 1982, the tide staff was discovered missing. It was concluded that the staff was washed away during a storm which generated heavy winds and sea conditions on 24 February 1982. A new staff was installed and leveled on 27 February 1982 and 5 March 1982 respectively. The gage began operation on 2 March 1982 and operated satisfactorily throughout the remainder of the project.

On 26 March 1982, the tide station was removed due to completion of hydrographic operations by PEIRCE. The final levels were run on 22 March 1982. All tidal records and data were forwarded to Tides and Water Levels Branch, Rockville, Maryland.

Limetree Bay (Hess Oil Dock #8) - Fisher-Porter 1550, S/N 7608A1079M16 gage was installed on 2 February 1982 and began operations that date. The staff was installed on 2 February 1982 and leveled on 3 February 1982.

Upon inspection of the gage on 5 March 1982 it was discovered that the battery voltage had dropped below the operational level. The battery was replaced on 5 March 1982 and gage resumed operating. Total down time of gage was 2.45 days.

The station will be terminated at completion of hydrographic operations by MT. MITCHELL at the end of April 1982. The station will also be releveled at that time and all information and data will be submitted to Tides and Water Levels Branch, Rockville, Maryland.

Christiansted, St. Croix - Fisher-Porter 1550, S/N 7408A1330M1 gage was installed and began operating on 1 February 1982. The staff was installed on 1 February 1982 and leveled on 2 February 1982. The gage operated satisfactorily throughout hydrography performed by PEIRCE.

The station is still in operation and will be terminated at the end of hydrographic operations performed by MT. MITCHELL. The staff will be releveled at that time and all information and records will be submitted to Rockville, Maryland.

Charlotte Amalie, St. Thomas - All levels on this station were performed by Atlantic Marine Center, Tides and Water Levels Branch as directed by Project Instructions. This station is under the jurisdiction of Tides and Water levels, however, frequent checks were made with the tide observer concerning performance of the station. All data will be forwarded to Rockville, Maryland.

Zoning: There was no prezoning in this survey.

Galveston, Texas - Reference station.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
NOAA Ship PEIRCE S-328
439 W. York Street
Norfolk, Virginia 23510

April 6, 1981

TO: Chief, Water Levels Branch (C234)

FROM: Commanding Officer
NOAA Ship PEIRCE S-328

SUBJECT: Request for Verified Hourly Heights of Tides

Please provide hourly heights of tide and the value of MLLW on the tide staff for the period of hydrography on H-9938, H-9992, H-9993, H-9997, H-9998, and H-9999 OPR-I149. The actual times of hydrography for all surveys were submitted with the February and March tide packages.

Period of Hydrography: 8 February 1982 (JD 039) thru 26 March 1982 (JD 085)

Reference Station: Galveston, Texas

Control Station: Charlotte Amalie, St. Thomas, US Virgin Islands

Please forward the requested information directly to the Atlantic Marine Center: CAM 33.

Attachment: Progress Sketch

cc: CAM 1
CAM 3

10TH ANNIVERSARY 1970-1980
National Oceanic and Atmospheric Administration
A young agency with a historic
tradition of service to the Nation

APPENDIX B

DATE: November 15, 1982

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): 975-1584 Fredericksted, V.I.

Period: February 8-March 26, 1982

HYDROGRAPHIC SHEET: H-9992, H-9993, H-9998

OPR: I-149

Locality: Offshore St. Croix, Virgin Islands

Plane of reference (mean lower low water): 4.93 ft.

Height of Mean High Water above Plane of Reference is 0.77 ft.

REMARKS: Recommended Zoning:

Zone direct.

*This supersedes previous Tide Notes.

All survey depths in excess of 100 fathoms - no tides applied to data.

for Donald D Carrier
for Chief, Tidal Datums and Information Branch

VELOCITY TAPE LISTING

PE-80-1-82
PE-80-2-82
PE-80-3-82

H-9992
H-9993
H-9998

TABLE NO. 1

This table was not used on depths over 2300 Fathoms.

```
000025 0 0000 0001 001 283000 009998

000043 0 0001

000060 0 0002

000080 0 0003

000100 0 0004

000115 0 0005

000135 0 0006

000154 0 0007

000175 0 0008

000190 0 0009

000210 0 0010

000255 0 0012

000290 0 0014

000330 0 0016

000365 0 0018

000402 0 0020

000440 0 0022

000470 0 0024

000510 0 0026
```

```
000550 0 0028
000590 0 0030
000624 0 0032
000660 0 0034
000700 0 0036
000735 0 0038
000780 0 0040
000820 0 0042
000860 0 0044
000905 0 0046
000950 0 0048
000990 0 0050
001030 0 0052
001070 0 0054
001115 0 0056
001160 0 0058
001220 0 0060
001610 0 0070
001900 0 0080
002180 0 0090
002750 0 0100
003000 0 0110
003300 0 0120
003870 0 0130
004200 0 0140
004700 0 0150
005200 0 0160
```

```
005700 0 0170
006200 0 0180
006800 0 0190
007300 0 0200
007800 0 0210
008300 0 0220
008800 0 0230
009300 0 0240
009800 0 0250
010100 0 0260
010500 0 0270
011000 0 0280
011300 0 0290
011800 0 0300
012100 0 0310
012400 0 0320
012700 0 0330
013000 0 0340
013400 0 0350
013700 0 0360
014000 0 0370
014300 0 0380
014600 0 0390
014900 0 0400
015100 0 0410
015400 0 0420
015650 0 0430
```

VELOCITY TAPE LISTING(H-9998)

```
015900 0 0440
016200 0 0450
016500 0 0460
016700 0 0470
016950 0 0480
017200 0 0490
017400 0 0500
017700 0 0510
017900 0 0520
018100 0 0530
018350 0 0540
018600 0 0550
018800 0 0560
019100 0 0570
019300 0 0580
019500 0 0590
019700 0 0600
020000 0 0610
020150 0 0620
020400 0 0630
020600 0 0640
020800 0 0650
021000 0 0660
021200 0 0670
021400 0 0680
021550 0 0690
021700 0 0700
```

VELOCITY TAPE LISTING (H-9998)

```
021900 0 0710
022100 0 0720
022250 0 0730
022400 0 0740
022600 0 0750
022750 0 0760
022900 0 0770
023100 0 0780
023250 0 0790
023450 0 0800
023600 0 0810
023750 0 0820
023950 0 0830
024100 0 0840
024300 0 0850
024450 0 0860
024600 0 0870
024800 0 0880
024950 0 0890
025100 0 0900
025300 0 0910
025450 0 0920
025600 0 0930
025750 0 0940
026000 0 0950
026150 0 0960
026300 0 0970
```

VELOCITY TAPE LISTING (H-9998)

```
026500 0 0980
026650 0 0990
026800 0 1000
027000 0 1010
027150 0 1020
027300 0 1030
027500 0 1040
027700 0 1050
027850 0 1060
028000 0 1070
999999 0 1080
```

APPENDIX D

TC/TI TAPE LISTING

PE-80-3-82

VESNO 2830

193641 1 0000 0003 074 283000 001982

APPENDIX D

OPR I-149

SOUNDING CORRECTION ABSTRACT

VESSEL 2830

FIELD NO. PE-80-3-82
REGISTRY NO. H-9998

Julian Date	From Time (GMT)	To Time (GMT)	Velocity Corr. Table No.	(NOTE: TRA Corr. is the algebraic sum of these columns) Draft Corr.	Instrument Error Corr.	Initial Corr.	S & S Corr.	TRA Corr. ft/fms	Remarks
074	193641	234747	3	1.7	0	0	0	1.7	A/E 8
075	002251	010551	3	1.7	0	0	0	1.7	"
082	160318	235207	3	1.7	0	0	0	1.7	"
083	003756	150316	3	1.7	0	0	0	1.7	"

APPENDIX E

ABSTRACT OF CORRECTIONS TO ELECTRONIC POSITION CONTROL

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2830 SHEET : PE-80-3-82

TIME	DAY	PATTERN 1	PATTERN 2
193641	074	-00043	+00021
002251	075	-00043	+00021
160318	082	-00045	-00026
003746	083	-00045	-00026

APPENDIX E

APPENDIX F

LIST OF STATIONS

SIGNAL LIST
OPR-I149 MI, PE-82
PE-80-3-82 H-9998
SAINT CROIX, V.I.

001	7	17	42	31679	064	47	48887	139	0055	000000	---- ALEX HAMILTON AERO LT.,1965
020	7	17	40	46824	064	54	01035	139	0016	000000	---- SOUTHWEST CAPE LIGHT, 1980
026	7	17	59	24458	065	53	07765	250	0018	164670	---- HOUSE RM3, 1980
042	7	17	41	25024	064	45	57436	139	0002	000000	---- MARTIN MARIETTA, 1982
044	7	17	40	54267	064	50	22096	250	0002	000000	---- LONG POINT, 1982
045	7	17	44	56707	064	35	39299	250	0002	164670	---- ~~GRAPE TREE~~ GRAPE TREE, 1982 "ONE WOED"
048	7	17	40	54556	064	50	21967	250	0002	000000	---- LONG POINT RM1, 1982

APPENDIX G

ABSTRACT OF POSITIONS

ABSTRACT OF POSITIONS

VESNO: 2830

DAY	POSITIONS	CTRL	S1	M	S2	REMARKS
074	001 - 010	R/R	26	0	45	X-LINE, WEST SHEET
074	011 - 024	"	"	"	"	X-LINE, EAST SHEET
074	025 - 033	"	"	"	"	MAINSCHEME, EAST SHEET
075	034 - 040	"	"	"	"	MAINSCHEME, EAST SHEET
082	041 - 073	"	"	"	"	MAINSCHEME, WEST SHEET
082	074 - 097	"	"	"	"	MAINSCHEME, EAST SHEET
083	098 - 151	"	"	"	"	MAINSCHEME, EAST SHEET
083	152 - 179	"	"	"	"	MAINSCHEME SPLITS, EAST SHEET
083	180 - 206	"	"	"	"	MAINSCHEME SPLITS, WEST SHEET

APPENDIX H

BOTTOM SAMPLES (N.A.)

APPENDIX I

LANDMARKS FOR CHARTS (N.A.)

APPROVAL SHEET

APPROVAL SHEET

H-9998

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 for charting purposes.

Donald E. Nortrup

CDR, NOAA

Commanding Officer

NOAA Ship PEIRCE S-328

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER A

H-9998

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 25640	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	
MAR CARIBE	X									1
~~SOUTHWEST CAPE~~	X									2
U.S. VIRGIN ISLANDS	X									3
ST. CROIX (title)										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
					Approved:					19
										20
					Charles P. Harrington					21
					Chief Geographer - N/CG2x5					22
					6 MAY 1983					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27 | U.S. DEPARTMENT OF COMMERCE | REGISTRY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9998

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS 1 & ARC 2, EXCESS	3
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	6

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDIAN FILES				1-Raw, Msc.,	Fathograms	
ENVELOPES						
VOLUMES						
CAHIERS						
BOXES				1-Smooth Plo	misc	

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): 25640

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			206
POSITIONS REVISED			0
SOUNDINGS REVISED			0
CONTROL STATIONS REVISED			0
	TIME - HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION	0	2	2
VERIFICATION OF CONTROL	2	0	2
VERIFICATION OF POSITIONS	31	0	31
VERIFICATION OF SOUNDINGS	29	3	32
VERIFICATION OF JUNCTIONS	0	10	10
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	47	5	52
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDESCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		12	12
OTHER			
TOTALS	109	33	142

Pre-processing Examination by R.G. Roberson	*Beginning Date* 3 MAY 82	*Ending Date* 3 MAY 82
Verification of Field Data by M.W. Holloway, M.J. Stewart	*Time (Hours)* 109	*Ending Date* 11 APRIL 83
Verification Check by G.F. Trefethen	*Time (Hours)* 24	*Ending Date* 7 APRIL 83
Evaluation and Analysis by R.G. Roberson	*Time (Hours)* 31	*Ending Date* 20 JUNE 83
Inspection by Karl Wm. Kieninger and R.D. Sanocki	*Time (Hours)* 3	*Ending Date* 21 JUNE 83

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: H-9998 FIELD NO.: PE80-3-82

U.S. Virgin Islands, Mar Caribe, South of St. Croix

SURVEYED: March 15 through 24, 1982

SCALE: 1:80,000 PROJECT NO.: OPR-1149

SOUNDINGS: Raytheon UGR, Model 196C CONTROL: Cubic Western DM-54 ARGO (range/range)

Chief of Party ..... D. E. Nortrup

Surveyed by ..... T. W. Ruszala
..... G. E. Leigh
..... J. W. Bailey
..... R. B. Harris
..... S. I. Andreeva

Automated Plot by ..... Xynetics 1201 Plotter (AMC)

1. INTRODUCTION

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

b. Notes in the Descriptive Report were made in red during verification.

2. CONTROL AND SHORELINE

a. Control is adequately discussed in sections F and G of the Descriptive Report.

b. There is no shoreline within the survey area.

3. HYDROGRAPHY

a. Soundings at crossings are in excellent agreement. One (1) sounding in Latitude 17°-27'-20.69"N, Longitude 64°-44'-37.87"W was twenty-five (25) to fifty-seven (57) fathoms deeper than the soundings on the main scheme lines that bracketed it. A close inspection of the echogram revealed that this depth is correct.

b. The standard depth curves could be adequately delineated.

c. Development of the bottom configuration and determination of least depths is considered adequate.

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. A single discontinuous crossline was run on this survey. In reviewing the records no notes could be found on the echogram, in the volume provided, or on the raw data print outs to explain this discontinuity. An additional crossline would have been desirable across the 2600 meter spaced lines as a check on the hydrography.

b. No bottom samples were taken as per section 1.6.3. of the Hydrographic Manual.

c. Adequate equipment for deep water bottom sampling was not carried onboard the ship as required for the sampling required in section 1.6.3 of the Hydrographic Manual.

d. The strip chart data submitted was not properly annotated as required by section 4.8.6 of the Hydrographic Manual.

e. The scanning criteria of two (2) fathoms found in Table 4-4, page 4-36, of the Hydrographic Manual cannot be met when the 0-2000 and 0-4000 fathom scales are employed when using the UGR for echo soundings.

f. Although no specific time interval for lead-line comparisons is found in section 4.9.5.1.2 of the Hydrographic Manual, a lead-line comparison for this survey should have been taken (1) in the survey area and (2) shortly before, during, or after the hydrography was done. The previous lead-line comparison was conducted on 22 July 1981 while conducting survey operations on the DELMARVANC Project. The 22 July 1981 vertical cast comparison was used for the 1982 St. Croix hydrography. Considering the depth of the water in the survey area no adverse impact on the data will result. Further consideration should have been given to the vertical cast comparison requirement since two (2) vessels worked on adjoining surveys.

g. Section 4.9.5.1.2 of the Hydrographic Manual requires, "Original vertical cast observational data shall be entered in the records of each applicable hydrographic survey to substantiate the echo sounder correction values." No vertical cast data was submitted with the survey.

h. A negative report of Dangers to Navigation was not submitted in the Descriptive Report as required by section 6.12 of the Project Instructions. No dangers were found.

5. JUNCTIONS

Adequate junctions were effected with the following surveys:

H-9992 (1982) to the ~~east~~ west.
H-10004 (1982) to the north.

There are no junctional surveys to the south or east.

6. COMPARISON WITH PRIOR SURVEYS

There are no prior National Ocean Survey (NOS) or Coast and Geodetic Survey (C&GS) surveys common to the present survey area.

7. COMPARISON WITH CHART 25640 (29th Edition, Aug 22/81)

a. Hydrography

The charted hydrography originates with unascertainable sources. The charted hydrography is deeper than the present survey depths. The present survey depths are between ten (10) and one hundred (100) fathoms shoaler than the charted depths. The present survey is considered adequate to supersede the charted hydrography in the common area.

b. Aids to Navigation

There are no aids to navigation in the survey area.

8. COMPLIANCE WITH PROJECT INSTRUCTIONS

This survey adequately complies with the Project Instructions except as noted in section 4 of this report.

9. ADDITIONAL FIELD WORK

This is a good basic survey; no additional field work is recommended.

Maurice W. Holloway
Cartographic Technician
Verification of Field Data

Robert G. Roberson
Cartographer
Evaluation and Analysis

Guy F. Trefethen
Senior Cartographic Technician
Verification Check

INSPECTION REPORT
H-9998

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or diaproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts of the survey have been made. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

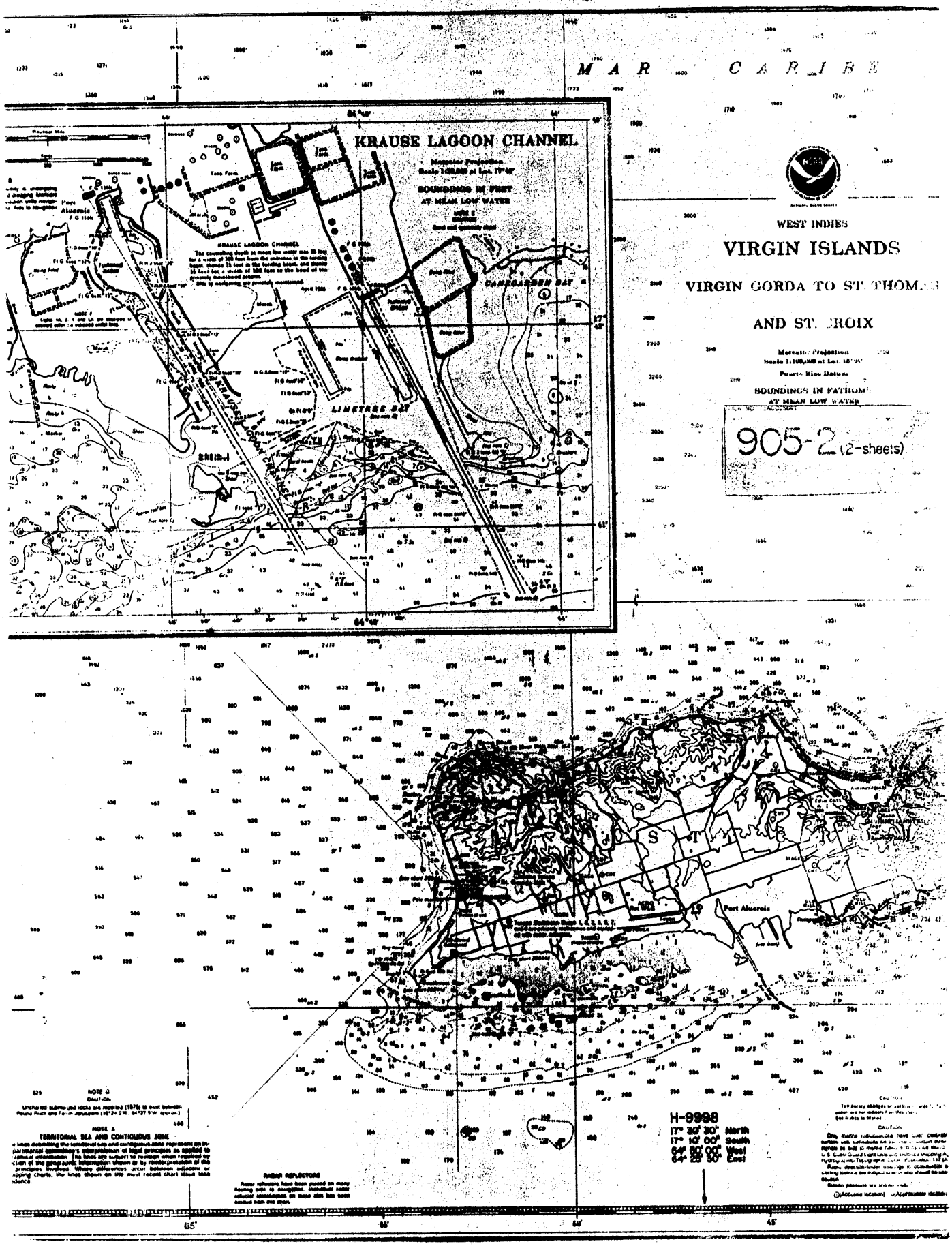
Inspected

R. D. Sanocki
Chief, Verification Section
Hydrographic Surveys Branch

Karl Wm. Kieninger, CDR, NOAA
Chief, Hydrographic Surveys Branch

Approved 21 June 1983

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


MAR CARIBE
KRAUSE LAGOON CHANNEL
SOUNDINGS IN FEET
AT MEAN LOW WATER
KRAUSE LAGOON CHANNEL
CANEGARDEN BAY
LIMETREE BAY
WEST INDIES
VIRGIN ISLANDS
VIRGIN GORDA TO ST. THOMAS
AND ST. CROIX
Mercator Projection
Puerto Rico Datum
SOUNDINGS IN FATHOMS
AT MEAN LOW WATER
905-2 (2-sheets)
Port Alucroix
H-9996
17° 30' 30" North
17° 10' 00" South
64° 50' 00" West
64° 25' 30" East
TERRITORIAL SEA AND CONTIGUOUS ZONE
RADAR REFLECTORS

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9998

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
25640	8/19/83	B. Fernandes	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. #3
			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.
			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.
			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.

USCOMM-DC 8558-P63