

4652a
4652a

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

....., Director

G. & O. SURVEY
L. & A.
MAR 14 1928
Acc. No.

State: Virgin Islands

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. ⁵ 4652a
Hydrographic }

LOCALITY

St. Croix

E. End of St. Croix

1924-26

CHIEF OF PARTY

G. C. Mattison

GOVERNMENT PRINTING OFFICE

4652a

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 46522

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. 5

REGISTER NO. 46522

State Virgin Islands

General locality St. Croix Island.

Locality East End St. Croix Island.

Scale 1:20,000 Date of survey April 1924. to Feb, 1926

Vessel RANGER

Chief of Party G.C. Mattison

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

Protracted by A.C. Thorson

Soundings penciled by A.C. Thorson

Soundings in fathoms 1533

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

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated June 22, 1923

Remarks: See W.D. Sheet of same area.

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

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

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET # 5

ST. CROIX
VIRGIN ISLANDS

S.S. RANGER

G.C. MATHISON,
Chief of Party

1924-1926

DESCRIPTIVE REPORT
to accompany
Hydrographic Sheet #5.

LIMITS:

This sheet includes the waters adjacent to the East end of St. Croix Island extending west to Christiansted Harbor on the north coast and about a mile west of Great Pond Bay on the south coast. The sheet includes the waters to about five miles north of Buck Island. Three miles south of Great Pond Bay and extends nine miles east of East Point St. Croix Island.

The sheet lies between the limits of the meridians $64^{\circ} 25'$ and $64^{\circ} 43' W$ and between the parallels $17^{\circ} 40'$ and $17^{\circ} 53'$ north.

The vicinity of Christiansted harbor is included in sheet seven. Sheet five adjoins sheet six which includes the waters adjacent to rest of St. Croix Island.

GENERAL DESCRIPTION:

The general description of the coast and outlying islands is complete in the present Coast Pilot.

OUTLYING DANGERS AND ISLANDS:

The outlying dangers and islands are adequately described in the Coast Pilot.

CURRENTS:

The currents in this area are all tidal and very strong except close to East Point St. Croix where strong north and south currents were noted.

LANDMARKS:

There are no new landmarks not listed for this area.

INSHORE DANGERS AND CORRECTIONS:

There are no important inshore dangers not described. There were numerous shoaler soundings found by the wire drag and described in the wire drag report. Many additional shoal soundings were found on Buck Island Bar.

This area north of Buck Island is covered with coral heads that project up from a few feet to about 20 feet making the area unnavigable.

BARS AND CHANNELS:

The bars and channels are adequately described in the Coast Pilot.

SURVEY METHODS:

The Steamer RANGER, launches MITCHELL and MARINDIN, the tender Edna M and the ship's motor dinghy were used for sounding on this sheet.

The inshore work was done by the tender and motor dinghy the offshore work by the RANGER and the intermediate work by the launches MITCHELL and MARINDIN.

On the launches a hand lead was used in all cases. The ship used the trolley rig for shoaler soundings and the electric for deeper soundings. The soundings on the ship were obtained by backing the engines to stop the ships forward motion. When dead in the water the depth was recorded. For very deep soundings it was necessary to stop some time for each sounding.

Control was obtained by using triangulation and topographic stations established 1918-1924. All hydrographic signals were cut in with sextants.

A reef extending about ten miles out from East Point St. Croix is described in the Coast Pilot. Because a good fix could not be obtained using objects on land on this shoal, a buoy was planted on the southern edge of the reef in approximately Lat. $17^{\circ} 44.3'$, Long. $64^{\circ} 31.8'$. This buoy was first used for ship hydrography on May 21, 1924.

This buoy was made using one gas drum with wooden structure similar to buoy shown on blue-prints issued by the office.

In August 1925 a new buoy was planted in approximately the same place for use in ships hydrography. This buoy was made by fastening three sealed gas drums together. A $2\frac{1}{2}$ inch pipe was used as an upright to hold the signal banner. A concrete block was used as a counterpoise and a concrete block was chained to the lower end of the pipe for an anchor. This buoy was first used for ships hydrography on September 1st. Due to heavy seas it washed away a few days later.

On September 23 and 24 the launch MARINDIN was anchored with a banner on its mast and used for a signal. Positions of the launch were taken at short intervals while the ship was sounding. On February 2 and 3 the launch MARINDIN was again used in a similar manner.

The coral shoals around Buck Island and the coast of St. Croix Island were developed throughly using the tender and motor dinghy.

While making this survey the ship anchored on the working grounds either inside the reefs on the south coast of St. Croix or south west of Buck Island.

PLOTTING:

Some discrepancies were found in plotting the sheet. The sounding lines off East Point did not always check the lines run around Lang Bank. This was probably due to the weak fix used. There may also be a slight discrepancy due to the shifting of the signal buoy due to changes in wind and current.

On 72 F day a sounding of 20 fathoms seems to be too far to the south.

On 34 H' day a sounding of 142 fathoms does not check a sounding of 23 fathoms at position 55 H'.

A sounding of 17 fathoms was found on 12 E' day is apparently too far to the south.

Respectfully submitted

Forwarded
G. C. Mattison
Ch. S. S. Ranger.

A. C. Morrison
Jr. H. & G. Engineer.

ADDITIONAL NOTES TO ACCOMPANY DESCRIPTIVE
REPORT OF SHEET #5

The buoy used as a signal for work on the shoal east of St. Croix was moored with as short a scope as feasible. This proved unsatisfactory as far as the life of the buoy was concerned, it breaking adrift three times in June and July 1924. A position of the buoy was obtained each day it was used, but even with the short scope of chain, there was probably a considerable change in the position of the buoy during the day.

In order to adjust the position of the lines on Lang Bank, the launch was anchored in approximately the position of the buoy, and position of it recorded frequently by an observer on board. Using the launch as a signal, sounding lines were run with the RANGER to determine the limits of the outside of Lang Bank. These lines were plotted on the sheet first, the soundings also being plotted. Using these soundings as a guide, each line of soundings where buoys were used as signals, was adjusted to fit the limits of the shoals, shifting the position of the buoy within allowable scope.

B. C. Mattison

ALL THE WORK ON THIS SHEET WAS DONE BY THE PARTY OF G.C.MATTISON. OFFICERS
ENGAGED IN FIELD WORK ON THIS SHEET WERE:

A.P. RATTIS, Jr. H. & G. Engineer, In charge launch hydrography.
H.C. Rowse, D.O. In charge launch hydrography and recording.
C.P. Morrill, M.E.M. Left angle launch hydrography.
V.A. Powell, D.O. Left angle, recording launch hydrography.
M. Leff, Jr. H. & G. Engineer, In charge launch hydrography.
P.W. Sparks, Ship's Writer Recording launch hydrography.
H.V. Rackliff, Dragmaster, Left angle launch hydrography.
G.C. Mattison, H. & G. Engineer, In charge ships hydrography.
C.K. Green, H. & G. E., In charge launch hydrography, Left angle
ships hydrography.
H.W. Pearce, Ch. Eng'r., Left angle ships hydrography.
H.E. Finnegan, Jr. H. & G. Engineer, In charge launch hydrography,
A.C. Thorson, D.O., Recording launch hydrography, left angle launch
hydrography.
H.W. Retter, D.O. Recording launch hydrography, left angle.
C.F. Ehlers, Aid, Left angle, recording launch hydrography.
A. Ogram, Jr. H. & G. Engineer, Right angle ships hydrography.
H.J. Stansell, Chief Writer, Recording ships hydrography.
W.R. Porter, D.O. Left angle ships hydrography.

STATISTICS
HYDROGRAPHIC SHEET #5

Date	Letter	Vol.	Posi.	Soundings	Miles Stat.	Vessel
4-2-24	A ✓	1	120	348	27.0	Marindin
4-3-24	B ✓	1	110	451	27.0	"
4-4-24	C ✓	1	5	14	1.0	"
4-7-24	D ✓	1	105	314	22.0	"
4-8-24	E ✓	1	14	44	2.5	"
4-9-24	F ✓	2	100	307	21.0	"
4-10-24	G ✓	2	114	209	23.0	"
4-10-24	A ✓	3	50	111	12.0	Mitchell
4-11-24	B ✓	3	85	224	20.5	"
4-11-24	H ✓	2	95	108	17.0	Marindin
4-15-24	J ✓	2	95	162	21.0	"
4-15-24	C ✓	3	33	97	6.6	Mitxhell
4-16-24	K ✓	2&4	123	297	27.5	Marindin
4-17-24	L ✓	4	85	288	23.0	"
4-17-24	a	3	76	531	12.0	Tender M4
4-18-24	b	4	87	293	15.0	"
4-18-24	a	3	84	495	13.3	Motor dinghy
5-20-24	A	5	51	51	16.6	Ranger
5-21-24	B	5	13	19	2.7	"
5-22-24	C	5	49	48	18.4	"
5-22-24	b	6	141	590	20.1	Motor dinghy
5-22-24	c	4	98	488	14.0	Tender M4
5-23-24	D	5	10	10	8.4	Ranger
5-23-24	c	4&8	101	409	12.0	Motor dinghy
5-27-24	E	5	79	130	18.4	Ranger
5-28-24	F	5	98	188	24.5	"
5-28-24	D	6	27	56	3.8	Mitchell
5-29-24	G	5	43	84	11.2	Ranger
6-2-24	M	8	42	97	6.0	Marindin
6-2-24	d	6	44	252	5.3	Tender M4
6-11-24	H	5	99	175	22.1	Ranger
6-12-24	J	5	92	149	26.5	"
6-17-24	K	5	2	2	0.7	"
6-18-24	L	5&9	104	202	26.1	"
6-19-24	M	9	111	202	24.4	"
6-24-24	N	9	48	88	11.1	"
6-25-24	P	9	115	226	29.0	"
6-26-24	Q	9	91	176	20.9	"
7-23-25	E	6	70	187	8.6	Mitchell
7-24-25	F	6	4	10	0.2	"
7-30-25	R	9	77	77	19.3	Ranger
7-30-25	N	8	112	401	16.0	Marindin
7-31-25	P	8	53	171	9.1	"
7-31-25	G	6	59	200	8.9	Mitchell
8-4-25	H	6&7	88	237	10.6	"
8-4-25	Q	8	82	235	11.6	Marindin
8-6-25	S	8	81	147	8.5	"
8-8-25	T	8	55	108	6.3	"
8-10-25	J	7	43	129	6.7	Mitchell
8-11-25	K	7	75	144	12.0	"
8-11-25	S	9	50	50	9.3	Ranger
8-12-25	T	10	68	68	17.4	"

STATISTICS
HYDROGRAPHIC SHEET #5

Date	Letter	Vol	Posi.	Soundings	miles Stat/	Vessel
8-12-25	L	7	115	317	19.9	Mitchell
8-13-25	M	7	145	581	19.2	"
8-13-25	U	10	30	30	16.6	Ranger
8-14-25	N	7&8	116	486	16.4	Mitchell
8-14-25	e	10	42	42		Tender M4
8-18-25	f	11	3	9	0.25	"
8-19-25	g	11	110	332	11.8	"
8-20-25	h	11	65	215	6.0	"
8-21-25	j	11	10	30	0.8	"
8-25-25	V	10	11	11	10.7	Ranger
8-26-25	k	11	154	370	12.9	Tender M4
8-27-25	l	11	147	477	15.0	"
8-27-25	W	10	7	7	8.9	Ranger
9-1-25	X	10	15	15	12.8	"
9-2-25	Y	10	21	21	16.2	"
9-3-25	Z	10	19	19	15.4	"
9-23-25	B'	10&12	136	136	21.2	"
9-24-25	C'	12	143	143	21.5	"
9-24-25	m	11&13	104	328	12.2	Tender M4
9-25-25	n	13	77	213	8.5	"
10-8-25	D'	12	26	26	17.2	Ranger
10-19-25	E'	12	13	13	7.1	"
10-20-25	F'	12	9	9	6.7	"
2-2-26	G'	12	46	64	14.5	"
2-2-26	P	13	127	394	10.3	Tender M4
2-3-26	H'	12	79	99	16.0	Ranger
2-4-26	J'	12	25	25	12.0	"
Total			5542	14511	1088.45	

Total area surveyed-----220.0 square stat.miles

Tides:

Automatic tide gauge and staffs were maintained at Christiansted and Fredricksted. Most of the soundings on the sheet are referred to the gauge at Christiansted. The gauge at Fredricksted was used for some of the soundings on the south side of St. Croix.

Fredricksted Tide Gauge.

Plane of reference - - - -M.T.L. -0.5 ft. = 2.70 ft. on staff
 Lowest tide observed 2.85 ft. on staff
 Highest tide observed 3.45 ft. on staff.

Christiansted Tide Gauge.

Plane of reference - - - -M.T.L. -0.5 ft. = 3.1 ft. on staff
 Lowest tide observed 2.4 ft. on staff
 Highest tide observed 4.0 ft. on staff

75 days

LIST OF SHOALS:

A sounding of 8-3/4 fathoms was found 1.8 miles 146° true from Grass Point in Lat. 17° 42' - 986 meters, Long. 64° 35' - 1000 meters.

On the same shoal a sounding of 8-3/4 fathoms was found 93 meters northeast of the first sounding.

Another sounding of 8-3/4 fathoms was found 413 meters northwest of first sounding.

Least depth previously recorded on this shoal was ten fathoms.

A depth of 4-5/6 fathoms was found 1.2 miles 62° true from east end of Buck Island in Lat. 17° 47' - 1690 meters, Long. 64° 35' - 963 meters.

RECOVERABLE OBJECTS AND PLANE TABLE POSITIONS
HYDROGRAPHIC SHEET #5

Name	Description
RED	Red roofed house
FAIR	Ruins Fairhan Sugar Mill
GAB	East gable of large house
TREE	Tree on highest point of Buck Island.

HYDROGRAPHIC SIGNALS

SHEET # 5

Name	Lat.	D.M.	Long.	D.P.	Description of station
Bus	17 42	1788	64 39	1556	W.W. on beach
Buv	17 45	896	64 35	1133	Banner in bush
Cor	17 45	1160	64 35	493	W.W.
Get	17 45	1452	64 37	32	W.W. on shore
Glo	17 45	745	64 36	406	W.W.
Ice	17 44	1651	64 34	1007	W.W. on cliff
Kan	17 43	541	64 39	1263	W.W. on shore
Lep	17 45	1330	64 38	460	W.W.
Lef	17 43	849	64 39	564	Banner on beach
Lew	17 45	1280	64 37	323	A. WW log on beach
Nip	17 45	1312	64 35	96	WW rock 5 feet from beach
Pel	17 43	942	64 38	1101	WW
Pup	17 45	797	64 36	890	Banner in grape bush
Run	17 45	368	64 34	228	WW on cliff
Sea	17 45	853	64 36	63	WW tree trunk 10 m from beach
Sob	17 45	1113	64 36	1169	WW rock 5 m from shoreline
Stik	17 43	304	64 39	1534	WW on beach
Sup	17 45	1291	64 37	910	WW on shore
Top	17 45	14	64 35	790	Top of hill
Yap	17 45	1055	64 35	777	WW

TOPOGRAPHIC SIGNALS
For Hydrographic Sheet #5

Name	Lat.	Long.
Apt	17 47	64 37
Cay	17 45	64 40
Crab2	17 43	64 37
Ded	17 45	64 39
End	17 45	64 33
Fair	17 43	64 40
Gab	17 43	64 38
Hog	17 45	64 40
House	17 43	64 38
Lee	17 44	64 37
Log	17 45	64 35
Nor	17 45	64 41
Red	17 43	64 40
Sho	17 45	64 40
Tom	17 44	64 36
Tree	17 47	64 37
Wash	17 45	64 41
Wire	17 43	64 38

TRIANGULATION SIGNALS
Hydrographic Sheet #5

NAME	Latitude	Longitude
Bee	17 44	64 36
Bout	17 44	64 40
Coak	17 45	64 38
Cot	17 45	64 35
Crab	17 47	64 37
Dam	17 42	64 42
Dry	17 46	64 38
End	17 47	64 36
Episcopal Spire	17 44	64 42
Est. Mill	17 43	64 38
Fancy	17 43	64 38
Ford	17 43	64 41
Goat	17 45	64 34
Grape	17 44	64 35
Green	17 46	64 39
Grell	17 45	64 39
Gro	17 43	64 38
Hoy	17 45	64 40
Kid	17 45	64 34
Lamb	17 45	64 34
Louis	17 45	64 31
Nug	17 43	64 40
Pete	17 43	64 40
Pole	17 45	64 38
Pull	17 46	64 39
Recovery Hill	17 44	64 42
Rest	17 45	64 39
Sak	17 44	64 34
Sight	17 44	64 39
Sol	17 45	64 37
Tague	17 45	64 36
Ton	17 45	64 37
Tude	17 45	64 37

August 30, 1928.

Memorandum re H. 46522

Location of Signal Let

The photostat of page 37 from Vol. 13 of this sheet gives three cuts to locate "Let". These were plotted on the smooth sheet. Two check the position of "Let" as plotted and two pass through the white point within the yellow circle shown on the photostat of this section of the smooth sheet. This white point is a prick point which appears through an erasure on the smooth sheet. All the hydrography in Great Pond Bay as plotted on the smooth sheet is based upon this position of "Let", although numerous prick points appear on the sheet based upon position of "Let" as plotted. These points, however, were not used in plotting the soundings.

No other information regarding "Let" has been uncovered except for the fact that two descriptions of stations of "Let" with the same geographic location, but one describes the signal as a flag stuck in the ground and the other as W. W. on the beach.

The DM & DP on both descriptions correspond to the western position of "Let".

Copy for Records Section files.

(11)

J. D. H.

March 16, 1928.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET 4652a

Locality: VIRGIN ISLANDS, ST. CROIX.

Chief of Party: W. C. Mattison, 1924-5
Plane of reference is M. L. W.

2.9 ft. on tide staff at Christiansted
2.0 " do Frederiksted, 1924.
2.8 " do do 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.

J. D. H.

Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *4652a* - - - -

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

Number of positions on sheet *5542*
Number of positions checked *2667*
Number of positions revised *1123*
Number of soundings recorded *14,511*
Number of soundings revised *?*
Number of signals erroneously
plotted or transferred *2*

Date: - - *Nov. 2, 1928* - - - - -

Cartographer: - *John C. MacKab.* - - - - -

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

AND REFER TO No. 10-LE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

September 11, 1928.

To: Commanding Officer,
Coast and Geodetic Survey,
Ship LYDONIA,
c/o Postmaster,
Portland, Maine.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Hydrographic Sheet 4652A.

On the inclosed copy of a section of Hydrographic Sheet 4652a, three cuts to locate hydrographic station "Let" have been plotted. A copy of the record of these cuts is also inclosed.

These cuts intersect at two different points along the shore, and the symbol was placed over the eastern intersection. The positions of the hydrographic launch, however, were plotted with the western intersection. It appears that after the sounding lines had been plotted, the position of the signal had been changes. However, a number of prick points indicate that the sounding lines had also been plotted with the eastern position of the signal, but for some reason were not accepted.

At another place in the record, there are two positions recorded opposite a note "Coral head". It is not known whether these are positions on the same shoal or two separate shoals. If plotted with the western position of "Let" they plot close together, apparently on the same shoal, but if plotted with the eastern position, the one which has been inked, they plot some distance apart, indicating that the positions were taken on two separate shoals.

It is requested that you investigate this matter carefully and inform this office which position of hydrographic signal "Let" should be accepted.

R. C. Jarvis
Acting Director.

Inclosures.

POST-OFFICE ADDRESS: Edgartown, Mass.

TELEGRAPH ADDRESS: " "

EXPRESS OFFICE:

OCT 11 9 06 AM '28
14

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

October 6, 1928.

To: The Director, U. S. Coast and Geodetic Survey.

From: Lt. Chas. K. Green, Edgartown, Mass.

Subject: Hydrographic Sheet 4652A.

Reference: 10-LE of Sept. 11, 1928, to Commanding Officer,
Coast Survey Ship Lydonia.

Reference and enclosed photostats have been forwarded to this party, and as the signal in question was located by me, the information is returned to the office direct.

The difficulty with signal "let", was apparently caused by a n error in recording signal "Wire" in place of "Est", as the initial in the first cut. The three cuts then all intersect at the western position which is correct. These signals in Great Pond Bay were no doubt plotted on the boat sheet at the same time they were cut in, and checked on the western position, which was used on the boat sheet. The eastern position was not plotted by me on either sheet. I was detached from the party before the smooth sheet was plotted by Lt. Thorson, but he evidently plotted the eastern position on the sheets when the recorded difference in cuts was noted. After he decided that the western position was correct, the wrong position was used when inking in the symbol. The two fixes at coral reef were taken on two sides of the same reef. The second of these fixes (page 40 of the sounding record) offers another check on the western position of signal "Let", (see enclosed photostat of sounding record and sheet).

It is realized that the note, "Fixes at coral reef", should have also noted the side of the reef at which the positions were taken.

*File with Desc. Report
H 4652A*

Chas. K. Green
Chas. K. Green,
Chief of Pa rty.

Copy to Commanding Officer,
LYDONIA.

DEPARTMENT OF COMMERCE

AND REFER TO No. 11-DFM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

SECTION OF FIELD RECORDS

Report on Verification of Hydrographic Sheet No. 4652a

Surveyed in 1924-1926

Chief of Party, G. C. Mattison.

Surveyed by G. C. M., C. K. Green, A. P. Batti, M. Leff, and
H. E. Finnegan.

Protracted and soundings plotted by A. C. Thorson.

Verified and inked by J. C. MacNab.

1. The records conform to the requirements of the General Instructions except as follows:
 - (a) The sounding records are rather mixed up. The work from different ships are in the same volume. The ships color scheme for its positions are mixed. In one case a day's work, noted as blue P originally, was later changed to a green C.
 - (b) While as a rule full notes have been given, in several instances the position of a rock or a shoal with relation to the boat as it passed near was not noted.
 - (c) The positions of the boat when acting as a signal for the Wire Drag work are incorporated in the various volumes used for the hydrographic sheet.
2. The plan and character of development fulfill the requirements of the General Instructions except as noted at the end of this report.
3. The plan and extent of development satisfy the specific instructions.
4. The protracting in general was accurate although on Long Shoal and in other localities at great distances from the signals there was evidence that the protractor used was in error. Several tests for shrinkage were made. This element was excessive and an allowance made therefor.

Signal Gab gave some difficulty. A cut was taken to "E. Gab" locating an erased point on the smooth sheet. Part of the hydrography employed this erased point and part the point as inked. It was decided after a careful examination of all the records and the agreement of plotted soundings that the inked point was correct and all work using Gab was changed to agree with this signal.

Signal Let as it was plotted and inked was relocated after correspondence with the field party. This correspondence was made a part of the descriptive report and is self explanatory.

The positions of the buoys and ship used as a signal being so numerous were not shown on the sheet and were therefore plotted as the work progressed.

Two minor but troublesome features occurred in the recording and plotting of the sheet.

- (1) \triangle Hoy and \odot Hog were written so nearly alike that they were confusing. These two names should not occur so close together as to be confusing.
- (2) The person plotting this sheet was careless as to where he put his red checkmark (\checkmark) and in many cases the checks obliterate figures in the position fixes in the sounding records.

5. Plotting of soundings -- It was decided to plot this sheet in fathoms and fractions and all the soundings were reduced from the field reduction to feet, to fathoms and fractions.

The time intervals were carefully adhered to and the sounding line crossings were adequate.

6. The field plotting was completed to the extent prescribed in the General Instructions.
7. The development in channels and on shoals is sufficient. The work on this sheet has been dragged and a wire drag smooth sheet submitted. (H. 4652b)
8. The junction with H. 4653a will be taken up when that sheet is verified.

The junction with sheet H. 4629a is satisfactory although two soundings of 99 and 11 fathoms in the vicinity of Lat. $17^{\circ}47'$ and Long. $64^{\circ}41'$ do not agree with the soundings of H. 4629a. Both of these have been investigated as to their accuracy of position and they cannot be relocated elsewhere.

9. No further surveying is required to develop the areas within the limits of this sheet.

10. Notes:

A 20 fathom barrier shoal exists at the outer end of Long Shoal.

11. Rating of the work - Good.

12. Reviewed by John C. MacNab, November 2, 1928.

Inspection of H. 4652a

Extreme difficulty was encountered and much time spent in checking the protracting in the eastern part of the work due to long shots and small angles. The verification indicated that the original plotting of this area was as accurate as possible, but there are probably some errors in position that are unavoidable. It is believed that none of them are sufficiently erroneous to vitiate the results. Several survey buoys in this area would have made the plotting easier and probably more accurate, but it appears from the descriptive report that buoys could not be maintained. The drag soundings to eastward of Long Shoal do not plot on the axis of the shoal, which appears to be their logical position, and they were replotted on the hydrographic sheet from the original fixes. The positions of these drag soundings were identical on both sheets.

The soundings of 11 and 14 fathoms north of signal Wash are on the steep shelf and appear to be erroneous when considered in connection with the adjacent soundings on this sheet and with the overlapping ones from H. 4629a. All available data on both sheets was checked without revealing any errors. Nevertheless the existence of these soundings on the steep slope is so illogical that they are believed to be erroneous and have been rejected.

The sounding of 99 fathoms (593 feet) southwest of the two noted above falls directly on one of 179 feet on H. 4629a. It is evident that one of the soundings is in error in depth or position and the 99 has been rejected.

The survey does not show any of the offlying dry spots and reefs which appear on chart 905 north of Buck Island. This ^{area} was charted from foreign sources, and a comparison with this survey indicates that no detailed survey had been made there. It is believed that our survey correctly represents this area, and the offlying spots and reefs should be removed from the chart.

The 20 fathom curve at Lat. 17°49', Long. 64°32' looks illogical, but no defects appear in the records and it is believed to be correct.

Inspected by E. P. Ellis, November, 1928.

Approved:

Chief, Section of Field Records (Charts)

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

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

SECTION OF FIELD RECORDS

Report on Verification of Hydrographic Sheet No. 4652a

Surveyed in 1924-1926

Chief of Party, G. C. Mattison.

Surveyed by G. C. M., C. K. Green, A. P. Batti, M. Leff, and
H. E. Finnegan.

Protracted and soundings plotted by A. C. Thorsen.

Verified and inked by J. C. MacNab.

1. The records conform to the requirements of the General Instructions except as follows:
 - (a) The sounding records are rather mixed up. The work from different ships are in the same volume. The ships color scheme for its positions are mixed. In one case a day's work, noted as blue P originally, was later changed to a green G.
 - (b) While as a rule full notes have been given, in several instances the position of a rock or a shoal with relation to the boat as it passed near was not noted.
 - (c) The positions of the boat when acting as a signal for the Wire Drag work are incorporated in the various volumes used for the hydrographic sheet.
2. The plan and character of development fulfill the requirements of the General Instructions except as noted at the end of this report.
3. The plan and extent of development satisfy the specific instructions.
4. The protracting in general was accurate although on Long Shoal and in other localities at great distances from the signals there was evidence that the protractor used was in error. Several tests for shrinkage were made. This element was excessive and an allowance made therefor.

Signal Gab gave some difficulty. A cut was taken to "E. Gab" locating an erased point on the smooth sheet. Part of the hydrography employed this erased point and part the point as inked. It was decided after a careful examination of all the records and the agreement of plotted soundings that the inked point was correct and all work using Gab was changed to agree with this signal.

Signal Let as it was plotted and inked was relocated after correspondence with the field party. This correspondence was made a part of the descriptive report and is self explanatory.

The positions of the buoys and ship used as a signal being so numerous were not shown on the sheet and were therefore plotted as the work progressed.

Two minor but troublesome features occurred in the recording and plotting of the sheet.

- (1) Δ Hoy and \odot Hog were written so nearly alike that they were confusing. These two names should not occur so close together as to be confusing.
- (2) The person plotting this sheet was careless as to where he put his red checkmark (\checkmark) and in many cases the checks obliterate figures in the position fixes in the sounding records.

5. Plotting of soundings -- It was decided to plot this sheet in fathoms and fractions and all the soundings were reduced from the field reduction to feet, to fathoms and fractions.

The time intervals were carefully adhered to and the sounding line crossings were adequate.

6. The field plotting was completed to the extent prescribed in the General Instructions.
7. The development in channels and on shoals is sufficient. The work on this sheet has been dragged and a wire drag smooth sheet submitted. (H. 4652b)
8. The junction with H. 4653a will be taken up when that sheet is verified.

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9. No further surveying is required to develop the areas within the limits of this sheet.
10. Notes:

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11. Rating of the work - Good.
12. Reviewed by John C. MacNab, November 2, 1928.

Inspection of H. 4652a

Extreme difficulty was encountered and much time spent in checking the protracting in the eastern part of the work due to long shots and small angles. The verification indicated that the original plotting of this area was as accurate as possible, but there are probably some errors in position that are unavoidable. It is believed that none of them are sufficiently erroneous to vitiate the results. Several survey buoys in this area would have made the plotting easier and probably more accurate, but it appears from the descriptive report that buoys could not be maintained. The drag soundings to eastward of Long Shoal do not plot on the axis of the shoal, which appears to be their logical position, and they were replotted on the hydrographic sheet from the original fixes. The positions of these drag soundings were identical on both sheets.

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Inspected by E. P. Ellis, November, 1928.

Approved:

Chief, Section of Field Records (Charts)

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