

10211

Diagram No. 905-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey ... Hydrographic
Field No. PE-10-6-85
Registry No. H-10211

LOCALITY

State U.S. Virgin Islands
General Locality ... St. John
Sublocality Hawknest Point to Mary Point

19 85

CHIEF OF PARTY
CDR A.E. Theberge

LIBRARY & ARCHIVES

DATE November 9, 1987

10211

ACPG
CHT

25647 } Cartog:
25641 } sign off
25640 } on form
back

HYDROGRAPHIC TITLE SHEET

H-10211

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-10-6-85

State ~~St. John~~ U.S. VIRGIN ISLANDS

General locality ~~U.S. Virgin Islands~~ ST. JOHN

Locality ^W Hacksnest Pt. to Mary Pt.

Scale 1:10,000 Date of survey 7-21 Nov. 1985

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

Vessel PE-1 (VESNO: 2831), PE-2 (VESNO: 2832)

Chief of party A. E. Theberge, CDR NOAA

Surveyed by DAW, VDR, VAB, JAH, BAL, MHB, MJB

Soundings taken by echo sounder, ~~hand lead, pole~~ DSF-6000N

Graphic record scaled by DAW, VDR, VAB, JAH, ^EBAL, WRM, MHB, MJB

Graphic record checked by DAW, VDR, VAB, JAH, ^EBAL, WRM, MHB, MJB

Protracted by _____ Automated plot by Hydroplot
KINETICS 1201 PLOTTER (Amc)

Verification by R. L. KEENE

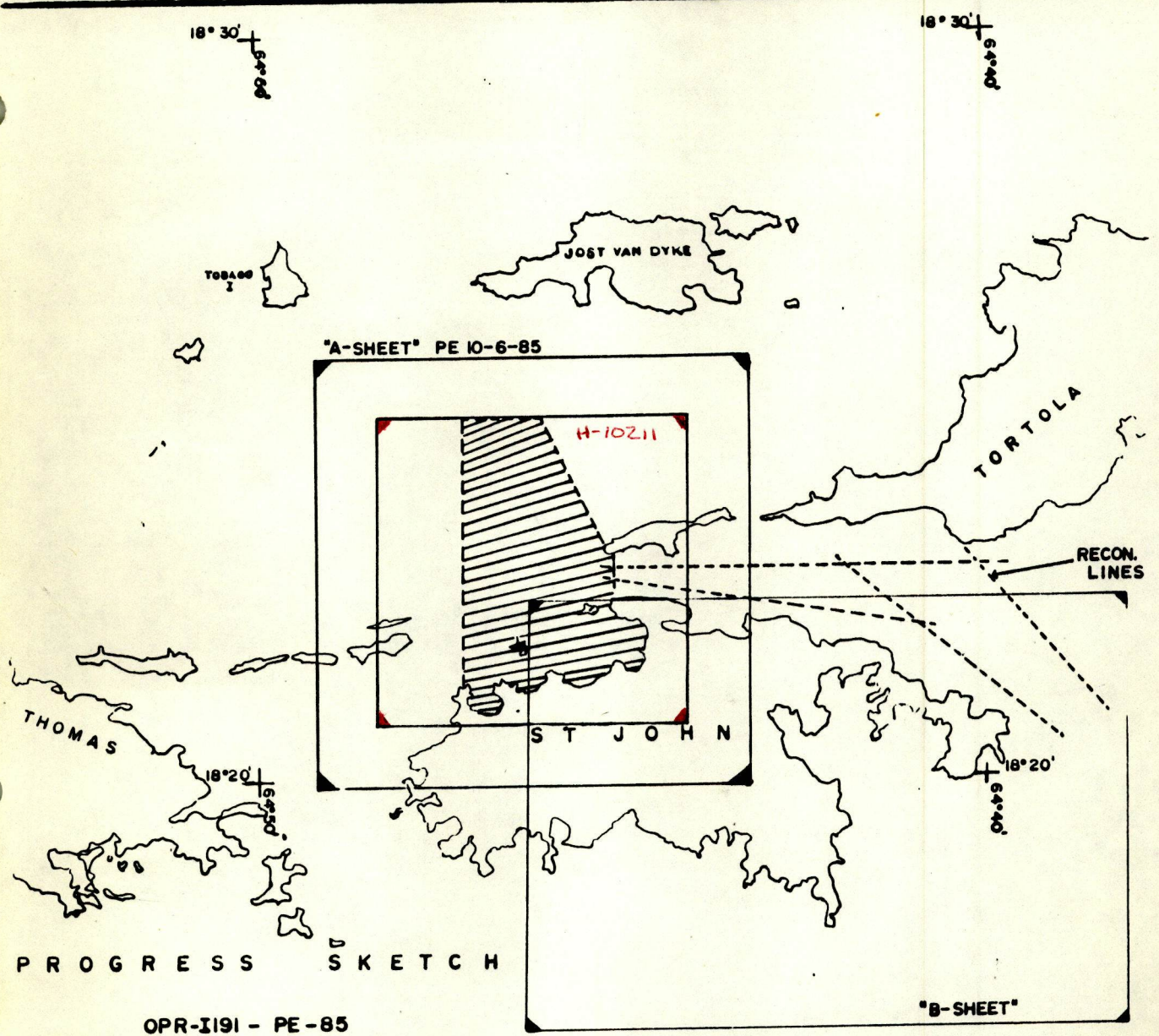
Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW

REMARKS: All times are Coordinated Universal Time

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

ANNALS/SURE CMAA 1/11/88

SA 4-22-97



PROGRESS SKETCH


OPR-1191 - PE-85


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

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

from chart 25641
scale = 1:100,000

LEGEND

 PE 10-6-85

 RECONNAISSANCE SURVEY

	NOV	DEC	
70	0.2		50 NM SOUNDING
780	0		LNM MISCELLANEOUS DISTANCE
603			LNM DISTANCE TO AND FROM
2237	28		LNM SOUNDING LINE
44	0		BOTTOM SAMPLES (GRAB)
4	0		WATER SAMPLES ANALYZED (SALINITY)
3	0		CONTROL STATIONS
0	0		TEMPERATURE, DEPTH, CONDUCTIVITY
4	0		NANSEN CAST
3	0		TIDE GAGE

Descriptive Report
To Accompany Hydrographic Survey
H-10211
Scale: 1:10,000
A. E. Theberge, CDR NOAA
Chief of Party

A. PROJECT

This survey was accomplished under project instructions OPR-I191-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; a memorandum dated 14 Feb. 1986; the Hydrographic Manual, 4th Edition; and the AMC OPORDERS. This survey was performed by the NOAA Ship PEIRCE, S-328 to support the NOS nautical charting program.

B. AREA SURVEYED

The area surveyed is the area known as "Windward Passage" between Hawksnest Pt. and Mary Pt. on the northwest side of St. John, U. S. Virgin Islands; between longitudes W064°47.3' and W064°45.5'.
44.6'

The scale of this survey is 1:10,000.

The survey work was performed between days 311 and 325 in 1985.

C. SOUNDING VESSELS

All soundings obtained in 1985 for this hydrographic survey were obtained on PEIRCE survey launches PE-1, VESNO 2831, and PE-2, VESNO 2832. Survey records are annotated with the aforementioned identifiers as appropriate.

PE-1 was used to take bottom samples.

No unusual sounding vessel configurations nor problems were encountered.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Both survey launches used Raytheon DSF-6000N echo sounders during this survey.

<u>Launch</u>	<u>Days</u>	<u>Sdg Machine S/N</u>
PE-2	311-323	B050N
PE-1	317-322	A112N

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 sounders. When possible, bar checks were taken once daily at 5-foot increments down and up to a maximum of 45 ft.

No problems which were unusual to the DSF-6000N were encountered.

Settlement and squat tests for both launches were run in San Juan Harbor, P. R. in October 1985. The settlement and squat curves are included in Appendix D of this report.

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"

A new velocity table was created after the final field sheet had been plotted. Because the differences are not great and the data will be replotted at the marine center, the final field sheet was not replotted with the final velocity corrections. The final velocity corrections have been included with the field data.

The soundings on the final field sheet have been plotted using predicted tide correctors based on the San Juan, P. R. tide station.

E. HYDROGRAPHIC SHEETS (FIELD SHEETS)

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

The hydrographic data is presented on three sheets. The main-scheme hydrography is plotted on one sheet and the crosslines, bottom samples, and detached positions are plotted on an overlay sheet.

There is one small development which has been plotted at a scale of 1:5,000.

Parameter tape listings are included in the appendices of this report.

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

F. CONTROL STATIONS SEE ALSO SECTION 4.2. OF THE EVALUATION REPORT.

Two new horizontal control stations were established for this survey, station HAWK 1985 and station SHROOM 1985.

Both stations were established individually by short traverses to provide control for range/azimuth hydrography in two small areas where the range/range network did not provide adequate coverage. See the Horizontal Control Report, OPR-1191-PE-85 for more information.

G. HYDROGRAPHIC POSITION CONTROL

The Mini-Ranger Falcon 484 was used for hydrographic position control in both range/range and range/azimuth configurations.

Range/azimuth critical system checks were performed at least once each week using a HP3810B total station instrument. When critical system checks were not made daily system checks were performed. Draft Operations Order #86 was used for guidance in performing Mini-Ranger baseline calibrations and system checks.

Mini-Ranger baseline calibration data is included with the field records.

Mini-Ranger Equipment

<u>VESNO</u>	<u>EQUIPMENT</u>	<u>S/N</u>	<u>DAYS</u>
2831	Range Processing Unit	D0017	317-322
	Control Display Unit	D0062	317-322
	Receiver/Transmitter	D2123	317-322
2832	Range Processing Unit	D0018	311-316
	Control Display Unit	D0059	311-325
	Receiver/Transmitter	C2096	311-316
	Range Processing Unit	D0017	323-325
	Receiver/Transmitter	D2123	323-325

REFERENCE STATIONS

<u>Code</u>	<u>S/N</u>
2	C2059
5	C2067
6	C2091
8	E2974
9	E2911
10	E2912
11	C2075

The following theodolites and total station instrument were used for both calibration and range/azimuth hydrography:

<u>Instrument</u>	<u>S/N</u>
Wild T-2	30694
Wild T-2	75507
HP3810B	1929A00361

H. SHORELINE SEE ALSO SECTION ^{2b. and} 4. b. OF THE EVALUATION REPORT.

Shoreline was inspected visually from seaward by the hydrographer while running hydrography. The only shoreline verification performed was where the survey launch could run close-in, parallel to shore, conditions permitting.

No major discrepancies were found through visual inspections.

I. CROSSLINES SEE ALSO SECTION 3. a. OF THE EVALUATION REPORT.

Crosslines were run according to the Hydrographic Manual, Fourth Edition. 17.5 linear nautical miles of crosslines were run, which is equivalent to 13 percent of the total main-scheme linear nautical miles acquired. Crossline soundings agreed well with the main-scheme hydrography. Overall agreement was within 1 ft. except in areas of rough bottom relief.

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

This survey, H-10211, junctions with H-⁹⁵⁰⁷8507, 1975, plotted at a scale of 1:10,000. Junction occurs along the western limit of this survey, along longitude W064°47'15". Soundings agree within 2 ft. in depths 30 ft. and deeper.

This survey, H-10211, junctions with C.H.S. F.S. #3362, 1964, plotted at a scale of 1:25,000. Junction occurs at the eastern limit of H-10211 along longitude W064°45'00". Soundings agree within 2 ft. in 60 ft. of water.

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

This survey was compared with two prior surveys containing work in the present operational area. They are as follows:

<u>NUMBER</u>	<u>DATE</u>	<u>SCALE</u>
CHS #3362	1964	1:25,000
H-4599 WD	1925	1:40,000
H-4743a	1923-24	1:20,000
H-4743b WD	1924-27	1:20,000
H-9507	1975	1:10,000

Comparison of prior survey H-4599 WD and survey H-10211 showed good agreement. No discrepancies were found between the depths of the wire drags and the present surveyed soundings.

Comparison was made with prior survey H-4743a and this survey, H-10211. Overall sounding agreement was good, within 2-3 ft. for depths ranging from 12 ft. to 110 ft. Discrepancies between the two surveys are as follows:

(1) An isolated 17-ft. shoal near N18°21'48", W064°46'39" lies between the 18- and the 30-ft. depth curve on prior survey H-4743a. A 18¹⁸-ft sounding was found at N18°21'47.0", W064°46'38.5". The hydrographer recommends charting ¹⁸21 ft. at N18°21'47.0", W064°46'38.5" and an 11-ft. sounding at N18°21'43", W064°46'32". CONCUR
4 .86" 31.02"

(2) An isolated ^{CHARTED}10-ft. shoal near N18°21'54", W064°46'32" is between the 18- and the 30-ft. depth curves on prior survey H-4743a. The present survey depicts a steep sloping bottom in this area, surveyed at 24 to 47 ft., with no apparent peak. The hydrographer recommends removal of 10-ft. sounding near N18°21'54", W064°46'32" and charting the present survey soundings in this location. CONCUR SEE ALSO SECTION 6.b. OF

THE EVALUATION REPORT.
(3) The northern edge of "Johnson Reef" located near N18°21'57", W064°46'22" on prior survey H-4743a, is the same on the chart. The present survey soundings indicate that the dimensions of the reef have changed and that the reef does not extend as far north as charted. The northern edge of "Johnson Reef" at N18°21'50", W064°36'26" was delineated by a buffer line in 10 ft. of water. This reef is active and dangerous to navigation. The hydrographer recommends that H-10211 survey soundings near N18°21'50", W064°46'26" replace all prior survey soundings. CONCUR

(4) A 12-ft. sounding located near N18°21'40", W064°46'00" lies between the 18- and 30-ft. depth curve on prior survey H-4743a. An 18-ft. shoal was found near N18°21'41.0", W064°46'00.0". The 12-ft. sounding at N18°21'40.7", W064°46'00.0" should be charted. CONCUR

(5) In the vicinity of Peter Bay, near N18°21'25", W064°45'40", the 30-ft. curve has shifted offshore to include a shoal not present on prior survey H-4743a. The shoal extends northwest to N18°21'28", W064°45'40". Accretion of sand in this section of the cove or coral formations are both plausible explanations for the shoaling. The hydrographer recommends charting the present survey soundings in place of soundings from prior survey H-4743a near N18°21'28", W064°45'40". CONCUR

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

Survey H-10211 was compared to chart number 25641, 20th Edition, dated March 1984; and chart number 25647, 7th Edition, dated November 1984.

Chart 25641

The soundings on chart 25641 agree with the soundings on H-10211 within a range of from 1 ft. to 6 ft. in depths from 70 ft. to 104 ft. These discrepancies do not constitute any dangers to navigation for the

predominant type of craft used in the area. Some adjustments of soundings will be made by the chart compiler when survey H-10211 is applied to the chart.

Full application of H-10211 is recommended as soon as possible.

Chart 25647

Between latitude N18°22'00" and N18°23'00" and west of longitude W064°45'30" most of the charted soundings agree with survey H-10211. The bottom relief in this area is relatively flat and composed of coral sand. In this area, the depths range from 80 ft. to 90 ft. There are about a half dozen soundings throughout this area which do not agree by 3 ft. to 4 ft. in depths greater than 70 ft. Neither the chart nor the survey is consistently deeper than the other.

Near the southwest end of Whistling Cay a 30-ft. sounding is charted near N18°22'14.1", W064°45'43.4", which is directly over a 43-ft. sounding from the current survey. *CONCUR*

A 35-ft. sounding is charted near N18°22'07.5", W064°46'37.5" which is on an 85-ft. sounding from the current survey. *CONCUR*

East and south of the area described above is closer to shore. The depths on H-10211 range from 4 ft. to 80 ft. in this area. The area is dominated by coral reefs and isolated coral heads. The coral is still actively changing. These are very steep slopes throughout the area. *CONCUR*

Survey H-10211 does not agree well with the chart in these areas. Discrepancies greater than 3 ft. are prevalent in depths greater than 15 ft. There are some discrepancies as great as 20 ft. in depths of 70 ft. to 80 ft. There are several soundings which should be removed from the chart. Some soundings can be shifted laterally, but most soundings should be changed.

The area south of latitude N18°22' from Perkins Cay to Cinnamon Cay was surveyed with 50m line spacing due to the jagged nature of the bottom and the reported ledge charted in the area.

The area near N18°21'42", W064°46'08" labeled "Ledge Reported" is a narrow plateau with depths of 20 ft. to 25 ft. Remove the "Ledge Reported" label. ~~DO NOT~~ *CONCUR SEE ALSO SECTION 7.2.2) OF THE EVALUATION REPORT.*

A pinnacle is indicated near N18°21'41", W064°46' where a 12-ft. sounding is charted. Retain the 12-ft. sounding as charted. *CONCUR*

The 17/18-ft. shoal charted near N18°21'53", W064°45'43" is, in fact, two individual peaks which appear on the survey 30m and 50m, respectively, south of the charted positions. See the charted soundings work sheet. *SEE ALSO SECTION 7.2.7) OF THE EVALUATION REPORT.*

Add a 17-ft. sounding at N18°21'47.5", W064°45'42.0". *CONCUR*

Retain the 16-ft. sounding charted near N18°21'43, W064°45'18" as charted. *CONCUR*

Retain the 18-ft. sounding charted near N18°21'32", W064°45'18". *CONCUR*

In general, the charted hydrography should be recompiled from survey H-10211. *CONCUR*

There are several areas along the shoreline in Hawksnest Bay, Trunk Bay, Cinnamon Bay, and Francis Bay which are roped off as swimming areas. No hydrography was run in these areas, as requested by the National Park Service.

The following soundings should be completely removed from the chart because they are either in foul or swimming areas: *DO NOT CONCUR*
RETAIN AS CHARTED.

<u>Sounding</u>	<u>Position</u>
12 ft.	N18°21'16.4" W064°47'04.5"
4 ft.	N18°21'01.7" W064°47'03.9"
8 ft.	N18°20'59.3" W064°46'58.1"
2 ft.	N18°20'57.8" W064°46'52.4"
6 ft.	N18°20'54.7" W064°46'49.0"
18 ft.	N18°21'18.8" W064°46'19.5"
12 ft.	N18°21'26.6" W064°45'17.1"
14 ft.	N18°21'29.2" W064°45'12.8"
19 ft.	N18°21'47.5" W064°46'29.8"

Replace the 30-ft. sounding charted near N18°21'07.8", W064°46'52.6" with a 24-ft. sounding at N18°21'05.4", W064°46'53.3". *CONCUR*

Replace the 19-ft. sounding charted near N18°21'37.4", W064°44'48.8" with a 9-ft. sounding at N18°21'37.6", W064°44'49.6". *CONCUR*

Replace the 21-ft. sounding charted near N18°22'16.6", W064°45'20.4" with a ⁸9-ft. sounding at N18°22'16.4", W064°45'19.5". CONCUR

Replace the 8-ft. sounding charted near N18°21'08.3", W064°46'41" with a 7-ft. sounding at N18°21'08.2", W064°46'42.6". CONCUR

Replace the 73-ft. sounding charted near N18°21'37.5", W064°46'53.1" with a ⁵56-ft. sounding at N18°21'38.8", W064°46'53.2". CONCUR

Replace the 40-ft. sounding charted near N18°21'27.8", W064°45'39.6" with a ²20-ft. sounding at N18°21'27.0", W064°45'40.4". CONCUR

Remove the 28-ft. sounding charted near N18°22'19.6", W064°45'20.2". CONCUR

Add a ^Φ62-ft. sounding at N18°22'07.1", W064°46'21.2". This is a pinnacle among depths from 82 ft. to 88 ft. CONCUR

The 60-ft. sounding charted near N18°21'42.6", W064°47'01.5" is on top of a ³74-ft. sounding among other soundings greater than 70 ft. on H-10211. A 65-ft. sounding appears on H-10211 at N18°21'41.1, W064°47'02.2". ^{40.94"}
^{Φ1.87"}

The 62-ft. sounding charted near N18°21'55.7", W064°47'02.2" is on an 81-ft. sounding among soundings greater than 75 ft. on H-10211. CONCUR

The 40-ft. sounding charted near N18°21'456.2", W064°46'46.6 is on a 49-ft. sounding among soundings ranging from ³³35 ft. to ⁵⁵52 ft. on H-10211. CONCUR

There is no visible wreck on or near "Johnson Reef". The visible wreck symbol charted on "Johnson Reef" should be removed from the chart. CONCUR. SEE ALSO SECTION 7.a.3) OF THE EVALUATION REPORT.

Full application of H-10211 is recommended as soon as possible. CONCUR

M. ADEQUACY OF THE SURVEY SEE ALSO SECTION 9. OF THE EVALUATION REPORT.

The hydrography for this survey is sufficiently complete to supercede the prior surveys in the common area.

N. AIDS TO NAVIGATION SEE ALSO SECTION 7.b. OF THE EVALUATION REPORT, SEE ALSO SECTION 4.f. OF THE EVALUATION REPORT.

Two floating aids to navigation are located within the limits of this survey.

- Buoy "2"
- Buoy "IJR"

Both of these buoys were visually identified at their charted locations. However, no ^Ddetached positions were obtained on either of them. ^{Both}

O. STATISTICS

PE-1

Number of positions	55
Total LNMI	3
Bottom Samples	49

PE-2

Number of positions	374
Total LNMI	22.3
Bottom Samples	0

No current observations nor magnetic observations were taken as part of this survey.

P. MISCELLANEOUS

The area surveyed is characterized by a steady sloping, sandy bottom with intermittent coral reef formations. "Johnson Reef" is the most predominant reef formation and hazard to navigation in this area. The area near the reef charted as "Johnson Reef" near N18°21'47.5", W064°46'27.0" is extremely jagged with coral heads, and extremely dangerous due to breaking seas. The section of the reef which is awash presently, was delineated by a sounding line around the perimeter. However, this sounding line is not meant to define the limit of safe navigation, which is farther away from the reef. *CONCUR*

Small boats and inflatable rafts were observed anchored in close to the reef on several occasions for people snorkeling and surfing over the reef. This reef is active and dangerous.

Q. RECOMMENDATIONS

Remove the 17-ft. sounding near N18°21'48", W064°46'39". Add ¹⁸21-ft. sounding at N18°21'47.0", W064°46'38.5". Add an ⁴11-ft. sounding at N18°21'43.0", W064°46'32.0".
.86" *31.02"*

* Remove the 10-ft. sounding near N18°21'54", W064°46'32" and replace it with the soundings from this survey. *CONCUR (see 6 b 1 page 5)*

The soundings near N18°21'28", W064°45'40" should be replaced by the soundings from this survey. *CONCUR*

The hydrography on chart 25641 should be recompiled from survey H-10211 within the common areas. *CONCUR*

Remove the label "Ledge Reported" which is charted near N18°21'42", W064°46'08". *DO NOT CONCUR. SEE ALSO SECTION 7.a.2) OF THE EVALUATION REPORT.*

Retain the 12-ft. sounding charted near N18°21'41", W064°46'00". *CONCUR*
The 17/18-ft. shoal charted near N18°21'53", W064°45'43" should be
charted as two individual peaks. *SEE ALSO SECTION 7.a.7) OF THE EVALUATION*
REPORT.

Add a 17-ft. sounding at N18°21'47.5", W064°45'42.0". *CONCUR*

Retain the 16-ft. sounding charted near N18°21'43", W064°45'18". *CONCUR*

Retain the 18-ft. sounding charted near N18°21'32", W064°45'18". *CONCUR*

** SEE SECTION L. PAGE 7 AND 8 OF THIS DESCRIPTIVE REPORT FOR CHARTING RECOMMENDATIONS*

The following soundings should be completely removed from the chart
because they are either in foul or swimming areas:

<u>Sounding</u>	<u>Position</u>
12 ft.	N18°21'16.4" W064°47'04.5"
4 ft.	N18°21'01.7" W064°47'03.9"
8 ft.	N18°20'59.3" W064°46'58.1"
2 ft.	N18°20'57.8" W064°46'52.4"
6 ft.	N18°20'54.7" W064°46'49.0"
18 ft.	N18°21'18.8" W064°46'19.5"
12 ft.	N18°21'26.6" W064°45'17.1"
14 ft.	N18°21'29.2" W064°45'12.8"
19 ft.	N18°21'47.5" W064°46'29.8"

** Replace the 30-ft. sounding charted near N18°21'07.8",
W064°46'52.6" with a 24-ft. sounding at N18°21'05.4", W064°46'53.3".*

** Replace the 19-ft. sounding charted near N18°21'37.4",
W064°44'48.8" with a 9-ft. sounding at N18°21'37.6", W064°44'49.6".*

** Replace the 21-ft. sounding charted near N18°22'16.6",
W064°45'20.4" with a 9-ft. sounding at N18°22'16.4", W064°45'19.5".*

* SEE SECTION L, PAGE 8 OF THIS DESCRIPTIVE REPORT FOR CHARTING RECOMMENDATIONS.

* Replace the 8-ft. sounding charted near N18°21'08.3", W064°46'41" with a 7-ft. sounding at N18°21'08.2", W064°46'42.6".

* Replace the 73-ft. sounding charted near N18°21'37.5", W064°46'53.1" with a 56-ft. sounding at N18°21'38.8", W064°46'53.2".

* Replace the 40-ft. sounding charted near N18°21'27.8", W064°45'39.6" with a 20-ft. sounding at N18°21'27.0", W064°45'40.4".

* Remove the 28-ft. sounding charted near N18°22'19.6", W064°45'20.2".

* Add a 62-ft. sounding at N18°22'07.1", W064°46'21.2". This is a pinnacle among depths from 82 ft. to 88 ft.

* Remove the visible wreck symbol charted on "Johnson Reef".

The hydrography on chart 25647 should be recompiled from survey H-10211 within the common areas.

R. AUTOMATED DATA PROCESSING

<u>Program</u>	<u>Program Name</u>	<u>Version</u>
112	Hyperbolic & R/RE Real-Time Plot	10-12-83
116	R/Az Real Time Plot	10-12-83
201	Grid, Signal, and Lattice Plot	04-18-75
211	Range/Range Nonreal-Time Plot	02-02-81
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

Horizontal Control Report, OPR-1191-PE-85
Coast Pilot Report, OPR-1191-PE-85

SIGNAL TAPE LISTING

OPR-I191-PE-85

ST. JOHNS. V. I.

001	6	18	21	19789	064	47	37116	139	0016	000000	ISLE.1918
002	6	18	22	17568	064	45	39161	139	0000	000000	WHISTLE.1918
003	6	18	21	21986	064	46	39399	139	0001	000000	PERKINS.1918
004	6	18	21	30198	064	45	24493	139	0006	000000	CINNAMON CIN,1918
005	6	18	21	55515	064	48	04578	139	0075	000000	LOVANGO.1918
006	6	18	22	21292	064	44	51449	139	0174	000000	MARY.1918
007	6	18	21	38524	064	51	05010	139	0146	000000	THATCH.1918
008	6	18	21	12148	064	46	39998	139	0000	000000	SUGAR.1918
009	6	18	22	21290	064	45	10533	139	0000	000000	SHROOM.1985
010	6	18	21	01402	064	47	05596	139	0000	000000	HAWK.1985

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. T. Deerp 4/11/86

MOA23-67-87

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU
BY (Check):

- ORDINARY MAIL AIR MAIL
- REGISTERED MAIL EXPRESS
- GBL (Give number) _____

TO:

Chief, Data Control Branch, N/CG243
Room 151, WSC-1
National Ocean Service - NOAA
Rockville, MD 20852

DATE FORWARDED

21 Oct 1987

NUMBER OF PACKAGES

TWO (2)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10211 (PE-10-6-85)

OPR-I191-PE-85, U. S. Virgin Islands, St. John,
Hawknest Point to Mary Point

PKG. 1 (TUBE)

- 1 SMOOTH SHEET
- 1 FINAL SMOOTH POSITION OVERLAY
- 3 FINAL EXCESS OVERLAYS
- 3 FINAL FIELD SMOOTH SHEETS
- 1 ORIGINAL DESCRIPTIVE REPORT

PKG. 2 (BOX)

- 2 NOAA FORM 77-44 (SOUNDING VOLUMES)
- 1 ENVELOPE containing DATA REMOVED FROM ORIGINAL DESCRIPTIVE REPORT
- 2 BINDERS containing FIELD POSITION CALIBRATION DATA
- 1 CAHIER containing FINAL POSITION PRINTOUT
- 1 CAHIER containing FINAL SOUNDING PRINTOUT and L-FILE

FROM: (Signature)

NORRIS A. WIKE

*Norris A. Wike*RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 (12-71)	U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REFERENCE NO. MOA23-67-87
LETTER TRANSMITTING DATA		DATA AS LISTED BELOW WERE FORWARDED TO YOU BY (Check):
TO:		<input type="checkbox"/> ORDINARY MAIL <input type="checkbox"/> AIR MAIL <input checked="" type="checkbox"/> REGISTERED MAIL <input type="checkbox"/> EXPRESS <input type="checkbox"/> GDL (Give number) _____
Chief, Data Control Branch, N/CG243 Room 151, WSC-1 National Ocean Service - NOAA Rockville, MD 20852		DATE FORWARDED 21 OCT 1987
		NUMBER OF PACKAGES TWO (2)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10211 (PE-10-6-85)
OPR-I191-PE-85, U. S. Virgin Islands, St. John,
Hawknest Point to Mary Point

PKG. 2 (BOX) cont:

- 1 ENVELOPE containing SUPPLEMENTAL DATA from PRINTOUT
- 1 ACCORDION FILE containing MASTER TAPE PRINTOUTS, CORRECTOR TAPE PRINTOUTS, and FATHOGRAMS for following JD,s:
 - VESNO 2831: 317-320, 322
 - VESNO 2832: 311-312, 316, 323, 325

FROM: (Signature)
 NORRIS A. WIKE *Norris A. Wike*

RECEIVED THE ABOVE
 (Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
 N/MOA23
 Atlantic Marine Center
 439 W. York Street
 Norfolk, VA 23510-1114

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: H-10211

Locality: Northwest Coast, St. Johns, Virgin Islands

Time Period: November 7-21, 1985

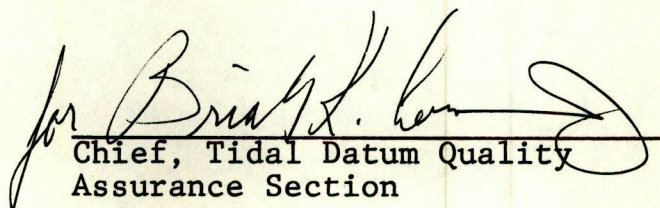
Tide Station Used: 975-1414 Mary Creek, VI

Plane of Reference (Mean Lower Low Water): 2.26 ft.

Height of Mean High Water Above Plane of Reference: 1.0 ft.

Remarks: Recommended Zoning:

Zone direct


Chief, Tidal Datum Quality
Assurance Section

GEOGRAPHIC NAMES

H-10211

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND MCNALLY ATLAS	U.S. LIGHT LIST				
AMERICA POINT												1
CINNAMON BAY												2
CINNAMON CAY												3
DENIS BAY												4
FRANCIS BAY												5
FUNGI PASSAGE												6
HAWKSNEST BAY												7
HAWKSNEST POINT												8
HAWKSNEST ROCK												9
HENLEY CAY												10
JOHNSON REEF												11
JUMBIE BAY												12
MAHO BAY												13
MAHO POINT												14
MARY POINT												15
PERKINS CAY												16
PETER BAY												17
RAMGOAT CAY												18
SAINT JOHN												19
THE NARROWS												20
TRUNK BAY												21
TRUNK CAY												22
U.S. VIRGIN ISLANDS (title)												23
WHISTLING CAY												24
												25

Approved:

Charles E. Harrington
Chief Geographer - N/C42x5

NOV 13 1986

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: H-10211

Number of positions	2158
Number of soundings	5471
Number of control stations	6

	<u>TIME-HOURS</u>	<u>DATE COMPLETED</u>
Preprocessing Examination	34	31 May 86
Verification of Field Data	169	17 Oct 86
Quality Control Checks	35	
Evaluation and Analysis	90	17 Feb 87
Final Inspection	34	12 Feb 87
TOTAL TIME	362	
Marine Center Approval		17 Feb 87

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.: H-10211

FIELD NO.: PE-10-6-85

U. S. Virgin Islands, St. John, Hawksnest Point to Mary Point

SURVEYED: November 7 through November 21, 1985

SCALE: 1:10,000

PROJECT NO.: OPR-I191-PE-85

SOUNDINGS: RAYTHEON DSF-6000N
Fathometer

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

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

Surveyed by.....D. A. Waltz
.....V. D. Ross
.....V. A. Barnum
.....J. A. Hill
.....E. A. Lake

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

1. INTRODUCTION

a. No unusual problems were encountered during office processing.

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

2. CONTROL AND SHORELINE

a. Control is discussed in sections F., G., and S. of the Descriptive Report. Control is not adequately discussed in section F. of the Descriptive Report. See section 4.a of this report.

b. Shoreline originates with final reviewed Class III Photogrammetric Manuscript TP-01162 of 1983-85 and advance copy of unreviewed Class III Photogrammetric Manuscript TP-01128 of 1983.

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 sixty (60) foot curves could be drawn in its entirety. It is apparent that the standard zero (0), six (6), twelve (12), eighteen (18), and thirty (30) foot curves could not be delineated because of vessel safety. The supplemental thirty-six (36) foot curve and brown curves were added to delineate additional bottom relief.

c. The development of the bottom configuration and determination of least depths is considered adequate with the following exception:

The following shoals were not adequately developed.

<u>Depths</u>	<u>Latitude</u>	<u>Longitude</u>
17	18°21'50.61"N	64°45'40.62"W
16	18°21'43.60"N	64°45'16.79"W
29	18°21'36.47"N	64°46'17.97"W
30	18°21'54.57"N	64°45'19.08"W
19	18°21'29.09"N	64°45'36.83"W
29	18°21'34.76"N	64°46'21.86"W

Reduced line spacing in closer proximity of the north, east, and west sides of Johnson Reef would have provided a better delineation of the bottom configuration around the reef.

Additional lines of hydrography in the vicinity of the items discussed above would have provided a better delineation of bottom configuration. The lack of developments of items discussed above does not degrade the overall quality of this survey.

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. Section F. of the Descriptive Report did not provide the required information for the electronic control stations used during survey operations. Section 5.3.4.F. of the HYDROGRAPHIC MANUAL outlines the necessary information to be provided in the Descriptive Report.

b. Section H. of the Descriptive Report did not provide the required information for shoreline support data used during survey operations. Sections 5.3.4.H. of the HYDROGRAPHIC MANUAL and 4.1. of the Project Instructions outline the necessary information to be provided in the Descriptive Report.

c. The field unit did not obtain the proper name for Sir Francis Drake Channel as required by section 4.3. of the Project Instructions.

d. The field unit did not run echo simulator test on DSF-6000N as required by section 4.9.5.1.1. of the Provisional DSF-6000N Echo-Sounder Operating and Processing Instructions, dated July 5, 1983.

e. Final reviewed Class III Photogrammetric Manuscript TP-01162 of 1983-85 and advance copy of unreviewed Class III Photogrammetric Manuscript TP-01128 of 1983 were sent to the field unit with "Notes to the Hydrographer" applied to them. The hydrographer failed to address these items in the Descriptive Report. Few notes were found on the prints and were not legible or helpful. T 1162 T 1128

f. The field unit did not examine, locate, or describe landmarks on chart 25647 (7th Edition, 3 Nov. 1984) as required by section 4.2.2. of the Project Instructions and sections 1.6.5., 4.5.13., and 5.5.1. of the HYDROGRAPHIC MANUAL.

g. The field unit did not adequately investigate Automated Wreck and Obstruction Information System, (AWOIS), items #00792, #00793, #00794, and #00795, as required by the AWOIS listing. See also section 7.a. of this report.

h. The field unit did not take twice daily bar checks. Only seven (7) out of a possible twenty (20) bar checks were taken. Three (3) nansen cast were taken to support the bar check data. However, two (2) nansen cast were taken outside the survey area. It is desirable for sounding velocity data to be obtained in the survey area. Sections 1.5.2. and 4.9.5.1.1. of the HYDROGRAPHIC MANUAL outline the necessary requirements for collecting data for velocity corrections.

i. The hydrographer did not locate a submerged rock in Latitude 18°21'46"N, Longitude 64°45'42"W originating with shoreline manuscript TP-01162 of 1983-85. It is recommended the submerged rock be charted as portrayed on present survey.

5. JUNCTIONS

H-9507 1975 (1:10,000) to the west

A standard junction could not be effected with survey H-9507 (1975). The survey is archived at National Ocean Service (NOS) Headquarters, Rockville, Maryland. Any adjustments to the depth curves in the junctional areas will need to be made at headquarters during chart compilation.

There are no junctional surveys to the north or west of the present survey. Charted hydrography in these areas is in harmony with the present survey.

6. COMPARISON WITH PRIOR SURVEYS

a. Hydrographic

CHS Field Sheet #3362 (1964) 1:25,000
H-4743a (1923-24) 1:20,000
H-9507 (1975) 1:10,000

The three (3) prior surveys listed above cover the present survey area south of Latitude 18°24'00"N and east of Longitude 64°47'00"W.

Canadian Hydrographic Service (CHS) Field Sheet #3362 (1964) covers the survey area north of Latitude 18°22'15"N and east of Longitude 64°45'30"W. CHS survey #3362 (1964) shows a general trend of being four (4) to six (6) feet shoaler than present survey depths. Some scattered soundings are six (6) to ten (10) feet shoaler than present survey. A conversation with Mr. Earl Brown, Assistant Regional Hydrographer, Central Region, CHS, telephone (416) 336-4632, determined that the CHS did not determine velocity corrections for the soundings. Additionally, there is a datum difference in the vertical datums. The tides on the present survey used Mean Lower Low Water. The CHS field sheet referenced soundings to "Lowest Normal Tides." No difference between these two (2) sounding datums was available during office processing. The soundings discussed above are considered superseded by the present survey.

Prior survey H-4743a (1923-24) compares favorably with present survey and shows a general trend of being one (1) to four (4) feet deeper than present survey depths. Soundings in the vicinity of Latitude 18°21'55"N, Longitude 64°47'03"W are ten (10) to thirteen (13) feet shoaler than present survey depths. A thirty-three (33) foot sounding in Latitude 18°22'07"N, Longitude 64°46'37"W is fifty-three (53) feet shoaler than present survey depths.

Prior survey H-9507 (1975) compares favorably with present survey and shows a general trend of being one (1) to four (4) feet deeper than present survey depths.

The differences in depths between the prior surveys and the present survey may be attributed to the advancement of survey technology; more accurate positioning systems and better sounding equipment. The present survey is considered adequate to supersede the prior survey soundings in the common area.

b. Wire Drag

H-4743bWD (1924-27) 1:20,000

The comparison with H-4743bWD (1924-27) and the present

survey revealed nineteen (19) soundings that fall within the present survey area.

1) Sixteen (16) soundings from prior survey are on chart 25647 (7th Edition, 3 Nov. 1984) as follows:

<u>Sounding</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Clearance</u> <u>Depths</u>	<u>Present</u> <u>Depths</u>
17	18°21'55"N	64°45'41"W	14	18-19
18	18°21'52"N	64°45'45"W	14	19
14	18°21'37"N	64°45'57"W	14	17-27
12	18°21'42"N	64°46'00"W	9	17-22
14	18°21'47"N	64°46'18"W	14	16-20
12	18°21'42"N	64°46'21"W	none	20
9	18°21'39"N	64°46'24"W	none	12-18
12	18°21'38"N	64°46'26"W	none	29-40
18	18°21'39"N	64°46'30"W	18	13-20
11	18°21'40"N	64°46'33"W	none	16-24
19	18°21'41"N	64°46'35"W	none	13-24
19	18°21'43"N	64°46'40"W	18	23-28
24	18°21'57"N	64°46'43"W	18	26-29
*10	18°21'54"N	64°46'30"W	none	18-24
19	18°21'51"N	64°46'37"W	18	20-22
26	18°22'01"N	64°46'27"W	14	33-38

Eleven (11) of the soundings listed above were neither verified nor disproved by the present survey. Those prior survey soundings considered neither verified nor disproved have been brought forward from the prior survey to supplement the present survey. It is recommended the soundings brought forward be retained as charted. The soundings not brought forward are considered superseded by the present survey.

2) An uncharted 17-ft sounding in Latitude 18°21'48"N, Longitude 64°46'39"W originating with the prior survey is considered neither verified nor disproved by the present survey. Present survey depths in the area range from 18 to 23 feet. The prior survey sounding has been brought forward to supplement the present survey.

3) The following prior survey soundings were not charted because the clearance depths were adequate or the depths did not display a significant change in the surrounding depths.

<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>
19	18°21'57"N	64°45'39"W
19	18°21'57"N	64°46'21"W

There are no conflicts between the present survey depths and the wire drag effective depths.

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

7. COMPARISON WITH CHART NO. 25641 (20th Edition, 3 Mar. 1984)
25647 (7th Edition, 3 Nov. 1984)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and miscellaneous sources. The previously discussed prior surveys require no further consideration. The hydrographer makes adequate chart comparisons in section L. of the Descriptive Report. In addition to the recommendations in section L. of the Descriptive Report the following should be noted:

1) Automated Wreck and Obstruction Information System (AWOIS) Item #00792, a charted dangerous sunken wreck, in Latitude 18°21'24"N, Longitude 64°45'36"W, originates with 7th Coast Guard District Local Notice to Mariners 38 of 1983 (LNM 38/83). The wreck described as a 30 foot sailboat with visible mast. The fathograms were examined during office processing. The wreck was not investigated, verified, or disproved by the field unit. It is recommended the charted dangerous sunken wreck be retained as charted. OK

2) AWOIS Item #00793, a charted obstruction, (ledge reported), in Latitude 18°21'41"N, Longitude 64°46'07"W, originates with Chart Letter 11 of 1958 (CL 11/58). The U. S. Navy reported that Johnson Reef extended to the mainland with about six (6) feet of water over southern part. The obstruction was neither verified nor disproved by the field unit. The fathograms were examined during office processing. No indications of a rise to a depth of 6 feet in the area are apparent on the fathograms. It is recommended the charted obstruction, (ledge reported) be deleted from the chart. OK

3) AWOIS Item #00794, a charted partially submerged wreck, PA, vessel "DIFFERENT DRUMMER", in Latitude 18°21'48"N, Longitude 64°46'25"W, originates with Chart Letter 942 of 1979 (CL 942/79). The Army Corps of Engineers reported a 34 foot fiberglass vessel sunk $\frac{1}{2}$ mile north of Trunk Bay on the reef. The wreck was visually searched for with a negative result; however, the submerged portion was neither verified nor disproved by the field unit. It is recommended the charted partially submerged wreck, PA be removed, and a dangerous sunken wreck, PA be charted. OK

4) AWOIS Item #00795, a charted dangerous sunken wreck, PA, sailing vessel "BALLY ONE", in Latitude 18°22'00"N, Longitude 64°45'00"W, originates with 7th Coast Guard District Local Notice to Mariners 37 of 1982 (LNM 37/82). The wreck was neither verified nor disproved by the field unit. The fathograms were examined during office processing. Several shoal indications were found on the fathogram. These are 400 meters west of the charted location. It is recommended the charted dangerous sunken wreck, PA be retained as charted. OK

5) A charted rock with a danger curve in Latitude 18°21'21"N, Longitude 64°45'36"W was neither verified nor disproved by the field unit. A submerged rock originating with shoreline manuscript TP-01162 of 1983-85 is 10 meters northeast of the charted rock. It is recommended the charted rock with a danger curve be retained as charted. OK

6) A charted rock with a danger curve in Latitude 18°21'37"N, Longitude 64°45'03"W was neither verified nor disproved by the field unit. It is recommended the charted rock with a danger curve be retained as charted. *There was no danger curve charted on 7th Edition of 25647. Rockwash retained as charted with no danger curve.* OK

7) The charted 17/18 ft shoal, in the vicinity of Latitude 18°21'53"N, Longitude 64°45'43"W is discussed in section L. of the Descriptive Report. Sounding data from the present survey fully supports the statement made in the Descriptive Report concerning the location of peaks. A third peak is located to the northeast in Latitude 18°21'54.48"N, Longitude 64°45'41.56"W. It is recommended the charted 17/18 ft shoal be deleted and representative soundings from the present survey be charted in the area. OK.

Except as noted the present survey is adequate to supersede the charted hydrography in the common area.

b. Aids to Navigation

The hydrographer located two (2) floating aids to navigation in the survey area. Fifteen (15) privately maintained aids, (swimming area marker buoys), were also located by the field unit. These aids appear adequate to serve their intended purpose.

8. COMPLIANCE WITH INSTRUCTIONS

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

9. ADDITIONAL FIELD WORK

This is a adequate basic survey. Additional work is recommended to verify or disprove all AWOIS items assigned in the Project Instructions and items discussed in section 7.a. of this report.

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

ADDENDUM TO ACCOMPANY SURVEY H-10211

The average values for shifting surveyed NAD 1927 positions to NAD 1983 positions for this survey are as follows:

Position shifts (NAD 1983 minus NAD 1927):

Average latitude shift = -7.167 seconds = -220.3 meters

Average longitude shift = -1.505 seconds = -44.2 meters

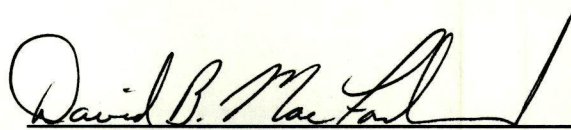
Inspection Report
H-10211

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

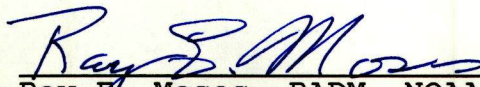


Robert G. Roberson
Chief, Evaluation and Analysis Group
Hydrographic Surveys Branch



David B. MacFarland
Chief, Hydrographic Surveys Branch

Approved: 17 February 1987



Ray E. Moses, RADM, NOAA
Director, Atlantic Marine Center

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

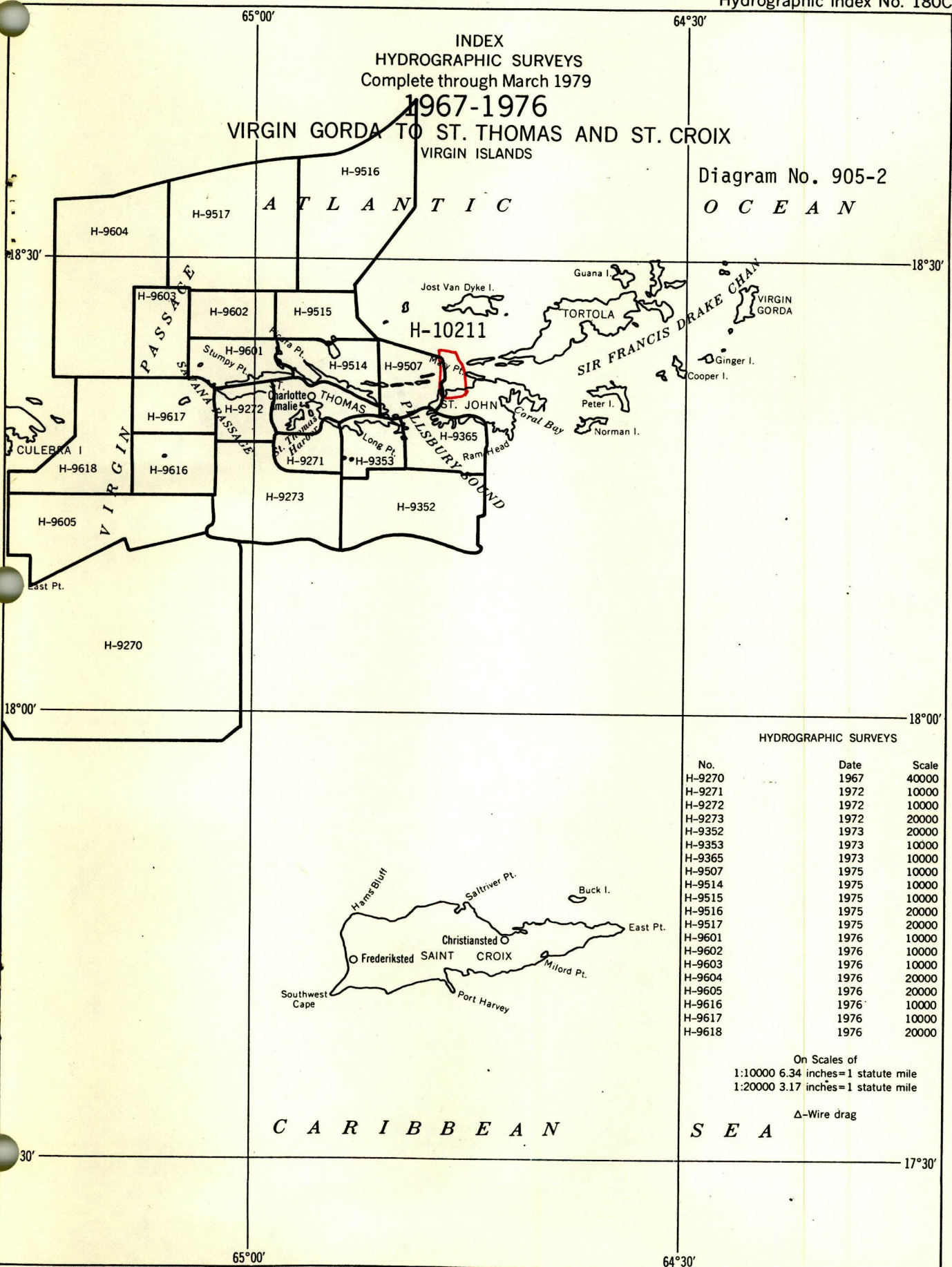
Hydrographic Index No. 180C

INDEX
HYDROGRAPHIC SURVEYS
Complete through March 1979

1967-1976

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

Diagram No. 905-2
O C E A N



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

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10211

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
25647	3/21/88	F. Church	Full Part Before After Marine Center Approval Signed Via Drawing No. 16
25641	3/21/88 5-2-90	Ed Martin	Full Part Before After Marine Center Approval Signed Via Drawing No. 31
25640	6-29-90	Ed Martin	Full Part Before After Marine Center Approval Signed Via Drawing No. 35 thru 25641 drg 31
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
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			Full Part Before After Marine Center Approval Signed Via Drawing No.

appl to stds 11-12-87