

4598

4598

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

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Type of Survey *Hydrographic*  
 Field No. \_\_\_\_\_ Office No. *4598*

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LOCALITY

State *Virgin Island*  
 General locality *South of St*  
 Locality *Thomas and St*  
*John. Offshore*  
1924

CHIEF OF PARTY  
*G. G. Mattison*

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DATE \_\_\_\_\_

~~REPORT~~ 1927

FEB 28 10 31 AM '27

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DEPARTMENT OF COMMERCE *ack*  
*ESL*

COAST AND GEODETIC SURVEY.

E. LESTER JONES, DIRECTOR.

VIRGIN ISLANDS

A DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET # 4.

1924

S.S. RANGER

G.C. MATTISON,  
Chief of Party.

0.543

A DESCRIPTIVE REPORT.

to accompany

HYDROGRAPHIC SHEET #4.

The hydrography on this sheet was done by the party on the Steamer RANGER in 1924. The instructions under which the work was done were dated December 19, 1923, and were supplemental to the instructions of June 22, 1923, which covered the surveys of the Virgin Islands. The work on this sheet was found necessary as the work being done under the original instructions did not agree with the chart at the limits of the work. This sheet covered the area south of the 20,000 scale sheets of St. Thomas and St. John Islands, at Latitude  $18^{\circ} 15'$  south of St. Thomas and Latitude  $18^{\circ} 14'$  south of St. John, and extends south to the 100 fathom curve and east and west from Longitudes  $64^{\circ} 39'$  to  $65^{\circ} 09'$ . The scale is 1:40,000.

All the sounding on this sheet was done using the Steamer RANGER. Development of the ridge at the southern end of the work was done with the standard trolley rig, with the vessel under slow headway. All the other sounding was done with the Tanner Blish electric Navy Type sounding machine, using stranded wire, and the vessel was brought to a stop for each sounding.

The following officers were engaged in the work on this sheet.

G.C. Mattison, H.&G. Engineer, in charge.  
E.H. Bernstein, H.&G. Engineer, right angle, plotting.  
C.K. Green, H&G. Engineer, in charge, right angle, plotting.  
A. Ogram, Aid, right angle, plotting.  
C.F. Ehlers, D.O., left angle.  
H.W. Pearce, Chief Engineer, left angle.  
P.W. Sparks, Chief Writer, recorder.

Except for development, the lines were all run north and south. As this was normal to the sea, the vessel usually rolled excessively, but it is believed that this did not interfere with the accuracy of the soundings.

The area sounded was fairly regular, except as noted below. The western end had a general depth of about 19 to 24 fathoms, and deepened gradually towards the eastern end where the depths were around 30 fathoms or more. The edge of this submerged plateau dropped abruptly to greater depths at its southern limit. In several instances, the lead would bump and slide down the slope for 50 or more fathoms before fetching up, indicating that the edge was quite steep. A coral ridge lies at the edge of the plateau, and extends without a break for seven miles from the eastern end of the sheet. There are other shoal areas along the edge as far west as a point south of St. Thomas Harbor. It may be that this ridge is continuous, but under the conditions encountered, it was rather impracticable to spend any more time trying to find the limits of the ridge. The ridge was dragged to 60 feet or more, so it is certain no dangers exist.

A great deal of difficulty was experienced in developing this ridge. The rough seas hampered maneuvering at the slow speed necessary to obtain trolley soundings. The average width of the ridge was about 150 meters, and in order to develop it properly, lines were run at intervals of 50 to 70 meters where possible. This was the only way to obtain the limits of the ridge. Two other spots near the east end of the sheet were developed and later dragged, but nothing of importance was found.

Respectfully submitted.

*G. Mattison*

LIST OF SIGNALS  
to accompany  
HYDROGRAPHIC SHEET #4.

Name	Lat	Long	Remarks
Plan (Hyd)	18 19	64 39	Transferred from WD smooth Sheet #3.
Coral	Tri		
Minnahill	Tri		
Ram	Tri		
Head	Tri		
Rush (Hyd)	18 19	64 43	Transferred from sheet #3.
Camel	Tri		
Fish	Topo		
Rend	Tri		
Dog	Tri		
Whatch	Tri		
Long <sub>2</sub> (Hyd)	18 18	64 52	Transferred from sheet #3.
French(Hyd)	18 18	64 52	Transferred from sheet #3.
Buck	Tri		
East	Tri		
Blue	Tri		
Crown	Tri		
Top	Tri		
Saba	Tri		
Sail Ek	Tri		
Savana	Tri		
Dutch	Tri		
Culebrita Lighthouse	Tri		

(Note: Tri= Triangulation signal  
Topo=Topographic signal  
Hyd= Hydrographic signal.

STATISTICS  
to accompany  
HYDROGRAPHIC SHEET #4.

Date-1924	Letter	Volumes	Pos.	Soundings	Miles Stat.	Vessel
January 24	A	1	95	95	23.4	RANGER
January 28	B	1	108	105	27.1	"
February 1	C	1	96	96	20.8	"
February 5	D	1	60	60	12.5	"
February 7	E	1	115	114	22.0	"
February 8	F	1	159	161	29.5	"
February 13	G	2	19	19	3.5	"
February 15	H	2	106	110	22.3	"
February 18	J	2	124	124	25.4	"
February 19	K	2	75	75	16.3	"
February 21	L	2	66	67	13.1	"
March 20	M	2	145	145	31.1	"
March 21	N	2	144	144	30.9	"
March 24	P	3	142	142	31.5	"
March 25	Q	3	152	152	33.7	"
March 26	R	3	143	143	34.5	"
March 28	S	3	123	123	27/5	"
October 13	T	3	96	96	19.6	"
October 14	U	3	47	74	16.2	"
October 14	U	4	20	33	6.8	"
October 16	V	4	70	105	22.9	"
October 23	W	4	57	90	19.3	"

STATISTICS  
to accompany  
HYDROGRAPHIC SHEET #4.

Date-1924	Letter	Volumn	Pos.	SOUNDINGS	Miles Stat.	Vessel
November 11	X	4	102	102	18.1	RANGER
November 12	Y	4	105	122	24.4	"
November 13	Z	4	105	121	27.1	"
November 18	A'	4	109	114	14.0	"
November 19	B'	5	74	96	7.1	"
November 20	C'	5	115	133	12.7	"
November 21	D'	5	120	97	9.7	"
November 24	E'	5	77	92	6.8	"
Total-----			2969	3150	609.8	

Area sounded= 110.8 square miles statute.

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

Tide gauge in St. Thomas Harbor.

Plane of reference, reading on gauge-----5.25 ft.

Lowest tide observed, reading on gauge--4.9 ft.

Highest tide observed, reading on gauge--6.8 ft.

Tide staff in Coral Bay.

Plane of reference, reading on staff----1.45 ft.

Lowest tide observed, reading on staff--1.2 ft.

Highest tide observed, reading on staff--2.8 ft.

IN REPLY ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 11-DRM

WASHINGTON

August 9, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4598

South of St. Thomas and St. John Islands, Virgin Islands

Surveyed in 1924

Instructions dated June 22, 1923 and December 19, 1923 (RANGER)

Surveyed by G. C. Mattison.

Chief of Party, G. C. M.

Protracted and soundings plotted by W. R. Porter.

Verified and inked by J. T. Jaxman.

1. The records conform to the requirements of the General Instructions.
2. The plan and extent of the survey fulfill the requirements of the specific instructions.
3. The usual depth curves can be completely drawn.
4. The field plotting was completed as prescribed by the General Instructions, but numerous errors were found in the plotted soundings.
5. The junction with H. 4651a on the north is generally satisfactory.

The junction with H. 4743a will be taken up when that sheet is reviewed.

The wire drag sheet H. 4599 adequately covers the coral reef proper at the edge of the plateau, but it would have been desirable to have extended the drag work to the westward to the limit of this sheet.



6. No additional work is necessary, but it should be observed that there are indications that the coral reef extends further westward than actually shown by the development on this sheet.
7. Reviewed by A. L. Shalowitz, July, 1928.

Approved:

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Chief, Section of Field Records (Charts)

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Chief, Section of Field Work (H. & T.)

May 16, 1927.

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Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in  
5 volumes of sounding records for

HYDROGRAPHIC SHEET 4598

Locality: VIRGIN ISLANDS

Chief of Party: G. C. Mattison  
Plane of reference is M L W  
3.5 ft. on tide staff at 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. W. de*

Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET #4

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. 4598

4598

State . . . . . VIRGIN ISLANDS . . . . .

General locality . . . . . South of St. Thomas and St. John . . . . .

Locality . . . . . Offshore . . . . .

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

Surveyed by . . . . . G.C. MATTISON . . . . .

Date of survey . . . . . 1924 . . . . . *Jan. 24 to Nov. 18*

Scale . . . . . 1:40,000 . . . . .

Soundings in . . . . . Fathoms . . . . .

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

Protracted by W.R.P. . . . . . Soundings in pencil by W.R.P. . . . . .

Inked by . . . . . Verified by . . . . .

Records accompanying sheet (check those forwarded):

Des. report,  Tide books,  Marigrams, 1 Boat sheets,

5 Sounding books,  Wire-drag books,  Photographs.

Data from other sources affecting sheet . . . . .  
Wire drag sheet #4

Remarks: