

10007

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. MI-10-4-82
Registry No. H-10007

LOCALITY

State U.S. Virgin Islands
General Locality .. St. Croix
Sublocality Great Pond Bay to Vagthus
Point

19 82

CHIEF OF PARTY
CAPT J.A. Yeager

LIBRARY & ARCHIVES

DATE October 15, 1986

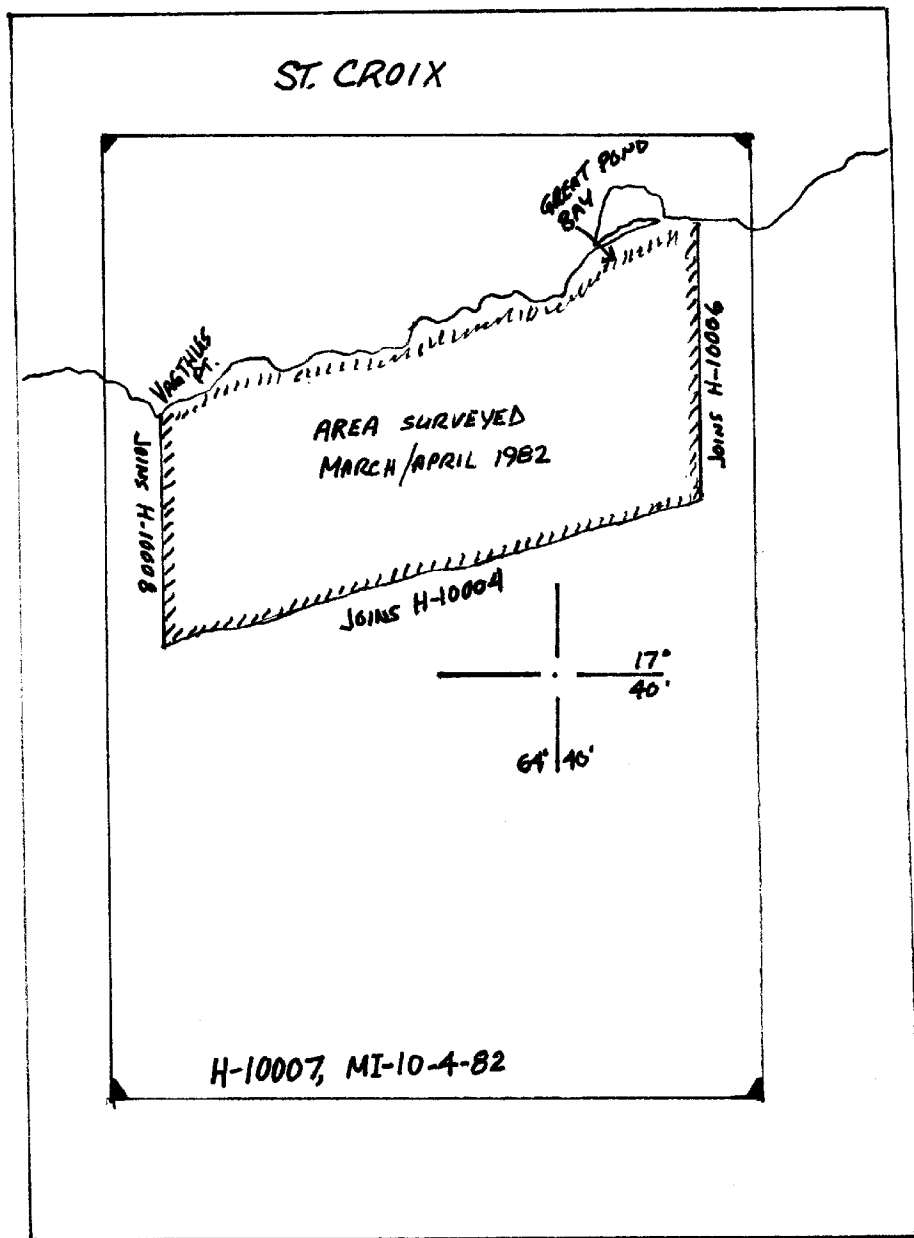
☆U.S. GOV. PRINTING OFFICE: 1985-566-054

10007

ACPG
CHT
25634
25641
25640

} TO SIGN OFF SET
"RECORDS OF APPLICATION"

| | | |
|---|--|-------------------------|
| NOAA FORM 77-28 (11-72) | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | REGISTER NO. |
| HYDROGRAPHIC TITLE SHEET | | H-10007 |
| 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. MI 10-4-82 |
| State <u>St. Croix, U.S. Virgin Islands</u> | | |
| General locality <u>Southshore St. Croix</u> | | |
| Locality <u>Great Pond Bay to Vagthus Point</u> | | |
| Scale <u>1:10,000</u> Date of survey <u>31 March - 15 April 1982</u> | | |
| Instructions dated <u>27 November 1981</u> Project No. <u>OPR I 149-MI/PE-82</u> | | |
| Vessel <u>NOAA SHIP MT. MITCHELL Launches (VESNO 2224 & 2226)</u> | | |
| Chief of party <u>Captain J. Austin Yeager, NOAA</u> | | |
| Surveyed by <u>Ship's Officers (See Remarks)</u> | | |
| Soundings taken by echo sounder, Hand/Lead/ pole <u>Echo Sounder (Russ Model 5000 Fine line)</u> | | |
| Graphic record scaled by <u>ESV, BLC, RW, EM, RC, FS, CS, BEM</u> | | |
| Graphic record checked by <u>RW, EM, UG, FS, CS, BEM</u> | | |
| Protracted by <u>N/A</u> Automated plot by <u>Ship's HYDRO PLOT Synetics 201 Plotter (AME)</u> | | |
| Verification by <u>F.L. Saunders</u> | | |
| Soundings in fathoms <u>and tenths</u> at MLLW <u>at MLLW</u> | | |
| REMARKS: <u>LCDR L. A. Lapine, LT K. W. Perrin, LT E. S. Varney, LTJG J. Zabitchuck,</u> | | |
| <u>ENS K. P. Peters, ENS F. W. Rossmann, ENS R. D. Henegar, ENS B. L. Coakley,</u> | | |
| <u>ENS A. E. Orris, ENS C. N. McLean, ENS D. I. Crews</u> | | |
| <u>Notes in red ink in Descriptive Report made during office processing</u> | | |
| <u>STANDARDS CK'D 10-16-86</u> | | |
| <u>Cole</u> | | |
| <u>AWO 15/SURF MSM 10/22/86</u> | | |



~~SCALE OF CHART 25641~~

H-10007
PROGRESS SKETCH
HYDROGRAPHIC OPERATIONS
NOAA SHIP MT. MITCHELL S-222
J. AUSTIN YEAGER, CAPT, NOAA

STATISTICS

| | |
|-------|----------------|
| 206.2 | LNH HYDRO |
| 6.9 | SNH HYDRO |
| 21 | BOTTOM SAMPLES |
| 118.3 | MISC. MILES |
| 324.5 | TOTAL MILES |

DESCRIPTIVE REPORT
TO ACCOMPANY
SURVEY H-10007, MI-10-4-82

A. PROJECT

This survey was carried out in accordance with project instructions OPR-1149-MI/PE-82, issued 27 November 1981, and amended by Changes 1 through 4 which were dated 21 December 1981, 11 January 1982, 25 January 1982 and 2 March 1982, respectively. A supplement to project instructions was issued 18 November 1981.

B. AREA SURVEYED

This survey was conducted in the Caribbean Sea off the southern coast of the isle of St. Croix, U.S.V.I. The area of the survey was between the eastern end of Great Pond Bay and Vagthus Pt. The depth of the water, in general, gradually slopes away from shore to the 15 to 20 fm curve then rapidly drops off. Bottom area is sandy with numerous coral reefs. Irregular shoreline has numerous rocky points.

The limits of the survey are described by connecting the following points in a clockwise manner.

| <u>Latitudes</u> | <u>Longitudes</u> |
|--------------------------------|---------------------------|
| 17° ^{41' 10"} 36'42"N | 64°38' ⁴ 24"W |
| 17° ^{40' 15"} 36'42"N | 64°43' ⁰ 25"W |
| 17° ^{42' 00"} 44'09"N | 64°43' ¹⁰ 25"W |
| 17° ^{43' 30"} 44'09"N | 64°38' ³ 24"W |

This survey was conducted between 31 March 1982, ^{Day} JD 090, through 15 April 1982, ^{Day} JD 105.

C. SOUNDING VESSELS

Sounding for this survey were obtained by the following MT. MITCHELL automated launches:

| | |
|-------------|-------------|
| Launch 2224 | Jensen 1017 |
| Launch 2226 | Jensen 1008 |

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS.

The following equipment was used to obtain sounding data:

| <u>Vesno 2224 Equipment</u> | <u>S/N</u> |
|--|------------|
| Ross Model 5000 Finline Depth Recorder | 1087 |
| Ross Model 4000 Transceiver | 1079 |
| Ross Model 6000 Digitizer | 1079 |

| <u>Vesno 2226 Equipment</u> | <u>S/N</u> |
|---|------------|
| Ross Model 5000 Fineline Depth Recorder | 1083 |
| Ross Model 4000 Transceiver | 1055 |
| Ross Model 6000 Digitizer | 1055 |

Soundings obtained by the launches were taken with hull-mounted transducers (antenna distance 0.0). All survey records were scanned by survey department personnel and checked by the officer-in-charge.

Peaks and deeps considered significant that occurred between soundings were inserted by means of the electronic corrector tape. This tape was also used to correct digitizing errors.

Phase calibration checks were made at frequent intervals. Necessary adjustments were made and noted in the sounding volume and on the fathogram. Any departures of the trace from the calibrations due to phase difference were corrected during the scanning process.

Velocity corrections were obtained from two (2) Nansen casts conducted at the following locations.

| <u>Cast</u> | <u>Date</u> | <u>Latitude</u> | <u>Longitude</u> |
|-------------|------------------|-----------------|------------------|
| 1 | 20 February 1982 | 17°52'12"N | 64°49'24"W |
| 2 | 15 March 1982 | 17°53'54"N | 64°41'18"W |

*Cast #1 used for
Velocity Table #1*

Water depths at the sites of the casts were over 200 fm. Since comparisons between correctors of the two casts were excellent, only those correctors derived from the first cast were used. Agreement between Nansen cast data and data derived from daily bar checks was excellent. Nansen cast and bar check data comparisons showed an instrument error of 0.1 fathom for Launch 2224. Launch 2226 had no error. The sound velocity correctors were applied to all soundings on the final field sheets. A sound velocity corrector table and printout of the velocity tape are included in Appendix D.

This survey was conducted using predicted tides based on daily predictions at Charlotte Amalie, St. Thomas, U.S. Virgin Islands, (975-1639) with Galveston, Texas (3277) as the reference station. Smooth tides have been requested from the Chief, Tides and Water Levels Branch (OA/C23) for the period of hydrography.

Velocity correctors revised during verification

E. HYDROGRAPHIC SHEETS

This survey was plotted on six (6) Mylar complot roll-bed plotter sheets using the MT. MITCHELL Hydroplot System.

| <u>Number of Sheets</u> | <u>Type</u> | <u>Skew</u> |
|-------------------------|--|-------------|
| 2 | Mainscheme | 90, 21, 54 |
| 2 | Crosslines, D. P.'s, Bottom Samples | 90, 21, 54 |
| 2 | Range-Azimuth, Splits | 90, 21, 54 |

The soundings were plotted off line using an electronic corrector tape and a velocity corrector tape. These tapes corrected all plotted soundings on the field sheets for a draft of 0.7³ fm, predicted tides, initial and digitizing errors, and sound velocity. They are not corrected for smooth tides, settlement, squat, or instrument error. These will be applied by the Atlantic Marine Center Processing Division, CAM3, after data verification.

Settlement and squat report appears in Appendix D. Settlement and squat tests were run on 4 February 1982 for Launches 1002 and 1004 and on 9 February 1982 for Launch 1017. Settlement and squat was not applied because of the negligible value when working in fathoms.

All field records and the following tape will be forwarded to the Marine Center for verification and smooth plotting.

- Master Range-Range Data Tapes (Both raw and edited)
- Master Range-Azimuth Data Tapes (Both raw and edited)
- Electronic Corrector Tapes
- Velocity Corrector Tapes
- Parameter Tapes
- Signal Tapes
- TC/TI Tape

F. CONTROL STATIONS

Electronic and Azimuth control stations used for this survey were:

| <u>Signal Number</u> | <u>Name</u> | <u>Date Established</u> | <u>Latitude(N)</u> | <u>Longitude(W)</u> |
|----------------------|-----------------------|-------------------------|--------------------------|--------------------------|
| 630 | Jack | 1919 | 17°44'49.154" | 64°55'09.828" |
| 650 | Penthany Azimuth Mark | 1982 | 17°44'06.108" | 64°36'38.246" |
| 700 | Fancy | 1919 | 17°43'30.094" | 64°38'24.757" |
| 730 | Nugent | 1919 | 17°43'02.905" | 64°40'01.363" |
| 740 | Nelthropp | 1982 | 17°42'04.635" | 64°43'07.639" |

These control stations were of third order accuracy. All stations were recovered or located by Operations Division, AMC, and MT. MITCHELL personnel.

G. HYDROGRAPHIC POSITION CONTROL

All hydrography was controlled by range-range positioning using Del Norte equipment, with exception of ^{Day} JB-93 and ^{Day} JB-97 when conducting range-azimuth work, a Wild T-2 Theodolite and Del Norte equipment were used for positioning.

The following equipment was used:

| <u>Equipment</u> | <u>Serial Number</u> |
|-----------------------------|--------------------------|
| DMU/Master Pair, VESNO 2226 | 190/162 |
| DMU/Master Pair, VESNO 2224 | 189/912 |
| DMU/Master Pair, VESNO 2224 | 180/620 (Replaced JD 93) |

| <u>Equipment</u> | <u>Serial Number</u> |
|------------------|----------------------------------|
| Remote 72 Unit | 1065 |
| Remote 76 Unit | 1062 to JD-104/1317 after JD-104 |
| Remote 78 Unit | 264 |
| Wild Theodolite | 16017 |
| HP-3810b | 00340 |

Baseline calibrations were conducted with each DMU/Master Pair on three different occasions, with each Remote. Baselines were all-water paths performed on the following dates:

| <u>Date</u> | <u>DMU/Master Pair</u> | <u>Baseline Distance</u> |
|---------------|------------------------|--------------------------|
| 29 March 1982 | 190/162 | 2483 M |
| 29 March 1982 | 189/912 | 2483 M |
| 13 April 1982 | 190/162 | 2477 M |
| 13 April 1982 | 189/912 | 2477 M |
| 24 April 1982 | 190/162 | 2484 M |
| 24 April 1982 | 189/912 | 2484 M |

Baseline distances were measured by repetitive slope observations utilizing a HP 3810b. Daily calibrations were done using either the static point method or the range azimuth method. *Electronic correctors not verified due to insufficient data. Final correctors believed to be from baseline check*

The known point used for static calibrations was Limetree Channel Light "3" located at $17^{\circ}40'46.87''N$, $64^{\circ}44'19.73''W$.
(Falls off sheet)

Range-azimuth calibrations used in Hewlett-Packard 3810b total station unit along with a multiple prism mirror board provided by the National Geodetic Survey. The launch positions determined by the total stations and mirror board were compared with Del Norte rates using either the RK 300 utility package program or a program written for use with the Hewlett-Packard 9815 A/S unit.

H. SHORELINE

Shoreline on the field sheet was transferred in blue from the corresponding shoreline manuscripts ^{TP-00008 and TP-00009 of 1977} since a complete field edit was not conducted. Visual inspection of shoreline and adjoining reef formations indicate no significant change from the manuscript.

I. CROSSLINES

Crosslines were run 45 to 90 degrees to the mainscheme and accounted for approximately 19% of the total sounding line mileage. Comparison of the crosslines and the mainscheme soundings agree to the following:

83% to $\pm .2$ fm

94% to $\pm .3$ fm

98% to $\pm .5$ fm

J. JUNCTIONS

This survey junctions with the following contemporary surveys:

| <u>Area of Junction</u> | <u>Field Number</u> | <u>Registry Number</u> | <u>Scale</u> | <u>Date</u> |
|-------------------------|---------------------|------------------------|--------------|-------------|
| East Side | MI 10-3-82 | H-10006 | 1:10,000 | 1982 |
| West Side | MI 10-5-82 | H-10008 | 1:10,000 | 1982 |
| South Side | MI 80-1-82 | H-10004 | 1:80,000 | 1982 |

This survey junctioning with MI 10-3-82 and 10-5-82 was run with an overlap of one line. Comparison of the soundings was excellent with 93% of the soundings agreeing to ± 0.2 fm and the remainder agreeing to within $\pm .5$ fm. Comparison of soundings with MI 80-1-82 was good, with 100% of the soundings agreeing within 1 fm for depths less than 50 fm and within 1% of the depths greater than 50 fm. Ship and launch differences are attributed to the difference in transducer beam widths and the steep bottom slope in the junction area.

K. COMPARISON WITH PRIOR SURVEYS

The following prior surveys were conducted within the area of this survey:

| <u>Survey</u> | <u>Scale</u> | <u>Date</u> |
|----------------|--------------|-------------|
| 4652 <i>Ka</i> | 1:20,000 | 1924 - 1926 |
| 4653 <i>Dd</i> | 1:10,000 | 1924 - 1925 |
| 4653 <i>Ka</i> | 1:20,000 | 1924 - 1925 |

The comparisons show that 73% of the soundings agree to $\pm .2$ fm and 82% to $\pm .4$ fm or less. This agreement was done by taking 115 soundings and comparing depths. These depths were measured to the 10 fm curve. Depths measured to the 20 fm curve showed good agreement to ± 1 fm. Depths varied from the 20 fm curve.

L. COMPARISON WITH THE CHART

| <u>Chart Number</u> | <u>Edition</u> | <u>Date</u> | <u>Scale</u> |
|---------------------|----------------|--------------------------------------|--------------|
| 25641 | 18th | 28 Nov 198 7 ⁸ | 1:100,000 |

Comparison with the chart shows 40% of the compared soundings agree to within ± 0.2 fm. 49% to ± 0.4 fm and 59% to and including ± 0.5 fm. No one circumstance can be attributed to as peculiar to a certain area.

Investigations were conducted on the following PSR items:

| <u>Item Number</u> | <u>Probable Identity</u> | <u>Latitude</u> | <u>Longitude</u> |
|----------------------|--------------------------|--------------------------|--------------------------|
| 32, 32 44 | Buoys | 17°42'1 ⁵ 4" | 64°42'0 ⁹ 9" |
| 46 | Buoy | 17°42'1 ⁵ 4" | 64°41'30" |
| 48 | Buoy | 17°42'4 ⁶ 4" | 64°40'1 ⁷ 7" |
| 49 | Buoy | 17°42'49" | 64°40'0 ⁹ 9" |
| 50 | Buoy | 17°42'50" | 64°39'54" |
| 51 | Buoy | 17°42'5 ² 8" | 64°39'5 ⁴⁹ 0" |
| 52 | Buoy | 17°42'4 ⁹ 8" | 64°39'48" |
| 53 | Buoy | 17°42'57" | 64°39'47" |
| 54 | Buoy | 17°42'4 ⁵⁰ 9" | 64°39'44" |
| 55 | Buoy | 17°42'5 ⁸ 1" | 64°39'43" |
| 42 | Buoy | 17°42'10" | 64°42'08" |
| 43 | Buoy | 17°42'12" | 64°42'07" |
| 44 45 | Buoy | 17°42'25" | 64°41'31" |
| 45 47 | Buoy | 17°42'25" | 64°41'30" |

These items listed as buoys were not found. All items were investigated and *CONCLUDED* visual inspections of the area were made. Calm and shallow water permitted the

bottom of all these areas to be seen. A significant amount of lobster fishing is conducted in the area and it is believed that these items were small floats temporarily marking lobster pots. It is recommended that these items not be charted.

An item listed as a wreck at $17^{\circ}43'07''N - 64^{\circ}38'47''W$ ^{on TP-00009} was investigated. CONCUR ✓
 A single two inch pipe was found. This item is in a reef in less than one ^{fathom} foot of water.
 This item poses no danger to navigation; however, it is recommended that it be charted as such. *chart as shown on pres. survey.*

M. ADEQUACY OF SURVEY

This survey is considered complete and adequate to supercede ^S prior surveys *Do Not Concur
See Eval. Rep.
n/c*
 for charting. Due to irregular coral bottom, coral heads could exist between sounding lines which could differ up to several feet from surrounding bottom. It is therefore recommended that any shoaler depths from prior surveys be retained on new charts.

N. AIDS TO NAVIGATION

There were no charted or uncharted floating aids to navigation in the survey area. CONCUR ✓

O. STATISTICS

| | |
|---------------------------------------|-------|
| Linear Nautical Miles of Mainscheme | 169.1 |
| Linear Nautical Miles of Crosslines | 20.5 |
| Linear Nautical Miles of Developments | 16.8 |

| | |
|-----------------------------------|-------|
| Total Linear Miles of Hydrography | 206.4 |
| Total Miscellaneous Miles | 118.3 |
| Total Miles Run | 297.8 |
| Square Miles of Hydrography | 6.9 |
| Total Number of Positions | 1389 |
| Nansen Casts | 2 |
| Bottom Samples | 21 |

P. MISCELLANEOUS

The use of the Photobathymetry "T" sheets to transfer reef locations to the boat sheets was extremely useful when working in this area.

Q. RECOMMENDATIONS

None

R. AUTOMATED DATA PROCESSING

| | | |
|--------|-----------------------------------|----------|
| RK 111 | Range-Range Real Time Hydroplot | 01/30/76 |
| RK 116 | Range-Azimuth Real Time Hydroplot | 08/24/81 |
| FA 181 | Range-Azimuth Logger | |
| RK 201 | Grid and Lattice Plot | 04/18/75 |
| RK 211 | Range-Range Off-line Plot | 01/15/76 |
| RK 212 | Visual Station Table Load | |

| | | |
|--------|----------------------------------|----------|
| RK 216 | Range-Azimuth Off-line Plot | 02/05/76 |
| RK 330 | Data Reformat and Check | 05/04/76 |
| AM 500 | Predicted Tide Generator | 11/10/72 |
| RK 530 | Velocity Correction Computations | 05/10/76 |
| AM 602 | Extended Line Oriented Editor | 05/21/75 |

S. REFERENCES TO REPORTS

Horizontal Control Report, NOAA Ship MT. MITCHELL, St. Croix, U.S.V.I.,
1982, OPR-1149-MI/PE-82.

Range-azimuth calibration program documentation HP 9815 A/S by LT(jg)
John Zabitchuck.

Coast Pilot Report, NOAA Ship MT. MITCHELL, St. Croix, U.S.V.I., 1982,
OPR-1149-MI/PE-82.

Respectfully submitted,

C. Scott Varduy, Lt., NOAA

for Bobby L. Coakley

Ensign, NOAA

SIGNAL TAPE LISTING

SURVEY H-10007 FIELD NUMBER MI 10-4-82

| | | | | | | | | | | | |
|-----|---|----|----|-------|-----|----|-------|-----|------|--------|------------|
| 630 | 4 | 17 | 44 | 49154 | 064 | 35 | 09828 | 250 | 0010 | 000000 | - Not used |
| 650 | 4 | 17 | 44 | 06108 | 064 | 36 | 38246 | 250 | 0008 | 000000 | |
| 700 | 4 | 17 | 43 | 30094 | 064 | 38 | 24757 | 250 | 0070 | 000000 | |
| 730 | 4 | 17 | 43 | 02905 | 064 | 40 | 01363 | 139 | 0000 | 000000 | |
| 740 | 4 | 17 | 42 | 04635 | 064 | 43 | 07639 | 250 | 0019 | 000000 | |

SIGNAL NAMES LISTING
 SOURCE: OA/CAM 101
 OPR-I 149-MI/PE-82

| <u>Station Number</u> | <u>Name</u> | <u>Field Comp.</u> | <u>Source Quad #</u> | <u>Sta #</u> | <u>Recovered</u> |
|-----------------------|-----------------------|------------------------|--------------------------|--------------|------------------|
| 630 | * Jack 1919 | | 170644 | 1063 | AMC OPS 81 |
| 650 | Penthany Azimuth Mark | 1982 | | | MI 82 |
| 700 | Fancy 1919 | | 170644 | 1043 | MI 82 |
| 730 | Nugent 1919 | | 170644 | 1096 | MI 82 |
| 740 | Nelthropp | 1982 | | | AMC OPS 82 |

** Signal 630, Jack, not used.*

| NOAA FORM 76-40 (8-74) | | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | | | | ORIGINATING ACTIVITY | |
|--|---|--|----------------|------------------|---|---|--|
| Replaces C&GS Form 567. | | NON-FLOATING AIDS OR LANDMARKS FOR CHARTS | | | | <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> COMPILATION ACTIVITY <input type="checkbox"/> FINAL REVIEWER <input type="checkbox"/> QUALITY CONTROL & REVIEW GRP. <input type="checkbox"/> COAST PILOT BRANCH (See reverse for responsible personnel) | |
| CHARTING NAME | DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses) | LOCALITY | | DATE | METHOD AND DATE OF LOCATION (See instructions on reverse side) | CHARTS AFFECTED | |
| | | STATE | LOCALITY | | | | |
| TO BE CHARTED | REPORTING UNIT (Field Party, Ship or Office) | LOCALITY | | DATE | OFFICE | FIELD | |
| TO BE REVISED | NOAA ship <i>MT MITCHEL</i> | <i>St Croix, USVI</i> | | <i>23 APR 82</i> | | | |
| TO BE DELETED | NOAA ship <i>MT MITCHEL</i> | <i>Southeastern end of St Croix</i> | | | | | |
| The following objects HAVE <input checked="" type="checkbox"/> NOT <input type="checkbox"/> been inspected from seaward to determine their value as landmarks. | | DATUM | | | | | |
| OPR PROJECT NO. | JOB NUMBER | DATUM | | | | | |
| <i>OPR-1749-MI/PE</i> | <i>H-10007</i> | <i>Puerto Rico Datum</i> | | | | | |
| <i>82</i> | <i>MI-10-4-82</i> | | | | | | |
| CHARTING NAME | DESCRIPTION | POSITION | | LONGITUDE | OFFICE | FIELD | |
| | | LATITUDE | LONGITUDE | | | | |
| | | D.M. Meters | D.P. Meters | | | | |
| | | | | | | | |
| <i>SIGHT MILL</i> | <i>(Sight Mill 1919) off smooth sheet</i> | <i>17° 44'</i> | <i>64° 39'</i> | <i>42.929</i> | <i>77Z (C) 9352 11/14/77</i> | <i>F-5-Vis-V 4-20-82</i> | |
| <i>OLD MILL</i> | <i>Fair-horn Point Mill Only visually verified.</i> | <i>17° 43'</i> | <i>64° 40'</i> | <i>15.45</i> | | " | |
| <i>Old MILL</i> | <i>(Little Diamond Mill 1919) Signal No. 750</i> | <i>17° 42'</i> | <i>64° 42'</i> | <i>50.793</i> | <i>77Z (C) 9241 11/14/77</i> | " | |
| <i>Old MILL</i> | <i>(Cone Garden Mill 1919) off smooth sheet.</i> | <i>17° 42'</i> | <i>64° 43'</i> | <i>42.282</i> | <i>77Z (C) 9240 11/14/77</i> | " | |
| | <i>NC-Su L-306(82) &</i> | | | | | | |
| | <i>L-660(82)</i> | | | | | | |

| | | |
|--|---------------|---|
| RESPONSIBLE PERSONNEL | | ORIGINATOR |
| TYPE OF ACTION | NAME | <input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify) |
| OBJECTS INSPECTED FROM SEAWARD | ENS AMY ORRIS | FIELD ACTIVITY REPRESENTATIVE |
| POSITIONS DETERMINED AND/OR VERIFIED | ENS AMY ORRIS | OFFICE ACTIVITY REPRESENTATIVE |
| FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES | | <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE |

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'
 (Consult Photogrammetric Instructions No. 64,

| | |
|--|--|
| <p>OFFICE</p> <p>I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75</p> <p>FIELD</p> <p>I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection</p> <p>A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75</p> <p>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</p> | <p>FIELD (Cont'd)</p> <p>B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982</p> <p>II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75</p> <p>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75</p> <p>**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.</p> |
|--|--|

APPROVAL SHEET

The field work on this Hydrographic Survey was under my daily supervision. The field sheet and records have been reviewed and approved by me.

C. Scott Rodney, Lt., NOAA

for

J. Austin YEAGER
Captain, NOAA
Commanding, NOAA SHIP MT. MITCHELL

MOA23-108-86

LETTER TRANSMITTING DATA

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

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

TO:

Chief, Data Control Branch, N/CG243
 Room 151, WSG-1
 Hydrographic Surveys Branch
 Rockville, MD 20852

DATE FORWARDED

3 October 1986

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-10007 (MI-10-4-82)
OPR-I149-MI/PE-82--U. S. Virgin Islands

Pkg 1: (tube)

- 1 Smooth sheet
- 1 Position Overlay
- 2 Excess Overlays (Levels 1/3 and 2&3/3)
- 1 Original Descriptive Report

Pkg 2: (box)

- 1 Cahier-Position Printout/Control Listing
- 1 Cahier-Sounding Printout/L-File Listing

FROM: (Signature)



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

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: H-10007

| | |
|----------------------------|------|
| Number of positions | 1368 |
| Number of soundings | 7842 |
| Number of control stations | 6 |

| | <u>TIME-HOURS</u> | <u>DATE COMPLETED</u> |
|----------------------------|-------------------|-----------------------|
| Preprocessing Examination | 15 | 14 JUL 82 |
| Verification of Field Data | 377 | 5 FEB 86 |
| Quality Control Checks | 121 | |
| Evaluation and Analysis | 12 | 1 MAY 86 |
| Final Inspection | 20 | 26 JUN 86 |
| TOTAL TIME | 545 | |
| Marine Center Approval | | 16 JUL 86 |

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

Tides in H49935 follow

JULY 9, 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): 975-1401 LIMETREE BAY, V.I.

Period: MARCH 31-APRIL 15, 1982

HYDROGRAPHIC SHEET: H-10007

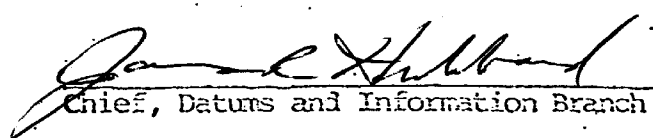
OPR: I-149

Locality: SOUTH COAST OF ST. CROIX, V.I.

Plane of reference (mean lower low water): 2.27 FT

Height of Mean High Water above Plane of Reference is 0.72 FT

REMARKS: ZONE DIRECT


Chief, Datums and Information Branch

GEOGRAPHIC NAMES

H-10007

| Name on Survey | <div style="display: flex; justify-content: space-between;"> A ON CHART NO. 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 </div> | | | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|--|--|----|
| | CARIBBEAN SEA | | | | | | | | | | | |
| FAREHAM BAY | | | | | | | | | | | | 2 |
| FAREHAM POINT | | | | | | | | | | | | 3 |
| FERRALL POINT | | | | | | | | | | | | 4 |
| GREAT POND BAY | | | | | | | | | | | | 5 |
| HALFPENNY BAY | | | | | | | | | | | | 6 |
| MANCHENIL BAY | | | | | | | | | | | | 7 |
| MILORD POINT | | | | | | | | | | | | 8 |
| SAINT CROIX | | | | | | | | | | | | 9 |
| SPRING BAY | | | | | | | | | | | | 10 |
| SURLAINE POINT | | | | | | | | | | | | 11 |
| U.S. VIRGIN ISLANDS (title) | | | | | | | | | | | | 12 |
| VAGTHUS POINT | | | | | | | | | | | | 13 |
| | | | | | | | | | | | | 14 |
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Approved:

Charles E. Harrington
Chief Geographer - N/C62y5

MAY 19 1986

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: H-10007

FIELD NO.: MI-10-4-82

U.S. Virgin Islands, St. Croix, Great Pond Bay to Vagthus Point

SURVEYED: March 31 to April 15, 1982

SCALE: 1:10,000

PROJECT NO.: OPR-I149 MI/PE-82

SOUNDINGS: Ross Model 5000
Fineline Echo Sounder

CONTROL: Range/Azimuth--
Del Norte/Theodolite
(Wild T-2)
Range/Range--Del Norte

| | |
|-------------------------|-----------------------------|
| Chief of Party | J. A. Yeager |
| Surveyed by | K. W. Perrin |
| ..... | E. S. Varney |
| ..... | J. Zabitchuck |
| ..... | K. P. Peters |
| ..... | F. W. Rossmann |
| ..... | B. L. Coakley |
| ..... | A. E. Orris |
| ..... | C. N. McLean |
| ..... | L. A. Lapine |
| ..... | R. D. Henegar |
| ..... | D. I. Crews |
| Automated Plot by | Xynetics 1201 Plotter (AMC) |

1. INTRODUCTION

a. There were no unusual methods of surveying performed during this survey.

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

2. CONTROL AND SHORELINE

a. The source of the control is adequately described in sections F and G in the Descriptive Report.

b. Shoreline originates with Class III registered shoreline maps TP-00008 and TP-00009 both of 1977. The two shoreline maps consist of two parts, the shoreline map and a photobathymetric overlay. Depths in red on the smooth sheet were determined by photobathymetric methods using photographs of 1977. These depths were transferred from the overlays and provide supplemental information for areas not surveyed by conventional methods.

Differences exist between the photobathymetric survey and the shoreline map with respect to the location of ledges and reefs. Where reefs and, in some cases, ledges are shown on the shoreline map, depths of 1 to 3 feet are found on the photobathymetric survey. In these areas, the ledges and reefs from the shoreline map are shown on the smooth sheet.

There are isolated shoals and deeps on the photobathymetric overlays which are only represented by depth curves. These curves have been transferred to the smooth sheet.

3. HYDROGRAPHY

a. Depths at crossings are generally in good agreement, except in some areas where minor hydrographic and photobathymetric data differences were noted.

b. The standard depth curves offshore of the 3-fathom depth curve were adequately delineated. Inshore depths and depth curves were applied from the photobathymetric data. Several 4- and 6-fathom supplemental depth curves and brown curves were added to further delineate certain shoals and bottom configurations.

c. The development of the bottom configuration and the determination of least depths are considered adequate, except as noted below:

| <u>SOUNDING</u> | <u>LATITUDE (N)</u> | <u>LONGITUDE (W)</u> |
|-----------------|---------------------|----------------------|
| 3.5 fm | 17° 41' 42" | 64° 42' 32" |
| 1.8 fm | 17° 41' 39" | 64° 42' 48" |
| 3.6 fm | 17° 42' 18" | 64° 39' 04" |
| 4.6 fm | 17° 41' 51" | 64° 39' 34" |

4. CONDITION OF SURVEY

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

a. Electronic Correctors could not be adequately verified due to lack of field data. Final Correctors as shown on Electronic Abstracts are believed to be from baselines and were applied.

b. The hydrographer did not enter the draft of the vessel into the velocity computation program.

c. An insufficient number of bar checks were taken during the survey.

d. Landmarks were not located as required in the Project Instructions.

5. JUNCTIONS

Adequate junctions were effected with hydrographic surveys H-10006 (1982) on the east, H-10008 (1982) on the west, and H-10004 (1982) on the south during the evaluation of those surveys.

6. COMPARISON WITH PRIOR SURVEYS

H-4652a (1924-26) 1:20,000
H-4653a (1924-25) 1:20,000
H-4653d (1924-25) 1:10,000

These prior surveys taken together cover the entire area of the present survey. While there are areas of agreement, a comparison of prior and present survey depths beyond the 20-fathom depth curve reveals significant differences along the steep slopes. In shoaler depths, only minor differences of 1 fathom or less indicate a relatively stable bottom. Differences are readily attributable to steep slopes, irregularity of the bottom, and the surveying methods employed.

With the addition of several soundings, coral heads, and submerged rocks brought forward from H-4653d to supplement the present hydrography, the present survey is considered adequate to supersede these prior surveys within the common area.

7. COMPARISON WITH CHART 25641 (18th Edition, November 28, 1981)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented by miscellaneous sources.

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

b. Aids to Navigation

There are no fixed or floating aids to navigation in the survey area.

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the Project Instructions except as noted in sections 3 and 4 of this report. Also, a negative Dangers to Navigation report was not included in the Descriptive Report as required by section 6.12 of the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an adequate basic survey and no additional field work is recommended at this time.

for *Fred G. Gram*
F. L. Saunders
Cartographic Technician
Verification of Field Data

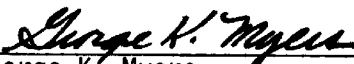
Lisa Quinlan
Lisa Quinlan
Cartographer
Standards Section (N/CG242)
Evaluation and Analysis

Robert R. Hill
R. R. Hill
Senior Cartographic Technician
Verification Check

Inspection Report
H-10007

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproof of charted data. The survey complies with National Ocean Service (NOS) requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

Inspected



George K. Myers
Chief, Standards Section (N/CG242)
Hydrographic Surveys Branch

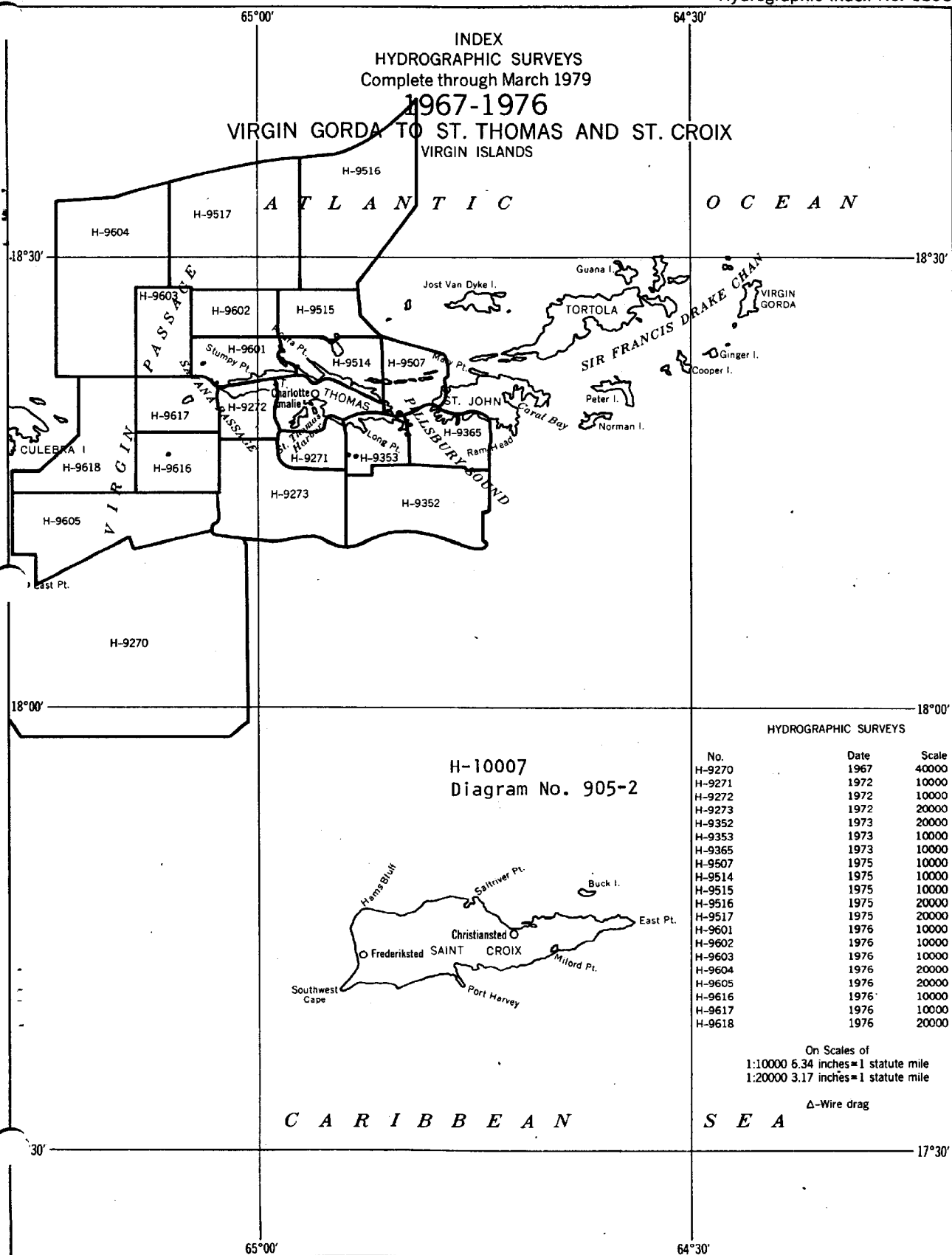
Approved



Wesley V. Hull, 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

A T L A N T I C 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 |

H-10007
Diagram No. 905-2

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

Δ-Wire drag

C A R I B B E A N

S E A

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10007

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 |
|------------------|---------------------|----------------------|--|
| 25634 | 11/24/86 | H. Church | Full Part Before After Marine Center Approval Signed Via Drawing No. 1 |
| 25640 | 11/24/86 | H. Church | Full Part Before After Marine Center Approval Signed Via Drawing No. 31 |
| 25640 | 11/24/86 | H. Church | Full Part Before After Marine Center Approval Signed Via Drawing No. not on drawing and proof. 35 + 35M |
| 25641 | 5-7-90 | Ed Martin | Full Part Before After Marine Center Approval Signed Via Drawing No. 31 Recapplied |
| 25640 | 6-28-90 | 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. |
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