

TP- 00004

TP- 00004

NOAA FORM 76-35	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Type of Survey Shoreline/Photobathymetry	
Job No. CM-7718	Map No. TP-00004
Classification No. Class III Map	Edition No. 1st* Two Parts
LOCALITY	
State Saint Croix, Virgin Islands	
General Locality Northeast Coast	
Locality Green Cay to Cottongarden Pt.	
1977 TO 19	
REGISTRY IN ARCHIVES	
DATE	

☆ U.S. GOVERNMENT PRINTING OFFICE:1973-761-775

* This map edition will not be field edited

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED		SURVEY TP. 00004 (2 Parts) MAP EDITION NO. (1) MAP CLASS III JOB PH-CM-7718	
DESCRIPTIVE REPORT - DATA RECORD							
PHOTOGRAMMETRIC OFFICE Photogrammetry Division (Rockville)				LAST PRECEDING MAP EDITION			
OFFICER-IN-CHARGE Cdr. Walter Simmons				TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED		JOB PH- MAP CLASS SURVEY DATES: 19__ TO 19__	
I. INSTRUCTIONS DATED							
I. OFFICE Instructions-OFFICE-Job CM-7718, Chart Compilation and Photobathymetry, St. Croix, Virgin Islands, 8/21/78 Instructions-AEROTRIANGULATION-Job CM-7718, Chart Compilation and Photobathymetry, St. Croix, Virgin Islands, 8/3/78.				2. FIELD Instructions-PHOTOGRAPHY-Job CM-7718 Shoreline Mapping and Photobathymetry, St. Croix, Virgin Islands, 10/26/77 Instructions-FIELD-Job CM-7718, Shoreline Mapping and Photobathymetry, St. Croix, Virgin Islands, 9/21/77			
II. DATUMS							
1. HORIZONTAL: <input type="checkbox"/> 1927 NORTH AMERICAN				OTHER (Specify) Puerto Rico Datum			
2. VERTICAL: <input checked="" type="checkbox"/> MEAN HIGH-WATER <input checked="" type="checkbox"/> MEAN LOW-WATER <input type="checkbox"/> MEAN LOWER LOW-WATER <input checked="" type="checkbox"/> MEAN SEA LEVEL				OTHER (Specify)			
3. MAP PROJECTION Lambert Conformal Conic				4. GRID(S)			
				STATE Virgin Islands		ZONE St. Croix	
5. SCALE 1:10,000				STATE		ZONE	
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS				NAME		DATE	
1. AEROTRIANGULATION BY METHOD: Analytic Block LANDMARKS AND AIDS BY				Robert Kelly		4/6/79	
				N/A			
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY				H. Felices		4/18/79	
				N/A			
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY				H. Felices		1/23/80	
INSTRUMENT: B-8S/ALTEK Bathymetry				Robert Rodkey		"	
SCALE: 1:10,000				"		11/22/80	
				Gregory Fromm		"	
4. MANUSCRIPT DELINEATION PLANIMETRY BY				H. Felices		2/5/80	
				Gregory Fromm		4/1/80	
METHOD: Bathymetry				Robert Rodkey		11/22/80	
Smooth Drafting & Scribing				Gregory Fromm		11/29/80	
SCALE: 1:10,000				Robert Rodkey		11/22/80	
				Gregory Fromm		11/29/80	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				N/A			
6. APPLICATION OF FIELD EDIT DATA BY				Field Edit Canceled			
				N/A			
7. COMPILATION SECTION REVIEW BY				G. Fromm		12/17/80	
8. FINAL REVIEW BY				Robert Rodkey		11/16/81	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY				Robert Rodkey		12/21/81	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY				G. Fromm		3/19/82	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY				D. L. Wolfe		4-20-82	

NOAA FORM 76-36B
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

COMPILATION SOURCES

TP-00004 (2 Parts)

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-10(Z)
Focal length=153.14mmTYPES OF PHOTOGRAPHY
LEGEND

TIME REFERENCE

TIDE STAGE REFERENCE

- ☐ PREDICTED TIDES
☒ REFERENCE STATION RECORDS
☐ TIDE CONTROLLED PHOTOGRAPHY

- (C) COLOR
(P) PANCHROMATIC
(I) INFRARED

ZONE Atlantic
☒ STANDARD
MERIDIAN 60th
☐ DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
77 Z(C) 0107, 0109, 0111 0113, 0115	12/17/77	0850-0856	1:20,000	- .01 Feet MHW
77 Z(C) 9916, 9918	12/7/77	0932-0937	1:20,000	+ .19 Feet MHW
77 Z(C) 9327-9329	11/14/77	1005-1016	1:20,000	+ .48 Feet MHW

REMARKS The stages of Tide listed above were determined from "Christiansted" tide gage records.

2. SOURCE OF MEAN HIGH-WATER LINE:

The source of the mean high-water is the photography listed above under Item 1. Refer to paragraph #35 of the Compilation Report bound with this Descriptive Report.

3. SOURCE OF MEAN LOW-WATER OR MEAN LOWER LOW-WATER LINE:

The source of the mean low-water is the photography listed under Item 1. Refer to paragraph #35 of the Compilation Report bound with this Descriptive Report. Reef symbols depicted represent the approximate mean low-water line.

4. CONTEMPORARY HYDROGRAPHIC SURVEYS (List only those surveys that are sources for photogrammetric survey information.)

SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED

5. FINAL JUNCTIONS

NORTH	No	EAST	TP-00005 *	SOUTH	TP-00009 *	WEST	TP-00003 *
Contemporary Survey							

REMARKS * Consist of two parts - Shoreline Manuscript plus Photobathymetric overlay. Final junction was made to both parts.

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

HISTORY OF FIELD OPERATIONS

TP-00004

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY Photo Party 62	Robert S. Tibbetts	Oct 1977
2. HORIZONTAL CONTROL RECOVERED BY	N/A	
ESTABLISHED BY	N/A	
PRE-MARKED OR IDENTIFIED BY	Norie	
3. VERTICAL CONTROL RECOVERED BY	N/A	
ESTABLISHED BY	L.H. Davis	10/26/77
PRE-MARKED OR IDENTIFIED BY	L.H. Davis	10/26/ 11/8
4. LANDMARKS AND RECOVERED (Triangulation Stations) BY	N/A	
AIDS TO NAVIGATION LOCATED (Field Methods) BY	N/A	
IDENTIFIED BY	N/A	
5. GEOGRAPHIC NAMES TYPE OF INVESTIGATION		
INVESTIGATION <input type="checkbox"/> COMPLETE		
BY <input type="checkbox"/> SPECIFIC NAMES ONLY		
<input checked="" type="checkbox"/> NO INVESTIGATION	N/A	
6. PHOTO INSPECTION CLARIFICATION OF DETAILS BY		
7. BOUNDARIES AND LIMITS SURVEYED OR IDENTIFIED BY		

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED
None2. VERTICAL CONTROL IDENTIFIED
Pre-marked and photoidentified

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
		77 Z(C) 0107	Vertical Panel #4
		77 C(C) 9712	(Pre-marked)
		77 Z(C) 0109	Vertical Panel #5
		77 C(C) 9712	(Per-marked)
		Field photo	Vertical Pt. No. 6 (Inner & Outer) Photoidentified soundings
		Field photo	Vertical Pt. No. 7 (Inner & Outer) Photoidentified soundings

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

Field Control Report

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

Field Control Report

Control Identification Cards (Vertical & Horizontal)

NOAA Form(s) 76-72 (List of Directions)

Photographs of Vertical Control Panels

Vols. I & II

Horizontal Observations

Vol I WYE Leveling Book

NOAA FORM 76-36C
(3-72)

NOAA FORM 76-36D
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

RECORD OF SURVEY USE

TP-00004(2 Parts)

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Shoreline Map plus Photobathymetry map overlay	4/1/80	Class III Shoreline Map. Field edit canceled		1/13/81
Shoreline/Photobathymetry Maps Final reviewed prior to registration	11/16/81	Class III Shoreline Map. Field edit canceled.	3/22/82	

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
3 Pages		3/22/82	76-40 listing(s)

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.
 2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS 567 SUBMITTED BY FIELD PARTIES.
 3. ☒ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.
 ACCOUNT FOR EXCEPTIONS:

4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: 3/26/82

IV. SURVEY EDITIONS (This section shall be completed each time a new map edition is registered)

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

TP-00004

SUMMARY

This map is one of nine 1:10,000 scale shoreline/photobathymetric maps that comprise Job CM-7718. The map was compiled in two parts; part 1 is the base shoreline manuscript and part 2 is the photobathymetric overlay.

The project area encompasses the island of Saint Croix, U.S. V.I. and the Buck Island National Monument.

The purpose of this survey is to provide data for use in the maintenance of published charts and new chart construction.

Field operations began in October 1977. Operations generally consisted of aerial photography, tidal observations, and the recovery, establishment, and identification of horizontal and vertical control. Horizontal control was premarked (paneled), vertical control was premarked and photoidentified. There was no field inspection performed.

High and low altitude natural color photographs were furnished to complete this job. Basic aerotriangulation photography was flown at 1:50,000 scale, compilation photography at 1:20,000 scale. The high altitude photography was taken in November 1977 with the Wild RC-8(C) camera, the 1:20,000 scale photography in November/December 1977 with the RC-8(E).

Eight strips of color photography, two 1:50,000 scale and six 1:20,000 were bridged by analytic aerotriangulation methods and adjusted to ground on the Virgin Island State Plane Coordinate System. The two high altitude strips were bridged to provide control for bridging the lower altitude strips. Sixteen horizontal and seventeen vertical control stations were used in the block adjustments of the six 1:20,000 scale strips. This work provided the horizontal and vertical control for compilation.

Aerotriangulated control points from the two southern low altitude bridged strips were transferred to one adjacent 1:20,000 scale strip, 77-Z(C)9265-9280. This allowed densification and a seaward extension of photobathymetry compilation on TP-00006 through TP-00009.

Tidal data information for this job was furnished by the Tides and Water Level Division (OA/C23). This information consisted of reference station records for four tide gages and was used in determining the tidal stage at the time each compilation photography was taken.

Compilation was performed in the Special Projects Section (Rockville). Compilation was accomplished through standard photogrammetric methods utilizing the Wild B-8S stereoplotter interfaced

with an ALTEK digitizing system. This map is based on an office interpretation of the 1:20,000 scale photographs. The depths and six-foot interval depth curves depicted on the photobathymetric overlay are referred to the MLW datum established by NOS. A tide zone factor was applied to each photobathymetric model in order to reference all digital data to the MLW datum.

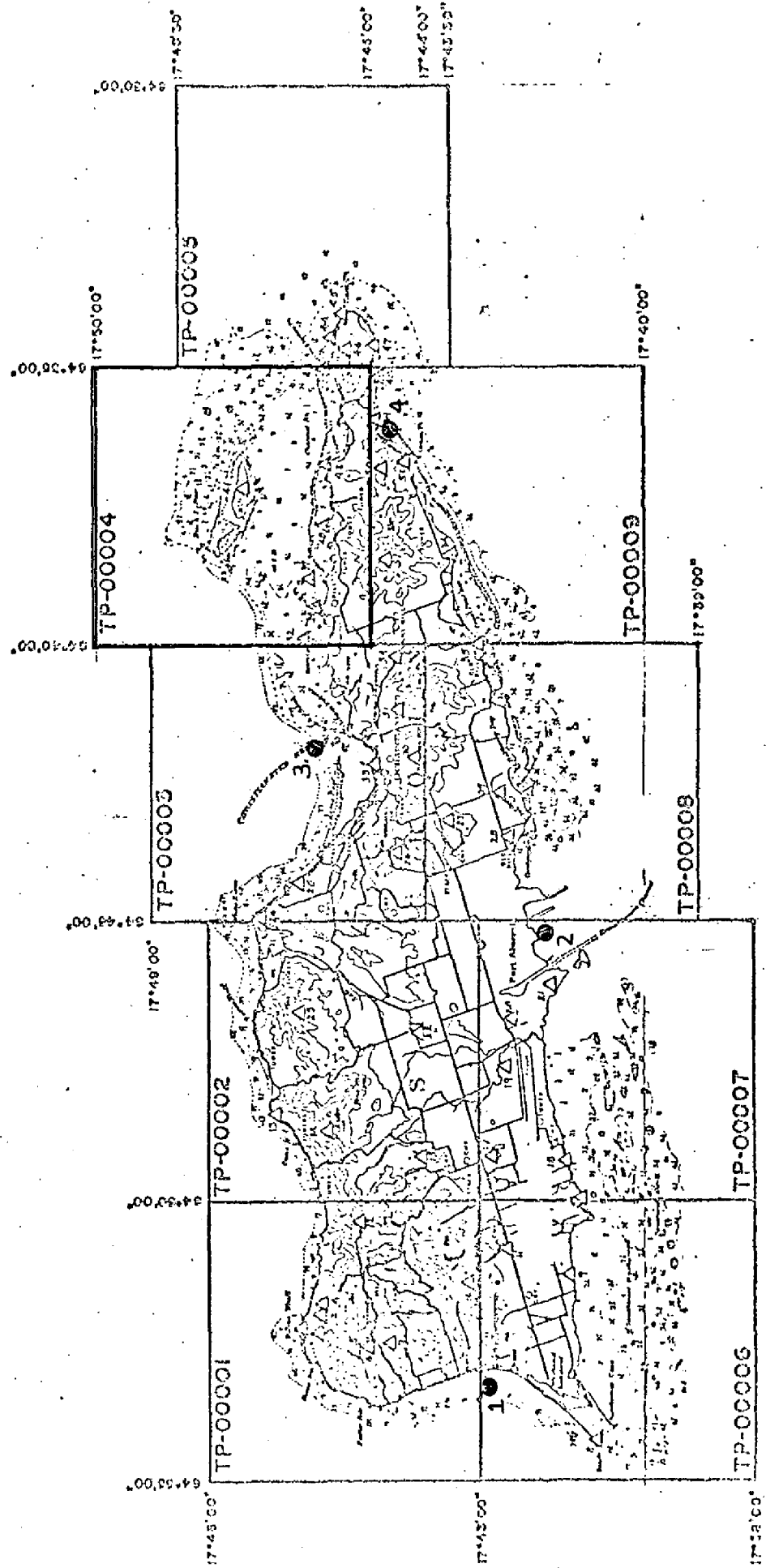
Basic map line work is smooth compilation drafted. Discrete depths were scribed using the Calcomp 718 flatbed plotter to produce a stable base scribecoat negative. The depth curves were then hand scribed on this scribecoat. Using photographic processes, the scribecoat negative was used to produce a stable base positive, the photobathymetric overlay.

This map edition will not be upgraded. Post-compilation photogrammetric field operations were canceled July 2, 1980. Hydrographic surveying is scheduled in the area covered by this map. Field data developed to upgrade this map will be incorporated as part of the hydrographic survey and/or forwarded to the Marine Chart Division for blueprint.

Final review was performed by the Special Projects Section (Rockville). The map was found to be satisfactory and meets the requirements of Bureau Standards and the National Standards for Map Accuracy.

This Discreptive Report contains all pertinent reports and listings of data used to complete the map.

● TIDE GAGES
1 Frederiksted
2 Limetree Bay
3 Christiansted
4 West Indies Lab



FIELD INSPECTION

There was no field inspection prior to compilation. Field work accomplished was limited to the recovery and identification of the horizontal and vertical control necessary for aerotriangulation.

CONTROL REPORT

Job CM-7718
St. Croix, Virgin Islands

GENERAL STATEMENT:

In accordance with project instructions, circled stations were premarked as reported on NOAA Form 76-53. All triangulation stations were premarked with 1:50,000 scale arrays. Horizontal control was limited to stations that were needed to meet aerotriangulation requirements. No recovery notes were written because a Satellite Triangulation Party had recovered stations in the previous month. No new stations were established.

Substitutions were made for Panels No. 4 and No. 5. Permission to premark or photo identify BULOWS MINDE was refused by the property owner. A site, 736.392 meters north of station WORK, 1919, was premarked. Computations are enclosed. Station MOND, 1919 was premarked direct as an extra station. Station FANCY, 1919 was premarked in place of Station SEVEN, 1919.

In all cases Panel Array No. 1 was used. However, on several occasions the full array could not be placed. These deviations have been indicated on the Control Station Identification Card (NOAA Form 76-53).

VERTICAL CONTROL: Vertical Panels 1 thru 5, 8 thru 11, 13 thru 15, 17 and 18 were all premarked with Array No. 3. However, on several occasions the full array could not be placed. These deviations have been indicated on NOAA Form 76-53 (Control Station Identification Card). Elevations were determined from bench marks or by water transfers.

At Vertical Panel sites 6, 7, 12, 16 and 19, a boat was maneuvered into an area where bottom detail was abundant. At this time the depth of the water was taken from the bow of the boat. An aerial photograph of the boat position was then taken from a circling aircraft. These methods are noted in the following paragraphs.

VERTICAL PANEL No. 1

The Panel was placed on the northwest side of St. Croix. The area is known as Hamns Buff. The Panel is approximately 75 feet south of the shoreline. The elevation of the water was determined by levels from Bench Mark "1 AZ 1957". The water elevation was transferred to a point close to the Panel. Levels were run from this point to the Panel. The Panel's elevation is 10.721 feet above mean sea level.

VERTICAL PANEL No. 2

The Panel was placed in a grass field in an area known as North Star Estates. The elevation was determined by a water transfer, levels were run from the water level to the Panel. Panel is 22.738 feet above 1.75 feet on Christiansted Tide Staff.

VERTICAL PANEL No. 3

The Panel was placed near the shoreline in an area known as Judith Fancy. The elevation was determined by a water transfer, levels were run from the water level to the Panel. Panel is 10.475 feet above 1.70 feet on Christiansted Tide Staff.

VERTICAL PANEL No. 4

The Panel was placed on the south side of Green Cay, a small island off the northeast shoreline of St. Croix. The elevation was determined by a water transfer, levels were run from the water level to the Panel. Panel is 0.62 feet above 1.80 feet on Christiansted Tide Staff.

VERTICAL PANEL No. 5

The Panel was placed near the shoreline on the northeast side of St. Croix in an area known as Mary's Fancy. The elevation was determined by a water transfer, levels were run from the water level to the Panel. Panel is 5.90 feet above 3.85 feet on West Indies Laboratory Tide Staff.

VERTICAL PANELS No. 6 and No. 7

Vertical Panels No. 6 and No. 7 were boat stations off the northwest and northeast shoreline of Buck Island respectfully. At both stations, a photograph and a depth of water was taken on the inner and outer sides of the reef.

VERTICAL PANEL No. 8

The Panel was placed on the east side of St. Croix. The elevation was determined from Bench Mark No. 1, 1975 located at the West Indies Laboratory. An elevation of 10.00 feet was assumed for the Bench Mark. Levels were run to the water, and then on to the Panel. Panel is 7.24 feet above the assumed elevation of BM No. 1, 1975. BM No. 1 1975 = 2.05

VERTICAL PANEL No. 9

This is an orange colored Panel placed on a wreck that is grounded on the reef just south of Great Pond Bay. The elevation was determined by a direct water transfer from the water level to the Panel. Panel is 7.5 feet above the water level, 1015 AST 3 Nov. 1977.

VERTICAL PANEL No. 10

The Panel was placed in a boat yard east of the town of Christiansted; approximately 200 feet south of the bulkhead and piers. The elevation was determined by levels from Bench Mark "9 CES 1957 4". The elevation of the Panel is 2.038 feet above mean sea level.

VERTICAL PANEL No. 11

The Panel was placed in an open parking lot approximately 150 feet west of Centerline Road in an area known as Peter's Rest. The elevation was determined by levels from Bench Mark "7 CES 1957-207". The elevation of the Panel is 190.750 feet above mean sea level.

VERTICAL PANEL No. 12

Vertical Panel No. 12 was a boat station off the southeast shore of St. Croix near Half Penny Bay. A photograph of the boat and depth of the water was taken simultaneously.

VERTICAL PANEL No. 13

The Panel was placed on an island southwest of Hess Oil Company Refinery. The elevation was determined by levels from Bench Mark "1401 C 1977". An assumed elevation of 30.00 feet was used. The difference in elevation between the Bench Mark and Panel is -11.584 feet. *Line Tr =*

"1401 C 1977" = 14.77 MSL

VERTICAL PANEL No. 14

The Panel was placed in an empty lot located approximately 1/4 mile north of Centerline Road in the central part of the island. The elevation was determined by levels from Bench Mark "5 CES 1957 188". The elevation of the panel is 147.502 feet above mean sea level.

VERTICAL PANEL No. 15

The Panel was placed at "T" intersection along Centerline Road in the central part of the island. The elevation was determined by levels from Bench Mark "3 CES 1957 127". The elevation of the panel is 109.405 feet above mean sea level.

VERTICAL PANEL No. 16

Vertical Panel No. 16 was south of the airport and south of an ship wreck. A photograph of the boat and a depth of the water was taken simultaneously.

VERTICAL PANEL No. 17

The Panel was placed north of the Wind Mill located at the Whim Great House Estates. The elevation was determined by levels from Bench Mark "3 CES 1957 127". The elevation of the panel is 92.155 feet above mean sea level.

VERTICAL PANEL No. 18

An area at the west end of the pier at Fredrickstad is to be used as the Panel. Several points in this area were leveled to from Bench Mark "1 AZ 1957". This was done to verify that the area of the pier was level. The elevation of the area varies from 7.626 feet to 7.566 feet above mean sea level. See NOAA Form 76-53 for detailed sketch of area leveled.

VERTICAL PANEL No. 19

Vertical Panel No. 19 has 4 different intersection positions and 1 boat

position off the shoreline at the southwest cape of St. Croix. Positions 1 thru 4 are located by a baseline from Triangulation Station 51197. Computations enclosed. Position 5 is a photograph of a boat with a depth observed at the time of photography. Positions along the shoreline of the southwest cape are as follows:

10 Nov 1977	Intersection Position No. 1	Depth 13.0 ft	Time 11:10 AST
10 Nov 1977	Intersection Position No. 2	Depth 13.5 ft	Time 11:19 AST
10 Nov 1977	Intersection Position No. 3	Depth 58.0 ft	Time 11:54 AST
10 Nov 1977	Intersection Position No. 4	Depth 8.6 ft	Time 12:45 AST
13 Nov 1977	Boat Position No. 5	Depth 7.5 ft	Time 9:19 EST

20. Extra Vertical Panel

The panel was placed on a wrecked landing craft that is approximately due south of the Alexander Hamilton Airport. The panel was 3.75 feet above the water level at 1005 AST 11/7/77. *Line Tree*

Respectfully Submitted,

Approved and Forwarded:

R. E. Ledbetter
R. E. Ledbetter
 Ronald E. Ledbetter

Robert S. Tibbetts
 Robert S. Tibbetts
 Chief, Photo Party 62



07741
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

14

July 2, 1980

OA/C3442:LVS

TO: OA/C342 - John D. Perrow

FROM: OA/C34 - Walter S. Simmons

SUBJECT: Registration of Maps for Job CM-7718
St. Croix, Virgin Islands

Request for field edit has been canceled for all maps in Job CM-7718.

You are hereby instructed to complete final review and register maps TP-00001 through TP-00009 as Class III.

cc:
C3442
C3424
C3421
CAM52



10TH ANNIVERSARY 1970-1980
National Oceanic and Atmospheric Administration
A young agency with a historic

Photogrammetric Plot Report
St. Croix, Virgin Islands
CM-7718 March 1979

21. Area Covered

This report covers nine 1:20,000 sheets, TP-00001 thru TP-00009 of Saint Croix, Virgin Islands.

22. Two strips of 1:50,000 scale photography were bridged by analytic aerotriangulation methods to establish control for bridging 1:20,000 scale compilation photography and adjusted to ground on the Virgin Islands State Plane Coordinate system using the block adjustment program. Six strips of 1:20,000 scale compilation photography were bridged by analytic aerotriangulation methods. In using the 185 photo block program to adjust the six strips it was found that this program could not handle 109 photographs, however using the same block program it was determined that the 185 block program would handle 100 photographs. Two blocks were run to adjust the six strips to ground on the Virgin Islands State Plane Coordinate system. One block used strips one through five and the other block used strips two through six. Visible landmarks and fixed aids to navigation were located during bridging of the 1:20,000 scale photography.

Ratio values were determined on the 1:20,000 bridging photography and provided along with other bridging data to compilation.

23. Adequacy of Control

The horizontal control provided was adequate except for Work, 1919 (panel) which proved to be in error in the 1:50,000 scale strip and block adjustments. No apparent reason was found to justify error. All other control held within the accuracy required by National Standards of Maps at 1:50,000 and 1:20,000 scale.

24. Supplemental Data

Local shoreline and U.S. Geological Survey quadrangles were used to provide vertical elevations for preliminary strip adjustments.

25. Photography

RC-8 color film positives were adequate as to coverage, overlap and definition.

Submitted by,

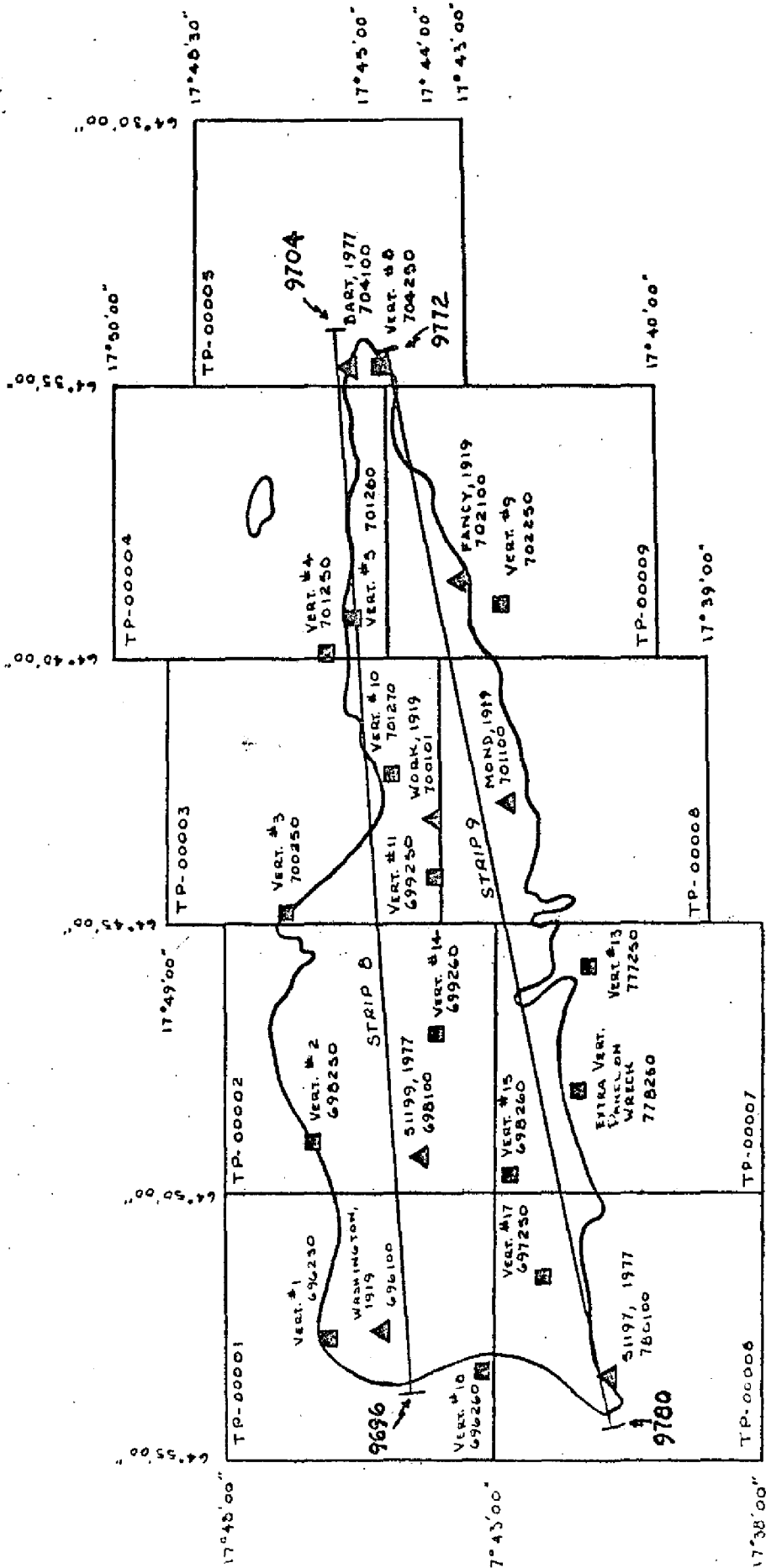
Robert B. Kelly
Robert B. Kelly

Approved and forwarded:

Don O. Norman

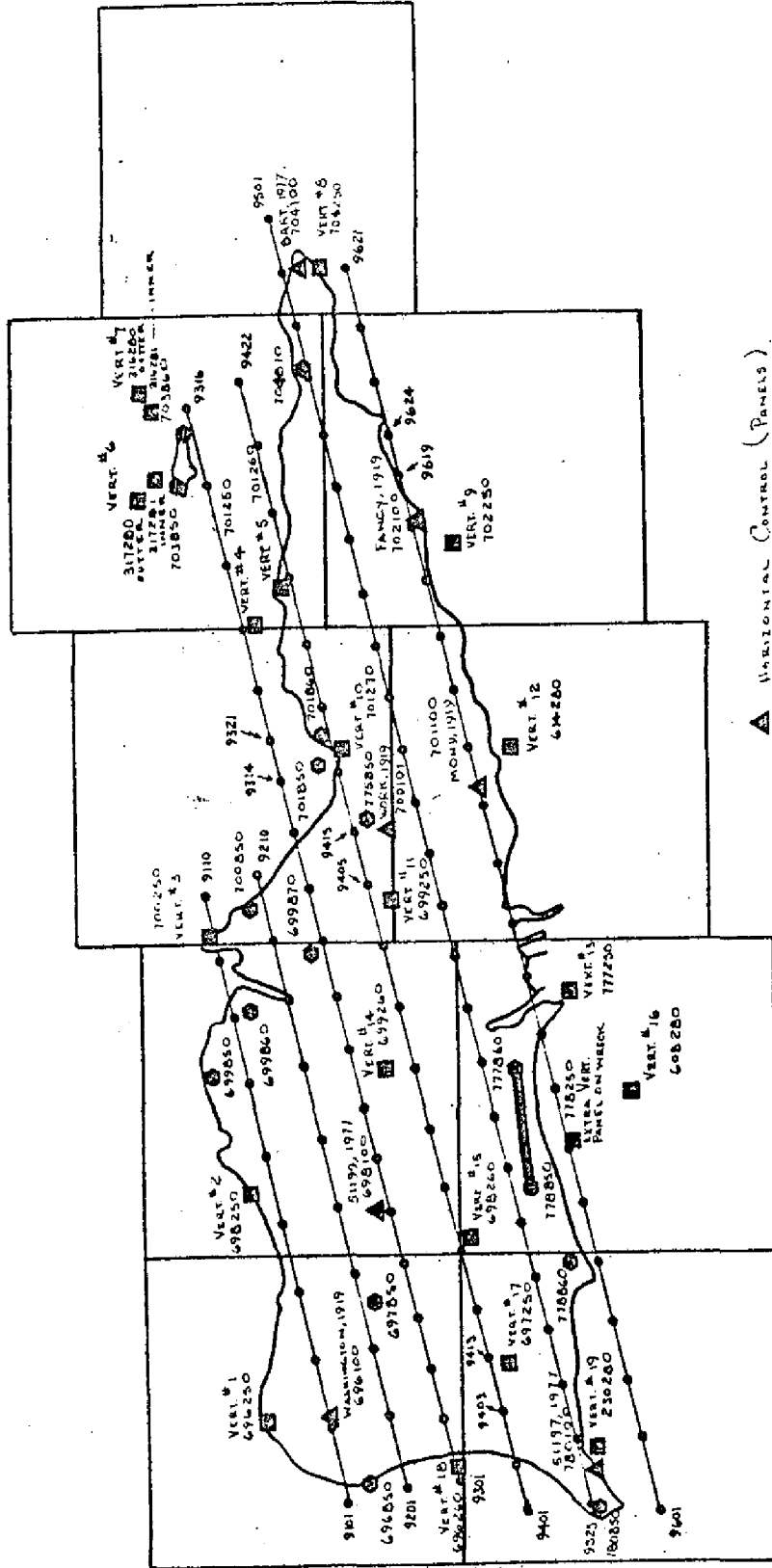
Don O. Norman
Chief, Aerotriangulation Section

JOB CM-7718
SAINT CROIX, VIRGIN ISLANDS
SHORELINE MAPPING
SCALE 1:50,000



▲ HORIZONTAL CONTROL
 ■ VERTICAL CONTROL

JOB CM-7718
SAINT CROIX, VIRGIN ISLANDS
SHORELINE MAPPING
SCALE 1:20,000



- ▲ HORIZONTAL CONTROL (PANELS)
- VERTICAL CONTROL (PANELS)
- VERTICAL CONTROL (UNDERWATER)
- CENTRAL POINTS FROM 1:50,000 SCALE

ST. CROIX BLOCK STRIPS 175

18

		.997	2.815	
	596100	1041446.517	72288.765	314.779
		- 1.139	1.296	
	598100	1063453.739	68106.723	252.785
		- .191	- .405	
	700101	1096636.121	66247.038	164.488
		- .413	- .506	
△	701100	1099155.587	57744.424	97.348
		- .099	.367	
△	704100	1149132.554	75898.178	224.647
		- .080	- .361	
△	730100	1036597.741	47727.177	3.507
				- .658
□	230220	1037855.244	47434.682	-3.842
	230280	1037355.220	47434.893	-3.657
				- .105
□	316220	1132925.320	83111.322	-13.695
				.095
	316221	1132690.376	87741.250	-7.795
	316230	1132925.413	83111.773	-9.617
	316281	1132690.407	87741.592	-5.498
				1.693
	317220	1127333.814	89607.280	-18.693
	317221	1128418.075	89653.375	-9.834
	317290	1127638.817	89307.135	-13.162
	317291	1128468.065	89253.322	-6.780
				.123
	318230	1066064.072	55931.101	60.923
				- 2.116
	318291	1072621.038	55947.150	20.504
		.280	.445	- .404
△ □	596250	1039963.265	79110.146	10.317
		.371	.007	.139
△ □	596260	1037635.121	59513.124	7.457
		- 3.652	- 1.441	.101
	597250	1047225.491	54533.798	92.256
		- .009	.280	- .139
△ □	598250	1082934.736	79692.574	23.099
		- .429	.135	- .111
△ □	598250	1059231.380	59378.303	109.294
		.325	.053	- .138
△ □	599250	1090260.642	65546.566	190.612
		.177	1.352	- 2.880
	599260	1075362.125	65270.776	144.622
		.119	- .031	.318
△ □	700250	1086758.333	93995.650	11.243
		- .011	- .165	.038
△ □	701250	1114681.858	70844.112	1.268
		- 1.615	.208	- .653
	701260	1118473.147	77741.317	5.507
		- .029	.280	- .126
△ □	701270	1103392.081	72353.391	1.912

		.045	- .336	- .985
△ □	704250	1149094.686	75067.192	14.305
		- 1.827	- .249	- 1.740
	776250	1067233.315	51480.005	2.760
	696850	1036002.220	69419.714	28.222
	697850	1052332.525	69544.308	529.713
	699850	1071973.676	84256.702	6.458
	699860	1076209.588	80536.579	869.863
	699870	1084531.749	73684.116	493.606
	700850	1089461.060	86919.623	38.273
	701850	1102127.630	73141.771	38.993
	701860	1105201.610	74153.706	12.920
	703850	1128032.932	87209.159	4.583
△	703860	1133980.507	86745.531	-2.151
	704870	1139503.611	75127.153	72.430
	775850	1098421.958	67833.502	254.501
	777850	1072808.380	55870.157	21.140
	773850	1065244.530	55102.655	60.712
	730350	1032532.315	47072.005	7.900

CAPD COUNT= 06047

ST. CROIX BLOCK STRIPS 2-6

		$+ .267$	$+ .777$	
Δ	696100	1041445.787	72236.727	814.779
		$- .884$	$+ .238$	
Δ	698100	1063454.194	63105.270	252.849
		$- .039$	$- .450$	
	700101	1096686.273	66246.993	163.136
		$- .289$	$- .089$	
Δ	701100	1099155.711	57744.911	97.357
		$- .165$	$+ 2.382$	
	702100	1124017.685	63720.752	245.739
		$- .128$	$+ .407$	
Δ	704100	1149182.525	75898.18	225.162
		$- .196$	$- .220$	
Δ	730100	1036597.625	47727.318	3.396
			$+ .264$	
\square	230220	1037855.188	47434.722	-6.236
	230280	1037855.146	47434.742	-3.903
				$+ 1.899$
	316220	1132925.395	88111.746	-11.901
				$+ 1.706$
	316221	1132690.464	87741.487	-5.994
	316280	1132925.485	88111.706	-7.823
	316281	1132690.488	87741.549	-3.697
				$- 1.849$
Δ	317220	1127639.132	69307.327	-18.849
				$+ .178$
\square	317221	1128468.422	89253.352	-9.522
	317280	1127639.135	89307.185	-13.315
	317281	1128468.410	89253.497	-6.464
				$+ .141$
	518290	1065062.962	55078.400	60.941
				$- 2.313$
	518291	1072621.216	55944.896	20.307
				$+ .576$
\square	608220	1069695.773	46442.589	-11.224
	608280	1069695.752	46442.602	-7.743
				$- .041$
\square	614220	1103112.779	55645.407	-5.141
	614280	1103112.761	55645.419	-3.392
		$+ .407$	$- .051$	$- .277$
$\Delta \square$	696260	1037685.157	59513.066	7.319
		$- 4.460$	$- 1.307$	$+ .080$
	697250	1047234.683	54538.932	92.235
		$+ .226$	$- .096$	$+ .164$
$\Delta \square$	698250	1062035.021	79692.390	23.402
		$- 1.916$	$- 1.518$	$+ .068$
\square	698260	1059279.893	59376.920	109.473
		$+ .602$	$- .150$	$- 1.789$
\square	699250	1090260.919	65646.363	188.961
		$+ .711$	$+ .220$	$- 4.041$
	699260	1075362.659	65269.644	143.461

		- .086	+ .077	- .413
△ □	700250	1086788.128	83998.188	10.512
		- .011	- .183	- .008
● △ □	701250	1114691.957	79844.794	1.162
		- 1.271	+ .167	- .296
	701260	1118873.491	77741.276	5.964
		+ .031	+ .230	- 1.354
△	701270	1103692.079	72853.331	.684
		- .281	+ .191	+ .083
△ □	702250	1122402.658	61410.139	8.483
		+ .104	- .169	- .272
□	704250	1149094.745	75067.359	15.018
		- .100	- .114	- .281
□	777250	1080994.736	49930.826	2.909
		- 2.584	- 3.342	- .313
□	778250	1067232.554	51176.912	4.187
		1.453	2.687	
	696850	1036002.131	69418.130	27.227
		.611	2.516	
	697850	1052331.097	69544.903	528.264
		5.003	1.563	
	699860	1076210.180	80534.719	870.781
		3.322	1.54	
	699870	1084531.948	73683.22	492.462
		1.167	.979	
	700950	1069481.416	80916.237	38.123
		.700	.156	
	701850	1102127.615	73141.142	37.615
		.274	1.073	
	701860	1105201.635	74453.669	41.784
		2.262	.229	
	703850	1128033.282	87209.693	4.915
		.092	.053	
△	703860	1133960.531	86765.519	-.055
	704801	1143164.015	76530.799	22.196
	704802	1145038.727	72954.481	41.698
		5.020	1.750	
	704870	1139568.385	75727.809	76.252
		.287	1.060	
	775850	1098422.015	67833.459	253.228
		1.724	3.149	
	777850	1072608.389	55867.614	20.555
		2.224	.876	
	778850	1065293.613	55099.804	60.753
		2.812	1.312	
	778860	1055636.967	49679.807	20.135
		1.702	2.825	
	780850	1032591.908	47076.127	8.561

CARD COUNT= 00055

LISTING OF RATIO VALUES
CM7718
St. Croix, USVI

Ratio Values for natural color photography to achieve 1:10,000 -

77Z(C)9812 thru 9830 - 2.04X
77Z(C)9865 thru 9885 - 2.03X
77Z(C)9893 thru 9897 - 2.02X
77Z(C)9152 thru 9165 - 2.02X
77Z(C)9916 thru 9926 - 2.03X
77Z(C)9372 thru 9374 - 2.02X
77Z(C)0074 thru 0090 - 2.01X
77Z(C)0101 thru 0115 - 1.98X
77Z(C)9325 thru 9349 - 2.01X
77Z(C)9229 thru 9247 - 2.03X
77Z(C)9405 thru 9408 - 2.03X
77Z(C)9263 thru 9231 - 2.02X

Compilation Report

TP-00004

Reference is made to the Photogrammetric Plot Report bound with this Descriptive Report. In addition to the six strips of 1:20,000 scale photography bridged to compile the nine maps covering this survey area, one more strip was used. This strip 77-Z(C) 9265-9280, also 1:20,000, was used to compile portions of the photobathymetric data (depths and depth curves) shown on maps TP-00006 through TP-00009. Control for this strip was transferred by means of the Wild PUG instrument from two of the adjacent strips bridged.

31. Delineation

This survey was accomplished in two parts. Part 1 is the base shoreline map and Part 2 is the photobathymetric overlay. This entire survey was compiled at 1:10,000 scale using the Wild B-8S stereoplotter interfaced with an ALTEK digitizing unit. The base shoreline map was compiled using the B-8S stereoplotter. The detail shown on the photobathymetric overlay was compiled using B-8S/ALTEK system. Photography used for compilation is the 1:20,000 scaled natural color taken in 1977.

32. Control

Refer to the Photogrammetric Plot Report bound with this Descriptive Report.

The identification, density, and placement of horizontal and vertical control was adequate.

33. Supplemental Data

Tidal data information for this job was furnished by the Tides and Water Level Division (C23). This information consisted of reference station records for four tide gages and was used to determine the stage of tide for each frame of the photography used in the compilation phase.

34. Contours and Drainage

All drainage is from office interpretation of the natural color photography.

35. Shoreline and Alongshore Details

The mean high-water line, shoals, and other shoreline structures were compiled by office interpretation of the natural color photography.

The mean low-water line and reef lines were compiled using underwater contouring compilation methods. Vertical control for this compilation was furnished by field methods and the photogrammetric plot.

There was no preliminary field inspection of the shoreline.

36. Offshore Details and Photobathymetry

No unusual problems were encountered compiling the offshore detail depicted on the shoreline base map (Part 1).

Submerged coral and rock formations shown on the base shoreline map indicate the characteristics of the seabed and do not necessarily represent a hazard to navigation.

Photobathymetric discrete depths and depth curves (underwater contours) were compiled using the B-8S/ALTEK system. The depth curves were compiled by conventional underwater contouring methods. The MLW and reef lines depicted on the base shoreline map represent the zero depth curve. The discrete depths were compiled in digital form and then processed through a series of computer software routines to provide the depths as shown on the photobathymetric overlay (Part 2).

The photobathymetric data compiled is referenced to the mean low-water datum established by NOS.

Suspended silt and sun spots restricted the placement and density of discrete sounding in some areas.

37. Landmarks and Aids

Refer to the 76-40 listing(s) bound with this Descriptive Report for those charted landmarks and non-floating aids identifiable on the compilation photography.

The landmarks and fixed aids shown on the base map were not investigated by field personnel.

38. Control for Future Surveys

No Form 524 was submitted.

39. Junctions

Refer to Form 76-36B, Item 5, bound with this Descriptive Report.

40. Horizontal and Vertical Accuracy

This map complies with the National Map Accuracy Standards.

41. thru 45. Inapplicable46. Comparison with Existing Maps

A comparison was made with the following USGS quadrangle(s):

East Point, V.I., 1:24,000 scale, 1958 Edition

No significant differences were noted.

47. Comparison with Nautical Charts

A comparison was made with the following charts:

25640, scale 1:326,856, 26th Edition, dated 7/29/78

25641, scale 1:100,000, 16th Edition, dated 5/20/78

25645, scale 1:10,000, 7th Edition, dated 12/13/75

Items to be applied to Nautical Chart immediately - None

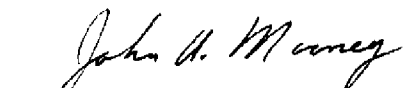
Items to be carried forward - None

Submitted by,



Henry Felices

Approved and Forwarded:



John A. Mooney, Jr.
Chief, Special Projects Section
(Rockville)
Photogrammetry Division

TP-00004
REVIEW REPORT
SHORELINE/PHOTOBATHYMETRY (PHOTOGRAMMETRIC)

61. GENERAL STATEMENT

Refer to "Summary to Accompany Descriptive Report" for general information in regards to the completion of this map.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

The geographic area covered by this map was mapped in 1919 at a scale of 1:10,000. Since nearly sixty (60) years have lapsed, no comparison between this map and those prior surveys was made.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Refer to the Compilation Report, Item 46, for information on this subject.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

The latest hydrographic surveys of this geographic area were conducted in the 1924 thru 1926 field seasons. The photobathymetric data was compared to the forementioned hydrographic surveys.

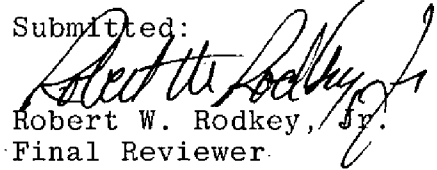
65. COMPARISON WITH NAUTICAL CHARTS

Refer to the Compilation Report, Item 47, for information on this subject.

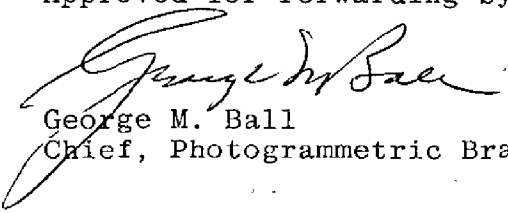
66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map complies with the project instructions and meets the requirements for Bureau Standards and the National Standards of Map Accuracy.

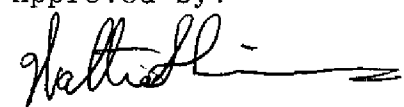
Submitted:


Robert W. Rodkey, Jr.
Final Reviewer

Approved for Forwarding by:


George M. Ball
Chief, Photogrammetric Branch

Approved by:


Walter S. Simmons
Chief, Photogrammetry Division

2/9/81

GEOGRAPHIC NAMES
FINAL NAME SHEET

CM-7718 (St. Croix, Virgin Islands)

TP-00004

Buck Island	Knight Bay
Buck Island Channel	Marys Fancy (Ppl)
Buck Island Reef	Pow Point
Carden	Prune Bay
Caribben Sea	Pull Point
Channel Rock	Romney Point
Chenay Bay	Solitude
Coakley Bay	Solitude Bay
Cottongarden Bay	Southgate Pond
Cottongarden Point	Tague Bay
Diedrichs Point	Tague Point
Greencay (Ppl)	Teagues Bay (Ppl)
Green Cay	Yellowcliff Bay
Knight	

Approved by:

Charles E. Harrington

Charles E. Harrington
Chief Geographer, C3x5

INFORMATION ON DISSEMINATION OF PROJECT MATERIAL

CM-7718
St. Croix, U.S., V.I.

NATIONAL ARCHIVES/FEDERAL RECORDS CENTER

Brown Jacket

Aerotriangulation Photographs
Plot Report
Computer printouts
Tide computations and data
Field Control Report
Control Identification Cards (Vertical & Horizontal)
NOAA Form(s) 76-72 (List of Directions)
Photographs of Vertical Control Panels
Horizontal Observations, Vol. I and II
Wye Level Book, Vol. I
NOAA Form 76-40 (duplicate copies)
Listing of Ratio Values

Project Completion Report

BUREAU ARCHIVES

Registered Maps
Descriptive Reports

REPRODUCTION DIVISION

Reduction negative of each map

OFFICE OF STAFF GEOGRAPHER

Geographic Names Standard

MARINE CHART DIVISION

Chart Maintenance Prints

76-400000		PHOTOGRAMMETRIC BRANCH		NATIONAL OCEAN SURVEY		NOAA		DATA	
LISTING		PHOTOGRAMMETRY DIVISION		DEPARTMENT OF COMMERCE		USA		VERSION	
								782707	
SVY	TP-00004	*	RPT UNIT	SPS,PB,ROCKVILLE,MD.	*	PAGE	1 OF	3	*
JOB	CM-7718	*	STATE	VIRGIN ISLANDS	*				*
PRJ	ST CROIX	*	LOCALITY	ST CROIX	*				*
DTM	P. RICO	*	DATE	03/04/80	*				*

POSITIONS DETERMINED		*	NO FIELD EDIT-CLASS III MAP		*	FIELD REPRESENTATIVE		*	
AND/OR VERIFIED BY		*	HENRY FELICES		*	OFFICE COMPILER		*	
FIELD AND OFFICE		*	HENRY FELICES		*	DIGITIZER		*	
ACTIVITIES		*	HENRY FELICES		*	DATA PROCESSER		*	

KEY FOR ENTRIES UNDER METHOD AND DATE OF LOCATION									
OFFICE		*	FIELD(CONT,D)		*				
1.OFFICE IDENTIFIED AND LOCATED OBJECTS.		*	B.PHOTOGRAMMETRIC FIELD POSITIONS** SHOW		*				
THE NUMBER AND DATE (INCLUDING MONTH, DAY		*	THE METHOD OF LOCATION OR VERIFICATION,		*				
AND YEAR) OF THE PHOTOGRAPH USED TO		*	DATE OF FIELD WORK AND NUMBER OF PHOTO-		*				
IDENTIFY AND LOCATE THE OBJECT ARE SHOWN.		*	GRAPH USED TO LOCATE AND IDENTIFY THE		*				
EXAMPLE 75E(C)6042		*	OBJECT.		*				
8-12-77		*	EXAMPLE P-8-V		*				
		*	8-12-77		*				
		*	74L(C)2982		*				

FIELD									
1.NEW POSITION DETERMINED OR VERIFIED									
KEY TO SYMBOLS									
F-FIELD P-PHOTOGRAMMETRIC									
L-LOCATED VIS-VISUALLY									
V-VERIFIED 5-FIELD IDENTIFIED									
1-TRIANGULATION 6-THEODOLITE									
2-TRAVERSE 7-PLANETABLE									
3-INTERSECTION 8-SEXTANT									
4-RESECTION									
A.FIELD POSITIONS* SHOW THE METHOD OF									
LOCATION AND DATE OF FIELD WORK.									
EXAMPLE F-2-6-L									
8-12-76									

*FIELD POSITIONS ARE DETERMINED BY FIELD									
OBSERVATIONS BASED ENTIRELY UPON GROUND									
SURVEY METHODS									

* NOTE: WHERE THE NAME OF AN AID INCLUDES THE IMMEDIATE GEOGRAPHIC HEADING UNDER WHICH IT IS LISTED,									
A DASH (-) IS USED TO INDICATE THE GEOGRAPHIC HEADING WHICH IS PART OF THE OFFICIAL NAME.									

[illegible]

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ATATAB

LANDMARKS FOR CHARTS
TO BE REVISED

PAGE 3 OF 3

R VALUE AS LANDMARKS

DESCRIPTION	RECORD REASON FOR DELETION	IT TRIANGULATION NAMES IN (

CMD * METHOD AND DATE
ALTEK* OF LOCATION
DGTZD* OFFICE * FIELD

*
* CHARTS
* AFFECTED

17 45 39.37 1210.3 NOT *77Z(C)0106*

* 25641

17 45 39.78 1222.9 NOT *77Z(C)0111*

* 25641

17 45 29.41 904.1 NOT *77Z(C)0111*

* 25641

17 45 16.31 501.4 NOT *777(C)0111*

* 25641

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