

FE277

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 ..... Field Examination  
Field No. .... PE-2.5-1-85  
Office No..... FE-277

#### LOCALITY

State ..... U.S. Virgin Islands  
General Locality .. St. Croix  
Locality ..... Fredericksted Pier

1985

CHIEF OF PARTY  
CDR A.E. Theberge

#### LIBRARY & ARCHIVES

DATE ..... September 16, 1986

FE277

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CARTAS  
SIGN OFF  
IN BACK



## HYDROGRAPHIC TITLE SHEET

H-9934  
FE-277INSTRUCTIONS - 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-2.5-1-85

State ~~St. Croix~~ U.S. VIRGIN ISLANDSGeneral locality ~~U.S. Virgin Islands~~ SE. CROIXLocality ~~Fredericksted Harbor~~ PIER

Scale 1:2,500 Date of survey 1 December 1985

Instructions dated 27 September 1985 Project No. OPR-I191-PE-85

Vessel PEIRCE survey Launch PE-1, VESNO: 2831

Chief of party A. E. Theberge, CDR NOAA

Surveyed by <sup>A.</sup> ENS J. Hill, <sup>E.A.</sup> ENS B. LakeSoundings taken by echo sounder, ~~hand lead, pole~~ DSF-6000N

Graphic record scaled by JAH, MJB

Graphic record checked by JAH, MJB

Protracted by \_\_\_\_\_ Automated plot by HYDROPLOT (PEIRCE  
XINETICS 1201 PLOTTER  
(AMC))

Verification by R. L. KEENE

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW

REMARKS: All times are Coordinated Universal Time

NOTES IN THE DESCRIPTIVE REPORT WERE MADE IN RED DURING  
OFFICE PROCESSING.

STANDARDS CK'D 9-17-86

C.loy

UNOIS/SURF M&amp;M 10/3/86



The following data has been removed from the Descriptive Report and filed with field data.

- 1) Appendix A (Parameter Tape Listing)
- 2) Appendix B (Field Tide Note)
- 3) Appendix C (Field Geographic List)
- 4) Appendix D (Abstract of Correctors to Echo Soundings)
- 5) Appendix E (Abstract of Correctors to Electronic Position Control)
- 6) Appendix G (Abstract of Positions)
- 7) Appendix H (Abstract of Bottom Samples)

Descriptive Report  
To Accompany Field Examination  
PE-2.5-1-85  
Scale: 1:2,500  
A. E. Theberge, CDR NOAA  
Chief of Party

A. PROJECT

This survey was accomplished under project instructions OPR-1191-PE-85, St. John, U. S. Virgin Islands, dated 27 Sept. 1985; Change No. 1, dated 3 Oct. 1985; Change No. 2, dated 14 Nov. 1985; Change No. 3, dated 25 Nov. 1985; and a memorandum dated 14 Feb. 1986. This field examination was performed by the NOAA Ship PEIRCE, S-328.

B. AREA SURVEYED

This field examination supplements survey H-9934 (1981) at the Frederiksted roll-on-roll-off pier on St. Croix, U.S. Virgin Islands.

The original survey was performed in 1981 by the PEIRCE. Additional coverage was required in the vicinity of N17°42'56", W064°53'07", within an area having a radius of approximately 30 m, near the pier. *SEE ALSO SECTION 3.C. OF THE EVALUATION REPORT.*

Main-scheme hydrography was run along a series of 20-meter arcs to ensure proper bottom coverage of the specified area.

The survey work was performed on day 335 in 1985.

C. SOUNDING VESSELS

All soundings obtained in 1985 for this field examination were obtained on the PEIRCE survey launch PE-1, VESNO: 2831. All survey records are annotated with the aforementioned identifier as appropriate.

No unusual sounding vessel configurations nor problems were encountered.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Launch PE-1 used a Raytheon DSF-6000N echo sounder during this survey.

<u>Launch</u>	<u>Day</u>	<u>Sdg Machine S/N</u>
PE-1	335	A108N

The DSF-6000N maintains the depth initial at zero at all times. The provisional instructions for operating the DSF-6000N were used as



guidelines for use and calibration of the echo sounder. A bar check was taken at 5-foot increments down and up to a maximum depth of 45 ft.

Settlement and squat tests for PE-1 were run in San Juan Harbor, P.R. in October 1985.

Nansen casts were taken by the NOAA Ship PEIRCE for the determination of velocity of sound through the sea water.

<u>Day</u>	<u>Position</u>
316	N18°19'42", W064°50'00"
326	N18°19'42", W064°49'23"
334	N18°15'06", W064°58'00"

The soundings on the final field sheet have been plotted using predicted tide correctors based on the Galveston, Texas, tide station.

#### E. HYDROGRAPHIC SHEETS

Field sheets were prepared on the NOAA Ship PEIRCE using a pdp 8/e computer and a Houston Instruments Complot plotter.

Approved tide correctors were requested from the Sea and Lake Levels Branch, Rockville, Md. The final field sheet is plotted at a scale of 1:2,500.

All data and field records were forwarded to the Hydrographic Surveys Branch at the Atlantic Marine Center for verification.

#### F. CONTROL STATIONS

No new horizontal control stations were established for this survey.

#### G. HYDROGRAPHIC POSITION CONTROL

The Mini-Ranger Falcon 484 was used for hydrographic position control in a range/azimuth configuration. SEE ALSO SECTION 4.D. OF THE EVALUATION REPORT.

No unusual positioning problems were encountered during this work.

#### H. SHORELINE SEE ALSO SECTION 2.D. OF THE EVALUATION REPORT.

No shoreline manuscripts were provided. No shoreline verification was required by the project instructions, change number 2.



I. CROSSLINES

Two tenths (.2) of a nautical mile of crosslines were run, which is equivalent to 20% of the total lineal nautical miles of main-scheme hydrography.

The crosslines agree with the main-scheme hydrography within 1 ft. in depths from 6 to 20 ft.

J. JUNCTIONS SEE ALSO SECTION 5. OF THE EVALUATION REPORT.

This field examination junctions with survey H-9934 (1981) as supplemental work.

The soundings from this field examination junction with the soundings on H-9934 to within 1 ft. in depths from 14 ft to 20 ft.

K. COMPARISON WITH PRIOR SURVEYS SEE ALSO SECTION 6. OF THE EVALUATION REPORT.

Comparisons with prior surveys were not required by the project instructions for this field examination.

L. COMPARISON WITH THE CHART SEE ALSO SECTION 7. OF THE EVALUATION REPORT.

Chart number 25644, the 9th Edition, dated May 198<sup>5</sup> was used for comparison with this field examination.

The soundings on this field examination agree with the charted soundings to within 1 ft. in depths greater than 15 ft.; except the 17-ft. sounding charted near N17°42'56.6", W064°53'06.2" should be replaced by a <sup>14</sup>/<sub>13</sub>-ft sounding at N17°42'56.2", W064°53'06.1".

<sup>16</sup> A <sup>17</sup>-ft. sounding should be added at N17°42'55.8", W064°53'06.7". SEE ALSO SECTION 4. D. OF THE EVALUATION REPORT.

M. ADEQUACY OF THE SURVEY

This field examination is sufficiently complete to meet the purpose as explained in the project instructions, Change No. 2, dated 14 Nov. 1985. SEE ALSO SECTION 3. C. OF THE EVALUATION REPORT.

N. AIDS TO NAVIGATION

No fixed nor floating aids to navigation were located in conjunction with this supplemental field work. SEE ALSO SECTION 7. b. OF THE EVALUATION REPORT.



O. STATISTICS

PE-1

Number of positions	95
Total LNMI	1.2

No bottom samples, current observations, nor magnetic observations were taken as part of this field examination.

P. MISCELLANEOUS

This supplemental work was performed at the request of the Hydrographic Surveys Branch in Rockville, Md. to fill a gap in the sounding data near the end of the roll-on-roll-off pier at Fredericksted, St. Croix, U.S. Virgin Islands.

Q. RECOMMENDATIONS

Replace the 17-ft sounding charted near N17°42'56.6", W064°53'06.2" with a ~~14~~-ft. sounding at N17°42'56.2", W064°53'06.1". *SEE ALSO SECTION 4.0. OF THE EVALUATION REPORT.*  
13 16  
Add a ~~17~~-ft. sounding at N17°42'55.8", W064°53'06.7".

R. AUTOMATED DATA PROCESSING

<u>Program</u>	<u>Program Name</u>	<u>Version</u>
201	Grid, Signal, and Lattice Plot	04-18-75
212	Visual Station Table Load and Plot	04-01-74
216	R/Az Nonreal-Time Plot	02-09-81
300	Utility Computations	10-21-80
330	Reformat and Data Check	05-04-76
360	Electronic Corrector Abstract	02-02-76
500	Predicted Tide Generator	11-10-72
530	Layer Correction For Velocity	05-10-76
602	Extended Line Oriented Editor	12-08-82
612	Line Printer Listing	03-22-78
VELTAB	Velocity Table Program	12-01-84

S. REFERRALS TO REPORTS

Descriptive Report, OPR-I191-PE-81, H-9934 (1981)  
Coast Pilot Report, OPR-I191-PE-85



SIGNAL TAPE LISTING

OPR I191-PE-85

H--9934

ST.CROIX,U.S.V.I.

001	6	17	45	02528	064	52	38158	139	0247	000000	--WASHINGTON,1919
002	6	17	42	53386	064	52	49025	139	0000	000000	--RED CHURCH STEEPLE,1919
003	6	17	40	46879	064	54	01044	139	0000	000000	--51197 AZ.MARK,1919
004	6	17	42	56230	064	53	18163	139	0000	000000	--PEIRCE,1980
005	6	17	42	45551	064	53	01835	139	0000	000000	--PEIRCE AZ.-1,1980
006	6	17	43	12163	064	53	04841	139	0000	000000	--PEIRCE AZ.-2,1980
007	6	17	42	58025	064	53	05089	139	0000	000000	--BENCHMARK 1584E,1980

No Landmarks nor Non-Floating Aids to Navigation  
were positioned or verified during this survey.

APPROVAL SHEET

This survey is complete and adequate for the purpose of a hydrographic field examination as explained in the project instructions. The Commanding Officer continually supervised and examined all work.

APPROVED BY: A. E. Thibault 4/8/86

SEE also SECTION 3, C. AND 9. OF THE EVALUATION REPORT.



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

TIDE NOTE FOR HYDROGRAPHIC SHEET

DATE: 05/16/86

Marine Center: Atlantic

OPR: I-191

Hydrographic Sheet: FE-277

Locality: West End, St. Croix, Virgin Islands

Time Period: December 1, 1985

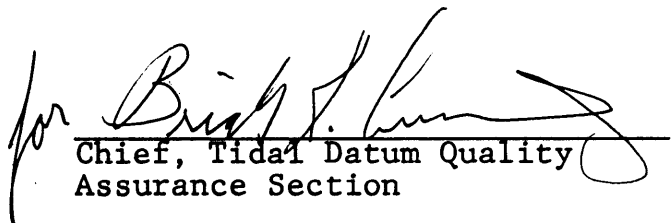
Tide Station Used: 975-1401 Limetree Bay, VI

Plane of Reference (Mean Lower Low Water): 33.90 ft.

Height of Mean High Water Above Plane of Reference: 0.8 ft.

Remarks: Recommended Zoning:

Zone direct

for   
Chief, Tidal Datum Quality  
Assurance Section



HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NO.: FE 277

Number of positions	80
Number of soundings	271
Number of control stations	2

	<u>TIME-HOURS</u>	<u>DATE COMPLETED</u>
Preprocessing Examination	13	16 June 86
Verification of Field Data	32	14 Aug 86
Quality Control Checks	8	
Evaluation and Analysis	27	29 Aug 86
Final Inspection	4	26 Aug 86
TOTAL TIME	84	
Marine Center Approval		2 Sept 86

Transmittal letter of survey and survey records will be included in the Descriptive Report to identify the records accompanying the survey.



ATLANTIC MARINE CENTER  
EVALUATION REPORT

SURVEY NO.: FE-277

FIELD NO.: PE-2.5-1-85

U. S. Virgin Islands, St. Croix, Frederiksted Pier

SURVEYED: 1 December 1985

SCALE: 1:2,500

PROJECT NO.: OPR-I191-PE-85

SOUNDINGS: RAYTHEON DSF-6000N  
Fathometer

CONTROL: MOTOROLA Mini-  
Ranger Falcon 484/  
WILD T-2 Theodolite  
(Range/Azimuth)

Chief of Party..... A. E. Theberge

Surveyed by..... J. A. Hill  
..... E. A. Lake

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

1. INTRODUCTION

a. The present survey is a field examination conducted to supplement prior survey H-9934 (1981).

b. No unusual problems were encountered during office processing.

c. Notes in the Descriptive Report were made in red during office processing.

2. CONTROL AND SHORELINE

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

b. Shoreline originates with prior survey H-9934 (1981) and is for orientation only. The shoreline has been shown in brown on the present survey.

3. HYDROGRAPHY

a. Soundings at crossings are in excellent agreement and comply with the criteria found in sections 4.6.1 and 6.3.4.3. of the HYDROGRAPHIC MANUAL.

b. The standard depth curves could not be drawn in their entirety. The zero (0) foot curve was not delineated, and the six (6) foot curve was not delineated in its entirety because of vessel safety.

c. The development of the bottom configuration and determination of least depths is not considered adequate because, the field did not meet requirements in Change No. 2. of the Project Instructions, dated 14 November 1985. Complete coverage of the area to be surveyed was not achieved. A holiday exists in the vicinity of Latitude 17°42'56.50"N, Longitude 64°53'06.75"W.

#### 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. The hydrographer states in section L., page 3. of the Descriptive Report that a charted seventeen (17) foot sounding in Latitude 17°42'56.6"N, Longitude 64°53'06.2"W should be superseded by a thirteen (13) foot sounding which is in Latitude 17°42'56.6"N, Longitude 64°53'06.1"W. There is no hydrography on the present survey in the area of the charted seventeen (17) foot sounding to justify this supersession.

b. The hydrographer failed to submit, in section G. of the Descriptive Report, information on the electronic equipment used as required by section 5.3.4.G. of the HYDROGRAPHIC MANUAL.

#### 5. JUNCTIONS

##### H-9934 (1981) 1:2,500

A standard junction could not be effected with H-9934 (1981). The junctional survey is archived at National Ocean Service (NOS) Headquarters, Rockville, Maryland. Any adjustments to the depth curves in the junctional areas will have to be made at headquarters during chart compilation.

An inconsistent comparison between soundings in the junctional area between H-9934 (1981) and the present survey is attributed to the rounding of soundings converted from fathoms to feet.

#### 6. COMPARISON WITH PRIOR SURVEYS

H-4653a (1924-25)	1:20,000
<u>H-9938 (1981)</u>	<u>1:20,000</u>

H-4653a (1924-25) compares favorably with the present survey and shows a general trend of being one (1) foot shoaler. A line of soundings running from Latitude 17°42'56"N, Longitude 64°53'06"W to Latitude 17°42'52"N, Longitude 64°53'08"W is four (4) to twelve (12) feet shoaler than the present survey.

H-4653a (1924-25) compares favorably with the present survey and shows a general trend of being one (1) foot shoaler. A line of soundings running from Latitude 17°42'56"N, Longitude 64°53'06"W to Latitude 17°42'52"N, Longitude 64°53'08"W is four (4) to twelve (12) feet shoaler than the present survey.

H-9938 (1981) compares favorably with the present survey and shows a general trend of being one (1) to three (3) feet deeper. A seventeen (17) foot sounding in Latitude 17°42'51.25"N, Longitude 64°53'08.00"W on the prior survey is two (2) feet shoaler than present survey depths. The seventeen (17) foot sounding has been brought forward from the prior survey to supplement the present survey.

Except as noted above the present survey is adequate to supersede the above prior surveys within the common area.

7. COMPARISON WITH CHART 25644 (9th. Edition, 4 May 1985)

a. Hydrography

Thirty percent of the charted hydrography originates with the previously discussed prior surveys and is adequately discussed under that comparison. The remaining hydrography is from a not readily ascertainable source.

The present survey is adequate to supersede the charted hydrography in the common area.

b. Aids to Navigation

The hydrographer located one (1) floating aid to navigation in the survey area. The aid appears adequate to serve its intended purpose.

8. COMPLIANCE WITH INSTRUCTIONS

This survey complies with the Project Instructions except as noted in sections 3.c. and 4. of this report.

9. ADDITIONAL FIELD WORK

This survey does not completely address the area required by the Project Instructions; however, the hydrography obtained by the field unit is of charting value. The area immediately adjacent to the roll-on-roll-off pier was not done, and depths at the end of the pier were not defined. Additional field work would be necessary to properly cover the entire area required by the Project Instructions.



Reginald L. Keene  
Reginald L. Keene  
Cartographic Technician  
Verification of Field Data

Norris A. Wike  
Norris A. Wike  
Cartographer  
Evaluation and Analysis

Leroy G. Cram  
Leroy G. Cram  
Senior Cartographic Technician  
Verification Check

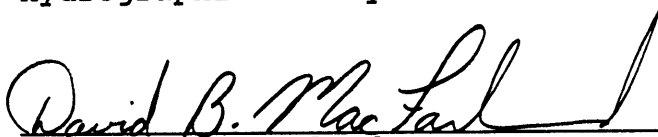
Inspection Report  
FE-277

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval 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



Robert G. Roberson  
Chief, Evaluation and Analysis Group  
Hydrographic Surveys Branch



David B. MacFarland  
Chief, Hydrographic Surveys Branch

Approved: 2 September 1986



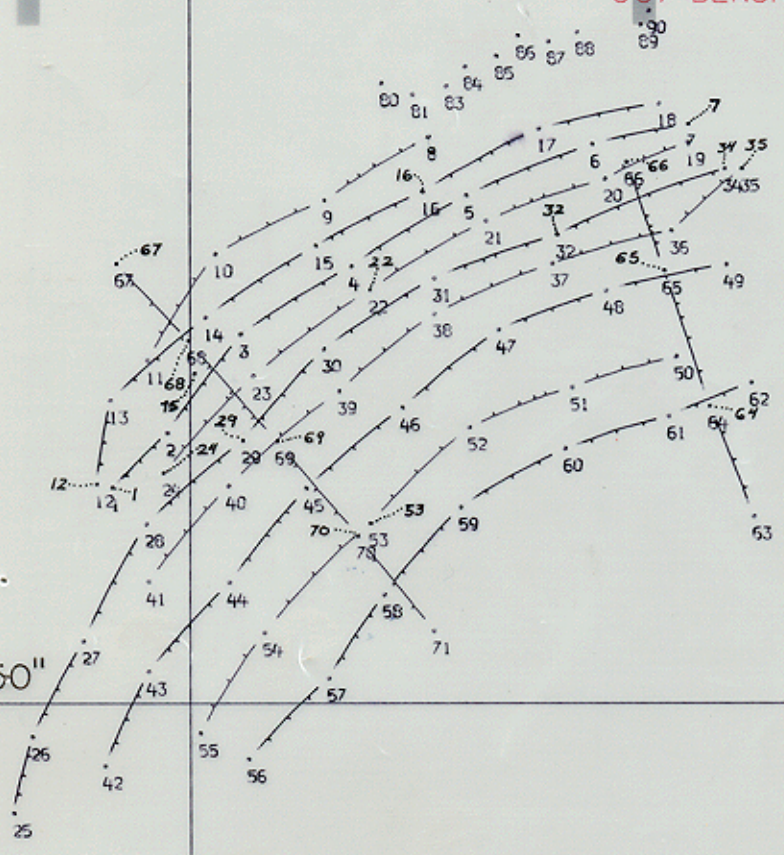
Wesley V. Hull, RADM, NOAA  
Director, Atlantic Marine Center



17° 43' 00"

17° 43' 00"

△ 007 BENCH MARK 1584 E, 1980



17° 42' 50"

17° 42' 50"

FE-277  
 DEC, 1985  
 SCALE 1:2,500  
 PUERTO RICO DATUM  
 POLYCONIC PROJECTION  
 SOUNDINGS IN FEET AT MEAN  
 LOWER LOW WATER  
 POSITION OVERLAY  
 SHEET 1 OF 2

△ 005 PEIRCE AZ 1, 1980

17° 42' 40"

17° 42' 40"

64° 53' 10"

64° 53' 00"



64° 53' 10"

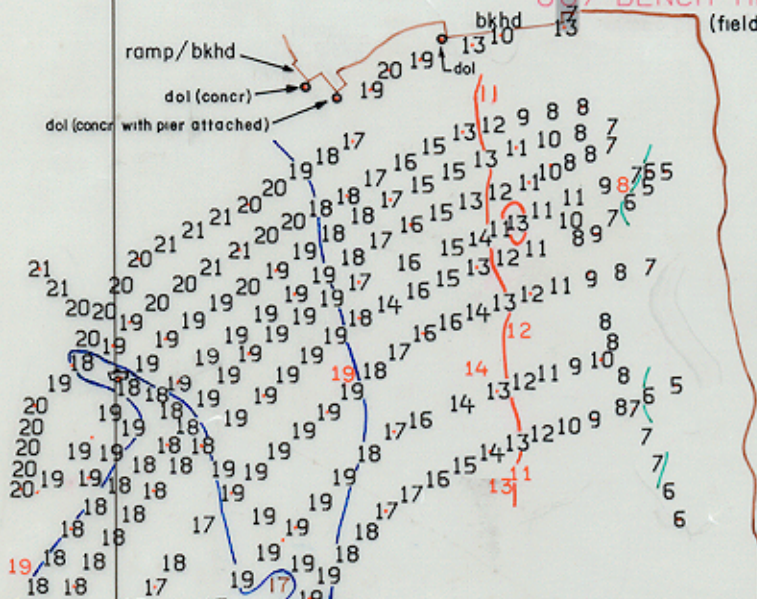
64° 53' 00"

17° 43' 00"

17° 43' 00"

△ FREDERIKSTED PIER  
007 BENCH MARK 1584 E, 1980

ramp/bkhd  
dol (concr)  
dol (concr with pier attached)



**FREDERIKSTED**

ADJOINS H-9934 1981

17° 42' 50"

17° 42' 50"

FE-277  
DEC, 1985  
SCALE 1:2,500  
PUERTO RICO DATUM  
POLYCONIC PROJECTION  
SOUNDINGS IN FEET AT MEAN  
LOWER LOW WATER

△ 005 PEIRCE AZ 1, 1980  
(field position)

SMOOTH SHEET  
SHEET 2 OF 2

Shoreline is from H-9934 for orientation purposes only  
Detached Soundings:  
in brown from H-9938 (1981)

17° 42' 40"

17° 42' 40"

64° 53' 10"

64° 53' 00"



PROGRESS SKETCH

OPR-1191 - PE-85

U.S. VIRGIN ISLANDS  
NOV. - DEC. 1985

NOAA SHIP PEIRCE S-328  
ALBERT E. THEBERGE, CDR, NOAA  
COMMANDING

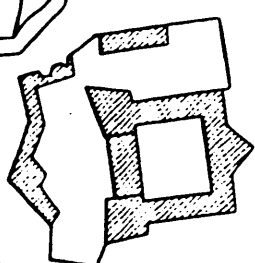
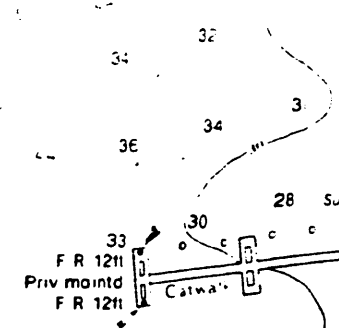
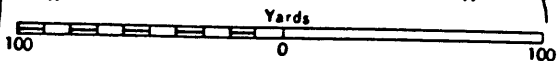
LEGEND

5	SQ. NM SOUNDING
1.3	LNM SOUNDING LINE
.1	LNM MISC. DISTANCE

FREDERIKSTED PIER

Mercator Projection  
Scale 1:2,500 at Lat. 17°42'

SOUNDINGS IN FEET  
AT MEAN LOW WATER



Fort Frederick

Fl 4s 42ft 8M

9th Ed., May 4/85

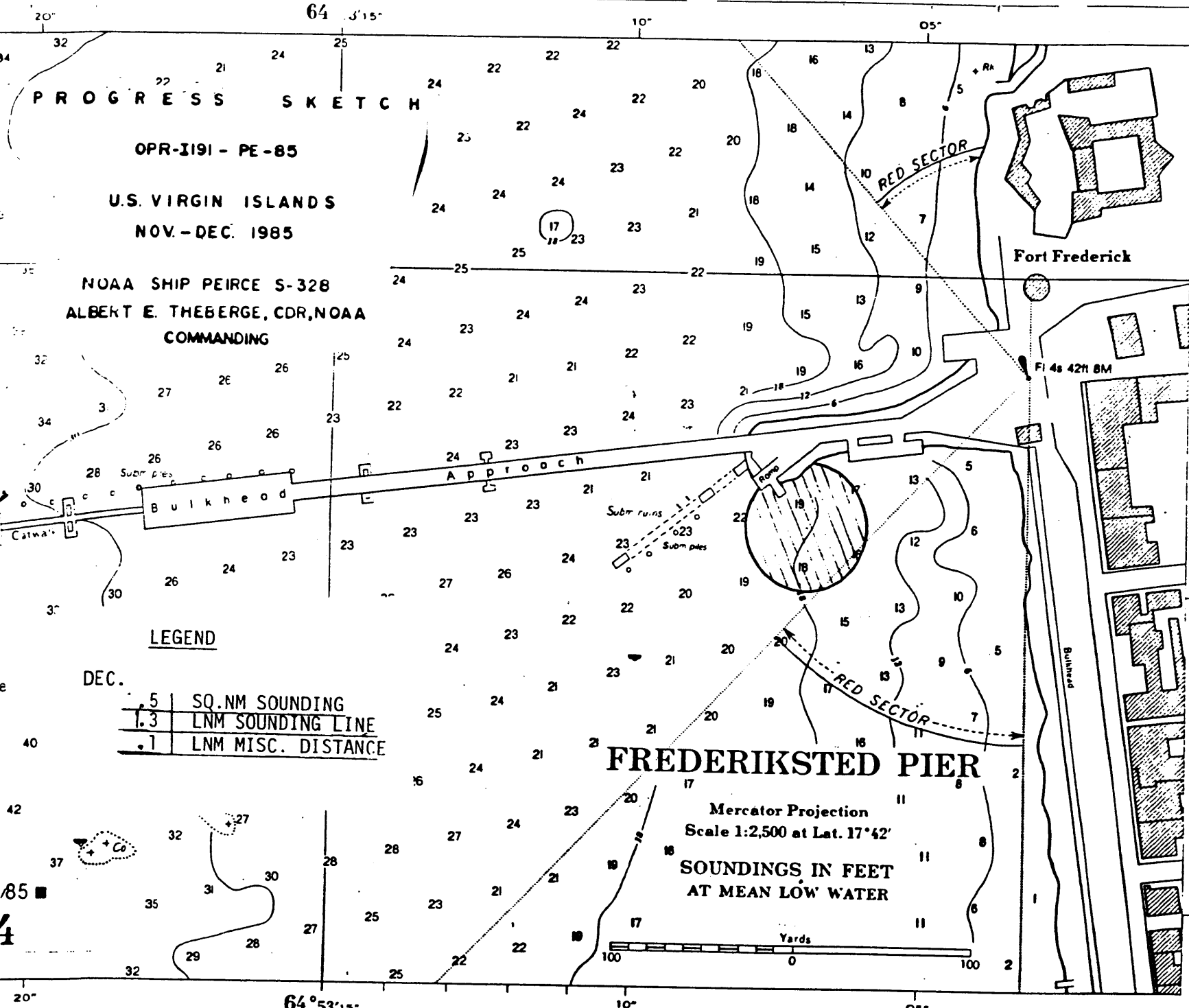
25644

17° 43'

17° 43'

55'

42' 50'



DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Ocean Survey  
Washington, D.C.

Hydrographic Index No. 180C

INDEX  
HYDROGRAPHIC SURVEYS  
Complete through March 1979

1967-1976

VIRGIN GORDA TO ST. THOMAS AND ST. CROIX  
VIRGIN ISLANDS

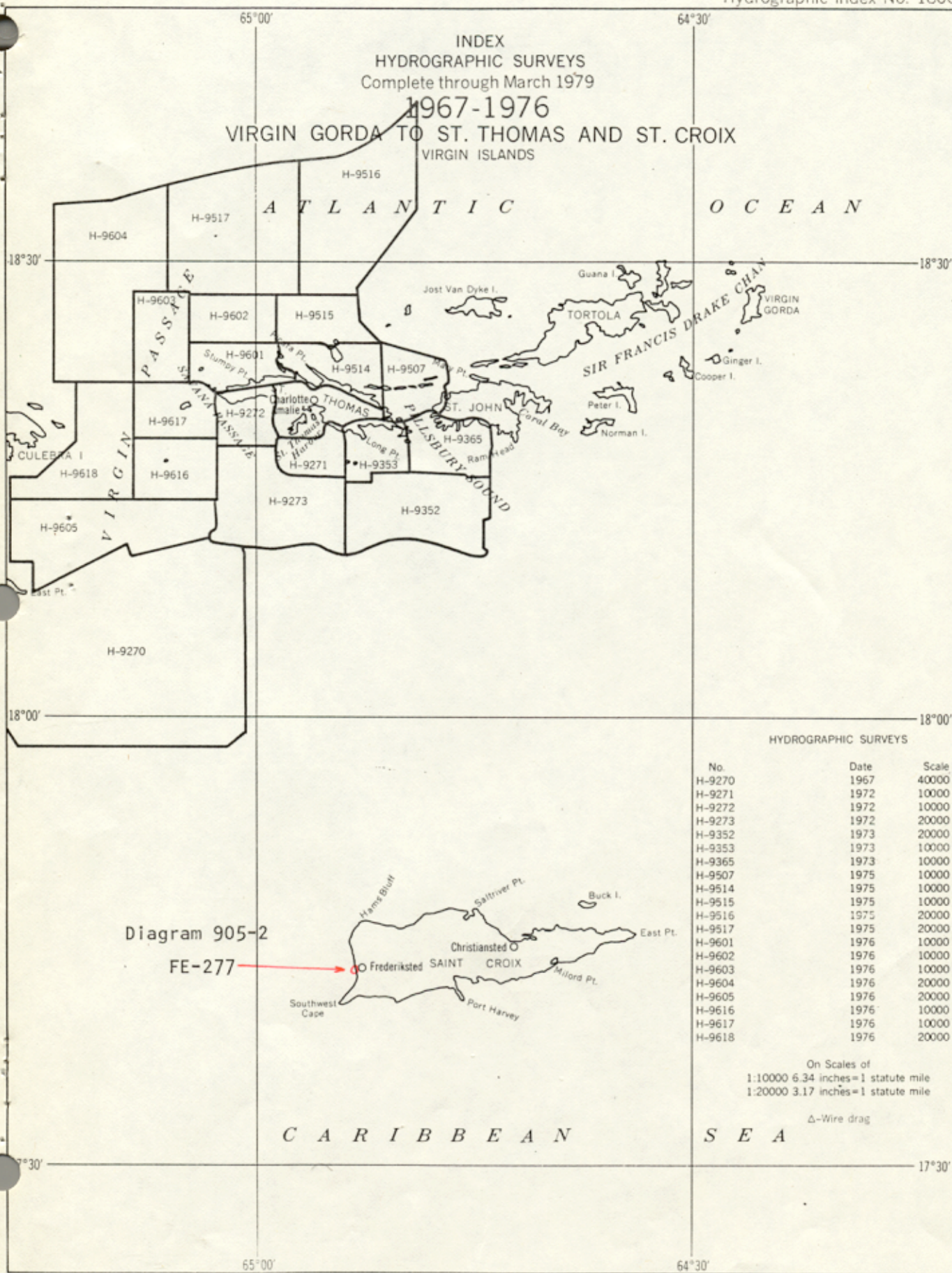
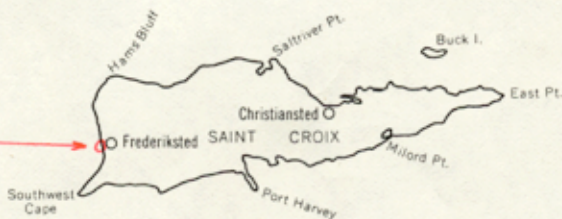


Diagram 905-2

FE-277



HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-9270	1967	40000
H-9271	1972	10000
H-9272	1972	10000
H-9273	1972	20000
H-9352	1973	20000
H-9353	1973	10000
H-9365	1973	10000
H-9507	1975	10000
H-9514	1975	10000
H-9515	1975	10000
H-9516	1975	20000
H-9517	1975	20000
H-9601	1976	10000
H-9602	1976	10000
H-9603	1976	10000
H-9604	1976	20000
H-9605	1976	20000
H-9616	1976	10000
H-9617	1976	10000
H-9618	1976	20000

On Scales of  
1:10000 6.34 inches=1 statute mile  
1:20000 3.17 inches=1 statute mile

Δ-Wire drag

