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WIRE-TRAIL

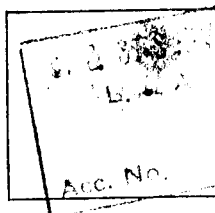
4629a

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

....., Director

State: Virgin Is.



Acc. No.

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic

Sheet No. 4629a

LOCALITY

St. Croix

Christiansted Harbor

1924-25

CHIEF OF PARTY

G. C. Mattison

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

#7

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

46292A

U. S. Coast and Geodetic Survey.

Register No. ^{46292A} 46292A

State VIRGIN ISLANDS

General locality . ST. CROIX ISLAND

Locality CHRISTIANSTED HARBOR

Chief of party . G.C. MATTISON

Surveyed by . M. Leff, C.K. Green, A.P. Patti, H. E. Finnegan

Date of survey . April 3, 1924 -- February 4, 1926

Scale 1:10,000

Soundings in Feet

Plane of reference . M.T.L.--0.5 ft. (*Des. Rept. gives data from Vir. T+C. Plane of reference to be M.L.W.*)

Protracted by R.C. Rowse . Soundings in pencil by G.C. Mattison
H.E. Finnegan

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, Tide books, Marigrams, 2 Boat sheets, 3 " " a+b
5 Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet
Wire drag sheet of same area

Remarks:

*Des. Rept.
3 BS
List of Sights
5 vols. slgs
BS. appx 4626A+B*

APR 5 9 15 AM '27

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DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY.
E. LESTER JONES, DIRECTOR.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET OF CHRISTIANSTED HARBOR,
ST. CROIX, V.I.

S.S. RANGER

G.C. MATTISON,
Commanding.

1924-1926

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET No. 7

This work executed under Director's orders dated June
22, 1923.

LIMITS:

Limits of sheet include Christiansted Harboe, approaches
and inshore sounding along reefs from Salt River Point, eastward to a
north and south line just east of Scotch Bank.

GENERAL DESCRIPTION OF COAST:

There is nothing to be added to the general description
of the coast as given in the present Coast Pilot.

OUTLYING DANGERS:

There are no off shore dangers.

CURRENTS:

No tidal current was noted while sounding in this vicinity.

Out side the Light House Point, there was apparently a steady
westerly current, which varied with the duration and strength of the Trade
Wind. This current was never notably strong.

LANDMARKS AND PROMINENT FEATURES:

There is but one addition to the "Prominent Features" as
noted in the present Coast Pilot. There is a new stack at Central Sugar
Factory. This new stack is reddish in color and is larger and more pro-
minent than the old yellow stack which still stands. The new stack is called
signal "red" on the hydrographic sheet.

SHOALS (INSHORE DANGERS)

In a special development of Scotch Bank the general characteristics; that is the depth curves, shoal spots etc. were found to be about the same as shown by old surveys. The shoalest sounding obtained on a branch of a visible coral head, reduced to three feet. Several soundings of four or five feet in this vicinity were found on coral heads. Scotch Bank, showing green, is easily visible except when looking in the direction of the sun.

Two hundred meters northeast of triangulation station Louisa is a shoal area about fifty meters in extent (E&W). The shoalest soundings were obtained near the eastern limit of the shoal on visible coral heads. A sounding reducing to one foot and three soundings reducing to two feet were obtained. The general depths near western end of this area are four to six feet.

Two hundred thirty meters NxE of triangulation station Louisa is another shoal about thirty meters in diameter. The shoalest sounding obtained was three feet. These two areas are separate shoals. The coral heads on each are visible and there is deep water between them.

A thirteen foot sounding was obtained very close to the east side of the channel between buoys number three and five. This sounding is six hundred ten meters N 7 W of triangulation station Louisa.

There is an eighteen foot sounding in the channel three hundred forty meters N 10 W of triangulation station Louisa.

Attention is called to the ten foot sounding three hundred ten meters, N 51 W of triangulation station Louisa. This sounding is close to NE end of Round Reef.

CHANNELS:

The principal channel into Christiansted Harbor, which lies between Scotch Bank and Long Reef, is marked by two day ranges and buoys, and has a least depth of eighteen feet. This eighteen foot spot is mentioned previously in this report, under shoals.

In turning to the westward around Great Middle Ground, the east and west range must be kept open to the southward. The north and west side of Round Reef is quite steep.

After rounding Round Reef and turning to southward, clearing buoy number seven there is a clear straight channel to anchorage. The west side of channel opposite Round Reef, shoals abruptly to six or seven feet. This area is called Hans Sorensens Ground.

Light draft vessels may use the channel to eastward of Round Reef. This channel has a least depth of fourteen feet and is buoyed.

There is a channel with a least depth of fourteen feet, south of Scotch Bank. Coming from the eastward, round Green Cay at a distance of about four hundred meters and steer 237° (true) which brings the tangent of Pt. Louisa Augusta on range with the northwest tangent of Protestant Cay. Hold this range until the east and west range is on. Hold east and west range until the SE tangent of Protestant Cay opens up, then keep the east and west range slightly open to the northward until the main channel is reached. (Caution--A three foot shoal lies close to and on the south side of the east and west range. The shoal is mentioned under "Inshore Dangers")

ANCHORAGES:

The usual anchorage for vessels drawing over fifteen feet is about two hundred to two hundred fifty meters NE of Protestant Cay, in

about four fathoms of water and muddy bottom. Vessels with ten to fourteen feet draft may anchor on a line parallel with and one hundred fifty to two hundred meters eastward of Protestant Cay in depths from thirteen to twenty feet. Some of the smaller craft anchor SW of Protestant Cay in about eight feet of water.

CHANGES AND ADDITION TO THE COAST PILOT:

There is a new stack at Central Sugar "actory. This stack is described above under "Landmarks and Prominent Features".

Soundings were taken (at a distance of about five feet off) along the face of the wharves in the harbor. These soundings show a depth of six to eight feet along the face of the stone quay mentioned in the Coast pilot as having a depth of twelve feet alongside. Attention is called to the note on the Hydrographic sheet in regard to the soundings along the face of the wharves.

This survey shows a least depth of eighteen feet in the main channel instead of twenty one feet as noted in the Coast Pilot.

On Scotch Bank a sounding reducing to 3.3 feet (Pos. #130 g) was the least depth obtained by the hydrographic survey. In the record a sounding reducing to 2.3 feet is recorded. ✓
2.3 (found on W.D. sheet)

DANGERS REPORTED:

The thirteen foot sounding, reported on previous charts to be in the channel between Hans Sorensens Grpund and Round Reef was not found by this hydrographic survey. However, by the aid of wire drag, a thirteen foot sounding was obtained in this channel on a very small spot, which was just visible from a skiff. All soundings in the immediate vicinity of this spot were about sixty feet. A seaman, diving down, examined this spot and found it to be a submerged buoy, held in place by a chain and

anchor. Later the Harbormaster of Christiansted had this buoy removed.

SURVEY METHODS:

In general a system of 100 meter lines were carried out on the sheet. But Scotch Bank, the channel and the harbor anchorages were developed more closely. On Scotch Bank numerous detached soundings were taken on visible coral heads.

The hydrography was done using, Mitchell, Tender, Motor Dinghy and pulling dinghy, as shown by table of statistics. All soundings were taken by hand lead, except a few obtained by ^{hand} sounding machine, while using Mitchell. Those soundings obtained by sounding machine are noted in the sounding record.

All work in 1925 was done with the wire drag tender, and a trail board was used at all times to obtain a speed slow enough for development.

CHANGES IN SHORE LINE:

No changes in the shore line were found by this survey.

Respectfully submitted.

Henry E. Finnegan
J. H. S. G. E.

March 17, 1927
Forwarded
J. M. Mathison
Chg. U. S. Payee.

STATISTICS

HYDROGRAPHIC SHEET No. 7

| Date | Letter | Vol. | Pos. | Sdgs. | Miles | Vessel. |
|-------------|--------|------|------|-------|-------|----------------|
| 4- 3-24 | a | 1 | 71 | 387 | 12.9 | Mitchell |
| 4- 4-24 | b | 1 | 87 | 241 | 11.9 | Mitchell |
| 5-23-24 | c | 1 | 20 | 128 | 2.1 | Tender |
| 6- 6-24 | d | 1 | 152 | 682 | 5.2 | Tender |
| 6- 6-24 | d | 4 | 16 | 55 | 2.2 | Tender |
| 6- 6-24 | a | 2 | 84 | 704 | 9.5 | Motor Dinghy |
| 7- 2-24 | b | 2 | 113 | 574 | 6.0 | Motor Dinghy |
| 7- 2-24 | e | 4 | 97 | 282 | 14.0 | Tender |
| 7-10-24 | c | 2 | 84 | 559 | 3.6 | Motor Dinghy |
| 7-10-24 | c | 3 | 15 | 84 | 0.9 | Pulling Dinghy |
| 7-10-24 | f | 4 | 92 | 317 | 13.0 | Tender |
| 8-21-25 | g | 4 | 134 | 467 | 9.3 | Tender |
| 8-24-25 | h | 4 | 117 | 227 | 4.4 | Tender |
| 8-25-25 | j | 5 | 186 | 675 | 10.4 | Tender |
| 2- 3-26 | k | 5 | 155 | 408 | 8.0 | Tender |
| 2- 4-26 | l | 5 | 30 | 82 | 1.7 | Tender |
| Totals----- | | | 1453 | 5872 | 115.1 | |

STATISTICS

Area = 3.9 sq. stat. miles.

Soundings in feet.

Tide gauge and staff on Marine Wharf at Christiansted.

Plane of reference - M.T.L. - 0.5 feet = 2.8 reading on gauge.

Lowest tide observed = 2.4 reading on tide gauge.

Highest tide observed = 4.1 reading on tide gauge.

LIST OF SIGNALS

HYDROGRAPHIC SHEET No. 7

| Name | Latitude | Longitude | Remarks. |
|--------------------|------------|------------|--|
| Aee | 17-45 T | 64-40 T | Range Beacon |
| Ant | 17-45 288 | 64-42 241 | Corner of Fort |
| Bath | 17-44 1744 | 64-42 | Bath house |
| Bee | 17-45 T | 64-40 T | Range Beacon |
| Bout | 17-44 T | 64-40 T | Mill |
| Bul <i>Bul</i> — | 17-44 1756 | 64-42 600 | Corner of wharf <i>1744.53 1756.2 .8</i> |
| Cab | 17-47 620 | 64-45 1700 | Rock off Salt River Pt. |
| Cay | 17-45 1566 | 64-40 670 | W.W. |
| Cent | 17-45 # | 64-42 T | White stack. |
| Clock | 17-44 T | 64-42 T | Clock tower |
| Cow | 17-45 1374 | 64-43 1073 | ? |
| Cup | 17-44 T | 64-42 T | Spire |
| Dee | 17-45 T | 64-42 T | Ranger beacon |
| Dok | 17-44 1613 | 64-42 66 | N.W. corner of dock |
| Fac <i>Fac</i> | 17-45 277 | 64-42 1477 | Bathhouse |
| Flag <i>Flag</i> — | 17-45 153 | 64-42 314 | Flagpole <i>1762.26 1477.2 292.6</i> |
| Gol | 17-45 606 | 64-43 440 | Mill |
| Green | 17-46 T | 64-39 T | Highest Point. |
| Har | 17-45 6 | 64-42 1294 | End of dock |
| Hog | 17-45 1415 | 64-40 1440 | W.W. |
| How <i>How</i> — | 17-45 236 | 64-42 341 | Small house |
| Hoy | 17-45 T | 64-40 T | Mill |
| Jon | 17-45 T | 64-44 T | Chimney |
| Ju | 17-46 T | 64-44 T | Chimney |
| Lil | 17-45 T | 64-43 T | Chimney |

Hydrographic signals.

2-

| | | | | | |
|-----------------|-------|------|-------|------|------------------|
| Louis | 17-45 | T | 64-41 | T | Light |
| Nor | 17-45 | 779 | 64-41 | 901 | W.W. |
| Orange | 17-44 | T | 64-43 | T | Mill |
| Out | 17-45 | 1190 | 64-43 | 822 | ? |
| Prin | 17-45 | T | 64-44 | T | Chimney |
| Rade | 17-44 | T | 64-42 | T | Flagpole |
| Rag | 17-44 | 1764 | 64-42 | 323 | Derrick |
| Rat <i>Rat-</i> | 17-44 | 1783 | 64-42 | 403 | Corner of wharf |
| Red | 17-45 | 217 | 64-42 | 1636 | Red stack |
| Run | 17-45 | 867 | 64-43 | 608 | Palm tree |
| Salt | 17-46 | T | 64-44 | T | Knoll |
| See | 17-45 | T | 64-42 | T | Range beacon |
| Sho | 17-45 | 1352 | 64-40 | 1687 | W.W. |
| Stump | 17-45 | 170 | 64-41 | 1527 | W.W. stump |
| Tip <i>Tip</i> | 17-46 | 1033 | 64-44 | 577 | Point <i>Tip</i> |
| Two | 17-41 | T | 64-41 | T | Range, beacon |
| War | 17-45 | 76 | 64-42 | 288 | End of dock |
| Wash | 17-45 | 959- | 64-41 | 57 | W.W. |
| Wel | 17-44 | T | 64-41 | T | Mill |

RECOVERABLE OBJECTS

HYDROGRAPHIC SHEET No. 7

| NAME | DESCRIPTION |
|------|--|
| Bath | Bathhouse at Fort |
| Bul | Corner of wharf |
| Cab | White Horse Rock off Salt River Point. |
| Dok | N.W. corner Marine Corp. dock. |
| Fac | Bath house on dock Central Factory. |
| Flag | Flagpole on house, Protestant Cay. |
| Har | End of dock |
| How | Small house west side Protestant Cay. |
| Rag | Merrick on main wharf. |
| Rat | Corner of wharf. |
| Red | Red stack Central Factory. |
| Tip | Tip of Point, E of Judith's Fancy. |
| War | End of dock, E. side Protestant Cay |

PLANE TABLE POSITIONS

HYDROGRAPHIC SHEET No. 8

| Name | Description |
|------|------------------|
| Ant | Topo. signal |
| Cay | Topo. signal |
| Gol | Golden Rock Mill |
| Hog | Topo. signal |
| Nor | Topo. signal |
| Sho | Topo. signal |
| Wash | Topo. signal |

HYDROGRAPHIC SIGNALS.
HYDROGRAPHIC SHEET No. 7

| Name | Description | Method. |
|-------|--|---------|
| Cow | Transferred from boat sheet no description. | R |
| Out | Transferred from boat sheet no description | ? |
| Run | Tall Palm Tree | S.C. |
| Stump | W.W. on stump E side of Hbr. | S.C. |

Note:

S.C.= sextant cuts from boat positions.

May 14, 1927.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 4629 A

Locality: Virgin Islands

Chief of Party: G. C. Mattison

Plane of reference is M L W

2.9 ft. on tide staff at Christiansted Harbor
5.5 ft. do St. Thomas.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G. C. Mattison
Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *4629a* -----

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

Number of positions on sheet *326*
 Number of positions checked *214*
 Number of positions revised
 Number of soundings recorded *1330*
 Number of soundings revised
 Number of signals erroneously plotted or transferred

Date: *July 25, 1928.* -----

Cartographer: *G. Pisegari.* -----

Note: The above data represent work from ^{only} 3 of the 5 vols. + is fairly representative of the more difficult phases inherent of this sheet. This data represents 4 days for straight checking + 3 days for inking. There was consumed 18 days in miscellaneous work of the sheet of which a goodly portion consisted of solving problems and clarifying obscurities implying incorrect or insufficient information.

Report on Hydrographic Sheet 4629a
St. Croix Island - Christiansted Harbor.
Surveyed in 1924, 1925, 1926.
Instructions dated June 22, 1923.

Chief of Party G. C. Mattison.

Surveyed by M. Laff, C. H. Green, A. P. Patti, H. E. Finnegan.

Protracted by R. C. Pouse, C. F. Ehler^A, H. E. Finnegan.

Soundings plotted by G. C. Mattison, H. E. Finnegan.

Verified and inked by G. Finnegan.

1. The records conform and the plan and character of development fulfill the requirements of the General Instructions.

2. The plan and extent of development cover the Specific Instructions.

3. The sounding line crossings were satisfactory with the exception of sounding lines between 69a to 71a (green). Position 70a as ^{plotted} recorded is evidently erroneous ^{as well as} by time, course, and crossings. It was deemed wise to omit the ^{included} soundings. The area is sufficiently covered by other sounding lines.

4. Attention should be called to the scale of the sheet, 1 to 10,000. Though the Specific Instructions state that the sheet be made on a 1 to 10,000 scale, it could easily have been made on a 1 to 5,000 scale and thus the larger scale should have avoided practically all of the defects and difficulties that were inherent on the 1 to 10,000 sheet, as well as avoided a loss of numerous soundings which could not be plotted due to compactness.

Green inked figures were used for position numbers in a major portion of the sheet. The ink on the sheet in numerous cases was practically faded out and it became necessary to reprotract positions just to locate a position where lines got confusing.

Owing to the compactness of the pencilled soundings, it was necessary to reprotract as much as 90% (and in some cases more) of the work where such compactness existed, it being impossible to follow the positions otherwise. In the more open work the reprotracting was about the

average, except where the lines got confusing or the inked positions ^{numbers} were faded out.

Difficulty was encountered in the work of Vol. 2, 1a (blue). The field party evidently was having trouble and the plotting of several sounding lines were erroneous. Changes were made by the Office where a proper solution looked feasible and in most cases acceptance by the Office of the field party's corrections.

The sources of errors were mainly due to swingers, weak fixes, wrong signals, error in the reading of angles, against which appear corrections by the field party.

6. The wharf near signal "Cent" was modified to conform with the information recorded in the sounding record, vol. 5, page 38, positions 118k to 120k, inclusive.

Position 118k is recorded as being located at the end of the wharf and 119k and 120k at the south side of the wharf, four feet from its face. The original plotting of the wharf by the field party does not conform with the information recorded as mentioned above. The wharf as located on the topographic sheet was considered erroneous. Furthermore, the locations of positions 118k, 119k, 120k are determined by fixes using 2 triangulation station signals and one topographic signal.

The plotting of these signals on this sheet check satisfactorily with the Computations and Topographic Sheet # 3799.

In Vol. 5, page 34, a number of soundings (positions 73k to 89k) were taken 5 feet from the face of the docks. These soundings could not be plotted on this sheet, ^{and were omitted} owing to its small scale. There also appears to be insufficient data on hand to locate the wharf docks accurately which might be considered on a large scale. This information is to be referred to the Coast Pilot.

7. Character and scope of the surveying; major part, good; remainder, fair. Field drafting; good.

8. Reviewed by E. Peigari July 23, 1928.

Sheet inspected by A. L. Shelovitz, July 26, 1928.

December 27, 1928.

EXTRACT FROM REVIEW OF HYDROGRAPHIC SHEET No. 4629a.

6. The wharf near signal "Cent" was modified to conform with the information recorded in the sounding record, vol. 5, page 38, positions 118k to 120k, inclusive.

Position 118k is recorded as being located at the end of the wharf and 119k and 120k at the south side of the wharf, four feet from its face. The original plotting of the wharf by the field party does not conform with the information recorded as mentioned above. The wharf as located on the topographic sheet was considered erroneous. Furthermore, the locations of positions 118k, 119k, 120k are determined by fixes using 2 triangulation station signals and one topographic signal. The plotting of these signals on this sheet check satisfactorily with the computations and Topographic Sheet #3799.

In vol. 5, page 34, a number of soundings (positions 73k to 89k) were taken 5 feet from the face of the docks. These soundings could not be plotted on this sheet and therefor omitted owing to its small scale.

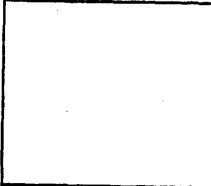
There also appears to be insufficient data on hand to locate the ~~wharf~~-docks accurately which might be considered on a large scale. This information is to be referred to the Coast Pilot.

4629

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

....., Director



State: Virgin Is.

DESCRIPTIVE REPORT

Topographic } Sheet No. 4629b
Hydrographic }

WIRE DRAG

LOCALITY

St. Croix

Christiansted Harbor

1924 '25

CHIEF OF PARTY

G.C. Mattison

GOVERNMENT PRINTING OFFICE

4629b

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

Wire Drag Sheet #7

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. **4629b**

4629b

3
1
2

State **Virgin Islands**

2 per

General locality . **St. Croix Island**

3 "

Locality **Christiansted Harbor**

2 "

Chief of party . . **G. C. MATTISON**

Surveyed by . . . **A. P. Ratti—C. K. Green**

Date of survey . . **July 3, 1924 - October 19, 1925**

Scale **1:10,000**

Soundings in . . . **Feet**

Plane of reference **M. T. L. 0.5 ft.**

Protracted by **V. A. Powell** Soundings in pencil by
R. C. Rowse

Inked by . . **V. A. Powell** Verified by
R. C. Rowse

Records accompanying sheet (check those forwarded):

Des. report, _____ Tide books, _____ Marigrams, 3 Boat sheets, a + b

1 Sounding books, 2 Wire-drag books, _____ Photographs.

Data from other sources affecting sheet

Hydrographic sheet of same area.

Remarks: **Some of end launch and rough tender records will accompany sheet #5, as the records have some work from each sheet.**

APR 5 9 15 AM '27

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DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
E. LESTER JONES, DIRECTOR.

VIRGIN ISLANDS

A DESCRIPTIVE REPORT
to accompany

WIRE DRAG SHEET #7 (VIRGIN ISLANDS)

1924-1925

S.S. RANGER

G.C. MATHISON,
CHIEF OF PARTY.

DESCRIPTIVE REPORT
to accompany
WIRE DRAG SHEET # 7.

This work was executed under Director's orders dated June 22, 1923.

A descriptive report has already been submitted for the hydrographic sheet covering the same area, and contains necessary descriptive data.

The area as dragged included the harbor of Christiansted and the coastline outside the reef from Salt River Point on the west to a junction with sheet 5 on the east, and extending out beyond the 100 fathom curve.

The wire drag work as originally done was thought to be complete, and after plotting up the smooth sheet additional work was done to cover splits found. After the final plotting and careful examination of records, it was found necessary to reject some of the positions due to the fact that the launches both evidently stopped at the same time. This left splits in the harbor. It is highly probable that the splits are not as large as shown, as the drag was manouvered forth and back in the harbor and no record kept. Owing to the limited space and the short drag necessary, the drag was manipulated considerably at the beginning and end of lines, and a great deal of area was actually covered several times.

Several shoals were found to have depths less than obtained in the hydrographic survey. A sunken buoy was found in the inner north and south channel with a least depth of 13 feet. This was probably the cause of the notation on the hydrographic office chart regarding a reported depth of 13 feet. The buoy was later removed by the harbormaster and the same area dragged to a depth of 22 feet.

A depth of $11\frac{3}{4}$ feet was found 750 meters 333° true from Fort Louisa Light.

A depth of $7\frac{1}{2}$ feet was found 430 meters 330° true from Fort Louisa Light.

A depth of 15 feet was found 350 meters 331° true from Fort Louisa Light. This shoal extends in a southeasterly direction with a depth of 20 feet on the east and west Channel, Range. A depth of 17 feet was found 30 meters east of the 15 foot sounding.

Shoal depths were also found on Scotch Bank, and are as shown on the wire drag sheet.

Standard wire drag equipment was used with launches MARINDIN, MITCHELL and TENDER M4. The tender was used as a drag launch at times when operating in close waters.

Respectfully submitted.

G.C. Mattison
G.C. Mattison,
H. & G. Engineer

*Forwarded
March 22, 1927
G.C. Mattison
Chg. S. S. Barge.*

STATISTICS
Wire Drag Sheet #7.

| Date | Letter | Vol. | Drag Length | Positions | Miles Stat. | Soundings. |
|----------------|--------|------|-------------|-----------|-------------|------------|
| July 3, 1924 | A | 1 | 2400 | 27 | 1.9 | 0 |
| July 3, 1924 | A | 1 | 400 | 11 | 0.5 | 0 |
| July 8, 1924 | B | 1 | 300 | 24 | 0.8 | 2 |
| July 9, 1924 | C | 1 | 2400 | 33 | 3.2 | 1 |
| July 9, 1924 | C | 1 | 300 | 5 | 0.3 | 2 |
| July 11, 1924 | D | 1 | 300 | 14 | 0.5 | 2 |
| July 14, 1924 | E | 1 | 500 | 29 | 1.0 | 0 |
| July 18, 1924 | F | 1 | 1500 | 23 | 2.4 | 1 |
| July 18, 1924 | F | 1 | 2100 | 10 | 0.7 | 5 |
| Sept. 8, 1925 | G | 1 | 300 | 16 | 0.3 | 1 |
| Sept. 10, 1925 | H | 1 | 300 | 10 | 0.3 | 0 |
| Oct. 9, 1925 | J | 2 | 2500 | 7 | 0.9 | 0 |
| Oct. 9, 1925 | J | 2 | 1000 | 14 | 0.7 | 0 |
| Oct. 19, 1925 | K | 2 | 300 | 4 | 0.2 | 0 |
| Oct. 19, 1925 | K | 2 | 800 | 4 | 0.1 | 0 |
| | | | | 231 | 13.8 | 14 |

Area covered = 3.0 sq. stat. miles.

Soundings in feet.

Tide gauge and staff on Marine Wharf at Christiansted.

Plane of reference = M.T.L. - 0.5 foot = 2.8 reading on gauge.

Lowest tide observed = 2.4 reading on gauge.

Highest tide observed = 4.1 reading on gauge.

List of signals Sheet #7
Wire Drag.

| Name | Latitude | M | Longitude | M | Remarks. |
|--------|----------|------|-----------|------|-------------------|
| Aee | 17 45 | T | 64 40 | T | Range Beacon |
| Ant | 17 45 | 288 | 64 42 | 241 | Corner of Fort. |
| Bee | 17 45 | T | 64 40 | T | Ranger Beacon. |
| Bout | 17 44 | T | 64 40 | T | Mill |
| Cay | 17 45 | 1566 | 64 40 | 670 | W.W. |
| Cent | 17 45 | T | 64 42 | T | White stack. |
| Clock | 17 44 | T | 64 42 | T | Clock Tower |
| Cup | 17 44 | T | 64 42 | T | Spire |
| Dok | 17 44 | 1613 | 64 42 | 66 | N.W. Corner Dock. |
| Green | 17 46 | T | 64 39 | T | Highest Pt. |
| Hoy | 17 45 | T | 64 40 | T | Mill |
| Jon | 17 45 | T | 64 44 | T | Chimney |
| Ju | 17 46 | T | 64 44 | T | Chimney |
| Lil | 17 45 | T | 64 43 | T | Chimney |
| Louis | 17 45 | T | 64 41 | T | Light |
| Orange | 17 44 | T | 64 43 | T | Mill |
| Prin | 17 45 | T | 64 44 | T | Chimney |
| Rade | 17 44 | T | 64 42 | T | Flagpole |
| Red | 17 45 | 217 | 64 42 | 1635 | Red stack. |
| Salt | 17 46 | T | 64 44 | T | Knoll |
| See | 17 45 | T | 64 42 | T | Range Beacon |
| Sho | 17 45 | 1352 | 64 40 | 1687 | W.W. |
| Stump | 17 45 | 170 | 64 41 | 1527 | W.W. Stump |
| Tip | 17 46 | 1033 | 64 44 | 577 | Point |
| Two | 17 45 | T | 64 41 | T | Range Beacon. |
| Wel | 17 44 | T | 64 41 | T | Mill |

Lists of Recoverable Objects.
 Plane Table Positions.
 Hydrographic Signals,
 Sheet # 7, Wire Drag.

Recoverable Objects.

Name Description.

Dok NW Corner Marine Corp. Wharf.

Red Red stack, Central Factory.

Tip Tip of Point, E. of Judith's Fancy.

Hydrographic Signals.

* Name Description. Method

* Stump WW on stump, E side of Hbr. S.C.

*

*

S.C. = Sextant cuts from boat
 positions.

Plane Table Positions.

Name Description.

Ant Topographic signal

Cay Topographic signal

Sho Topographic signal.

May 14, 1927.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 4629 B

Locality: VIRGIN ISLANDS.

Chief of Party: G. C. Mattison

Plane of reference is M L W

2.9 ft. on tide staff at Christiansted Harbor
5.5 ft. do St Thomas

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G. C. Mattison
Chief, Division of Tides and Currents.

SECTION OF FIELD RECORDS
Review of Wire Drag Survey, H. 4629b.
Christiansted Harbor, St. Croix I., Virgin Islands.
Surveyed in 1924 and 1925.
Instructions dated June 22, 1923. (Ranger).

Chief of party - G. C. Mattison.
Surveyed by - A. P. Ratti, C. K. Green, H. E. Finnegan.
Drag work and soundings plotted by - V. A. Powell, R. C. Rowse.
Soundings and groundings verified and inked by - R. L. Johnston.

1. The records conform to requirements.
2. The plan and extent of the survey satisfy the specific instructions.
3. No area and depth tracing was prepared by the field party and none was made in the office. In the areas offshore the drag depths can be readily read but in the entrance channel south of black can buoy No. 1, it is difficult to follow the various drag strips. A study of this area showed that a 24 foot drag strip, (pos. 5b to pos. 14b) was the deepest depth to have passed over the entrance range. This strip was replotted on tracing paper and has been filed in the wire drag record for b day.
4. The junction with the wire drag survey, H. 4652b is not satisfactory as there are several small splits.
5. No soundings shown on the chart are positively disproved by the drag work, however an 18 foot sounding shown on Chart 935 in Lat. 17°45'.6, Long. 64°41'.7 barely falls within the limits of a 24 foot drag strip. This sounding is plotted in accordance with the records of H. 4629a (pos. 55g to pos. 56g) but it is noted that there were a large number of corrections to the original soundings on that day, indicating the possibility of errors by either the leadsman or the recorder. This 18 foot sounding is not the result of an intensive examination and is unconfirmed by any cross line, but it is so close to the limits of the 24 foot drag strip that there is not sufficient evidence to discredit it.
6. The plotting of drag limits, subdivisions and overlaps were not verified in the office except where they affected groundings.
7. This survey would be fairly complete if it were not for the splits inside the harbor, caused by the rejection of some of the drag positions. The area has been closely covered by the hydrography on H. 4629a and additional work for the purpose of covering these splits is not considered necessary.

The doubtful 18 foot sounding, described in par. 5, should be further examined at some future time.
8. Considering the difficulties encountered in attempting to drag through the narrow channels and the complications resulting in plotting the probable path of the drag, it is felt that this work should be used as a means of checking the least depths found by the sounding party, but it should

H. 4629b-2.

not be held to be conclusive that the area had been swept clear of all obstructions within the limits of the drag as plotted on this sheet.

9. Reviewed by - R. L. Johnston.

L. O. Colbert.

Examined and approved:

L. O. Colbert,
Chief, Section of Field Records.

Chief, Division of Charts.

Chief, Field Work Section.

Chief, Division of H. & T.