

9515

Diag. Cht. No. 905

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC
Field No. WH-10-3-75
Office No. H-9515

LOCALITY

State U.S. VIRGIN ISLANDS
General Locality ST. THOMAS
Locality NORTH OF HANS LOLLIK ISLAND

19 75

CHIEF OF PARTY

R. A. TRAUSCHKE

LIBRARY & ARCHIVES

DATE 1-28-77

9515

HYDROGRAPHIC TITLE SHEET

H-9515 *used*

INSTRUCTIONS - 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.

WH-10-3-75

State U.S. VIRGIN ISLANDS

General locality ST. THOMAS ISLAND

Locality HANS LOLLIK I.
AREA NORTH OF ST. THOMAS ISLAND

Scale 1:10,000

Date of survey MARCH 19, 1975 TO *JD*
APRIL 22, 1975 *678*
112

Instructions dated OCTOBER 30, 1974

Project No. OPR-423-WH-75

Vessel NOAA SHIP WHITING AND LAUNCH *1200*

Chief of party CDR. R.A. TRAUSCHKE

Surveyed by CDR. R.A. TRAUSCHKE, LCDR DANIELS, LT THEBERGE, LT MEYERS
LT(jg) PERRIN, LT(jg) KUHL, ENS BENNETT, ENS TERRY

Soundings taken by echo sounder, ~~XXXXXXXXXX~~

Graphic record scaled by SHIP'S PERSONNEL

Graphic record checked by SHIP'S PERSONNEL

Protracted by N/A

Automated plot by Calcom 618 AMC
WHITING SYSTEM

Soundings penciled by _____

verified by: B.J. Stephenson, AMC

Soundings in ^{feet} ~~fathoms~~ ~~XXXXXX~~ ~~XXXXXX~~ MLW ~~XXXXXX~~ ~~XXXXXX~~

REMARKS: TIME MERIDIAN WAS 0°. PROJECT INSTRUCTIONS OPR 423-WH-75,
VIRGIN ISLANDS DATED OCTOBER 30, 1974 ARE SUPPLEMENTED BY CHANGE
NO. 1 TO PROJECT INSTRUCTIONS DATED JANUARY 10, 1975 AND CHANGE
NO. 4 DATED JANUARY 24, 1975.

Corrections in red by BUS

Applied to Std 5-17-77
Bus

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY

REGISTRY NO. H-9515

FIELD NO. WH-10-3-75

NORTH OF HANS LOLLICK ISLAND
ST. THOMAS, U.S.V.I.

SCALE 1:10,000

NOAA SHIP WHITING

CDR ROBERT A. TRAUSCHKE, COMMANDING

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ABSTRACTS

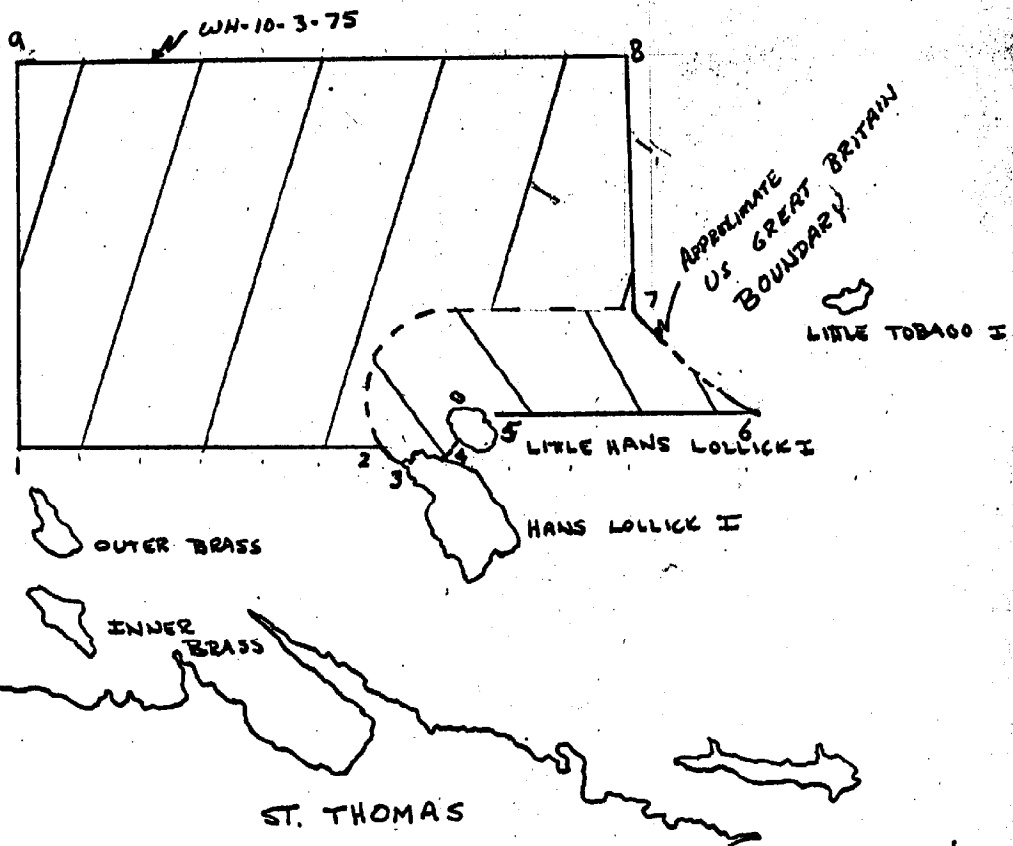
1. "HYDROGRAPHIC SHEET PROJECTION^{*}
AND ELECTRONIC CONTROL PARAMETERS"
2. "FIELD TIDE NOTE OR WATER LEVEL NOTE"
3. "GEOGRAPHIC NAMES LIST"
4. ^(TRA) "ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS"^{*}
5. "ABSTRACT OF CORRECTIONS TO ELECTRONIC^{*}
POSITION CONTROL"
6. "LIST OF STATIONS"
7. "ABSTRACT OF POSITIONS"^{*}
8. "BOTTOM SAMPLES"^{*}
9. "LANDMARKS FOR CHARTS"
10. "APPROVAL SHEET"

** Filed with Pathograms*

18° 30'
65° 00'



APPROXIMATE SURVEY AREA
FOR WH-10-3-75
H-2315

18° 30'
64° 50'



18° 20'
65° 00'

C&GS CHART
905

-  WHITING (2930)
-  LAUNCH I (2931)

18° 20'
64° 50'

A. PROJECT

This survey was conducted in accordance with Project Instructions OPR-423-WH-75, Virgin Islands dated October 30, 1974, supplemented by Change No. 1 to Project Instructions dated January 10, 1975 and Change No. 4 dated January 24, 1975.

B. AREA SURVEYED

The area surveyed extended offshore, North of St. Thomas Island. Hydrography on this survey commenced March 19, 1975 (Julian Day 078) and ended on April 22, 1975. (Julian Day 112).

The survey is bounded by the following limits:

Number	Latitude (North)	Longitude (West)
1	18° 24' 46"	64° 58' 33"
2	18° 24' 46"	64° 55' 10"
3	18° 24' 30"	64° 55' 00"
4	18° 24' 24"	64° 54' 33"
5	18° 24' 45"	64° 54' 09"
6	18° 24' 52"	64° 51' 57"
7	18° 25' 57"	64° 52' 54"
8	18° 28' 03"	64° 52' 57"
9	18° 28' 08"	64° 58' 30"

The following sketch show the approximate survey area and its limits.

The program input are depth from surface, temperature and conductivity. The program computes its velocity of sound at various layers and outputs are the velocity correction table giving true depth, transducer depth, and the corresponding velocity corrector to be applied. The transducer depth and velocity correctors are rounded to tenths and these values within the range of the survey are put on the velocity tape and applied to the smooth plot. Table I applies to WHITING (2930) and Table II applies to WH-I (2931). See "Abstract of Corrections to Echo Soundings." At the end of this report corrections for transducer depth settlement and squat were applied off line when plotting.

A copy of the Sounding Correction Abstract, the velocity tape listings, and the TC/TI tape listings are included in the "Abstract of Corrections to Echo Soundings" in this report.

The leadline comparisons, RK 530 input and output data, TDC observer data, and TDC calibration summary will be forwarded under a separate cover, "Field Records for the Determination of Corrections to Echo Soundings".

E. HYDROGRAPHIC SHEETS

The field sheets were prepared by the WHITING's personnel using the ship's plotting equipment. The survey area was divided at $18^{\circ} 25' 33''$ N to form two field sheets: WH-10-3N-75^{H-9515} and WH-10-3S-75^{H-9515}. In addition to these two field sheets, two additional sheets consisting of bottom samples are included.

C. SOUNDING VESSEL

The WHITING's ^{Launch} 1206 (2931) was used to gather data for this survey in areas that the WHITING could not operate. Hydrography was conducted on Julian Dates 078, 080, 081, 084, 095 and 100. The NOAA SHIP WHITING (2930) conducted hydrography on Julian Dates 108, 111 and 112 in the off-shore areas of this survey.

<u>Vessel</u>	<u>Position Number Used</u>
Launch 1206 (2931)	4000-4502, 5000-5012
WHITING CSS (2930)	1-598

D. SOUNDING EQUIPMENT

The hydrography for boat sheet WH-10-3-75 ^(H-9515) was conducted by the NOAA SHIP WHITING (2930) and Launch WH-I (2931). The fathometer used by the WHITING (2930) was a Ross Model 5000, 544 serial No. 1255. Depths ranging from 125 to 184 feet were recorded by the WHITING (2930). WH-I (2931) used a Rayethon 723, serial No. 37018. Inshore areas as shallow as 9 feet to deeper waters of 170 feet were recorded by WH-I (2931). Fathometer operators performed frequent initial settings, stylus arm length, AF and phase checks.

Velocity corrections to depth soundings were accomplished by using RK 530 using the curve fit option and input data obtained from a TDC cast on Julian Day 092 located 18° 23' N and 64° 56' W. Leadline corrections were taken to validate the TDC velocity corrections.

The field sheets have TDC and velocity correctors applied. Since it was determined that there were no electronic position correctors throughout the survey, an electronic position correction of zero was applied.

The sheets and all data will be sent to the Atlantic Marine Center, Norfolk, Virginia for smooth plotting and verification.

F. CONTROL STATIONS

The method of control for WH-I (2931) was Del Norte in the Range-Range mode, Range-Azimuth and visual. The stations used in Range-Range and Range-Visual were:

<u>Station</u>	<u>Electronic Control #</u>	<u>Locality</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
LEE	118	East end of Hans Lollik I.	18°23'41.277"	064°53'59.430"
CAN	119	West end of Congo Cay	18°22'08.171"	064°48'30.607"
WEST 1918	121	West end of Thatch Cay	18°21'45.811"	064°52'35.298"
WEST OFFSET	122	West end of Thatch Cay	18°21'45.438"	064°52'34.453"
PELICAN, 1972	130	Pelican Cay	18°24'59.403"	064°54'33.940"

Hydrographic Signal No. 8 is the same as SIGNAL 130.

The signals used for visual control for WH-I (2931) were:

<u>Signal</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
001	18° 24' 30.000"	064° 54' 59.000"
002	18° 24' 28.000"	064° 54' 45.000"
003	18° 24' 23.300"	064° 54' 32.000"

<u>Signal</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
004	18° 24' 22.000"	064° 54' 27.000"
005	18° 24' 32.000"	064° 54' 24.000"
006	18° 24' 37.000"	064° 54' 35.000"
007	18° 24' 49.000"	064° 54' 39.000"
008	18° 24' 59.403" <i>Same as signal # 130</i>	064° 54' 33.940"
009	18° 23' 05.911"	064° 56' 29.374"

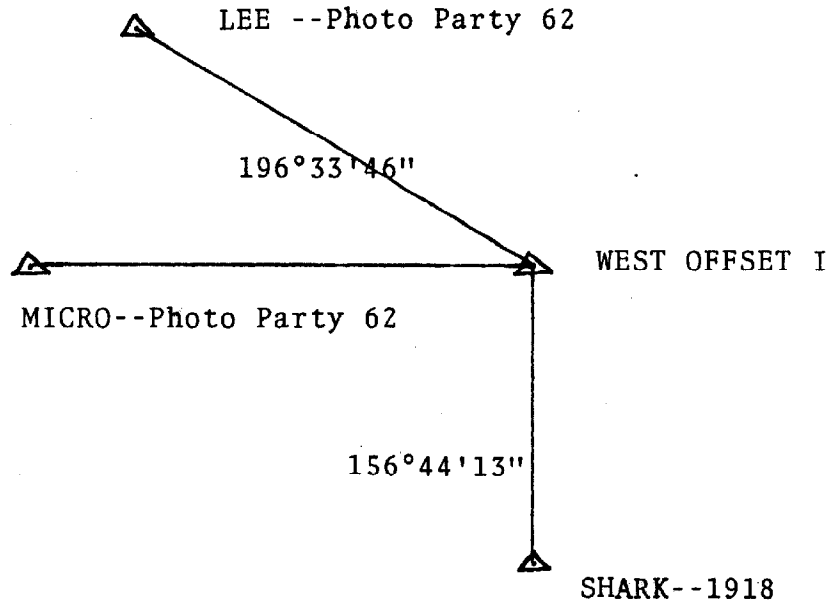
The method of control for the ship WHITING (2930) was Range-Range mode using Del Norte. The stations used were:

<u>Station</u>	<u>Electronic Control #</u>	<u>Locality</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
THATCH 1918	108	East end of Thatch Cay	18°21'38.448"	064°51'04.917"
LOVANGO 1918	109	East end of Lovango Cay	18°21'55.443"	064°48'04.476"
PELICAN 1972	130	Pelican Cay	18°24'59.403"	064°54'33.940"
FORTUNA 1918	134	Top of Fortuna Hill, St. Thomas	18°21'16.383"	064°00'20.020"

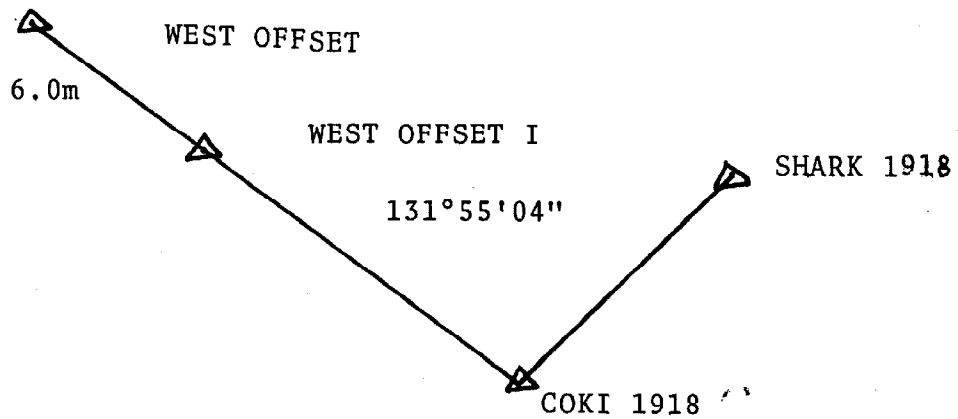
The stations in this survey were located as follows: Visual signals 001-008 were graphically located on Photogrammetric Bathymetry Sheet: St. Thomas I., Hans Lollik Island, T-12939 (2), 1:10,000.

THATCH 1918, LOVANGO 1918, and WEST 1918 were located using third order survey methods and are recoverable. PELICAN was located in 1972 and is recoverable. FORTUNA 1918 is a Cadastral T-95 station. LEE and CAN were located by Photo Party 62 and are not recoverable. WEST OFFSET was located by WHITING personnel and its position determined by

the following sketch:



The geographic position of WEST OFFSET was computed using
RK 409 "GEODETIC UTILITY PACKAGE", version 9/5/73.



G. HYDROGRAPHIC POSITION CONTROL

WHITING Launch WH-I (2931) ran main scheme hydrography in Range-Range operation on arcs extending from station CAN. Crosslines were run on stations LEE and WEST OFFSET. Using Range-Azimuth control, hydrography was run using station PELICAN. Crosslines were run on radials extending from PELICAN. Visual hydrography was run on signals in the vicinity of Hans Lolliok Island.

The ship WHITING (2930) ran main scheme hydrography on courses 090° and 270° . Crosslines were run on various courses.

All station configurations were chosen to give intersection angles of 30° or greater.

The Del Norte Trisponder Electronic Positioning System was used as the control for this survey. The system was used with the master transponder (masters) and the distance measuring units (DMU's) on Launch WH-I (2931) and the WHITING (2930). The remotes were placed at known shore locations.

Corrections to the Del Norte readings were obtained by calibrating each Distance Measuring Unit (DMU) with each remote over a baseline of known distance. The baseline distance was determined by measuring over a level surface with a 300' steel tape or measuring between two points with an electronic measuring unit. Calibrations of equipment were conducted in accordance with methods

described in the Del Norte Manual. Sextant calibrations were made in the field as an additional check.

Overall the Del Norte was quite stable. Equipment malfunction was limited to the Del Norte remotes, possibly due to the rougher handling that they received in being carried to and from various stations.

At times during a survey day, signal strength and quality would become so poor that hydrography was curtailed for short periods of time. The only explanation for this occurrence was atmospheric interference. Usually moving to a different area or waiting for a period of time restored signal strength. Signal quality was better while using the WHITING (2930) because the remote stations were on towers and the ship was a much more stable platform for the master station.

The quality of position control using Del Norte was quite good ~~since~~ ^{and} zero was used for position correctors for the entire survey. See "Abstract of Corrections to Electronic Position Control" at the end of this report for specific information.

H. SHORELINE

Shoreline on this survey ~~were~~ ^{was} obtained from the Photogrametric Bathymetry Sheet: Virgin Islands, St. Thomas Island, Hans Lollick Island, T-12939(2), 1:10,000. The field edit was performed by Photo Party 62. All topographic details were in agreement with the manuscript.

I. CROSSLINES

Crosslines amounted to 21% of the total hydrography on this survey. There were no significant discrepancies at the junctions. All crosslines were run with the same vessel that ran the main scheme hydrography.

J. JUNCTIONS

The sheet WH-10-3-75^{H-9515} junctioned with three of the WHITING's contemporary surveys. The south limit of this survey junctioned with WH-10-2-75^{H-9514} and the soundings are on the sheet in black ink. When TDC corrections are applied to the soundings of WH-10-2-75^{H-9514} differences average one to three feet.

The sheet extended eastward to the approximate U.S.-Great Britain boundary. No junction soundings were available for this area.

The north limit of WH-10-3-75^{H-9515} junctioned with WH-20-1-75^{H-9516} to the east of 064°56'30" W and soundings are in red ink. When TDC corrections were applied to the WH-20-1-75^{H-9516} data and it was converted to feet from fathoms, the two surveys were in good agreement.

To the west of 064°56'30" W on the north limit of WH-10-3-75^{H-9515} a junction was made with WH-20-2-75^{H-9517} and the soundings are in green ink. When TDC corrections were applied, the two surveys were in good agreement.

There were no junctions on the western limit of WH-10-3-75^{H-9515}.

K. COMPARISON WITH PRIOR SURVEYS

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One prior survey covers the area that WH-10-3-75 covers. It is USC&GS Reg. No. 4651a, 1:20,000, surveyed from September 12, 1923 thru March 11, 1926. Soundings are on the sheet in blue. The two surveys generally agree, averaging one to three foot differences. One ^{twelve} fourteen foot discrepancy occurs at $18^{\circ}25'28''$ N, $64^{\circ}53'04''$ W. Other than this, and given the date and methods of surveying at that time, this survey is in excellent agreement with the prior survey. *See section in H17 report on Comparison. Some areas are as much as 20 ft deeper.*

Photogrammetric Bathymetry for this survey was obtained from Photogrammetric Bathymetry Sheet: Virgin Islands, T-12939 (2), 1:10,000. Launch hydrography was run to junction with Photo Bathymetry as required with the Project Instructions. ~~A fifty foot discrepancy exists at $18^{\circ}24'26''$ N, $64^{\circ}55'06''$ W. This is in an area where very small differences in horizontal position control can result in large differences in depths.~~ In areas of less steep bottom contour, difference varied from two to eight feet in depths of twenty-five feet. See Boat Sheet at $18^{\circ}24'30''$ N, $64^{\circ}54'32''$ W. Again, with a depth for depth comparison of this type of bottom, small differences in sounding positions can produce these differences.

L. COMPARISON WITH THE CHART

This survey was compared with chart C&GS 905, 1:10⁰,000, VIRGIN ISLANDS, 12th Ed., May 18, 1974. In the offshore

portions of the survey, depths were in agreement. One ^{twelve} ~~fourteen~~ foot discrepancy exist at 18°25'29" N, 64°53'02" W and another nine foot discrepancy exists at 18°25'28" N, 64°54'02" W. In the vicinity of Pelican Cay, the chart shows a shallower area existing at 18°25.1' N, 64°54.8' W. The depths that were found around Pelican Cay were much deeper than the chart. Overall the chart was in agreement with the survey and any differences should be resolved using the survey data. *The northern portion has a difference of 5 to 25 ft deeper. This area is north of the prior survey.*

M. ADEQUACY OF SURVEY

^{H-9515}
The survey WH-10-3-75 is complete and adequate, and should supersede all prior surveys.

N. AIDS TO NAVIGATION

There were no aids to navigation in the survey area.

O. STATISTICS

<u>Vessel</u>	<u>Miles Run</u>	<u>No. of Position</u>
WHITING (2930)	116.8	504
WH-I (2931)	33	271
Total Square Miles	20.3	
Total Bottom Samples	31	
Percent Crosslines	21	
No. of Tide Stations	4	

P. MISCELLANEOUS

None

Q. RECOMMENDATIONS

It is recommended that launch hydrography junction with a twelve foot Photo Bathymetry curve.

R. AUTOMATED DATA PROCESSING

Data gathered by Launch WH-I (2931) was logged on board the launch by a Digital Control Unit (DCU). Range-Range data was reformatted by program RK 337 "UNSCRAMBLER", version 8/8/74. The data was then plotted by RK 211 "RANGE-RANGE NON-REAL TIME PLOT", version 8/16/74. Range-Azimuth data was manually logged by using AM 602 "EXTENDED LINE ORIENTED EDITOR", version 3/10/72. The data was plotted using RK 212 "VISUAL STATION TABLE LOAD & PLOT", version 4/1/74 and RK 216 "RANGE-AZIMUTH POSITION & SOUNDING PLOT", version 2/19/65. Visual data was manually logged using AM 602 (same as above). The data was plotted using RK 212 (same as above) and RK 215 "VISUAL POSITION & SOUNDING PLOT", version 8/16/74.

Data gathered by the WHITING (2930) was acquired by RK 111 "RANGE-RANGE REAL TIME PLOT", version 8/7/74. The data was plotted using RK 211 "RANGE-RANGE NON-REAL TIME PLOT", version 8/16/74.

Boat sheets for both WH-I (2931) and the WHITING (2930) were constructed using RK 201 "GRID & LATTICE PLOT", version 2/19/75.

S. REFERENCES TO REPORTS

All records, reports, and forms pertinent to this survey are included in this report, except for "FIELD RECORDS FOR DETERMINATION OF CORRECTIONS TO ECHO SOUNDINGS". This will accompany the hydrographic sheets and Descriptive Report under a separate cover.

* APPROVAL SHEET *


Submitted by

James Bennett

James Bennet
ENS, NOAA

Supervision of field and office work on this hydrographic survey was continuous on a day to day basis to ensure completeness of the survey and that all work was done in accordance with the instructions.

Approved/Forwarded:


Robert A. Trauschke
CDR, NOAA
Commanding Officer, NOAA SHIP WHITING

STATION LIST

<u>STA</u>	<u>0</u>	<u>LATITUDE (N)</u>	<u>LONGITUDE (W)</u>	<u>CRT</u>	<u>ELEV</u>	<u>F.KHZ</u>	<u>TYPE/NAME</u>
108	0	18°21'38.448"	064°51'04.917"	139	0146	000000	Thatch Hill (1918)
109	0	18°21'55.443"	064°48'04.476"	250	0082	000000	Lovango (1918)
118	0	18°23'41.277"	064°53'59.430"	250	0025	000000	Lee Photo Party 62
119	0	18°22'08.171"	064°48'30.607"	250	0005	000000	Can Photo Party 62
121	0	18°21'45.811"	064°52'35.298"	250	0005	000000	West 1918
122	0	18°21'45.438"	064°52'34.453"	250	0010	000000	West Offset WHITING 1975
130	0	18°24'59.403"	064°54'33.940"	250	0005	000000	Pelican 1972
134	0	18°21'16.383"	065°00'20.020	139	0277	000000	Fortuna Cadastral T-95

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WH-10-3-75

VELOCITY TABLE 1 Whiting (2930)

000185	0	0011	0001	000	293000	010375
000216	0	0012				
000278	0	0015				
000341	0	0019				
000403	0	0022				
000465	0	0026				
000527	0	0029				
000589	0	0032				
000651	0	0036				
000714	0	0039				
000776	0	0043				
000838	0	0046				
000900	0	0050				
000963	0	0053				
001026	0	0060				
001080	0	0065				
001279	0	0071				
001366	0	0076				
001459	0	0081				
001552	0	0086				
001646	0	0092				
001737	0	0097				
001770	0	0099				
001925	0	0108				
000999	0	0116				

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WH-10-3-75

VELOCITY TABLE II WH-I (2931)

000071	0	0004	0002	000	293100	010375
000102	0	0005				
000133	0	0007				
000163	0	0008				
000195	0	0011				
000226	0	0012				
000257	0	0014				
000288	0	0016				
000350	0	0019				
000413	0	0023				
000475	0	0026				
000537	0	0030				
000599	0	0033				
000661	0	0036				
000723	0	0040				
000786	0	0043				
000848	0	0047				
000910	0	0050				
000972	0	0054				
001065	0	0059				
001169	0	0064				
001252	0	0069				
001345	0	0075				
001438	0	0080				
001531	0	0085				
001624	0	0090				
001718	0	0096				
001811	0	0101				
000000	0	0103				

(H-9515)

WH-10-3-75

TC/TI TAPE

130700	0	0000	0002	072	293100	001975
135425	0	0000	0001	108	293000	001975
002812	0	0000	0001	112	293000	001975



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

v/B

C3311-70
GTM

COPY TO
VERIFICATION (4)
WAH (4)

March 1, 1976

TO: Chief, EDP Branch
J.R. Hubbard
FROM: Chief, Tidal Datum Section
SUBJECT: OPR 423 Tide Gage Problems

According to project instructions, four tide gages were required to control the survey area.

Analysis of the gage records indicated a total dampening of the tide curve at each station, thus tide reducers could not be obtained in the immediate survey area.

Since tidal characteristics at San Juan, Puerto Rico, are similar to the project area, the tides for the following hydrographic sheets will necessarily be provided from the control gage at San Juan, Puerto Rico, H-9514, H-9515, H-9516, H-9517.

The local meteorological effects on the water level of short term duration will of course not be recorded, specifically near shore levels. This fact should be taken into consideration when applying tide reducers to shoal areas of the survey.



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2/18/76

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): San Juan, P.R.
Boca de Cangrejos, P.R.

Period: March 19 - April 22, 1975

HYDROGRAPHIC SHEET: H-9515

OPR: 423

Locality: Offshore, north of St. Thomas, V.I.

Plane of reference (mean ~~lower~~ low water): 3.36 ft. San Juan
2.4 ft. Boca de Cangrejos

Height of Mean High Water above Plane of Reference:
1.0 ft.

Remarks: Recommended zoning:

Apply -10 min. time correction and range ratio x0.82
to San Juan.

When San Juan tides are not available (after April 12)
use Boca de Cangrejos and apply a -40 min time correction.

TIDE STATION LOCATED ON S.W. shore of Little Hans Lollik Is.

James R. Hubbard

for Chief, Tides Branch

GEOGRAPHIC NAMES

H-9515

Name on Survey	Source of Name										No.
	A	B	C	D	E	F	G	H	I	J	
ATLANTIC OCEAN											1
HANS LOLLIK I.											2
LITTLE HANS LOLLIK I.											3
PELICAN CAY											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
										APPROVED	17
										<i>Chas. E. Hammett</i>	18
										STAFF GEOGRAPHER -CS1K2	19
										10 MAR 1977	20
											21
											22
											23
											24
											25

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- 1-excess overlay ✓
- 1-prel. pos. overlay ✓
- 1-prel. sdg overlay #2 ✓
- 1 pos # overlay ✓
- 1-junction overlay - H-9517 ✓
- 1-paper boot sheet r 2/3 ✓
- 1 " " " N/S ✓
- 2-paper " " Cott. Samp. ✓

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H- 9515

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

Date: Dec. 15, 1976

Signed: *William J. Jones*

Title: Chief, Verification Branch

- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: 1/5/77

Signed: *Robert A. Zambelli*

Title: Chief, Processing Division

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9515

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET with PNO & excess overlay		1	BOAT SHEETS (A2parts)		1	
DESCRIPTIVE REPORT		1	OVERLAYS		5 0	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
Accordion ENVELOPES	2		1			
CAHIERS	1-with printouts & misc.		N			
VOLUMES	1	3				
BOXES						
T-SHEET PRINTS (List) T-12939 - not sent with package 1/28/77 MCR						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				1112
POSITIONS CHECKED		132		
POSITIONS REVISED		31		
DEPTH SOUNDINGS REVISED		319		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		---		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		---		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		24		
JUNCTIONS		16		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		32		
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		138		
TOTALS		210		
PRE-VERIFICATION BY <i>A.C. INSP. - E.P. SAULSBURY</i>	BEGINNING DATE	ENDING DATE <i>3-7-77 - 20 hrs</i>		
VERIFICATION BY G. Hendrix, C. Meekins	BEGINNING DATE 04/29/76	ENDING DATE 08/16/76		
REVIEW BY B.J. Stephenson	BEGINNING DATE 09/29/76	ENDING DATE 12/13/76		

Carstens the 3/10/77

REGISTRY NO. 11-9515 (1975)

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. 9515

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 5-27-82 TIME REQUIRED _____ INITIALS JAC

REMARKS:

H-9515

Items for Future Presurvey Reviews

None

<u>Position Index</u>		<u>Bottom Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
<u>Lat.</u>	<u>Long.</u>			
182	0650	2	1	50 years

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9515

FIELD NO. WH-10-3-75

Virgin Islands, St. Thomas Island, Area north of St. Thomas
Island

SURVEYED: March 19 through April 22, 1975

SCALE: 1:10,000

PROJECT NO.: OPR-423

SOUNDINGS: Ross Model 5,000
Fathometer
Raytheon Model 723D
Fathometer

CONTROL: Del Norte,
Visual, and
Hyper-visual

Chief of Party CDR R. Trauschke
Surveyed by CDR R. Trauschke
..... LCDR Daniels
..... LT Theberge
..... LT Meyers
..... LTJG Perrin
..... LTJG Kuhl
..... ENS Bennett
..... ENS Terry
Automated Plot by Calcomp Plotter #618 (AMC)
Verified and Inked by B.J. Stephenson

1. Introduction

No unusual problems were encountered during verification.

2. Control and Shoreline

a. The control is adequately described in paragraph F of the Descriptive Report.

b. The shoreline originates with Class I, reviewed photogrammetric manuscript T-12939 of 1971-75.

3. Hydrography

a. Depths at crossings are in good agreement.

b. The usual depth curves were adequately delineated. Several brown curves were added to emphasize certain important bottom features. The depth curves along the shoreline were drawn with the aid of photobathymetry.

- c. The development of the bottom configuration is considered adequate.
- d. All photobathymetry soundings and rocks are shown in red. The photobathymetry soundings were used when they agreed with the hydrography; when they were isolated least depths; and when they were needed to supplement the hydrography. The photobathymetry soundings and curves along the shoreline should be given consideration by the chart compiler when updating the chart. The launch hydrography was limited in this area.

4. Condition of Survey

The smooth sheet and accompanying overlays, hydrographic records, and reports are adequate to conform to the requirements of the Provisional Hydrographic Manual with the following exceptions:

- a. The sounding volume did not contain sufficient information.

- b. Some of the fathograms were not properly annotated.
CLOCK TIME WAS NOTED ON POSITION MARKS INSTEAD OF POSITION NUMBERS ON LAUNCH #1 FATHOGRAMS.

5. Junctions

An adequate junction has been effected with the following contemporary surveys:

- H-9516 and H-9517 (1975) on the north
- H-9514 (1975) on the south
- H-9602 (1976) on the west

There is no contemporary survey to the east (Great Britain boundary.)

Soundings in red along the shoreline were determined by photobathymetric means utilizing 1974 photographs. These soundings supplement the present hydrography in the common area.

6. Comparison With Prior Surveys

- a. H-4651a (1923-1926) 1:20,000

The prior survey covers the southern portion of the present survey. Comparison reveals that there are scattered indications of stable depths; however, there are areas with differences as much as 20 feet deeper.

These areas are on the southeast portion of the survey. The differences are contributed to the less detailed and less accurate methods employed on the prior surveys.

The present survey, supplemented by the photobathymetric depths, is considered adequate to supersede the prior survey in the common area.

b. H-4651b (1924-1927) 1:20,000

This wire drag survey covers the southern portion of the present survey. The wire drag survey indicates only one hang which has been carried forward to the present survey.

7. Comparison with Chart 25641 (formerly C&GS 905), 14th Edition, April 24, 1976)

a. Hydrography

The southern portion of the charted hydrography originates with the previously discussed prior surveys, with the exception of the 22 fathom sounding charted at approximate latitude 18° 25.5'N, longitude 64° 53.9'W, which apparently came from the present survey field sheet. The northern portion agrees in some areas and differs as much as 25 feet in others. There are no prior surveys covering this area.

The present survey is considered adequate to supersede all charted depths in the common area.

b. Aids to Navigation

There are no aids to navigation in the area of the present survey.

8. Compliance with Instructions

This survey adequately complies with the Project Instructions.


9. Additional Field Work

This is an excellent basic survey. Additional field work is not recommended.

H-9515


Examined and Approved:
Hydrographic Inspection Team
Date: Jan. 6, 1977


CDR Robert A. Trauschke, NOAA
Chief, Processing Division


CDR Jeffrey G. Carlen, NOAA
Chief, Coastal Mapping Division

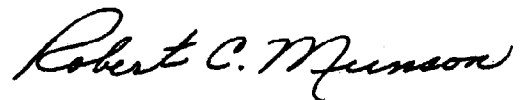
Douglas Mason, LT, NOAA*
Chief, EDP Branch


William L. Jonns
Chief, Verification Branch


Dorothy C. Calland
Verification Branch

* Extended TDY

Approved/Forwarded



Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center



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

C352

March 11, 1977

TO: A. J. Patrick *a. J. Patrick*
Chief, Marine Surveys Division

THRU: Chief, Quality Control Branch

FROM: F. P. Saulsbury *F. P. Saulsbury*
Quality Evaluator

SUBJECT: Quality Control Report for H-9515 (1975) 1:10,000, U.S. Virgin Islands, St. Thomas, North of Hans Lollik Island

Survey H-9515 was inspected to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as follows:

1. The area between Little Hans Lollik Island and Hans Lollik Island was inadequately developed. In this area soundings from photobathymetry as deep as 44 feet and soundings from prior surveys have been used to delineate the bottom. Additional development in the area of the 59-foot sounding carried forward from H-4651b W.D. (1924-27) and in the area of the 16-foot photobathymetric sounding in latitude 18°24.92', longitude 64°54.23' would have been desirable.
2. Position 4421 was erroneously used for 4422 and was corrected during quality control evaluation.
3. In the junctional area on the north with H-9516 (1975) and H-9517 (1975), the 180-foot depth curve was revised where it was in conflict with junctional soundings. The adequacy of the junctions with H-9514 (1975) on the south and H-9602 (1976) on the west will be considered during the quality control inspection of these surveys.
4. Hydrographic signal No. 4, falling offshore of the high water line, is not described.



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5. The 6-foot curve and parts of the 12-, 18-, and 30-foot curves were added during quality control inspection.
6. Soundings from prior survey H-4651a (1923-26) were brought forward during quality control inspection.
7. Bare rocks shown on the smooth sheet as solid dots or specks were erased and redrafted with open centers during quality control inspection. This was done so that they would not be confused with the dotted low water curve or a dirt speck picked up in the reproduction process.
8. Neither the topo manuscripts nor the photobathymetric manuscripts accompanied the survey records.
9. While coral heads are common in this area, only the ledge is identified as coral in accompanying survey records. The coral identification was added during quality control inspection.
10. The origin of the red soundings, photogrammetric bathymetry of 1974, was added to the smooth sheet during quality control inspection. Two sunken rocks shown on T-12939 were revised to soundings accompanied by "Rk" from the photobathymetry and additional photobathymetric soundings were transferred to the present survey.

cc:
C351

