

4743a

Diag. Cht. No. 905

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey *Hydrographic*

Field No. Office No. *4743³AB*

LOCALITY

State *Virgin Islands*

General locality *St Thomas &*

Locality *St John's East*

End of St. Thomas
1943-24

CHIEF OF PARTY

G. C. Mattison

LIBRARY & ARCHIVES

DATE

4743a

C. & G. SURVEY
& A.
MAY 6 1928
No.

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

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET # 2

47438
+ 7438

VIRGIN ISLANDS

S.S. RANGER

G.C. MATTISON
C.K. GREEN,
Chief of Party.

1923-24

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET #2.

Original instructions dated June 22, 1923.

LIMITS:

Hydrographic sheet #2 includes waters surrounding St. John Island and the eastern end of St. Thomas Island, with the exception of areas adjoining British possessions. The work in the Narrows was carried across the entire channel. The sheet has as its approximate limits, meridians $64^{\circ} 37'$ and $64^{\circ} 55'$, and parallels $18^{\circ} 14'$ and $18^{\circ} 25'$.

METHODS:

Control was furnished by triangulation and topographic surveys made by the party under Lieut. G.W. Swainson, H. & S. Engineer previous to 1923. Hydrographic signals were located by the hydrographic parties.

The RANGER, launches MARINDIN and MITCHELL, the wire drag tender and the motor dinghy were used in this survey. For all inshore work the hand lead was used. For generally deep areas, the hand lead and trolley rig was used and for those areas too deep for the hand lead, the sounding machine with stranded wire was employed.

CURRENTS:

See report for Wire Drag Sheet #2 for information on currents in this vicinity.

TIDES:

All tidal data may be obtained from the report for Wire Drag Sheet #2.

COMPARISON WITH CHART AND WIRE DRAG SURVEY:

In making a general comparison between the hydrographic sheet and chart very few evident differences were found. Following are those that were noted.

✓ also an 8 fath 1.75
A depth of $8\text{-}\frac{3}{4}$ fathoms was found 1.75 miles 56° true from Frenchman's Cap where 12 fathoms is now shown.

The four fathom shoal west of Steven Cay marked P.D. was not found during this survey. ✓

The least depth found on Eagle Shoal was two feet. ✓

In a number of places, shoal soundings as shown on the chart were not found during the hydrographic survey. These, however, were later verified during the wire drag survey.

In practically all cases, soundings obtained by wire drag were less than those obtained during the hydrographic survey and in some cases very much so. In some instances the soundings checked but a difference in location or extent of the shoals as found by both surveys was noted.

Some of the more important differences are noted below:

A depth of 24.5 feet was found 1085 meters 112° true from Cabrita Point, where $8\frac{1}{2}$ fathoms is now shown on the hydrographic sheet. The chart however, shows $4\frac{1}{4}$ fathoms.

A depth of 23.5 feet was found 815 meters, 305° true from Coki Point where $7\frac{1}{4}$ fathoms is now shown on the hydrographic sheet. ✓

A depth of 27.5 feet was found 280 meters 182° true from the southern end of Steven Cay. This plots near 10 fathoms sounding on hydrographic sheet.

Soundings of 24 feet, 34 feet and 18 feet were found where $8\frac{3}{4}$ fathoms is shown on the hydrographic sheet north of Darloe Cays in Lat. $18^{\circ} 21'$ - 1036 meters, Long. $64^{\circ} 47'$ - 1337 meters. ✓

The sunken rock plotted west of Johnson Reef on the smooth hydrographic sheet does not exist. This area has been dragged to an effective depth of 18 feet. ✓

A least depth of 23 feet was found on the shoal south of Whistling Cay during the hydrographic survey, while the drag sheet shows $17\frac{1}{2}$ feet. ✓

A depth of 24.5 feet was found 937 meters 72° true from Ditlef Point, where 7 fathoms is now shown on the hydrographic sheet. ✓

A depth of 28.5 feet was found 955 meters 277° true from White Point where 7 fathoms is now shown on the hydrographic sheet. ✓

The 14 and 15 foot soundings, 751 meters 313° true from Lagoon Point plot on the 5 fathom curve as shown on the smooth hydrographic sheet. ✓

There are also differences between the results shown in deeper areas south of St. Thomas.

NOTES MADE WHEN PLOTTING:

Cuts from launch to signal YEL failed to intersect within reasonable distance of any one definite point. Positions 1 to 34 ~~of~~ tender, were transferred from the boat sheet by order of the Commanding Officer. Present position of signal "YEL" on smooth sheet was taken from Wire Drag smooth sheet #2.

A few positions on the north coast of St. John Island plot on shore, questioning plotted position of signal "WED", taken from Wire Drag Smooth Sheet #2. Cuts to this signal were plotted as a check again on this sheet.

The shoal soundings in very closely developed areas have been placed in parenthesis, beyond the shoreline near the area developed. These soundings are given in fathoms and fractions thereof with a line to the location of the sounding.

Signals on this sheet were plotted by J.M. Baker and checked by W.H. Porter and B.H. Rigg. It was found necessary to transfer some of the hydrographic signals from the boat sheet as the cuts were not sufficient.

Soundings and positions were plotted by J.M. Baker.

In volume #9, positions 63 and 64 b were not plotted

ANCHORAGES:

They are adequately described in the Coast Pilot.

LANDMARKS:

In addition to those landmarks listed in the report for Wire Drag sheet #2 there is the Reform School on Leinster Point, St. John Island setting approximately 250 meters back from the end of the point at an elevation of 200 feet. This is a brick building and visible from the east ward and some distance to the westward on the channel between Tortola and St. John, Lat. 18 22' 87 meters, Long. 64 43' 338 meters.

Respectfully submitted.

Carl F. Ehlers

Carl F. Ehlers,
Jr. H&G. Engineer.

*Forwarded
G.C. Mattison*

G.C. Mattison,
Chief of Party

STATISTICS
HYDROGRAPHIC SHEET 2

Date	Letter	Vol	Pos.	Sdgs.	Miles Stat.	Vessel.
12-18-23	A	1	95	221	18.4	Marindin
12-26-23	B	1	42	111	13.5	"
12-29-23	C	1	45	92	9.8	"
1- 15-24	D	1	71	203	12.0	"
1- 15-24	A	2	64	115	12.1	Mitchell
1- 16-24	B	2	129	271	20.0	"
1-16- 24	E	1	94	259	17.0	Marindin
1- 17-24	F	1	74	223	18.0	"
1- 17-24	C	2	119	189	14.5	Mitchell
1- 18-24	D	2	49	71	7.0	"
1- 18-24	G	3	28	83	2.0	Marindin
1- 21-24	H	3	53	96	17.0	"
1- 21-24	A	6	83	83	21.0	Ranger
1- 22-24	E	2&4	142	141	25.0	Mitchell
1- 22-24	J	3	122	234	20.0	Marindin
1- 23-24	K	3	135	274	20.0	"
1- 23-24	F	4	99	141	17.0	Mitchell
1- 24-24	L	3	124	263	21.5	Marindin
1- 24-24	G	4	100	204	17.2	Mitchell
1- 24-24	B	6	23	28	5.0	RANGER
1- 25-24	H	4&5	137	203	26.5	Mitchell
1- 25-24	M	7	51	97	18.5	Marindin
1- 28-24	J	5	127	163	29.1	Mitchell
1- 28-24	N	7	46	84	18.0	Marindin
1- 29-24	K	5	73	105	19.0	Mitchell
1- 29-24	P	7	86	167	30.0	Marindin
1- 30-24	L	5	26	34	5.7	Mitchell
1- 30-24	Q	7	113	279	26.5	Marindin
1- 31-24	R	7	102	225	27.0	Marindin
2- 1-24	M	5	98	140	23.8	Mitchell
2- 1-24	C	6	42	42	9.4	RANGER
2- 5-24	D	6	48	68	10.2	"
2- 18-24	E	6	14	14	2.9	"
2- 19-24	F	6	20	20	4.1	"
2- 21-24	G	6	32	32	6.7	"
3- 27-24	H	6	108	108	28.9	"
3- 28-24	S	7	26	32	4.0	Marindin
9- 24-24	J	8	185	185	37.0	RANGER
9- 24-24	a	9	121	245	11.0	Tender
9- 25-24	K	8	196	229	47.1	RANGER
9- 25-24	b	9	90	220	10.0	Tender
9- 26-24	L	8	180	225	47.0	RANGER
9- 26-24	c	9	98	230	12.5	Tender
9- 29-24	M	8	91	108	24.3	RANGER
9- 29-24	d	9	69	226	9.0	Tender
9- 30-24	e	9&11	141	325	19.0	Tender
9- 30-24	N	15	123	185	39.7	RANGER
10- 1-24	a	10	153	699	15.6	Motor dinghy
10- 1-24	B	11	183	421	23.0	Tender
10- 2-24	b	10&12	152	575	12.8	Motor dinghy
10- 2-24	T	11	102	172	30.5	Marindin

Statistics
Hydrographic Sheet #2

Date	Letter	Vol.	Pos.	Sigs.	Miles Stat.	Vessel
10- 3-24	U	11	47	86	13.0	Marindin
10- 3-24	N	12	58	169	11.7	Mitchell
10- 6-24	g	11&13	104	300	10.0	Tender
10- 7-24	h	13	122	354	13.0	"
10- 8-24	j	13	117	168	16.0	"
10- 9-24	c	12	111	608	15.5	Motor dinghy
10-9-24	k	13	124	236	24.0	Tender
10-10-24	d	12	103	564	10.0	Mitchell <i>Motor Dinghy</i>
10-10-24	l	13&14	130	411	20.0	Tender
10-20-24	m	14	103	218	12.0	"
10-24-24	e	18	70	281	6.9	Motor dinghy
10-28-24	P	15	51	51	9.2	RANGER
10-29-24	Q	15	183	280	26.8	"
10-30-24	R	15	187	249	17.8	"
11- 4-24	V	14	111	208	22.0	Marindin
11- 4-24	f	18	139	462	11.0	Motor dinghy
11- 5-24	W	14	69	138	13.0	Marindin
11- 5-24	n	17	151	383	13.4	Tender
11- 6-24	Y	14	87	205	16.0	Marindin
11- 6-24	p	17	102	197	8.3	Tender
11- 7-24	S	15	123	130	11.3	Ranger
11-10-24	T	16	38	38	8.0	"
11-17-24	U	16	104	184	9.0	"
11-25-24	V	16	149	277	20.0	"
11-26-24	q	17	68	115	9.0	Tender
11-26-24	g	18	81	391	5.3	Motor dinghy
11-28-24	r	17	78	280	8.8	Tender
12-10-24	s	17	60	316	9.0	"

Total----- 7677 16399 1305.8

Area surveyed 163.5 square stat.miles.

TIDE DATA

Three tide staffs were established in Little Cruz Bay at different times for tides in Pillsbury Sound and vicinity.

Two staffs were established in Francis Bay for the area north of the sound except the area at the western edge of sheet around Hans Lollick Island which is referred to staffs in Magens Bay. Automatic tide gauges in St. Thomas Harbor used for area south of St. Thomas. One tide staff and one automatic tide gauge were maintained at different times in Coral Bay for the area on eastern part of sheet.

ST. THOMAS TIDE GAUGE:

Plane of reference	M.T.L.	-0.5 ft.	=	5.2	on staff
Lowest tide observed				4.9	" "
Highest tide observed				6.8	" "

MAGENS BAY TIDE STAFF #1:

Plane of reference	M.T.L.	-0.5 ft.	=	5.93	on staff
Lowest tide observed				5.4	" "
Highest tide observed				7.8	" "

MAGENS BAY STAFF #2:

Plane of reference	M.T.L.	-0.5 ft.	=	1.5	" "
Lowest tide observed				1.0	" "
Highest tide observed				2.7	" "

LITTLE CRUZ BAY STAFF #1:

Plane of reference	M.T.L.	-0.5 ft.	=	2.55	" "
Lowest tide observed				2.3	" "
Highest tide observed				4.0	" "

LITTLE CRUZ BAY STAFF #2:

Plane of reference	M.T.L.	-0.5 ft.	=	2.4	" "
Lowest tide observed				2.4	" "
Highest tide observed				3.6	" "

LITTLE CRUZ BAY STAFF #3:

Plane of reference	M.T.L.	-0.5 ft.	=	1.2	" "
Lowest tide observed				0.7	" "
Highest tide observed				2.2	" "

FRANCIS STAFF #1:

Plane of reference	M.T.L. ³	-0.5 ft.	=	2.83	" "
Lowest tide observed				2.1	" "
Highest tide observed				4.0	" "

TIDE DATA #2

FRANCIS BAY STAFF #2:

Plane of reference	M.T.L.	-0.5 ft. =	1.4 ft.	on staff
Lowest tide observed			1.2	" " "
Highest tide observed			2.8	" " "

CORAL BAY STAFF #1:

Plane of reference	M.T.L.	-0.5 ft. =	1.45 "	" "
Lowest tide observed			1.2	" " "
Highest tide observed			2.8	" " "

CORAL BAY STAFF #2:

Plane of reference	M.T.L.	-0.5 ft. =	1.6 "	" "
Lowest tide observed			1.3	" " "
Highest tide observed			2.1	" " "

SIGNALS NOT LISTED IN REPORT FOR WIRE DRAG SHEET #2.

Name	Lat.	D.M.	Long.	D.P.	Remarks.
Rug	18	18	64 53		Topo. Transferred from bromide.
Bov	18	18	64 53		" " " "
Neck	18	18	64 53		" " " "
Crop	18	18	64 52		" " " "
Bo	18	18	64 52	346	Hydro. X X X
Lag	18	18	64 52	620	" transferred from boat sheet
Com	18	19	64 51	1645	" located by cuts
Can	18	19	64 51	1442	" " " "
Say	18	19	64 51	1268	" " " "
Will	18	19	64 51	455	" " " "
Try	18	19	64 51	366	" " " "
Go	18	18	64 50	1503	" " " "
Well	18	19	64 50	280	" " " "
Bop	18	19	64 50	930	" " " "
Fid	18	19	64 50	572	" " " "
Gel	18	19	64 51	267	" " " "
Temp	18	19	64 50		Topo. transferred from bromide.
Neb	18	20	64 51	1580	Hydro. located by cuts
Turtle					
Back rock	18	20	64 51	920	" " " "
Ki	18	21	64 52	57	" " " "
Thatch	18	21	64 51		Triangulation
Step	18	21	64 50	710	Hydro. Located by cuts.
Sag	18	21	64 49	674	" " " "
To	18	21	64 48	1673	" " " "
Gas	18	22	64 48	460	" " " "
Pit	18	22	64 48	85	" " " "
Carv	18	22	64 47		Triangulation
Lit	18	20	64 46	1376	Hydro. Located by cuts
Kim	18	21	64 45	1020	" " " "
Ench	18	22	64 44	1362	" " " "
Staff	18	21	64 44		Topo. transferred from bromide
Bre	18	21	64 44	312	Hydro. located by cuts
Nab	18	21	64 43	1556	" transferred from boat sheet
Bal	18	21	64 43	577	" located by cuts
Ter	18	22	64 43	425	" " " "
Rest	18	22	64 43	378	" " " "
Tooth	18	22	64 42	1232	" " " "
Gre	18	22	64 42	848	" " " "
Bin	18	21	64 42	171	" " " "
Beck	18	21	64 41	186	" " " "
Per	18	20	64 40	950	" " " "
Do	18	20	64 40	1480	" " " "
Hab	18	20	64 40	1526	" " " "
Sav	18	20	64 41	24	" " " "
Vel	18	20	64 41	210	" " " "
Slope	18	20	64 41	490	" " " "
Fag	18	20	64 41	1018	" " " "
Ed	18	20	64 41	802	" " " "
Kee	18	21	64 41	593	" " " "
Rek	18	21	64 41	1098	" " " "

Signals (Cont)

Name	Lat.	D.M.	Long.	D.P.	Remarks
Ot	18 21	350	64 41	860	Hydro. located by cuts
Slim	18 18	1571	64 42	250	
Mal	18 21	650	64 41	975	
Fat	18 18	1150	64 42	212	
Dus	18 21	780	64 41	853	
Bol	18 18	200	64 42	406	
Dok	18 21	820	64 42	26	
Sou	18 18	940	64 42	935	
Em	18 20	1830	64 42	1475	
Nor	18 18	1073	64 42	850	
Rush	18 19		64 43		Topographic
Wye	18 19	360	64 44	756	Hydro. located by cuts.
Man	18 19	1010	64 44	1452	
Rock	18 19	320	64 45	1375	
Dead	18 19	746	64 45	1720	
Fen	18 19	44	64 45	1628	
Dit	18 18		64 45		Triangulation
Git	18 19	660	64 46	774	Hydro. located by cuts
Now	18 19	00	64 47	193	
Out	18 19	196	64 47	54	
Go	18 19	334	64 47	117	
Bake	18 19		64 47		Triangulation
Ma	18 19	327	64 47	960	Hydro. located by cuts
Gun	18 19	622	64 47	435	
Gin	18 19	930	64 47	713	
Big	18 19	1654	64 47	1710	" transferred from boar sheet
Law	18 19	1800	64 47	1620	
Gal	18 19	1800	64 47	1610	
Dock	18 19	1807	64 47	1309	" located by cuts.
Jo	18 20	360	64 47	1635	" " " "
Camel	18 20		64 45		Topographic
Tap	18 21	160	64 43	570	Hydro. located by cuts
Ten (Tent)	18 23	861	64 41	710	" " " "
Brit	18 22		64 42		Triangulation
Gr. Thatch	18 23		64 44		
Met	18 16	1350	64 53	1660	Hydro. located by cuts
Lip	18 16	1272	64 53	1362	
So	18 16	1015	64 53	435	
Kin	18 16	1275	64 53	293	

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

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

September 27, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4743a.

St. John and East End of St. Thomas, Virgin Islands

Surveyed in 1923-1924

Instructions dated June 22, 1923 (RANGER)

Chief of Party, G. C. Mattison.

Surveyed by party of Steamer RANGER.

Protracted and soundings plotted by J. M. Baker, Jr.

Verified and inked by J. D. Torrey.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate.
5. The information is sufficient for drawing the usual depth curves.
6. The usual field plotting was done by the field party and where this part of the work could be identified was found accurate but the sheet had become so rubbed and soiled that in numerous cases, especially in the closely developed areas, the soundings were partially or completely obliterated and could not be made out. Also, the positions, day and number, particularly where green ink was used, were completely gone; this necessitated more than the usual checks to follow lines.
7. The overlap with sheet H. 4651a shows some open areas but as the contemporary wire drag sheet H. 4743b covers this area, additional work does not appear warranted.

8. The shoal areas are well and closely developed.
9. The bays and small indentations could have been better developed on a scale of 1:10,000.
10. The character and scope of the survey are excellent and the drafting, so far as is possible to judge, is also excellent.
11. Reviewed by J. D. Torrey.
12. Sheet inspected by A. L. Shalowitz (See notes attached).

Additional Notes on H. 4743a

1. The following notes will be found pertinent to the adequacy and completeness of the work covered by this sheet.
 - a. In lat. $18^{\circ} 19' 140$ m., long. $64^{\circ} 49' 420$ m., a 40-foot sounding (6 $\frac{4}{6}$ fm.) was cleared by a 49-foot drag. *(Chart sounding)*
 - b. A 41 foot sounding (6 $\frac{5}{6}$ fm.) in lat. $18^{\circ} 21' 180$ m., long. $64^{\circ} 49' 270$ m., was cleared by a 50 foot drag. The sounding is marked O.K. in the record (22 - 23 B, vol. 2, page 19).
 - c. The 4 $\frac{1}{2}$ fathom wire drag sounding about 250 meters south of Steven Cay should have been further developed since no clearance depth was obtained with the drag. If shoaler water exists here it might be a menace to boats going to the dock at Little Cruz Bay.
 - d. The 6 $\frac{1}{2}$ fathom sounding at the mouth of Redhook Bay in lat. $18^{\circ} 19' 1700$ m., long. $64^{\circ} 50' 730$ m. should be further developed. This bay forms a good refuge for small boats during a westerly blow.
 - e. The passage between Little St. James and Great St. James Islands should have been developed. This appears to be a good passage for larger boats running between St. Thomas and Pillsbury Sound.
 - f. About $\frac{3}{4}$ mile south of Capella Islands the drag party obtained three soundings of 11 and 12 fathoms. There is a clear indication of a bank existing here, but very few soundings were taken by the hydrographic party. While the area has been covered to a safe depth for surface navigation, additional soundings are desirable to develop the full extent of this bank.
 - g. Soundings should have been taken off Constant Point to at least develop the 5 fathom curve.
 - h. Additional soundings should have been taken to the north of Frenchmans Cap. A 6 fathom sounding is now charted about 500 meters northwest of the Cap, which the present survey does not cover.
 - i. In the vicinity of lat. $18^{\circ} 17' \frac{1}{2}$, long. $64^{\circ} 43'$, an area about $\frac{3}{4}$ mile square was left blank. This area was, however, dragged to a depth sufficient to insure that no navigational dangers exist.

- j. In attempting to account for positions 14 f and 17 f (vol. 11, pages 14 and 15) plotting on Flanagan Island it was found that \odot Leds and \odot Bad which were used in these fixes were erroneously plotted on the smooth sheet. \odot Leds was plotted about 30 meters to the eastward of its position as given on the original topographic sheet (T. 3783) and on the contemporary wire drag sheet (H. 4743b). \odot Bad was plotted about 10 meters to the southward of its true position as given on the above two sheets. By using the correct positions of these two signals, the discrepancy was eliminated. It should be noted that numerous other positions were based on the use of the incorrect location of these two signals, but since it would have entailed a considerable amount of correction work to replot all the positions it was considered inadvisable to make the changes, particularly since no critical area is involved. For this reason the field plottings of the above two signals were retained on the sheet. A considerable amount of time was consumed by the writer in reconciling this discrepancy which properly should have been cleared up by the field party.
- k. About 150 meters south of Red Point, a bare rock was plotted on the smooth sheet by the field party. No authority could be found for this rock except the note in the sounding record at position 128 f (Vol. 11, page 28) "Rk on stbd side 5 m. away 2' water." There was 0.6 foot of tide at the time. Since the writer has personal knowledge of the conditions around this point, having made the topographic survey of this area, it is his belief that no such bare rock exists. So prominent a rock could not possibly have escaped notice during the progress of the careful and detailed shoreline delineation. The note was therefore interpreted to mean that there was 2 feet of water over the rock at the time of sounding and hence a 1/6 fathom sounding will replace the bare rock on the smooth sheet. This is correct.
See letter
128-1929.
1. The sunken rock shown on the smooth sheet in lat. 18° 21' 1640 m., long. 64° 46' 1320 m. should not be charted until further information is received from the field explaining how the rock came to be plotted on the sheet in the first instance. The descriptive report says the rock does not exist but the field party did not erase it from the sheet. It was covered by an 18 foot drag (H. 4743b.).
2. While practically all the indications of shoals have been adequately covered by the wire drag to insure that no dangers to surface navigation exist, yet from the viewpoint of physical hydrography there are several instances where development is lacking.

3. At the writing of this report the contemporary wire drag sheet H. 4743b covering this area had not yet been verified. When completed a detailed comparison will be possible as both surveys are on the same scale.

A. L. Shalowitz.

Approved:

Chief, Section of Field Records (Charts)

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

Copy for Record Section files.

March 19, 1928.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
18 volumes of sounding records for

HYDROGRAPHIC SHEET 4743a

Locality: VIRGIN ISLANDS

Chief of Party: G. C. Mattison, 1923-4.

Plane of reference is M L W
5.2 ft. on tide staff at St. Thomas
2.4 " " " " Little Cruz Bay.

5.9 " " " " " Magens Bay, Oct. 1923.

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.

E. H. Hude

Chief, Division of Tides and Currents.

1.5 ft. on tide staff at Magens Bay, Oct. 1924
2.8 " " " " " Francis Bay, Jan. 1924
1.4 " " " " " " " Oct. 1924
1.4 " " " " " Coral Harbor.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4743^a -----

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

Number of positions on sheet *7677*
Number of positions checked *1475*
Number of positions revised *no account kept but only a few*
Number of soundings recorded *not able to tell*
Number of soundings revised *quite a number due to tides*
Number of signals erroneously plotted or transferred *none*

Date: *August 16, 1928* -----
Cartographer: *John D. Torrey* -----

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 47432

HYDROGRAPHIC TITLE SHEET

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. 2

REGISTER NO. **47432**

C. & G. SURVEY
L. & A.
MAR 2 1928
Acc. No.

State VIRGIN ISLANDS

General locality ST. THOMAS AND ST. JOHN ISLANDS

Locality St. John Island and East end of St. Thomas, Island

Scale 1:20,000 Date of survey Sept. 1923--Dec, 1924

Vessel RANGER

Chief of Party G.C. Mattison

Surveyed by G.C. Mattison, C.K. Green, E.H. Bernstein, A. Ogrom, A.P. Ratti, M. Leff.

Protracted by J.M. Baker Jr.

Soundings penciled by J.M. Baker Jr.

Soundings in ~~fathoms~~ feet

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

Subdivision of wire dragged areas by

Inked by J. D. Torrey

Verified by J. D. Torrey

Instructions dated June 22, 1925

Remarks: See Wire Drag sheet same area.

Applied to Chart Comp. 93P. January 1941. H. M. S. Ewen

4743b W.D.

4743b W.D.
Q.F. 27

Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
....., Director	
State: Virgin Islands	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. ² 4743b
WIRE DRAG	
LOCALITY	
St. Thomas and St. John	
Vic. of St. John and E. St. Thomas	
1924, '25 and '27	
CHIEF OF PARTY	
G.C. Mattison, C.K. Green	

C. & G. SURVEY
L & A
MAR 5 1928
Acc. No.

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

VIRGIN ISLANDS

A DESCRIPTIVE REPORT
to accompany

WIRE DRAG SHEET # 2 4743^b

1924-1927

S.S. RANGER

G.C. MATTISON,
H. & G. E.
C.K. Green, H. & G. E.
Chief of Party.

DESCRIPTIVE REPORT

to accompany

WIRE DRAG SHEET #2

Original instructions dated June 22, 1923.

LIMITS OF SHEET:

Wire drag sheet #2 includes St. John Island and the East end of St. Thomas Island and waters surrounding. The limits are the same as for Hydrographic Sheet #2. The sheet extends between the limits of meridians $64^{\circ} 37'$ and $64^{\circ} 56'$ and the parallels $18^{\circ} 13'$ and $18^{\circ} 26'$.

METHODS:

All dragging was done using the launches MARINDIN and MITCHELL as guide and end launches respectively, and launch EDNA M, as a tender. Dual control methods were used throughout. Drag lengths varied from 1500 to 8400 feet. The personnel of the drag party was as follows. Guide launch; two officers, an engineer, a coxswain and two seamen. End launch; two officers, an engineer, a coxswain and one seaman. The soundings were taken from the tender with a sounding wire to which no correction was necessary.

DRAG DEPTHS:

In general deep areas were dragged to 100 feet. Areas between 100 feet and 50 feet in depth were dragged to within ten feet of the bottom and areas less than fifty feet in depth within three feet of the bottom. These depths were altered considerably by the lift in the drag. Shoals were covered within three feet of the bottom where practicable. Dragging was carried as close inshore as practicable without causing too much delay due to grounding.

LIFT IN DRAG:

Previous to 1926 no allowances were made for lift in the drag. Previous to M' day no tests were made for lift.

C.K. Green, H. & G. Engineer, while in charge of the drag party working in the Virgin Islands conducted a series of tests under various conditions of depth, speed, wind and currents and these results were tabulated and used as a basis for lift previous to the time regular tests were made, and used in conjunction with drag tests later. A copy of these tabulations is attached to this report.

End lift was found to be in excess of lift throughout drag. This was remedied by setting ends of drag deeper. It was also found that short bridles and towlines caused excessive end lift and consequently they were lengthened.

Additional corrections were made to allow for probable lift due to swell and choppy seas.

RECORDS:

Rough tender records were used for sheets two and three, combined. Smooth records however were kept separate. Work on sheet three that was found in sheet two records has been copied into proper record.

ADDITIONAL WORK:

After work was completed on sheet the insufficient overlaps, splits and places not properly dragged were noted and later the important splits etc were covered. This additional work was done between March 1 and March 21, 1927 inclusive. Instructions from the Director dated February 28, 1927 called for the omission of work in all except important areas.

DEPTHS IN CHANNELS:

Channel to ^{minimum depth} ~~maximum~~ of 49 feet established between Buck Island and St. Thomas Island.

Channel of 47 feet south entrance to Pillsbury Sound extending thru Sound and out thru Middle Passage, on North side between Thatch and Grass Cays. Channels between Thatch Cay and St. Thomas Island, shown as Leeward Passage to depth of 41 feet.

A channel of 38 feet extends thru the Windward Passage into Pillsbury Sound.

A 49 foot channel was dragged thru the Narrows between Great Thatch Island and St. John Island. And a 41 foot channel was carried thru to Flannagan Passage.

A 28 foot drag was carried thru the passage between Leduck Island and St. John Island.

A channel of 47 feet extends thru pass between Flannagan Island and St. John close to Flannagan Island. And a ~~maximum~~ ^{minimum} of 41 feet extends thru entire passage.

PLOTTING:

On A day drag grounded at position six set at 50 feet. No sounding was obtained. Number one buoy was submerged, so evidently drag grounded below depth. Later covered by 50 foot drag.

On B day a drag of 55 feet grounded at position 11 and boat sheet location of 59 foot sounding was used. Location of shoal recorded in tender record would not plot. Later, on same day a drag set at 53 feet

hung up, at same place (depth reduced to 48 feet). At position 22 C''' a 57 foot drag grounded on same shoal and a 54 foot sounding was obtained. On D''' the shoal was covered with a 49 foot drag.

On D day a line was ended at position 11 because launches failed to take position while reversing to allow hookup. Split left was covered on J''' day.

At 19 K, drag grounded while set at 46 feet. Sounding of 60 feet was obtained. Several fish traps were caught on drag, probably causing it to ground below depth. The spot was covered to 54 feet on D''' day.

On E' day drag grounded at position 18. Tender position plots ground ahead of drag. ~~The boat sheet location of ground was used as that checks cuts from launches and light of drag.~~
Used

On F' day guide launch positions 15 and 16 were taken from the boat sheet to avoid running 34 minutes without a position.

Drag touched bottom in a number of places. Notations were penciled on sheet at places and they were also indicated in records.

Drag grounded on ridge between St. John and Tortola in several places and soundings found were greater than effective drag depth. No attempt was made to cover these soundings within three feet of the bottom as soundings verify the chart. *plotted drag depth*

On X'' day positions 1 to 8, path of far buoy, has been plotted using 70 meters towline instead of 40 meters. This has not been corrected.

On K day positions 1 to 21, path of far buoy has been plotted with 100 meter towline instead of 70 meters. This has not been corrected.

On F' day (throughout day) path of far buoy has been plotted with 125 meter towline instead of 100 meters. This has not been corrected.

CURRENTS:

Greatest currents were found in Pillsbury Sound. During ebb tide, current flows to northward and during flood tide to the southward. A current of from one to four knots flows thru the Middle Passage and the Windward Passage on the north. Currents thru the Leeward Passage are less pronounced. At the south entrance to the Sound currents flow from one to four knots and are strongest near Dog Island. The current lags with the tide from one half to three quarters of an hour.

Between Buck Island and St. Thomas, the current is barely perceptible.

A current attaining a maximum speed of from one to two knots flows between Flannagan Island and St. John Island.

In the Narrows, judging by speed of drag, current flows at a moderate speed.

LANDMARKS:

Triangulation station GOV on a little peninsula in Little Cruz Bay, St. John Island, is a white massive stone structure, used as a government house for St. John and is so named. It is visible practically throughout the Sound.

In Francis Bay on highest part of America Hill is a large square Red House with a peaked roof that is visible along north of Cays on north side of Sound. It's location is the same as triangulation station AMERICA.

ADDITIONAL REMARKS:

The work from February 2, 1924 to November 25, 1924 and from May 18, 1925 to March 21, 1927 was in charge of G.C. Mattison, H. & G. Engineer, as Chief of Party. The work from February 16, 1925 to April 29, 1925 was in charge of C.K. Green, H. & G. Engineer, as Chief of Party.

GENERAL DESCRIPTION OF COAST:

There is nothing to be added to General Description of Coast as given in the present Coast Pilot.

ANCHORAGES:

Anchorages are sufficiently described in the Coast Pilot except that several shoaler soundings were obtained, that limited some of the anchorages. These soundings are found under List of Shoals.

COMPARISON WITH CHART:

The drag work as a whole verifies the chart.

A 34 foot drag on H'''' day carried up against the west side of Steven Cay disproves four fathom sounding charted and marked P.D.

On shoal ^{east} west of Hans Lollick Island, having charted depth of nine fathoms a sounding of 7-3/4 fathoms was found. Lat. 18 23' - 1297 meters, Long. 64 51' - 1513 meters.

A depth of 25.5 feet was found west of Leduck Island in Lat. 18 19' - 359 meters, Long. 65 41' - 1026 meters. No sounding charted. Least water charted in channel; seven fathoms.

SHORELINE:

The shoreline for the English Islands was taken from bromides of Admiralty charts. The correctness of it's location is questionable. Some of these are shown by full lines. They should all be shown by dash lines.

Respectfully submitted.



A.C. THORSON,
Jr. H. & G. Engineer.

*Forwarded
G.M. Mattison
Edg. S.S. Ranger.*

LIST OF SOUNDINGS:

A depth of 8.6^{feet} was found 745 meters 115° true from Green Cay in Lat. 18 18' - 996 meters, Long. 64 54' - 254 meters. Coral.

A depth of 34.5 feet was found 1449 meters, 99° true from Green Cay in Lat. 18 18' 1100 meters, Long. 64 53' - 1256 meters. A sounding of 35.5 feet was found on same shoal 28 meters S.E. of first sounding.

A depth of 5.6 feet was found on Packet Rock 1400 meters 252° true from Long Point in Lat. 18 18' - 74 meters, Long. 64 53' - 866 meters. Shoal is marked by a red nun buoy. Depth charted one half fathom.

A depth of 43 feet was found 1220 meters 245° true from Long Point in Lat. 18 17' - 1841 meters, Long. 64 53' - 649 meters.

A depth of 58 feet was found 1638 meters, 245° true from Long Point in Lat. 18 17' 1678 meters, Long. 64 53' - 1027 meters. Coral head.

A depth of 56 feet was found 1394 meters, 219° true from Long Point in Lat. 18 17' - 1270 meters, Long. 64 53' - 425 meters. Coral shoal.

A depth of 62 feet was found 683 meters 10° true from Buck Island Lighthouse in Lat. 18 17' - 320 meters, Long. 64 53' 895 meters.

A depth of 42 feet was found 388 meters 327° true from Buck Island Lighthouse in Lat. 18 16' - 1821 meters, Long. 64 53' - 1227 meters.

A depth of 48 feet was found 498 meters 27° true from Buck Island Lighthouse in Lat. 18 17' - 93 meters, Long. 64 53' - 792 meters. A depth of 52 feet was found 75 meters NW of 48 foot spot and a sounding of 54 feet was obtained 52 meters SE of 48 foot spot.

A depth of 44 feet was found 265 meters 10° true from Buck Island Lighthouse in Lat. 18 16' - 1753 meters, Long. 64 53' - 967 meters.

A depth of 74 feet was found 1408 meters 166° true from Buck Island Lighthouse in Lat. 18 16' - 25 meters, Long. 64 53' - 671 meters.

A depth of 69 feet was found 1616 meters 153° true from Buck Island Lighthouse in Lat. 18 16' - 48 meters, Long. 64 53' - 298 meters.

A depth of 74 feet was found 1665 meters 187° true from Buck Island Lighthouse in Lat. 18 15' - 1677 meters, Long. 64 53' - 1235 meters.

A depth of 59 feet was found 1709 meters 191° true from ✓
Long Point in Lat. $18^{\circ} 17'$ - 665 meters, Long. $64^{\circ} 52'$ - 1632 meters, Long
cral branches.

plotted drag depth 60 ft
A depth of 61 feet was found 1582 meters 190° true from ✓
Long Point in Lat. $18^{\circ} 17'$ - 791 meters, Long. $64^{\circ} 52'$ - 1582 meters.

plotted drag depth 59 ft
A depth of 60 feet was found 1439 meters, 179° true from ✓
Long Point in Lat. $18^{\circ} 17'$ - 917 meters, Long. $64^{\circ} 52'$ - 1289 meters.

¹¹⁸⁵
A depth of 57 feet was found 1085 meters, $181-1/2^{\circ}$ true
from Long Point in Lat. $18^{\circ} 17'$ - 1173 meters, Long. $64^{\circ} 52'$ - 1442 meters. ✓
Small coral head.

³²
A depth of 27 feet was found 592 meters, 102° true from ✓
Long Point in Lat. $18^{\circ} 18'$ - 580 meters, Long. $64^{\circ} 52'$ - 725 meters. A
depth of 28 feet was found 492 meters 106° true from Long Point near
previous sounding in Lat. $18^{\circ} 18'$ - 360 meters, Long. $64^{\circ} 52'$ - 829 meters.

A depth of 26 feet was found 1092 meters 94° true from Middle ✓
Rotto Cay in Lat. $18^{\circ} 18'$ - 1635 meters, Long. $64^{\circ} 51'$ - 515 meters.

⁸⁷³
A depth of 27.5 feet was found 1223 meters 111° true from ✓
Middle of Rotto Cay in Lat. $18^{\circ} 18'$ - 1416 meters, Long. $64^{\circ} 51'$ - 793
meters.

¹³⁵⁰ ⁶⁵
A depth of 27.5 feet was found 672 meters, 215° true from ✓
Deck Point in Lat. $18^{\circ} 18'$ - 958 meters, Long. $64^{\circ} 50'$ - 1738 meters.
Coral head. ₁₃₉₀ ₅₁ ₉₀₅

A depth of 23.5 feet was found 383 meters 171° true from ✓
Deck Point in Lat. $18^{\circ} 18'$ - 1128 meters, Long. $64^{\circ} 50'$ - 1283 meters.

A depth of 31.5 feet was found 391 meters 148° true from ✓
Deck Point in Lat. $18^{\circ} 18'$ - 1180 meters, Long. $64^{\circ} 50'$ - 1134 meters.

A depth of 57 feet was found 1.6 miles 175° true from Cow ✓
Rock in Lat. $18^{\circ} 16'$ - 1380 meters Long. $64^{\circ} 50'$ - 1313 meters.

A depth of 57 feet was found 1.502 miles 227° true from ✓
East End of Dog Island in Lat. $18^{\circ} 16'$ - 1544 meters, Long. $64^{\circ} 50'$ - 61
meters.

A depth of 56 feet was found 1893 meters 264° true from ✓
East End of Dog Island in Lat. $18^{\circ} 17'$ - 1382 meters, Long. $64^{\circ} 49'$ p
1683 meters.

A depth of 59 feet was found 942 meters 217° true from ✓
East End of Dog Island in Lat. $18^{\circ} 17'$ - 804 meters Long. $64^{\circ} 49'$ - 367
meters.

A depth of 57 feet was found 973 meters 202° true from ✓
E. end of Dog Island in Lat. $18^{\circ} 17'$ - 669 meters Long. $64^{\circ} 49'$ - 165 meters.

A depth of 52 feet was found 1116 meters 207° true from ✓
E. end of Dog Island in Lat. $18^{\circ} 17'$ - 573 meters, Long. $64^{\circ} 49'$ - 303 meters.

plotted drag depth 48 ft.
A depth of 54 feet was found 1370 meters 213° true from E. end of Dog Island in Lat. 18 12' - ~~54 49'~~ - 422 meters, Long. 64 49' 547 meters.

A depth of 54 feet was found 1.382 miles 225° true from E. end of Dog Island in Lat. 18 16' - 1627 meters, Long. 64 49' - 1627 meters. *plotted drag depth 54 ft.* A depth of 55 feet was found 85 meters S.E. of previous sounding on same shoal, 1.375 miles 223-1/2° true from E. end of Dog Island in Lat. 18 16' - 1579 meters, Long. 64 49' - 1551 meters. Large coral shoal.

A depth of 89 feet was found 3.223 miles 195-1/2° true from E. end of Dog Island in Lat. 18 24' - 1382 meters, Long. 64 49' - 1395 meters.

plotted drag depth 47 ft.
A depth of 54 feet was found 1155 meters 187° true from E. end of Dog Island in Lat. 18 17' - 426 meters, Long. 64 48' - 1704 meters.

A depth of 61 feet was found 1438 meters 111° true from E. end of Dog Island in Lat. 18 17' - 1057 meters, Long. 64 48' - 212 meters. Small shoal.

A depth of 46 feet was found 650 meters 73° true from E. end of Dog Island in Lat. 18 17' - 1763 meters, Long. 64 48' 938 meters. On same shoal a depth of 49 feet was found 650 meters 68° true from E. end of Dog Island in Lat. 18 17' - 1822 meters, Long. 64 48' 951 meters. Also a depth of 53 feet was found 670 meters 65° true from E. end of Dog Island in Lat. 18 18' - 8 meters, Long. 64 48' - 955 meters.

A depth of 54 feet was found 1.2 miles 179° true from south end of Steven May Cay in Lat. 18 18' - 1178 meters, Long. 64 48' 748 meters. Another sounding of 59 feet was found 75 meters northwest of 54 foot depth was taken from boat sheet. *plotted drag depth 48 ft.*

Cabute
A depth of 24.5 feet was found 1085 meters 112° true from Cabute Point in Lat. 18 19 1/2 - 724 meters, Long. 64 49' - 665 meters.

A depth of 29.5 feet was found 1232 meters 115° true from Cabute Point in Lat. 18 19' - 601 meters Long. 64 49' - 508 meters.

A depth of 29 feet was found 1216 meters 105° true from Cabute Point in Lat. 18 19' - 801 meters, Long. 64 49' - 462 meters. Branch coral.

A depth of 34 feet was found 477 meters 305° true from south end of Steven May Cay in Lat. 18 19' - 1824 meters 64 48' - 1160 meters.

A depth of 34 feet was found 235 meters 275° true from south end of Steven May Cay in Lat. 18 19' - 1560 meters, Long. 64 48' 1010 meters.

39.5
A depth of 29.5 feet was found 210 meters 226° true from southern end of Steven May Cay in Lat. 18 19' - 1404 meters, Long. 64 48' 936 meters.

Apparently wrong. Plots ahead of drag and has been passed by 49 ft - shg. accepted - not definitely cleared by 49 ft strip. X.P.S.

A depth of 27.5 feet was found 280 meters 182° true from southern end of Steven May Cay in Lat. $18^{\circ} 19'$ - 1268 meters, Long. $64^{\circ} 48'$ 783 meters. ✓

A depth of 33 feet was found 661 meters 135° true from southern end of Steven May Cay in Lat. $18^{\circ} 19'$ - 1076 meters, Long. $64^{\circ} 48'$ 312 meters. On same shoal 57 meters SSE of 33 foot depth and 714 meters 136° true from southern end of Steven May Cay depth of 24 feet was found in Lat. $18^{\circ} 19'$ - 1026 meters Long. $64^{\circ} 48'$ - 282 meters. ✓

A depth of 20 feet was found 670 meters 76° true from southern end of Steven May Cay in Lat. $18^{\circ} 19'$ - 1700 meters and Long $64^{\circ} 48'$ - 126 meters. ✓

A depth of 29 feet was found 286 meters 45° true from Brother Rock in Lat. $18^{\circ} 20'$ - 1466 meters Long. $64^{\circ} 48'$ - 1654 meters. ✓
1456

A depth of 28 feet was found 542 meters 201° true from Lind Point in Lat. $18^{\circ} 20'$ - 74 meters, Long. $64^{\circ} 48'$ - 135 meters. ✓

A depth of 59 feet was found 734 meters 218° true from Buhvun Point in Lat. $18^{\circ} 18'$ - 827 meters Long. $64^{\circ} 47'$ - 311 meters. ✓
plotted drag depth 53 ft.
Shoal area about 10 meters.

A depth of 59 feet was found 899 meters 213° true from Buhvun Point in Lat. $18^{\circ} 18'$ - 655 meters, Long. $64^{\circ} 47'$ - 352 meters. ✓
plotted drag depth 53 ft.

A depth of 60 feet was found 1170 meters 216° true from Buhvun Point in Lat. $18^{\circ} 18'$ - 460 meters Long. $64^{\circ} 47'$ - 548 meters. ✓

A depth of 58 feet was found 1.107 miles $220-1/2^{\circ}$ from Buhvun Point in Lat. $18^{\circ} 18'$ - 1710 meters, Long. $64^{\circ} 47'$ - 1180 meters. ✓
95

A depth of 62 feet was found 1.295 miles 221° true from Buhvun Point in Lat. $18^{\circ} 17'$ - 1442 meters, Long. $64^{\circ} 47'$ - 1472 meters. ✓

A depth of 79 feet was found 2.27 miles 188° true from Ditlef Point in Lat. $18^{\circ} 16'$ - 970 meters, Long. $64^{\circ} 46'$ - 585 meters. ✓
1482
35

A depth of 24.5 feet was found 937 meters 72° true from Ditlef Point in Lat. $18^{\circ} 18'$ - 1696 meters, Long. $64^{\circ} 45'$ - 840 meters. ✓

A depth of 92 feet was found 4.0 miles 172° true from Ditlef Point in Lat. $18^{\circ} 14'$ - 1537 meters, Long. $64^{\circ} 45'$ - 671 meters. ✓

A depth of 102 feet was found 4.18 miles 180° true from Ditlef Point in Lat. $18^{\circ} 14'$ - 1083 meters, Long. $64^{\circ} 45'$ - 1726 meters. ✓

A depth of 28.5 feet was found 955 meters 277° true from White Point in Lat. $18^{\circ} 19'$ - 60 meters Long. $64^{\circ} 44'$ - 872 meters. ✓

A depth of 85 feet was found 2.726 miles 184° true from White Point in Lat. $18^{\circ} 16'$ - 441 meters, Long. $64^{\circ} 44'$ - 260 meters. ✓

A depth of 77 feet was found 1.602 miles ^{118 1/2} ~~121~~⁰ true from Ram Head Point in Lat. 18 17' ⁴²⁵ ~~375~~ meters Long. 64 40' ¹²⁵¹ ~~1351~~ meters. ✓

A depth of 11 feet was found on north end of Eagle Shoal 916 meters 199° true from South End of Leduck Island in Lat. 18 18' 976 meters, Long. 64 41' - 840 meters Coral shoal. ✓

A depth of 25.5 feet was found 192 meters 315° true from West End of Leduck Island in Lat. 18 19' - 359 meters Long. 64 41' - 1026 meters. Coral shoal. ✓

A depth of 30 feet was found 588 meters 32° true from north end of Leduck Island in Lat. 18 19' - 830 meters, Long. 64 41' ³⁴² meters. Another sounding of ³⁶ feet was found 40 meters south by east of 30 feet depth. Coral Head on coral shoal. ✓

A depth of ¹⁴ feet was ⁴²⁶ meter ³¹⁶ true from Lagoon Point in Lat. 18 20' - ²⁹⁵ ~~328~~ meters, Long. 64 42' ³¹⁵ ~~360~~ meters. ✓

A depth of ¹⁴ feet was found 751 meters 313° true from Lagoon Point in Lat. 18 20' 414 meters, Long. 64 42' - 608 meters, A sounding of 15.4 feet was found due east of 14 foot spot, distance 40 meters, ✓

A depth of 22 feet was found 1003 meters 239° true from Lagoon Point in Lat. 18 20' - 846 meters, Long. 64 42' 424 meters. Coral shoal. ✓

A sounding of 19 feet was found 201° true from Turner Point in Lat. 18 20' - ¹⁴³⁴ ~~1434~~ meters, Long. 64 42' 161 meters. ✓

A sounding of 15.5 feet was found 455 meters 112° true from Long Point in Lat. 18 21' - 213 meters, Long. 64 41' - ¹²⁸² ~~1202~~ meters. Coral head. ✓

A sounding of 25 feet was found 677 meters 182° true from Long Point in Lat. 18 20' - 15 11 meters Long. 64 41' 1739 meters. Coral shoal. ✓

A sounding of 30 feet was found 292 meters 306° true from Turners Point in Lat. 18 20' - 1034 meters Long. 64 41' - 1220 meters. ✓ A sounding of 44 feet was found 40 meters north of and a sounding of 65 feet 52 meters south of 30 foot sounding indicate a small shoal. ✓

A depth of 34 feet was found 980 meters 217° true from Turners Point in Lat. 18 20' - 82 meters Long 64 41' - 1570 meters, ~~turning~~ Coral. ✓

A sounding of 33 feet was found 566 meters 170° true from Turners Point in Lat. $18^{\circ} 20'$ - 207 meters Long. $64^{\circ} 41'$ - 870 meters.

A sounding on same shoal of 30.5 feet was found 626 meters 162 true from Turners Point in Lat. $18^{\circ} 20'$ - 264 meters, Long. $64^{\circ} 41'$ - 787 meters.

A sounding of 21 feet was found 500 meters 171° true from Turners Point in Lat. $18^{\circ} 29'$ - 363 meters, Long. $64^{\circ} 41'$ - 895 meters.

A sounding of 19 feet was found 406 meters 145° true from Turners Point in Lat. $18^{\circ} 20'$ - 523 meters Long. $64^{\circ} 41'$ - 752 meters. On same shoal a sounding of 22 feet was found 466 meters 136° true from Turners Point in Lat. $18^{\circ} 20'$ - 527 meters, Long. $64^{\circ} 41'$ - 655 meters. These soundings are all on a coral shoal. Soundings on coral heads.

A sounding of 23 feet was found 838 meters 75° true from Turners Point in Lat. $18^{\circ} 20'$ - 1082 meters, Long. $64^{\circ} 41'$ - 179 meters.

A sounding of 14 feet was found 612 meters 319° from Moors Point in Lat. $18^{\circ} 20'$ - 542 meters, Long. $64^{\circ} 40'$ - 1700 meters. Sounding on coral head. On same shoal 92 meters to the northwest a 21 foot sounding was found in Lat. $18^{\circ} 20'$ - 592 meters Long. ~~1623 meters~~ $64^{\circ} 40'$ - 1623 meters. This sounding also on a coral head.

A depth of 42 feet was found 130 meters 105° true from Privateer Point in Lat. $18^{\circ} 20'$ - 252 meters Long. $64^{\circ} 39'$ - 1227 meters.

Several drag strips were completed by dragging up against the west and north sides of Flannigan Island. In these cases the drag was grounded thru out its length and positions to locate bight were taken by tender together with soundings at these positions. Depths of 41 feet to 52 feet were recorded.

A sounding of 42 feet was found 1.80/miles 40° true from East End. of St John Is.

A sounding of 42 feet was found north of St. John Island in Lat. $18^{\circ} 22'$ - 1009 meters, Long. $64^{\circ} 40'$ - 1174 meters. On same ridge a sounding of 47 feet was recorded in Lat. $18^{\circ} 22'$ - and 747 meters, Long. $64^{\circ} 41'$ - 323 meters. A depth of 45 feet was recorded in Lat. $18^{\circ} 22'$ 1203 meters, Long. $64^{\circ} 41'$ - 1080 meters. Another sounding of 49 feet was located in Lat. $18^{\circ} 22'$ - 257 meters, Long. $64^{\circ} 41'$ - 445 meters. A sounding of 45 feet was found in Lat. $18^{\circ} 22'$ - 1203 meters, Long. $64^{\circ} 41'$ - 1085 meters. These soundings were along a charted ridge between St. John and Tortola.

A sounding of 35 feet was recorded in Lat. $18^{\circ} 22'$ - 1054 meters, Long. $64^{\circ} 44'$ - 868 meters, in the Narrows.

In Francis Bay a shoal begins 600 meters due south of the west end of Whistling ^{Cay} and extends south west for a distance of 300 meters. A sounding of 17.5 feet was found 695 meters 185° true from ^{west} east end of Whistling Cay. A depth of 19.5 feet was found 85 meters ^{east} north west of 17.5 feet spot and another sounding of 18 feet was recorded 152 meters to the south west of 17.5 foot sounding.

A depth of 12.7 feet was found 480 meters 32° true from north end of Trunk Cay in Lat. $18^{\circ} 21'$ - ¹²⁵⁵ 125 meters, Long. $64^{\circ} 46' 13''$ m. Another sounding of 14.7 meters was found 168 meters SE from 12.7 foot spot.

A large coral reef known as Johnson Reef, a part of which is always awash has its center on a line between Hognest Point and the west end of Whistling Cay at a distance of 1420 meters, from Hognest Point. The reef is more or less circular in shape and is about 500 meters across. A depth of 19 feet was found on edge of reef 1760 meters, 50° true from Hognest Point. Another sounding of 26 feet 1702 meters 44° from Hognest Point. A sounding on a coral of 10.7 feet was found 1483 meters 47° true from Hognest Point and a sounding of 24.5 feet was found 1310 meters 32° true from Hognest Point. Drag strips were ended by grounding drag through out on reef and positions were taken in the light with soundings. These soundings run from nine seven feet to nine-^{9.7}teen five feet.

^{19.5} A depth of 33.5 feet was recorded south west of Durloe Cay in Lat. $18^{\circ} 21'$ - 120 meters Long. $64^{\circ} 47'$ - 1337 meters. A sounding of 36 feet was found south of Durloe Cay in Lat. $18^{\circ} 21'$ - 230 meters, Long. $64^{\circ} 47'$ - 1300 meters.

A depth of 20 feet was recorded 85 meters 15° true from Ratta Cay.

A sounding of 24 feet was found north of Durloe Cay in Lat. $18^{\circ} 21'$ - 1036 meters Long. $64^{\circ} 47'$ - 941 meters. A depth of 34 feet was found 30 meters South by East of 24 feet depth and a depth of 18.5 feet 103 meters south of 24 foot spot. *18 faths in same pos as 24.8 sounding*

A depth of 38 feet was recorded north of the west end of Lovango Cay in Lat. $18^{\circ} 21'$ - 1771 meters and Long. $64^{\circ} 48'$ - 1358 meters.

⁴⁷⁵ The drag grounded at 50 feet south of Grass Cay in Lat. $18^{\circ} 21'$ - 370 meters Long. $64^{\circ} 49'$ - 1489 meters.

A depth of 42 feet was recorded south of Grass Cay 4 H day and later a depth of 35 feet was found on same shoal in Lat. $18^{\circ} 21'$ 360 meters Long. $64^{\circ} 50'$ - 438 meters.

A depth of 23.5 feet was found 815 meters 305° true from Coke Point in Lat. $18^{\circ} 21'$ - 628 meters, Long. $64^{\circ} 52'$ - 300 meters. A sounding of 27.5 feet was recorded 20 meters south of first sounding. A depth of 42 feet was also recorded on this shoal.

A sounding of 49 feet was found 226 meters 9° true from West Point, Thatch Cay.

A sounding of 47 feet was found 20° true from West Point Great Thatch Cay, 477 meters distant.

A sounding of 47 feet was found 20° true from West Point Thatch Cay in Lat. $18^{\circ} 23'$ - 1297 meters, Long. $64^{\circ} 51'$ - 1513 meters.

A 23 foot sounding was recorded 1165 meters 279° true from West Point Thatch Cay in Lat. $18^{\circ} 21'$ - 1591 meters, Long. $64^{\circ} 53'$ - 432 meters. Sounding on coral shoal.

plotted drag depth 63 ft.
A depth of 65 feet was recorded 1736 meters 157° true from South end of Hans Lollick Island. On bearing of 158° true a sounding of 62 feet was recorded 204 meters from 65 foot sounding.
plotted drag depth 58 ft.

A sounding of 78 feet was recorded south east of Hans Lollick Island in Lat. $18^{\circ} 23'$ - 1656 meters; Long. $64^{\circ} 53'$ - 686 meters.
22' 1646

A sounding of 42 feet was found on a shoal south east of Hans Lollick Island in Lat. $18^{\circ} 23'$ - 335 meters, Long. $64^{\circ} 53'$ - 963 meters. Soundings of 45, 52 and 66 feet was recorded on same shoal.

plotted drag depth 38 ft.
A depth of 39 feet was recorded near Hans Lollick Rock 775 meters 115° true from Hans Lollick Island. A sounding of 50 feet was recorded 170 meters south of the 39 foot spot.

STATISTICS
Wire Drag Sheet #2

Date	Let.	Vol.	Drag length	Positions	Miles stat.	Soundings.
2-5-24	A	1	3000	32	2.0	
2-6-24	B	1	3000	21	2.5	2
2-7-24	C	1	3000	35	6.3	2
2-8-24	D	1	2500	18	2.5	2
2-13-24	E	1	4200	36	6.5	
2-14-24	F	1	3000	13	2.0	
2-18-24	G	1	3200	23	5.0	2
2-19-24	H	1&2	3000	36	6.7	
2-20-24	J	2	1500	32	6.0	1
2-21-24	K	2	3600	28	7.5	1
2-27-24	L	2	5000	34	7.3	
10-28-24	M	2	5000	31	6.0	3
10-29-24	N	2	6000	36	7.0	1
10-30-24	P	2	6000	31	7.0	1
10-31-24	Q	2	6000	39	7.5	
11-3-24	R	2&3	6000	31	7.0	
11-7-24	S	3	4000	63	6.0	2
11-10-24	T	3	3000	15	2.0	1
11-11-24	U	3	4000	27	3.5	2
11-12-24	V	3	4000	33	6.0	2
11-13-24	W	3	4000	48	8.5	2
11-14-24	X	3	4000	29	7.0	
11-17-24	Y	3	8400	17	4.0	
11-18-24	Z	3	3200	41	5.0	6
11-19-24	A'	4	2100	63	9.0	4
11-20-24	B'	4	2800	42	8.0	5
11-21-24	C'	4	5500	24	5.5	
11-24-24	D'	4	6000			
			1800	18	4.0	2
11-25-24	E'	4	1500	55	7.0	2
2-16-25	F'	4	6000	21	3.5	
2-17-25	G'	4	6000	29	3.5	1
2-18-25	H'	5	6000	3	0.3	1
2-19-25	J'	5	6000	28	5.5	1
2-20-25	K'	5	6000	25	5.3	
2-24-25	L'	5	6900	24	3.6	1
2-25-25	M'	5	6300	28	5.3	1
3- 2-25	N'	5	6000	21	3.0	
3- 4-25	P'	5	6000	32	6.4	
3- 5-25	Q'	5	6000	22	2.0	
3- 6-25	R'	5	6000	30	7.0	2
3- 9-25	S'	5	6000	31	5.2	3
3-10-25	T'	6	4000	39	7.0	2
3-11-25	U'	6	4500	36	5.9	2
3-12-25	V'	6	3600	25	3.5	3
3-13-25	W'	6	3600	24	3.3	4
3-16-25	X'	6	3600	18	2.3	1
3-17-25	Y'	6	2400	20	3.0	2
3-18-25	Z'	6	2400			
			1500	19	2.5	2
3-19-25	A''	6	3200	34	2.8	2
3-30-25	B''	7	2800	27	4.1	1

Statistics
Wire Drag Sheet #2

Date	Let.	Vol.	Drag length	Pos.	Miles Stat.	Soundings.
4- 7-25	C''	7	2100	17	3.0	1
4- 8-25	D''	7	2100	23	3.5	2
4- 9-25	E''	7	2100	38	5.1	2
4-10-25	F''	7	2100	17	3.2	1
4-13-25	G''	7	2100	41	6.8	2
4-14-25	H''	7	2100	32	2.6	3
4-15-25	J''	7	2100	26	2.5	4
4-16-25	K''	8	2700	25	2.5	5
4-17-25	L''	8	2700	27	3.3	7
4-20-25	M''	8	3200	30	5.2	1
4-21-25	N''	8	(3600 1600)	25	3.4	8
4-22-25	P''	8	4000	30	5.2	
4-23-25	Q''	8	4500	24	6.2	
4-24-25	R''	8	7000	25	4.2	
4-27-25	S''	8	7000	25	5.8	
4-29-25	T''	8	7000	26	6.3	
5-18-25	U''	9	5000	22	3.5	1
5-20-25	V''	9	4500	10	1.2	6
5-21-25	W''	9	4500	17	2.4	2
5-22-25	X''	9	2000	8	1.6	3
6- 2-25	Y''	9	3200 6300	29	4.3	1
6- 3-25	Z''	9	3200	29	1.0	1
6- 4-25	A'''	9	1600	6	0.5	
3- 1-27	B'''	9	2400	20	3.4	
3- 2-27	C'''	9	4000	22	3.4	5
3- 3-27	D'''	10	3200 3600 4000	43	6.9	2
3- 4-27	E'''	10	3000 4000	49	7.0	3
3- 7-27	F'''	10	3500	27	3.35	4
3- 8-27	G'''	10	1500 1800 2400	55	6.6	13
3-9- 27	H'''	10	1500 1800 3600	45	5.1	5
3-10-27	J''' 10&11		1500 1800 3200	30	5.2	5
3-11-27	K'''	11	1600 3200	59	10.8	1
3-21-27	L'''	11	2800 2600	9	0.8	4
Totals				2398	386.15	164

Total area dragged 137.8 square miles.

TIDE DATA

Three tide staffs were established in Little Cruz Bay at different times for tides in Pillsbury Sound and vicinity,

Two staffs were established in Francis Bay for the area north of the sound except the area at the western edge of sheet around Hans Lollick Island which is referred to staffs in Magens Bay. Automatic tide gauges in St. Thomas Harbor used for areas south of St. Thomas. One tide staff and one automatic portable tide gauge were maintained at different times in Coral Bay for the area on eastern part of sheet.

ST. THOMAS TIDE GAUGES:

Plane of reference	M.T.L.	-0.5 ft.=	5.2 on staff.
Lowest tide observed			4.9 " "
Highest tide observed			6.8 " "

MAGENS BAY TIDE STAFF #1:

Plane of reference	M.T.L.	-0.5 ft.=	5.93 on staff.
Lowest tide observed			5.4 " "
Highest tide observed			7.8 " "

MAGENS BAY STAFF #2:

Plane of reference	M.T.L.	-0.5 ft.=	1.5 " "
Lowest tide observed			1.0 " "
Highest tide observed			2.7 " "

LITTLE CRUZ BAY STAFF #1:

Plane of reference	M.T.L.	-0.5 ft.=	2.55 " "
Lowest tide observed			2.3 " "
Highest tide observed			4.0 " "

LITTLE CRUZ BAY STAFF #2:

Plane of reference	M.T.L.	-0.5 ft.=	2.4 " "
Lowest tide observed			2.4 " "
Highest tide observed			3.6 " "

LITTLE CRUZ BAY STAFF #3:

Plane of reference	M.T.L.	-0.5 ft.=	1.2 " "
Lowest tide observed			0.7 " "
Highest tide observed			2.2 " "

FRANCIS STAFF #1:

Plane of reference	M.T.K.	-0.5 ft.=	2.83 " "
Lowest tide observed			2.1 " "
Highest tide observed			4.0 " "

TIDE DATA #2.

FRANCIS BAY STAFF #2

Plane of reference	M.T.L.	-0.5 ft.	=	1.4 ft.	on staff
Lowest tide observed				1.2	" " "
Highest tide observed				2.8	" " "

CORAL B AY STAFF #1

Plane of reference	M.T.L.	-0.5 ft.	=	1.45	" " "
Lowest tide observed				1.2	" " "
Highest tide observed				2.8	" " "

CORAL BAY STAFF #2

Plane of reference	M.T.L.	-0.5 ft.	=	1.6	" " "
Lowest tide observed				1.3	" " "
Highest tide observed				2.1	" " "

LIST OF SIGNALS

Hydrographic signals on this sheets were located by sextant and theodolite cuts.

After searching thru all records, cuts to the following signals could not be located.

Hydro. signal SEE used for three positions.

"	"	GIT	"	"	one	"
"	"	PIK	"	"	one	"
"	"	TO	"	"	two	"
"	"	RON	"	"	one	"

Signals CON and VOU on Congo Cay are the same. VOU used to keep from confusing with signal CON on west side of St. John Island.

Signals FLAN and FLAM are the same. Triangulation station FLANNIGAN was not used in drag work.

Signals MOT and MAT on Thatch Cay are the same.

Name	Lat	DM	Long	DP	Remarks.
Top					Trian. TOP Frenchmans Cap
Buck					" Buck Id. Lighthouse.
Con	18 16	1089	64 53	1460	WW Located by cuts Hydro.
Pan	18 16	1214	64 53	795	WW Rock " " " "
East					Trian. E. Point Lighthouse
Green					" Tripod High. part Green Cay
French					Topo. Peak Red Roofed House
Cuk					Trian. WW on face of Bluff
Mid					Topo. W.W.
Long	18 18	502	64 52	1300	W.W. on rocky point
Gas					Trian. Tripod top of Gas Cay
Rotto					Trian. Sig. Top of Rotto Cay
Cow					Topo. Isolated Rock
Calf					" " "
Rock	18 19	36	64 51	296	Hydro. Rock. Sex. and Theo. cuts <i>Topo</i>
Sea	18 19	00	64 51	39	W.W. Hydro. " " " "
On	18 18	1619	64 50	1490	Hydro. W.W. " " " "
Deck					Triangulation
Pet	18 18	1658	64 50	1085	Hydro. Rock W.W. " " " "
Rat	18 18	1784	64 50	1165	" " " Sextant cuts
Pass					Triangulation W.W. Rock
Shi	18 18	1353	64 49	1590	Hydro. W.W. Sextant cuts
Ize	18 18	1242	64 50	92	" rock " "
San	18 18	841	64 50	266	" W.W. " "
Saint					Triangulation
Say	18 18	760	64 49	1385	Hydro. W.W. " "
Mes	18 18	312	64 49	1343	Hydro. W.W. " "
James					Triangulation. Little St. James Is.
Dan	18 17	1796	64 49	1201	Hydro. W.W. Sextant cuts
Ned	18 17	1693	64 49	635	Hydro. W.W. " "
Dog					Triangulation W.W.
Las	18 18	650	64 49	894	Hydro. W.W. sextant cuts.

Name	Lat.	DM	Long	DP	Remarks,
Welk					Topo. rock
Noe	18 18	1642	64 49	714	Hydro. sextant cuts
Bone					Topo. middle of rock
Car					Triangulation W.W.
Kag	18 19	1329	64 50	640	Hydro. W.W. Sextant cuts
Jack					Topo. Jack Rock
Zef	18 19	900	64 51	545	Hydro. Sextant cuts
Blank	18 20	325	64 51	723	Hydro. W.House. Sextant cuts
Shark					Triangulation Tripod
Low					Topo. Reg. mark
Cos	18 20	969	64 51	163	Hydro. Sextant and Theo. cuts.
Bet	18 20	1495	64 51	1307	" " " " " "
Coki					Triangulation W.W.
Ro	18 21	316	64 52	314	Hydro. W.W. Sextant and Theo. cuts
Ben	18 21	450	64 52	702	Hydro. W.W. " " " "
Fag	18 21	517	64 52	1186	Hydro. W.W. " " " "
Sun					Topo.
Dal					Topo. Top of Round Hill
Man					Topo. W.W.
Rough					Triangulation W.W.
Hans					" " "
Lollick					"
Abe	18 23	1224	64 54	13	Hydro. WW Sext. and Theo. cuts
Gro	18 23	1357	64 53	1739	Hydro. " " " "
Let	18 23	1624	64 54	133	Hydro. WW " "
Las	18 24	459	64 54	565	" " " "
Steek	18 24	1343	64 54	336	" " " "
My	18 24	1624	64 54	670	" " " "
Pel	18 24	1832	64 54	1109	" " " Rock Sext. cuts
Lo	18 24	408	64 54	1742	" " " "
West					Triangulation
Sou	18 21	1269	64 52	859	Hydro. WW. Sext. and Theo cuts
Stone	18 21	1233	64 52	398	" " " " " "
Buff	18 21	1018	64 51	1323	" " " " " "
Hat	18 21	980	64 51	678	" " " " " "
Blow					Triangulation W.W.
Side	18 21	1373	64 51	00	Hydro. WW Sext. cuts
Off	18 21	1631	64 51	1654 438	Hydro. " " " "
Kee	18 21	1360	64, 51	1364 935	" " " " "
Tat	18 21	1425	64 51	1425 1720	" " " " "
Tom	18 21	1649	64 52	1650 300	" " " " "
Mot	18 21	1699	64 52	447	Topo. WW
On	18 21	1133	64 50	560	Hydro. WW. Sextant cuts
Run	18 21	1264	64 50	283	" " " " "
Rup	18 21	1315	64 50	155	" " " " "
Get					Topo. WW Rock
Mingo					Triangulation
Say	18 21	1526	64 48	1454	Hydro. WW Sextant cuts
Teg	18 21	1597	64 48	1347	" " " " "
Bro	18 20	1285 v	64 49	110	" . Brother Rocks (Largest)
Go	18 21	1160	64 48	1090	" WW Sextant cuts
Mig	18 21	1728	64 48	635	" " " " "
Lovango					Triangulation
Murd					Topo. Murder Rock
Blund					Topo
Carv					Trian. Tripod Sta. Carval
Tel	18 24	220	64 54	363	Hydro. WW Sextant cuts

Name	Lat.	DM	Long.	BP	Remarks
Tip	18 22	484	64 47	1563	Hydro. WW Sextant cuts
You	18 22	246	64 48	915	" " " "
Sel	18 21	758	64 47	623	" " " "
Isle					Triangulation
Sle	18 21	580	64 47	1130	Hydro. Tree on Henley Cay
Hog					Topo. WW
Bit	18 21	246	64 47	154	Hydro. WW Hognest Point (Bowider on shoreline)
Casey					Topo. WW From Topo sheet
Lind					Triangulation
Gov					" Gable, Gov't House
Row	18 29	1626	64 47	1702	Hydro. From Boat sheet
Rain	18 19	1394	64 47	1554	Hydro. WW sextant cuts
Turn	18 19	1304	64 48	2	Hydro. " " " "
Con	18 19	683	64 47	1226	" " " " <i>Topo</i>
Maria	$\frac{1}{2}$				Triangulation
Ria	18 18	1816	64 47	882	Hydro. WW Sextant cuts
Run	18 19	240	64 47	329	" " " "
Bluff	18 18	1818	64 47	535	" " " "
Cat	18 18	1753	64 47	224	" " " "
Nic	18 18	1550	64 47	07	" " " "
Rend					Triangulation
Bul					Triangulation
Don	18 18	1565	64 46	1414	Hydro. WW Sextant cuts
Boat	18 19	220	64 46	929	Hydro. WW " "
May					Triangulation
If	18 19	494	64 46	437	Hydro. WW sextant cuts
Less	18 19	407	64 46	181	" " " "
Po	18 19	183	64 46	70	" " " "
Tie	18 18	1539	64 46	204	" " " "
Tin	18 18	1398	64 46	44	" " " "
Vou	18 18	1420	64 46	6	" " " "
Fiz	18 19	397	64 45	1746	" " " "
Fish					Topo. WW
Yap	18 19	201	64 45	717	Hydro. WW " "
Bay	18 19	645	64 45	239	Hydro. WW " "
See	18 19	998	64 45	24	" From boat sheet
Chim					Topo. Brick Chimney
Hit	18 19	303	64 44	642	Hydro. WW
Lam					Triangulation W.W.
Gab	18 19	248	64 43	1306	Hydro. WW Sextant cuts
Nip	18 19	99	64 43	1018	" " " " <i>Topo</i>
Mox	18 18	1549	64 43	686	" " " "
Bok	18 18	1122	64 43	619	" " on detached rock
Brite					Triangulation
Rit	18 18	1064	64 43	360	Hydro. WW. Sextant cuts
Min	18 18				Triangulation Sta. Minnahill Peak
Sat					Topo. From topo. sheet
Salt					" " " "
Pond					" " " "
Kid					" W.W.
Boo					Triangulation Sta. Booby
Head					Topo. W.W.
Ram					Triangulation
Zip	18 18	582	64 42	49	Hydro. W.W. Sext. and Theo. Cuts
An					Triangulation Sta. Nanny
Sab					Topo. WW.

Name	Lat.	BM	Long.	DP	Remarks
Coral					Triangulation
Tree	18 19	214	64.41	693	Hydro. Sextant and theo. cuts / Tree on Lagoon WW (Leduck)
Lag					Triangulation Sta.
Goon	18 19	1798	64 42	569	Hydro. WW Sext. and Theo Cuts
Ent					Topo. W.W
Pen					Topo. W.W
Tap	18 21	185	64 43	572	Hydro. Mill Sext. cuts & BS
Us	18 20	1495	64 42	1210	" WW " "
Berg					Topo. WW
Bor	18 20	976	64 42	790	Hydro. WW " "
Bat	18 20				Triangulation WW
Bil	18 20	1699	64 42	403	Hydro. WW Sextant cuts
Top	18 21	357	64 42	440	Hydro. WW " "
Mit	18 21	960	64 41	1751	Hydro. SE Corner Old Ruins
Her					Triangulation WW
Big					Topo. WW
Mid		8			Topo. WW on Rocky Point
Tow	18 20	1617	64 41	1063	Hydro. WW on ruin Sextant cuts
Pop					Topo. WW
Turn	18 20	862	64 41	983	Hydro. WW Sextant cuts
Lim	18 20	1506	64 40	1760	" " " "
Round					Topo. WW
Pel					Topo. Prominent Rock
Moor					Triangulation Tripod
Bad					Topo. WW
Vat	18 20	458	64 40	110	Hydro. WW. Sextant & Theo. cuts
Pry					Triangulation Sta. Privateer WW
Ledge					Topo. WW
Corn	18 20	1343	64 39	1200	Hydro. WW sextant cuts
Rock	18 20	1573	64 40	99	Hydro. Rock " " <i>Topo</i>
New	18 21	79	64 40	288	Hydro. WW " "
Pik	18 21	237	64 40	842	" " " "
Ver	18 20	1806	64 40	1172	" " " "
Haul	18 20				Triangulation WW
Flam (N)					Hydro. Tripods sextant cuts
Ru	18 23	1251	64 38	1617	(Hydro. Ruins on Tortola
Hose					(Sextant and Theodolite cuts
Red	18 23	135	64 44	615	Hydro. from Red House Sext. cuts
Yel	18 23	146	64 45	157	Hydro. Yellow Bluff on "Great" Thatch Island
Men					Topo.
Sea	18 21	1473	64 41	834	Hydro. WW Sextant cuts
Pleas					Triangulation WW
Tow	18 21	1568	64 42	989 690	Hydro. WW Sextant cuts
Lein					Triangulation
Need					Triangulation
Jew					Triangulation
Bol	18 23	235	64 40	727	Hydro. Prominent Grey Boulder Tortola
Berg					Triangulation
Anna					Triangulation
Nar	18 22	853	64 44	955 963	Hydro. WW Sextant cuts <i>Topo</i>
Was	18 22	905	64 44	1709	" " " "
Mary					Triangulation
Fin					Topo
Let	18 22	734	64 45	881	Hydro. WW Sextant cuts
Nie	18 22	519	64 45	645	" W. Gable Ruin Whistling Cay
Wis					Triangulation

Name	Lat.	DM	Long.	DP	Remarks
Mo	18 21	1383	64 44	1210 1310	Hydro. WW Sextant and Theo cuts
Rick	18 21	1088	64 45	254	Hydro. WW America Point
Am					Triangulation Sta. America Gable of Red Roof House.
Cin					Triangulation on Cinnamon Cay
Pete	18 21	798	64 45	1417	Hydro. WW On Point Sext. cuts
Trunk	18 21	864	64 46	269	Hydro. WW Sext. cuts
Rag	18 21	409	64 46	417	Hydro. WW " "
Goo	18 21	600	64 46	799	" "" " "
Perk					Triangulation Sta. Perkins
Sugar					Triangulation --Mill
Bal	18 21	118	64 46	1152	Topo. Conspicuous Rock

DRAG TESTS

The weights used on the tests were, large, 180 lbs. small, about 35 lbs. Metallic floats were used. Speeds, currents and winds are tabulated in knots. "Sea smooth" is tabulated when there was not enough swell to effect the drag. "Medium bight" is 85 to 90% effect width, and "Taut bight" is 95 %. The tests of the end sections were taken close to the large buoys.

No. 1. Bight too taut; speed through the water slightly excessive.

No. 3. Speed excessive for 40 foot end; if towline had been longer, lift at F would have been less.

No. 4. 100 ft. bridle gives excessive lift at F; towline should have been the same as at N, which was 200 ft. bridle and 200 ft. straightaway. (See test No.5).

No. 5. Note how lift extends over in the 100 ft. sections, due to difference in hook ups at N and F.

No. 6. Bight too slack, produces more lift in middle sections than in end sections.

No. 7. Lift in 4th section due to differences in hook-ups of the ends, with taut bight.

No. 8. Shows lift to be expected at this speed and depth.

Nos. 9 to 13. Shows lift to be expected when dragging around 1.5 knots at a depth of 65 ft. Note that directions of wind and current have little if any, effect in lift at this depth.

Nos. 14 and 15. These were made on a rough day, and the courses (150 and 330) were directly against and with the sea and wind. The current was accurately measured and found to be approximately at right angles to the sea. Towline tensions were greater than shown, as the scales were not set correctly, but the relative tensions are correct as shown. These two tests show that there is slightly more lift when dragging against the sea and wind.

DRAG TESTS

No.1 Feb. 10.

*Note #2

Speed 2.0; Head wind 10; Head current 0.3. Sea 2'; Towline 70 m;
 Bight very taut; Length 1200; Section 300;
 Buoys N---1---2---3---F
 Hookup 42 42 42 42 42
 Test 38 39 39 38

No. 3 Feb. 11

Speed 2.8; Head wind 15; Fair current 0.5. Sea 3'; Towline 70 m;
 Bight medium; Length 3200; Section 400;
 Buoys N---1---2---3---4---5---6---7---F
 Hookup 20 20 20 30 40 40 40 40 40
 Test 20 20 24 34 - 40 39 37

No. 5 Feb. 25

*Note #4 and #6

Speed 1.3; Calm; No current; Sea smooth; Towline 125 m; Bight taut;
 Length 5600 ; Section 700:

Buoys N---1---2---3---4---5---6---7---F
 Hookup 70 80 90 100 100 100 100 100 100
 Test 69 78 86 93 95 95 97 98

No. 7 Feb. 26.

Speed 2.2; Calm; Fair current, 1.0; Sea smooth; Towline 125 m; Bight taut;
 Length 1800; Section 300;

Buoys N---1---2---3---4---5---F
 Hookup 48 55 62 62 62 62 62
 Test -- -- -- 59 -- --

No 2 Feb 10

*Note

Speed 2.3; Fair wind, 5; Fair current 0.3; Sea 2'; Towline 70 m; Bight
 medium; Length 1800; Section 300;

Buoys N---1---2---3---4---5---F
 Hookup 42 42 42 42 42 42 42
 Test 40 40 39 -- -- 41

No. 4 Feb. 25

*Note

Speed 0.8; Calm; Head current 0.3; Sea smooth; Towline 125 m; Bight medium;
 Length 6300; Section 700; (100' bridle--300' straight)*

Buoys N---1---2---3---4---5---6---7---8---F
 Hookup 70 70 80 90 100 100 100 100 100 100
 Test 68 -- -- -- 97 97 98 95 94*

No. 6 Feb.26

DRAG TESTS

Speed 1.5; Calm; No current; Sea smooth; Towline 125 m; Bight slack;
Length 1800; Section 300;

Buoys	N	1	2	3	4	5	F
Hookup	62	62	62	62	62	62	62
Test	60	59	59	59	59	61	

No. 8 March 4

Speed 1.9; Fair wind 12; Fair current 0.4; Sea 3'; Towline 125 m; Bight taut;
Length 6000; Section 600;

Buoys	N	1	2	3	4	5	6	7	8	9	F
Hookup	100	100	100	100	100	100	100	100	100	100	100
Test	97	98	--	98	--	--	97	97	98	98	

F.H.

Copy for Records Section files.

(11)

March 16, 1928.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
23 volumes of sounding records for

HYDROGRAPHIC SHEET 4743b

Locality: **VIRGIN ISLANDS.**

Chief of Party: **G. C. Mattison, 1924-7.**
 Plane of reference is **M L W**
~~5.2~~ **2.2** ft. on tide staff at **St. Thomas, 1924-5**
 " " " " **" " 1927**
2.4 " " **do Little Cruz Bay, 1925**

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.

(**1.2 ft. on tide staff at Little Cruz Bay, 1927.**
) **1.5 " do Mogens Bay**
 (**1.5 " do Coral Bay**

G. H. Rude

Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4743b

HYDROGRAPHIC TITLE SHEET

WIRE DRAG

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. 2

REGISTER NO. 4743b

State Virgin Islands

General locality St. Thomas and St. John Islands

Locality Vicinity of St. John and E. St. Thomas Island

Scale 1-20,000 Date of survey Feb. 2, 1924
Mar. 21, 1927 192

Vessel RANGER

Chief of Party G.C. Mattison - C.K. Green

Surveyed by C.K. Green, A.P. Ratti, H.E. Finnegan

Protracted by A.C. Thorson

Soundings penciled by A.C. Thorson

Soundings in fathoms feet

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

Subdivision of wire dragged areas by A.C. Thorson

Inked by A.C. Thorson

Verified by

Instructions dated June 22 192 3
Supplemental February 28, 1927.

Remarks: See Hydro. Sheet for this area.