

9352

Diag. Cht. No.905

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC
Field No. WH-20-1-73
Office No..... H-9352

LOCALITY

State VIRGIN ISLANDS
General Locality ... ST. THOMAS - ST. JOHN
Locality OFF SOUTHERN COASTS

1973

CHIEF OF PARTY
J. G. Carlen

LIBRARY & ARCHIVES

DATE 4/5/77

9352

HYDROGRAPHIC TITLE SHEET

H-9352

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.

WH-20-1-73

State Virgin Islands

General locality St. Thomas - St. John

Locality OFF Southern Coasts

Scale 1:20,000 Date of survey 1/25/73 - 4/2/73

Instructions dated October 19, 1973 Project No. OPR-423

Vessel NOAA Ship WHITING and Launch WH-2

Chief of party CDR Jeffrey G. Carlen, NOAA

Surveyed by CDR Carlen, LCDR Burke, LCDR North, LT Veselenak, LTJG Servais
LTJG Kaiser, ENS Decker, ENS Polvi, ENS McMillan, CST Hill

Soundings taken by echo sounder ~~and tide gauge~~

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel PROCESSING Division AMC

Protracted by _____ Automated plot by CALCOMP 618 EOPAMC
WHITING System

Soundings penciled by WHITING shipboard System CALCOMP 618 EBP-AMC

Soundings in ~~6.1000~~ feet at MLW ~~6.1000~~

verified by h. G. Coom

REMARKS: The time meridian for this survey was 0°

Project Instructions OPR-423-WH-73 are supplemented by

the following instruction changes:

Change No. 1 dated November 7, 1972

Change No. 2 dated November 16, 1972

Change No. 3 dated November 16, 1972

✓ Change No. 4 dated January 29, 1973

✓ Change No. 5 dated March 14, 1973

*Applied to this 10/11/77
[Signature]*

A. PROJECT:

This project was accomplished in accordance with Project Instructions for OPR-423 dated October 19, 1972, Change No. 1 dated November 7, 1972, Change No. 2 and No. 3 dated November 16, 1972, Change No. 4 dated January 29, 1973 and No. 5 dated March 14, 1973.

B. AREA SURVEYED:

The area is located approximately two miles south of St. Thomas and St. John. It extends south from Latitude 18-16-30 to the 115 fathom curve and lies between longitude 64-54W and 64-45W. This work junctions on the west with WHITING prior survey H-9273, a 20,000 scale survey done in 1972, and junctions on the north edge with contemporary 1:10,000 surveys H-9353 and H-9365. Soundings were taken on January 25, 26, March 29, 30, 31, April 1 and 2.

C. SOUNDING VESSEL:

The NOAA Ship WHITING was the sounding vessel for virtually all of the survey. WHITING Launch 2 ran lines close in to Frenchcap Cay on April 2.

D. SOUNDING EQUIPMENT:

The ship used a Ross Model 5000 Fineline Depth Recorder, serial number 1055 and Launch 2 used a Raytheon 723D fathometer serial number 37019. Frequent phase comparisons were made by the fathometer operators. Velocity correctors were determined through Nansen and TDC casts but were not applied to the soundings on the boatsheet. A copy of the velocity tables and TC/TI tape listing is included in this report; for details see this projects "Velocity and Fathometer Corrections Report".

Additional lines were run at reduced speed parallel to the 115 fathom curve in an attempt to delineate this curve. These soundings were recorded in fathoms and plotted in feet. The curve is on a very steep slope and the resulting delineation was only partially successful.

E. SMOOTH SHEET:

The smooth sheet will be plotted by AMC.

Two mylar plotter sheets were turned in by the WHITING. One has the basic 200 meter lines and crosslines plus an inset at 1:10,000 scale of the area around Frenchcap Cay. The overlay sheet has bottom sample locations, development lines and lines along the 115 fathom curve. The soundings have not had position correctors applied. For the tables of correctors see the "Electronic Control Report" for this project.

The smooth sheet layout was submitted to AMC for approval. A sketch of the approved sheet and a copy of the approval letter is in the appendix to this report. The limits of the sheet are: latitudes 18-~~09~~^{42.0}.1N to 18-19.1N and longitudes 64-~~39~~^{55.0}.3W to 64-54.9W.

F. CONTROL:

Hydrography for this sheet was controlled by a super high frequency, range-range positioning system obtained from Del Norte Technology, Inc. This system gives a direct readout in meters of the ship's distance from two shore stations every two seconds and the WHITING's on-line Hydro-Plot system accepts the updates to drive the helmsman's left-right steering indicator. For the one day of launch work on the sheet, the direct readout of distances in meters were digitized for the launch DCU and recorded on punched paper tape.

The data printouts are labelled with the station combinations used and parameter tapes are made for each combination used on the sheet.

See "Electronic Control Report" - OPR-423-WH-73" for details of the Del Norte System's characteristics and use as a means of control for this hydrographic survey.

Locations of electronic control shore stations are as follows:

<u>Name</u>	<u>Latitude</u>	<u>Longitude</u>
CATWALK 1973	18-16-48.537	64-53-34.737 red
BAKE 1918	18-19.04.308	64-47-21.561 brown
JAMES 1918	18-18-06.238	64-49-36.875 purple
BRITE 1918	18-18-36.482	64-43-18.871 blue

The following pairs of stations were used:

CATWALK-BAKE JAMES-BRITE CATWALK-BRITE CATWALK-JAMES

BAKE, JAMES, and BRITE are existing recoverable triangulation stations established in 1918 by the Coast and Geodetic Survey. A Del Norte antenna was fastened and located on the walkway of the Buck Island Lighthouse. This station was named CATWALK. All calibration signals were built over third-order triangulation stations and recovery notes are included in the "Horizontal Control Report - OPR-423-WH-73". Six photo signals were established on Frenchcap Cay by Photo Party 62 using manuscript T-12949.

G. SHORELINE:

The ~~only~~ shoreline on the sheet is ~~Frenchcap Cay~~. ~~It~~ was transferred from Manuscript T-12949 and verified by photo party 62. Frenchcap Cay is a solid mass of rock. T-12943, T-12944, T-12945, T-12946; Class one maps unreviewed

H. CROSSLINES:

Crosslines composed 12.0% of the total length of sounding lines. Agreement between crosslines and the main system of lines was excellent. *An apparant discrepancy exists at latitude 18-13-54, longitude 64-51-14 where a 90-foot sounding on a NE-SW line is plotted between a 72 and 75 foot sounding on the crossline. Checking the fathogram shows a very steep depth change at this point for the NE-SW line. It is recommended the adjustment be made in favor of the crossline. *This discrepancy does not exist due to the steep slope of the bottom the 94 ft and the 78 ft. are very close but appear to be reasonable.*

I. JUNCTIONS:

Junction on the Western edge of the sheet with 1972 WHITING work on H-9273 was very good. Differences of less than two feet were the maximum.

Junctions on the North with contemporary surveys WH-10-1-73 (H-9353) and 10-2-73 (H-9345) were also very good. Differences of less than two feet were the maximum.

The final position correctors and actual tides have not been applied to the above surveys when this comparison was made.

J. COMPARISON WITH PRIOR SURVEYS: (PRE-SURVEY REVIEW ITEMS)

All ^{pre} prior survey review items were assigned a number to facilitate plotting on work sheets. The item and the number assigned are correlated below. The discussion following the list is based on soundings not reduced for velocity correctors.

Numbered Items:

<u>Item</u>	<u>Assigned Number</u>	<u>Latitude</u>	<u>Longitude</u>	
1. 10 fm. rep. shoal	110	18-12-18	64-51-48	Delete
2. 10 frm. shoal depth rep.	120	18-12-36	64-53-42	Delete
8-1/4 " " "	121	18-13-06	64-52-54	Delete
6-1/2 " " "	122	18-13-12	64-52-30	Delete
5 " " "	123	18-13-06	64-51-48	Delete
3. 20 fm. depth	130	18-15-00	64-47-24	Delete
16 fm. " } From L-304/63	131	18-15-45	64-46-43	Delete
12 fm. " } BP 63772	132	18-15-19	64-46-18	Delete
22 fm. " }	134	18-11-17	64-46-30	Delete

Dot-Dashed circle items: from H-47439 (1923-24)

20 fathom sounding	200	18-15-20	64-53-05	Delete
16 " " Carried fwd	201	18-14-28	64-50-46	Retain
12 " " "	202	18-16-06 ^{ra}	64-50-45	Not charted, disregard.
8 " " "	203	18-14-57	64-49-37	Delete
16 " " "	204	18-15-14	64-49-18	Delete
14 " " Carried fwd	205	18-16-02 [✓]	64-48-47	Retain
12 " " "	206	18-15-57	64-47-57	Delete
19 " " "	207	18-15-41	64-47-28	Delete
15 " " "	211	18-15-24	64-46-07	Delete
14 " " "	288	18-16-28 [✓]	64-46-58	Retain as charted

Shoal at bottom of sheet near west end approx. Lat 18° 10.5' - 18° 12'
 "Dot Dashed" area. From prior survey H 4598 (1924) Shows good agreement. Long 64° 54.0' - 64° 51'

Dashed-Circle Items: from H-47436 WD (1924-27)

17 fathom sounding Carried fwd	220	18-14-35	64-46-00	Retain
15 " " Carried fwd	221	18-14-51	64-45-25	Retain

Soundings enclosed in squares: From U.S. Navy and British Admiralty Charts

19 fathom sounding	400	18-14-30	64-53-43 ⁴⁷	Delete
19 " " "	401	18-14-10	64-53-00	Delete
6 " " "	402	18-14-12	64-51-19	Delete
19 " " "	403	18-13-34	64-50-18	Delete
16 " " "	404	18-15-29	64-48-48	Delete
15 " " "	405	18-15-10	64-46-30	Delete

RWD 9/77

Numbered Items:

$\phi 18^{\circ}12'18''$ $\lambda 64^{\circ}51'48''$ 10 fm. reported
 No. 1 - Area was developed with 100 meter lines. Depths of 144 feet were found in the charted position. The least depth in the general area occurs 1/2-mile north and is 94 99 feet. The hydrographer recommends deleting this item from the chart. *See Verifier's Report, para 7. Concur RWD 4/77*

No. 2 - This item is composed of shoal depths reported of 10, 8-1/4, 6-1/2, and 5 fathoms and was assigned numbers of 120, 121, 122, and 123 respectively. 100-meter lines were run in these areas and the shoalest depths found were 130 feet. Although N to M #25, 1969 is not available to check the source of these shoals, the hydrographer recommends their deletion from the chart. *See Ver. Report for information concerning these items. Concur RWD 4/77*

PSR #3 No. 3 - Number 130. Shoalest depth found was 148 feet. The hydrographer recommends the 20 fathom depth be deleted from the chart. *Believe the field run the development for this feature 400 meters north of the charted position. There were two cross lines, E-W, that cover the area however. Position # 80 to Pos # 84 and Position No. 1255 to 1258. The shoalest depth is 148 ft., 1 sounding before pos. # 83. Rec. No. 00449. Recommend deleting the 20 fm. depth. Concur RWD 4/77*

#3 No. 131. - 100-meter development lines were run in this area; shoalest depth was 130 feet. Hydrographer recommends the 16 fathom depth be deleted from the chart. *Development consists of Pos # 1195 to Pos # 1209 Day 090, by Whiting. Rec. No. 06442 to 06483. There is a shoaler depth of 130 ft. approximately 1/2 mile S.E. of the charted depth. Pos # 591 to 592 Rec. No. 03144. Recommend deleting 16 fm. sdg. from chart and adding 133 ft. (22 fm) sdg. from this survey. Concur RWD 4/77*

#3 No. 132. - 100-meter development lines were run in this area. A 65-foot sounding was found in the charted position and an 86-foot sounding was found 250 meters to the NW. Hydrographer recommends the 12-fathom sounding be deleted from the charts and up-dated depths added. *Development consists of Pos No. 1205 to 1205 Day 090, by Whiting. Rec. No. 06474 to 06573. The shoalest depth is 85.200 sounding out of Pos. # 1209 Rec. No. 06504. Concur RWD 4/77*

#3 No. 134. - No developments other than 200-meter basic line spacing were run in this area. A 132-foot sounding was obtained 500 meters SSW of the charted 22-fathom sounding. Hydrographer recommends the 12-fathom sounding be deleted from the chart. *Development consists of Pos No. 1205 to 1205 Day 090, by Whiting. Rec. No. 06474 to 06573. The shoalest depth is 85.200 sounding out of Pos. # 1209 Rec. No. 06504. Delete 22 fath. Report Para. 7.3 Concur RWD 4/77*

Dot-Dashed Circle Items:
Items 200-207, 211, and 288 from H-47439 (1923-24)

5 dg reported No. 200. - Area developed by 100-meter development lines. Depths of 120 feet were found in the charted location. *Development consists of Pos # 1847-1850, 1894-1897, 1835-1838, Day 080 to 0809 which were run by the Whiting. Shoalest depth was a 21 fm sdg. 1 sdg. out of Pos # 1848 Rec. No. 08874. Recommend plotting 21 fm. Concur RWD 4/77*

No. 201. - Soundings in this area are 131 feet; a shoal exists from this position to Frenchcap Cay. *The shoalest depth in the area is a 103 ft sounding between Pos # 1358 & 1359 Rec. No. 07402 Day 090 Whiting. Recommend retaining 16 fm from chart as area does not appear to be adequately developed. Concur RWD 4/77*

No. 202. - 100-meter lines show a 68-foot depth 300 meters North of the charted position of this 12-fathom sounding. *Development consists of Pos # 1114 to 1120, Rec. No. 09723 - Rec. No. 3746. Day 091, Whiting. The shoalest depth is a 68 ft. sounding 300 meters N. Pos # 1355 to 1356 Rec. No. 07217 from regular line spacing. Recommend deleting 12 fm from chart and plotting 68 fm as shoalest depth. Concur RWD 4/77*

No. 203. - This shoal was developed and a 43-foot sounding found in the charted position. *Development consists of Pos. No. 1138 - 1143, Rec. No. 06206 to 06258 Day 090, Whiting. The shoalest depth is a 46 ft sounding which came from regular line spacing. Pos # 1020-1021, Rec. 5551. Recommend retaining the 46 ft. depth in its charted position as there is only 4 ft. difference between the modern survey sounding and the charted depth. The position of the charted sounding appears to be correct. Recommend charting the 46 ft sounding found as shoalest depth in this area. Concur 4/77 RWD*

$\phi 18^{\circ}14.95'$ $\lambda 64^{\circ}49.63'$

18° 15.25' N 64° 48.2' W

No. 204. - An 81-foot sounding was obtained 300 meters East of the charted position and 200-meters SE of the charted 16-fathom sounding. Development consists of positions 1150 to 1157, Day 030, ship Whiting. The shoalest depth on the development was a 87 ft. However there is a 80 ft sounding, Day 030 Rec. No. 5522. Plotting the 80 ft sounding on feature charts. *Concur RWD 4/77*

No. 205. - 80-foot sounding obtained 700 meters to the ENE and 85-foot sounding obtained 600 meters SSW. Development consists of Pos. No. 1158-1165, day 030, WH. The shoalest depth is a 115 ft sounding. Rec. No. 6312. Recommend deleting the 115m sounding and plotting the 85 ft. Day 089 Pos. 875-876 Rec. No. 08723 from regular Retain RWD 4/77 14yds.

No. 206. - This shoal developed with 100-meter lines. Shoalest depth found 150 meters NE of charted 12-fathom sounding. Development consists of Pos. 1166-1174, Day 030, WH, Rec. No. 1170-1181, Day 031 Rec. No. 9512. The shoalest depth in the area is a 76 ft sounding. Rec. No. 213-219. Recommend plotting the 76 ft. Day 089 Rec. No. 219 from regular Retain RWD 4/77

No. 207. - Shoaling to 88 feet exists south of this charted 19-fathom sounding. The shoal is not charted. Development consists of Pos. 1186 to 1199, Day 030 Rec. No. 06408-06441. The shoalest depth on the pre-survey chart appears to be a 131 ft. shoal. The shoal depth exists 450 meters south of the 19 fathom depth of 93 ft. Pos. 273-279. Recommend plotting this depth and showing limits of shoal on feature charts. Delete the 19 fathom sounding. *Concur RWD 4/77*

No. 211. - Part of same shoal discussed for number 132. Shoalest depth found was a 85 ft sounding. Recommend charting this 85 ft and others to delineate the shoal existing in this area. *Concur RWD 4/77*

No. 288. - An 82-foot sounding was obtained at this charted 14-fathom location. Development consists of Pos. 1000 to Pos. 1004 plus two crosslines and regular Hydro. The least depth appears to be an 87 ft sounding. Pos. 657-658, Day 003, WH. Rec. No. 03499. Recommend retaining the 87 ft sounding and plotting the 82 ft. *Concur RWD 4/77*

No. 220. - 90-foot sounding obtained 200 meters to the East and an 88-foot sounding obtained 500 meters to the NE. No development was run on this area. The pre-survey review shows this 106 ft. Pos. 512-513, Day 089, WH. Rec. No. 02716. Recommend replotting the area on the chart to show least depth. *Concur RWD 4/77*

No. 221. - 90-foot sounding obtained 100 meters to the South. *Concur RWD 4/77*

Soundings enclosed in squares:

From U.S. Navy and British Admiralty Charts.

No. 400. - No evidence of a 19-fathom depth at this location from basic sounding lines. least depth in area is 131 ft (21 fm) Pos. 138-139, day 030, WH, Rec. No. 00740. Recommend deleting the 19 fm. depth and plotting the 21 fm. sounding. *Concur RWD 4/77*

No. 401. - No evidence of a 19-fathom depth at this location from basic sounding lines. least depth in area 139 ft. (23 fm) Pos. 292-293, day 026, ship WH, Rec. No. 01548. Recommend deleting the 19 fm. and plotting the 23 fm. *Concur RWD 4/77*

No. 402. - 43-foot sounding obtained at this location with shoaler depths closer to Frenchcap Cay. See 1:10,000 inset on beatsheet. Delete; chart present depths *RWD 4/77*

No. 403. - The shoal just South of this location was developed with 100-meter lines. Shoalest sounding obtained was 116/23 feet. 250 meters. WH least depth 123 Pos. 1090 to 1091, day 090, WH, Rec. No. 5940. Recommend deleting the 19 fm. depth and plotting the 20 fm. *Concur 4/77 RWD*

No. 404. - A 90-foot sounding was obtained 400 meters SW of the charted 16-fathom sounding. least depth in immediate area is a 128 ft (21 fm). Recommend this be charted and the 16 fm. be deleted. *Concur 4/77 RWD*

No. 405. - No evidence found of a 15-fathom depth at this location. least depth in area is a 145 ft. sounding. (24 fm) Pos. 583 to 584, day 089, WH, Rec. No. 03102. Recommend deleting the 15 fm. sounding and plotting the 24 fm from this survey. Fifteen fathom sdg is possibly out of position. Present shoal is 600 m to NE. *Concur 4/77 RWD*

The survey was compared with prior survey No. 4743a of 1923-24, scale of 1:20,000. Excellent ^{for} agreement occurred between the two surveys. As expected the closer line spacing on the new survey developed the previously found shoals, however, no significant new features were found. Soundings immediately adjacent to Frenchcap Cay were obtained on the new survey. (Enlarged boat sheet plot is attached) ^{and 4743b (wire drag)}

Prior survey H-4598 was not available for comparisons. (comparison made during verification)

K. COMPARISON WITH THE CHART:

The boat sheet was compared with C&GS Chart 905, 10th. Edition dated April 22, 1972. (905, 25641 13th May 24, 1975)

In general the boat sheet soundings after applying velocity corrections were 1 fathom shoaler than the chart. An exception is the SW edge of the sheet where new depths are up to 3 fathoms shoaler. All Rep PA soundings are covered in section J of this report - none were found.

No uncharted dangers to navigation were found. At latitude 18-15.5, longitude 64-47.5 where 19 fathoms is charted, a 92-foot depth was found. The charted 19-fathom shoal at latitude 18-14.5, longitude 64-53 is no longer there.

L. ADEQUACY OF THE SURVEY:

The survey is considered complete and adequate to supersede prior surveys for charting.

The Southern half of the four lines on the West edge of the sheet were not completed. These were attempted on two different days but on these days a combination of atmospheric interference and Del Norte in need of tuning prevented reception of the signal from the CATWALK station.

In accordance with Project Instructions the ship hydrography was stopped at longitude 64°44.6'W to square off with the in-shore launch sheets, leaving the ~~West~~ ^{east} side of this survey lay-out to be completed at a later date.

M. AIDS TO NAVIGATION:

There were no aids to navigation within the survey limits.

N. STATISTICS:

<u>Survey Vessel</u>	<u>Nautical Miles of Sounding Lines</u>	<u>Number of Positions</u>
Ship WHITING	593.3	1787
Launch No. 2	<u>2.2</u>	<u>67</u>
TOTALS	595.5	1854

Square nautical miles of hydrography = 46.5

Number of bottom samples = 24

O. MISCELLANEOUS:

None.

P. RECOMMENDATIONS:

None.

Q. REFERENCES TO REPORTS:

"Electronic Control Report", submitted to AMC, CAM2 6/11/73
"Velocity and Fathometer Corrections Report" submitted to AMC CAM2
"Horizontal Control Report 1972"
"Horizontal Control Report 1973"

SIGNAL LIST

069	18° 16' 48.537	064° 53' 34.737"	CATWALK, 1973
002	18°17'06.80"	065°06'04.15"	SAIL ROCK 1918
008	18°18'23.12"	065°00'07.84"	SABA 1918
010	18°18'35.03"	064°57'26.21"	WATER 1972
014	18°16'48.50"	064°53'34.69"	BUCK 1973
020	18°19'49.44"	064°51'34.31"	T-97
022	18°13'59.74"	064°51'09.01"	TOP (On Frenchman's Cap) 1918
024	18°18'49.03"	064°50'44.86"	DECK 1918
030	18°18'06.24"	064°49'36.88"	JAMES 1918-22
034	18°19'04.31"	064°47'21.56"	BAKE 1918-22
036	18°20'20.17"	064°45'13.63"	CAMEL 1918
038	18°18'47.81"	064°45'59.12"	DIT 1918
039	18°19'21.17"	064°42'43.32"	MINNAHILL 1918
042	18°18'36.48"	064°43'18.87"	BRITE 1918-1926
044	18°18'10.11"	064°42'10.03"	SAD 1967
357	18°14'00.28"	064°51'05.21"	T-12949
358	18°13'56.93"	064°51'04.42"	"
359	18°13'56.96"	064°51'08.83"	"
360	18°13'57.99"	064°51'10.06"	"
361	18°13'58.19"	064°51'11.77"	"
362	18°14'00.04"	064°51'12.11"	"

All stations are recoverable.

All 1918 stations were located by the C&GS.

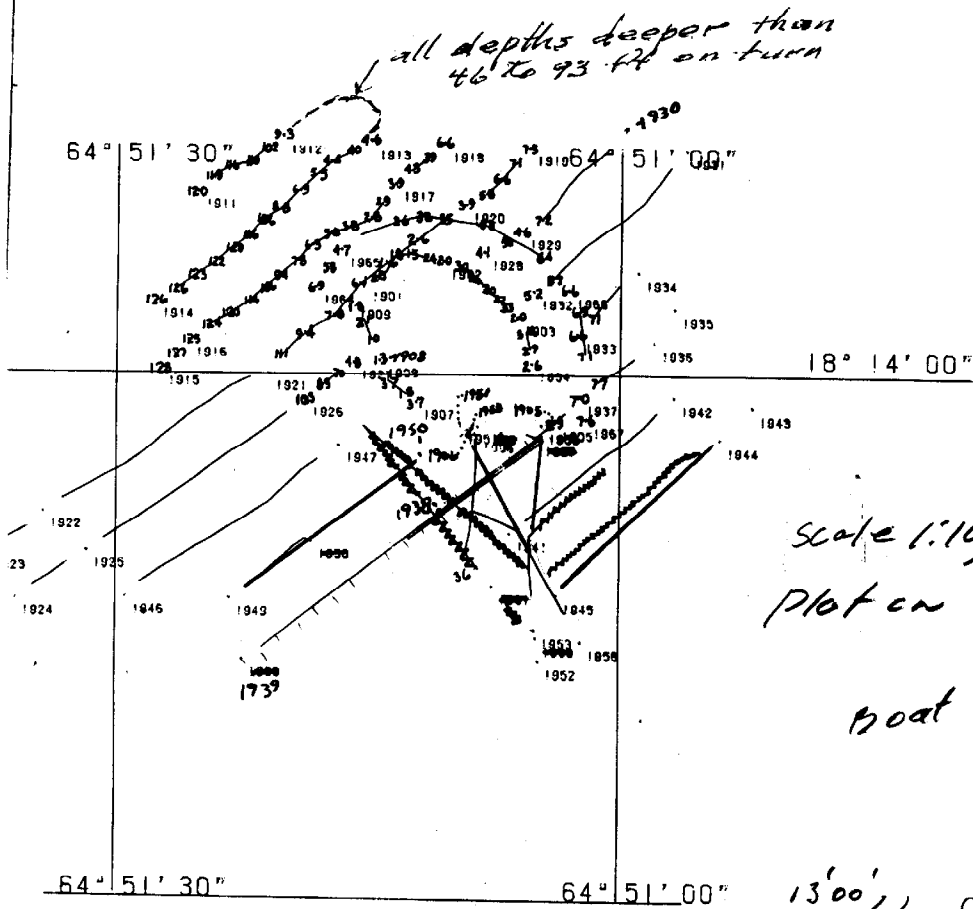
1972 and 1973 stations located by WHITING personnel.

SAD 1967 located by NOAA Ship DAVIDSON personnel.

T-97 located by Virgin Islands Public Works Department.

Stations from manuscript T-12949 located by Photo Party 62.

See the Horizontal Control Report for recovery notes and field data.



Scale 1:10,000
 Plot on subplan
 boat sheet

Predicted Tides

APPROVAL SHEET

Submitted by:

John C. Veselenak
John C. Veselenak
LCDR, NOAA

Supervision of field and office work on this hydrographic survey was continuous on a day to day basis to insure completeness of the survey and that the work done was in accordance with the instructions.

Approved/Forwarded:

Jeffrey G. Carlen
Jeffrey G. Carlen
CDR, NOAA
Commanding Officer, NOAA Ship WHITING

000130 0 0000 0001 000 293000 009352

000300 0 0010

000480 0 0020

000660 0 0030

000840 0 0040

001030 0 0050

001210 0 0060

001400 0 0070

001580 0 0080

001760 0 0090

001940 0 0100

002130 0 0110

002310 0 0120

002490 0 0130

002670 0 0140

002870 0 0150

003070 0 0160

003280 0 0170

003480 0 0180

003660 0 0190

003830 0 0200

004000 0 0210

004170 0 0220

004340 0 0230

004510 0 0240

004680 0 0250

004850 0 0260

VELOCITY CORRECTOR TAPE LISTING - SHIP
SHEET WH-20-1-73

005020 0 0270

005190 0 0280

005360 0 0290

005530 0 0300

005690 0 0310

005860 0 0320

006030 0 0330

999999 0 0340

000050 0 0000 0001 000 293200 009352
000095 0 0002
000130 0 0004
000170 0 0006
000210 0 0008
000250 0 0010
000290 0 0012
000330 0 0014
000380 0 0016
000425 0 0018
000470 0 0020
000510 0 0022
000560 0 0024
000600 0 0026
000640 0 0028
000680 0 0030
000725 0 0032
000770 0 0034
000810 0 0036
000855 0 0038
000900 0 0040
000945 0 0042
000990 0 0044
001030 0 0046
001080 0 0048
001120 0 0050
001160 0 0052
001210 0 0054
001250 0 0056
999999 0 0058

VELOCITY CORRECTOR TAPE LISTING - LCH II
FOR SHEET WH-20-1-73

TRA CORRECTOR TAPE LISTINGS - SHIP WHITING

000000 0 0017 0000 037 293000 009353
000000 0 0017 0000 041 293000 009353
000000 0 0013 0000 057 293000 009353
000000 0 0013 0000 060 293000 009353

WH-10-1-73

000000 0 0013 0000 076 293000 009365
000000 0 0013 0000 080 293000 009365
000000 0 0017 0000 087 293000 009365
000000 0 0017 0000 089 293000 009365

WH-10-2-73

(1)

3.3

000000 0 0011 0000 024 293000 009352
000000 0 0011 0000 027 293000 009352
000000 0 0017 0000 088 293000 009352
000000 0 0017 0000 092 293000 009352

WH-20-1-73

10/10/73

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 Bovoni Bay, Benner Bay, Cowpet Bay,
Hart Bay, and Lameshur Bay

Tide Station Used (NOAA form 7(-12)):

Period: January - April 1973

HYDROGRAPHIC SHEET: H-9352

OPR: 423

Locality: Virgin Islands - South coast

Plane of reference (mean ~~lower~~ low water): *

Height of Mean High Water above Plane of Reference is

*Remarks:

<u>STATION</u>	<u>MLW</u>	<u>MHW(above Plane of Reference)</u>
Bovoni ✓	2.5	0.95
Benner ✓	3.2	0.90
Cowpet ✓	3.1	0.91
Hart ✓	2.8	0.97
Lameshur ✓	2.6	0.91

Tide Zones: multiple zoning is recommended for this sheet.

	<u>Time (hrs.)</u>	
	<u>HW</u>	<u>LW</u>
Bovoni	2.0	5.7
Benner	2.2	6.3
Cowpet	1.8	6.3
Hart	1.4	5.8
Lameshur	1.3	5.9

Time differences for each station may be obtained from the Greenwich high and low water intervals listed above.

Robert A. Gummage
Chief, Tides Branch

GEOGRAPHIC NAMES

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	RANDOMLY	U.S. LIGHT LIST			
BUCK ISLAND											1
CABRITHORN POINT											2
CALE ROCK											3
CAPELLA BAY											4
CAPELLA ISLANDS											5
COW ROCK											6
DOG ISLAND											7
GREAT ST. JAMES ISLAND											8
JERSEY BAY											9
LITTLE ST. JAMES ISLAND											10
MAR CARIBE											11
PILLSBURY SOUND											12
REEF BAY											13
RENDEZVOUS BAY											14
ST. JAMES BAY											15
ST. JOHN											16
ST. THOMAS											17
FRENCHCAP CAY											18
											19
											20
											21
											22
											23
											24
											25

APPROVED

Chas. B. Harrington

STAFF GEOGRAPHER - CS1x2

14 JULY 1977

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H- 9352

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

Date: 3-10-77

Signed: William L. Jones

Title: Chief, Verification Branch

- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: 3-10-77

Signed: RA Traub

Title: Chief, Processing Division

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9352

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET with smooth PNO & excess overlay		1	BOAT SHEETS (2 parts, mylar)		1	
DESCRIPTIVE REPORT		1	OVERLAYS (preliminary)		4	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			1-smooth printouts			1-misc. data
CAHIERS	1-with printouts & misc. data					
VOLUMES						
BOXES						

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	HIT REVIEW	TOTALS
POSITIONS ON SHEET				1854
POSITIONS CHECKED		204		
POSITIONS REVISED		17		
DEPTH SOUNDINGS REVISED		115		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		8	2	
JUNCTIONS	0	15	1	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS	10	68	1	
SPECIAL ADJUSTMENTS	0	79		
ALL OTHER WORK	0	171	6	
TOTALS	10	341	10	
PRE-VERIFICATION BY E. J. Fields	BEGINNING DATE 10/30/74	ENDING DATE 11/01/74		
VERIFICATION BY W. H. Tyndall, M. W. Johnson	BEGINNING DATE 11/01/74	ENDING DATE 07/22/75		
REVIEW BY R. G. Cram	BEGINNING DATE 01/17/76	ENDING DATE 02/15/77		

Q.C. Insp R.W. Derkazan 52 hrs. May 2, 1977 *Carsten's 16 hr 7/13/77*

Reg. No. H-9352

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS: POS 63 534
110 926
267 1375
431 1605
433 1896

Reg. No. _____

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

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

MAGNETIC TAPE CORRECTED

DATE 9-23-82 TIME REQ'D. _____ INITIALS JHC

REMARKS:

H-9352

Information for Future Presurvey Reviews

This survey is in an area of stable bottom. Prior hydrography is plotted in whole fathoms but soundings carried forward are actual depths in feet.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
181	645	2	1	50 years
181	650	3	2	50 years

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9352

FIELD NO. WH-20-1-73

St. Thomas and St. John, Virgin Islands

SURVEYED: January 25 through April 2, 1973

SCALE: 1:20,000

PROJECT NO.: OPR-423

SOUNDINGS: Ross Fineline Depth
Recorder
Raytheon 723D

CONTROL: Del-Norte

Chief of Party	J. G. Carlen
Surveyed by	J. G. Carlen
.....	K. F. Burke
.....	C. D. North
.....	J. Veselenak
.....	J. D. Servais
.....	T. C. Kaiser
.....	G. J. Decker
.....	R. D. Polvi
.....	M. C. McMillian
.....	W. A. Hill
Automated Plot by	Calcomp Plotter #618 (AMC)
Verified and Inked by	L. G. Cram

1. Introduction

One problem was encountered during the verification of this survey; the hydrographer neglected to document the prior survey comparisons. For more discussion on this subject see Section 6, "Comparison with Prior Surveys".

The Projection Parameter was revised during verification.

2. Control and Shoreline

The control is adequately described in the Descriptive Report under Section F, "Control", and page 9, "Signal List".

The shoreline was taken from Class I, unreviewed manuscripts T-12943, T-12944, T-12945, T-12946, T-12949, and T-12950. The date of photography - November 1971 and the date of field edit was 1973-1975. It should be noted that no 1:20,000 T-sheet was available for T-12950; the 1:10,000 T-sheet was reduced using a projector. See Q.C. Report, Para 1.

3. Hydrography

a. The agreement at crossings was generally good, within one to two feet in most cases. On the southern edge of the sheet, where the slope is very steep, the agreement is within three to four feet. This would seem reasonable in areas where the bottom drops 1,000 feet in a matter of a few meters.

b. The soundings are adequate to delineate the bottom configuration. There does appear to be some uncertainty in the area on the southern extreme of the sheet. This area is mentioned in the Descriptive Report under Section D, page 1. The bottom in this area falls off so rapidly that the echo sounders had trouble following the extreme slope of the bottom. The curves are dashed in this area in some cases and broken completely in others due to the resulting lack of supporting soundings. It was necessary to dash the low-water line around French Cap Cay in black from T-sheets. There are several brown curves added to better delineate important features. *See Q.C. Rep. Para 3.*

c. The developments run by the field unit were not completely adequate to delineate the bottom configuration or least depths. In at least one case the development was run 400 meters north of the intended shoal sounding, Item No. 3 of Presurvey Review. Also some developments were not run as instructed by the Presurvey Review. The developments run appear adequate to prove or disprove the features intended. *This is an area of a circled item.*

4. Condition of Survey

This survey was run before the presence of the Provisional Hydrographic Manual. An attempt was made to judge its condition on this and the Hydrographic Manual:

a. The Descriptive Report is confusing as Section J, "Comparison with Prior Surveys", is really a section on investigation of Presurvey Review Items and a comparison with prior surveys.

b. The Presurvey Review Items were not written up in the Descriptive Report as required by the Hydrographic Manual, Chapter 1, "General Requirements", and Paragraphs 1-4, "Presurvey Review".

5. Junctions

Junctions were made with H-9273 (1972) to the west of this survey and with H-9365 (1973) on the north, both with good agreement. See Q.C. Report, Para. 4.

6. Comparison with Prior Surveys See Des. Rep. Para. I, and Q.C. Rep. Para 7.

- a. H-4598 (1924) 1:40,000
H-4743a (1923-24) 1:20,000

The comparison with these two surveys shows ^{differences} changes in some areas of between four to twelve feet, with the ^{difference} present survey being the deeper. The most extreme change (12 feet) could be attributed to the more accurate methods of control and recording devices used on present surveys. The present survey better delineates the 120 foot and 180 foot curves. This is particularly true on the 120 foot contour that occurs on the drop-off at the southern edge of the sheet.

- b. H-47⁴3b (19²⁴⁻²⁷23-24) 1:20,000 W.D.

A comparison with this wire drag survey showed that there were ^{two soundings} three items that were part of the Presurvey Review which bear attention:

This is not a PSR item.

~~Item 1~~ - a 59 foot sounding in the area of Frenchcap Cap Cay. The field unit ran extensive developments in this area and the shoalest depth in this area was a 63 foot sounding 50 meters northwest. This item does not appear on later editions of charts in this area, although it was charted on earlier charts - ~~recommend re charting this depth.~~

~~Items 2 and 3~~ are ^{There} two Presurvey Review ^{dashed circle items} items from detached soundings ^{from this area} on wire drag survey, ^{in the vicinity of} latitude 18° 14' 40", longitude 64° 46' 15". Neither of these soundings (a 15 and a 17 fathom) were developed by the hydrographer. The soundings from regular lines of hydrography in the area appear to indicate that a shoal does exist. The two soundings from the wire drag were carried forward on the present survey. ^{they are supported by present depths}

~~The present survey is adequate to supersede the prior surveys within the common area.~~

7. Comparison with Chart 905 (25641), 13th Edition, May 24, 1975

This survey was verified before the advent of locating the source of all charted data. There seems to be several sources of charted data: from Navy charts, British Admiralty charts, AT&T Cable Surveys, two prior surveys, and one wire drag survey.

a. In general this survey appears to better delineate the shoals in the area of the slope. Most of the charted data appears to have come from the two prior surveys and that information can be found under Section 6 of this report and in the Descriptive Report, Section J.

Listed below are items considered important and not discussed in detail in the Descriptive Report:

(1) Item No. 1 of Presurvey Review - a ten ^{fathom} ~~foot~~ reported shoal, P.A. latitude 18° 12' 18", longitude 64° 51' 48" - originates with Chart Letter 151 of 1957. This item was developed on day 91, positions 1683-1693, Ship WHITING (record numbers 09122-09161). The shoalest depth in the area is a 142 foot sounding, first out of position number 1687 (record number 09138). ✓
Recommend deleting this item from chart, and using the 142 foot sounding as it best represents the depths in this area. Concur

(2) Item No. 2 - Consists of four parts and originates with Notice to Mariners 25 of 1969.

(a) A ten fathom reported depth at latitude 18° 12' 36", longitude 64° 53' 42" - this item was developed on day 91 by the Ship WHITING, positions 1667-1675 (record numbers 09065-09103). The shoalest depth at that location is 151 feet. There is a shoaler depth at approximately one-half mile north; a 133 foot sounding occurs one sounding before position 1673 (record number 09095). This ten fathom depth is considered disproved. Concur

(b) An eight and one-fourth fathom reported depth, P.A. latitude 18° 13' 06", longitude 64° 52' 54" - this item was developed by running one line as a split between two lines of hydrography on day 91 by the Ship WHITING, positions 1662-1666 (record numbers 09040-09064). The

least depth in the immediate area is a 145 foot sounding. There is a 132 foot sounding approximately one-half mile north, third out of position 1664 (record number 09055).

Recommend deleting this item from the chart and plotting the 132 foot sounding as it is the shoalest sounding that best represents the soundings in that area. *Concur*

(c) A six and one-half fathom reported sounding, P.A. latitude 18° 13' 12", longitude 64° 52' 30" - this item was developed on day 91 by Ship WHITING, positions 1653-1661 (record numbers 09000-09039). The shoalest depth in the area is a 133 foot sounding on a regular line of hydrography, positions 1563-1564 (record number 08508). Recommend deleting the six and one-half fathom sounding and plotting the 133 foot sounding as the chart has a 24 fathom sounding in the area and the 133 foot sounding would be 22 fathoms, which would better represent the area. *Concur*

(d) A five fathom reported sounding, P.A. latitude 18° 13' 06", longitude 64° 51' 48" - this item was developed on day 91 by Ship WHITING, positions 1883-1886 (record numbers 10022-10036). The shoalest depth in the area is a 140 foot sounding, one sounding before position 1885 (record number 10033). Recommend deleting the five fathom sounding and the 20 fathom sounding contained within the same circle, as they are considered disproved by this survey. *Concur*

(3) Item No. 3 - originates with BP-63772, a 1973 AT&T Cable Route Survey. The 22 fathom sounding was not developed by the hydrographer. The regular spaced sounding lines show only 31 and 32 fathom soundings. It is recommended that the 22 fathom sounding be deleted, as there were no velocity or draft correctors applied to this 22 fathom depth. This item is at approximate latitude 18° 11.4', longitude 64° 43.9'. See Des. Rep. Para. J. *Concur*

(4) Presurvey Review Item, "Dashed-circle items" - The 17- and 15-^{fathom} soundings at approximate latitude 18° 14' 35", longitude 64° 46' 00"; latitude 18° 14' 51", longitude 64° 45' 25" were not developed by the field as directed by Presurvey Review. The Origin H-4743 b W.D. (924-27). See Para 6b, this report.

depths in the area seem to be shall^{er}er than these items. However, no developments were run to delineate the extent of this shoal or the least depth. These items should be retained as the source is from detached soundings on wire drag survey H-4743b.

This survey is adequate to supersede the charts in the common area.

8. Compliance with Instructions

This survey adequately complies with the Project Instructions with the following exceptions:

Some of the Presurvey Review Items were not adequately developed.

9. Additional Field Work


This is an adequate basic survey. Additional field work is not recommended.

Approval sheet for H-9352


Examined and Approved:
Hydrographic Inspection Team
Date: 3-10-77


CDR Robert A. Trauschke, NOAA
Chief, Processing Division


CDR Jeffrey G. Carlen, NOAA
Chief, Coastal Mapping Division

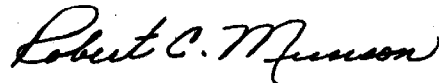
C. Douglas Mason, LT, NOAA* 
Chief, EDP Branch


William L. Jonns
Chief, Verification Branch


F. Trefethen
Verification Branch

* Extended TDY

Approved/ Forwarded


Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center

e



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

C352

May 2, 1977

TO: *A. J. Patrick*
A. J. Patrick
Chief, Marine Surveys Division

THRU: Chief, Quality Control Branch

FROM: R. W. DerKazarian *R. W. DerKazarian*
Quality Evaluator

SUBJECT: Quality Control Report for H-9352 (1973), Off Southern Coasts,
St. Thomas-St. John, Virgin Islands

Survey H-9352 was inspected to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as follows:

1. Dates of topographic surveys were not individually identified. The shoreline originates with final topographic manuscripts T-12943-45 and T-12948 (1971-75); T-12946 and T-12949-50 (1971-73).
2. Two charted fixed aids, Buck Island Light and Current Rock Light, falling within the limits of the present smooth sheet are adequately shown on inshore survey H-9353 (1973).
3. A statement in the Verifier's Report is misleading, under "Hydrography," paragraph 3b, in regard to the mean low water line at Frenchcap Cay. The dashed line represents a foul area and not a low water line.

Several islets and a foul notation were added during the quality evaluation.

4. During the quality evaluation an adequate junction was effected with H-9273 (1972) to the west and H-9365 (1973) to the northeast; several soundings and curves were not in acceptable agreement and were adjusted.

The junction note with H-9353 (1973) was inked on the smooth sheet though critical depths had not been carried forward. An adequate junction was subsequently effected.



No contemporary surveys junction the present survey to the east or the south; however, present depths are in general harmony with charted depths in these areas.

5. Numerous intermediate shoal soundings appearing on the fathograms were not scanned during processing. Several depths were added during the quality evaluation where significant differences were noted.

6. The control stations on the position overlay did not indicate the station numbers, and several control arcs did not indicate their distance value. These corrections have been made.

7. This additional information should be noted under "Comparison with Prior Surveys":

a. The comparison between prior surveys H-4598 (1924) and H-4743a (1923-24) and the present survey reveals that little change has taken place, but isolated differences of 6 feet to 12 feet in 140-foot depths are noted. Several soundings and bottom characteristics have been carried forward to supplement the present survey. The depths carried forward reflect values from the sounding volumes.

With the addition of the items carried forward, the present survey is adequate to supersede these prior surveys in the common area.

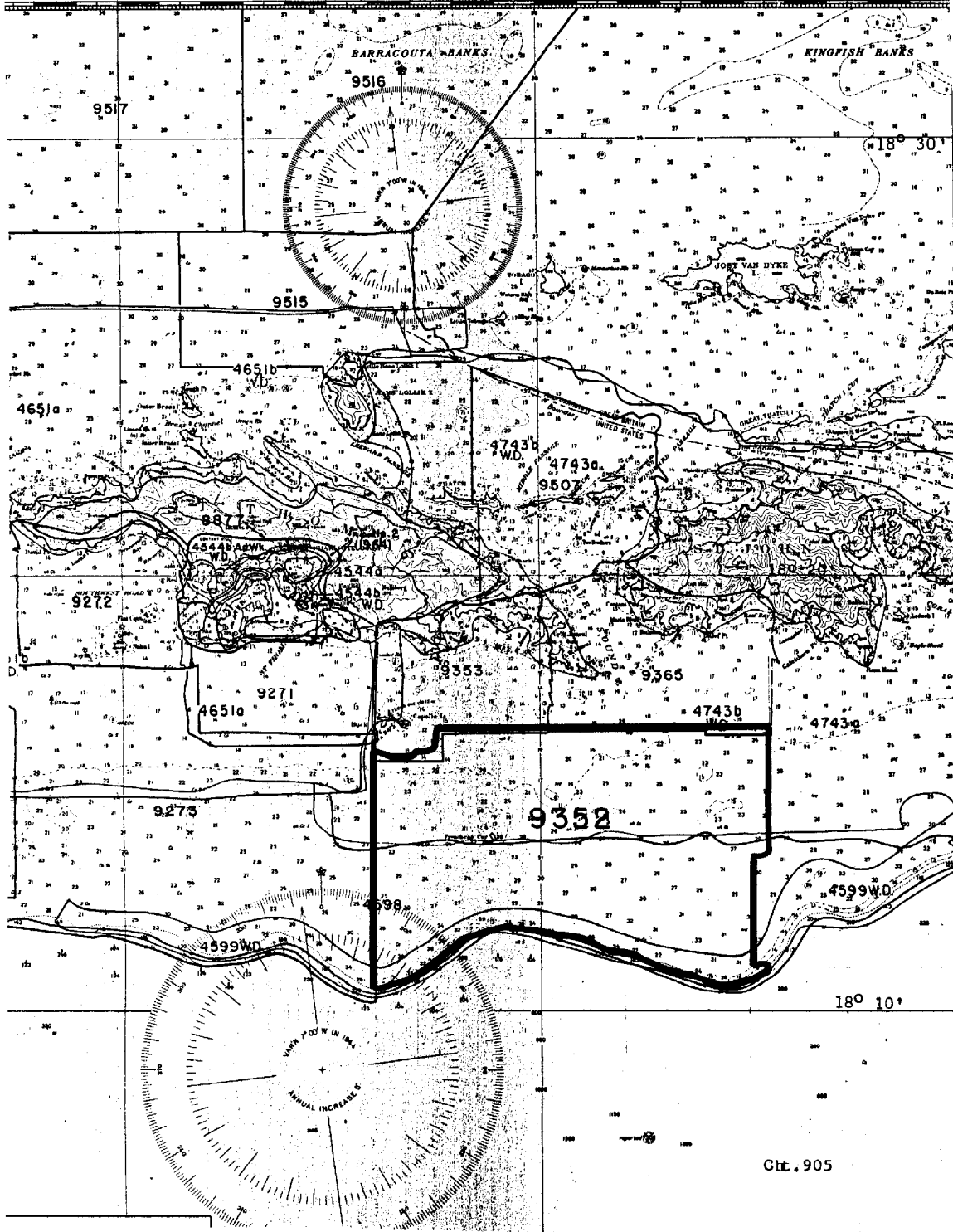
b. The comparison with H-4743b W.D. (1924-27) in the Verifier's Report discusses a 59-foot sounding in the vicinity of Frenchcap Cay. This sounding was evaluated and is considered to be out of position due to lack of adequate plotting information. The drag vessels were in process of wrapping the islet. The sounding has been rejected and should be disregarded. Present depths do not conflict with effective depths of this wire-drag survey.

A comparison with H-4599 W.D. (1925) 1:40,000 reveals no conflicts with effective depths.

The superseding statement usually concluding a comparison with prior surveys should not include the wire-drag surveys. (Provisional Manual 6.6.11)

8. A very adequate job was performed by the field and the verifier in the disposition of the Presurvey Review items in their respective reports, but the lengthy inked notations made in the Descriptive Report, paragraph J, identifying the ship, record number, day number, position number, cross-line or regular system of lines, etc., were excessively detailed. A statement as to the source of the original information, the geographic position, the least depth ascertained, and whether or not the prior feature should be retained or deleted would be adequate. If additional discussion is required, it should be included in the Verifier's Report.

cc:
C351



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9352

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	15 Jan 79	Max. Radicevic	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Applied directly from A-sheet</i>
25641	28 MAR 81	GERALD KOEHL	Full Part Before After Verification Review Inspection Signed Via Drawing No. 28. Partly applied thru 25647.
256402	Aug 82	R. Richter	Full Part Before After Verification Review Inspection Signed Via Drawing No. 33 Q.C.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.