H10506

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic/Side Scan Sonar

Field No. MI-05-02-93

Registry No. H10506

LOCALITY

State Virgin Islands

General Locality St. Thomas Harbor

Sublocality West Gregerie Channel

1993

CHIEF OF PARTY
CAPT. D.B. MacFarland

LIBRARY & ARCHIVES

DATE April 1, 1996

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10506

HYDROGRAPHIC TITLE SHEET

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.

MI-5-2-93

State ~~St. Thomas~~ VIRGIN ISLANDS

General locality ~~United States Virgin Islands~~ ST THOMAS HARBOR

Locality ~~St Thomas Harbor,~~ West Gregerie Channel ~~to 1nm South of Flamingo Point~~

Scale 1:5,000 Date of survey 26 Sept to 12 Nov, 1993

Instructions dated 6 April, 1993 Project No. OPR-I173-MI-93

Vessel NOAA Ship MT MITCHELL

Chief of party CAPT David B. MacFarland

Surveyed by J.C. Gardner, N.D. Weston, K.A. Pavelle, M.P.M. Soracco, J.D. Swallow, S.R. Williams, S.A. Shaulis, U.J. Gardner, P.G. Lewit, M.E. Ahern, R.L. Harris, M.D. Johnson

Soundings taken by echo sounder, hand lead, pole DSF-6000N and Interspace Fathometers

phic record scaled by MT MITCHELL Survey Personnel

Graphic record checked by MT MITCHELL Survey Personnel

Protracted by N/A Automated plot by ENCAD NOVAJET III PLOTTER (AHB) Zeta 936 Plotter (FIELD)

Verification by ATLANTIC HYDROGRAPHIC BRANCH PERSONNEL

Soundings in ~~fathoms~~ ~~feet~~ at MLW MLLW ~~meters~~ / FEET

REMARKS: Investigation of AWOIS Items 1266, 1297, 1298, 4513, 4514, 8554, 8556, 8560, 8563, 8567, 8568, 8573, 8744, and 8745

Basic Hydrography and 200 percent Side Scan Sonar Coverage

Time Zones Used: 0(UTC) for Data Collection

SURF/AWOIS - 4/22/96 SJV

4/16/97 NOTES IN THE DESCRIPTIVE REPORT IN RED WERE MADE DURING OFFICE PROCESSING

APR 1 1996

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO.

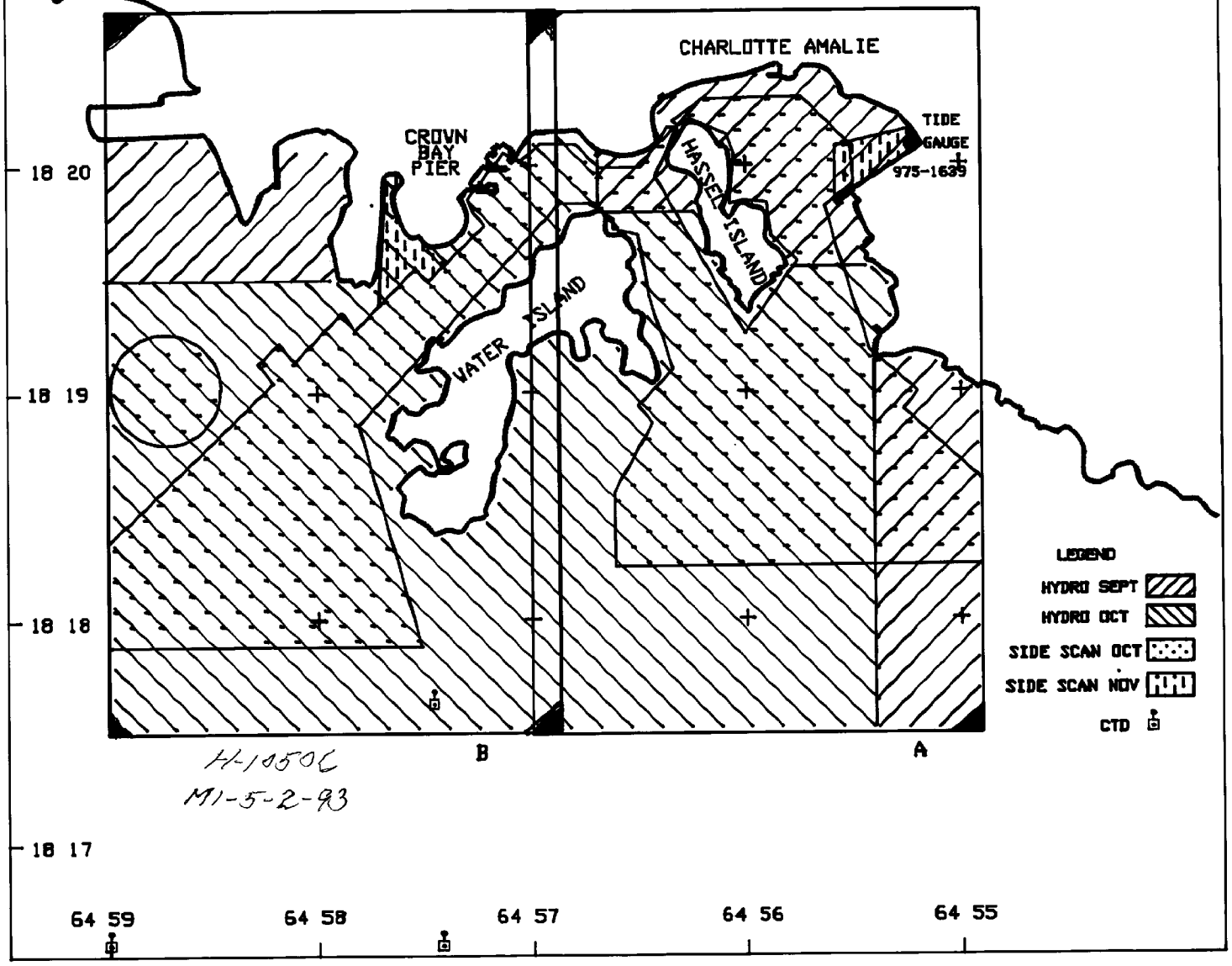
TABLE OF CONTENTS

* FILED WITH THE ORIGINAL FIELD RECORDS

ST THOMAS - VIRGIN ISLANDS
OPR-I173-MI-93
NOAA SHIP MT MITCHELL S-222
CAPT. DAVID MACFARLAND

DGPS REF.STA.
⊕
T41

SEP	OCT	NOV		TOTALS
11	26	18	DAYS AT SEA	55
178	484	2	LNM HYDRO	658
0	107	24	LNM SSS	131
2.6	18.5	2.2	SQNM	23.3
1	2	1	CTD'S	4
0	82	99	DIVES	181
0	24	22	AVOIS RESOLVED	46
0	13	35	NEW ITEMS	48



H-10506
MI-5-2-93

A. PROJECT

A.1 This survey was conducted in accordance with Project Instructions OPR-1173-MI-93, Saint Thomas Harbor, Saint Thomas, U. S. Virgin Islands.

A.2 The original date of the instructions is August 19, 1993.

A.3 The following changes to the original instructions are relevant to this survey.

CHANGE 1, 18 Nov, 1993: Sets priority for the completion of basic hydrography, item investigations, and side scan sonar corridor coverage. Changes requirement for landmark verification from "elevation above ground and above mean high water" to "elevation above mean high water." Changes the DGPS Estimated System Error from 2.0 meters to 2.5 meters. Adds the option of visual search to all AWOIS item survey requirements due to the clarity of the water in the ST Thomas Harbor.

A.4 This sheet was designated by the project instructions as "St. Thomas Harbor Sheet B"

A.5 This project responds to a request from the Virgin Islands Port Authority. Numerous changes in shoreline and charted offshore features have been noted by the local pilots. Increased commercial and cruise ship activity has led to many of these changes, but natural forces have also attributed to the changes to St Thomas Harbor. In particular, the passage of Hurricane Hugo in 1989 created many wreck sites in shoal water and along shores of St Thomas Harbor, Hassel Island, and Water Island. Since the last basic survey of this area was accomplished in 1966 (offshore approaches were surveyed in 1972), a new survey using modern positioning systems and sonar equipment is vital for safe and efficient navigation of commercial and pleasure craft in and around St Thomas Harbor.

B. AREA SURVEYED

B.1 The survey covers waters in St Thomas Harbor southwest of Charlotte Amalie, including the West Gregerie Channel, Lindbergh, Krum, Druif, Flamingo, Elephant, Ruyter, and Limestone Bays, and Porpoise Rocks.

The variety of traffic through this area includes both deep-draft transports and cruise ships, in addition to shallow-draft sailboats and fishing vessels.

B.2 The latitudes 18° 20' ~~54~~ 15" N and 18° 17' ~~36~~ 28" N define the Northern and Southern borders of the sheet, while the longitudes 64° 56' ~~58.2~~ 42" W and 63° 59' ~~00~~ 07" W outline the Eastern and Western borders, respectively.

The primary requirement on this survey was basic hydrography. Two hundred percent

Side Scan Sonar (SSS) covered was required in the major traffic areas, including West Gregerie Channel and Crown Bay. The SSS coverage area was increased to include the major traffic transit areas both east and west of the Porpoise Rocks and in the Foxtrot anchorage.

The survey addressed 14 AWOIS items. These items were also covered with side scan sonar where required and conditions permitted. The AWOIS Items held the positions and search radii shown in Table B.2.a.

Table B.2.a: AWOIS Item Locations and Search Radii

AWOIS Number	Latitude (N)	Longitude (W)	Search Radius (m)
1266	18° 19' 58.84"	064° 57' 10.52"	
1297 SAME	~~28° 49' 00.86"~~	~~089° 25' 00.16"~~	
1298	18° 19' 40.84"	064° 57' 04.60"	
4513	18° 19' 37.72"	064° 57' 04.72"	100
4514	18° 19' 50.22"	064° 57' 18.48"	100
8554	18° 19' 37.00"	064° 57' 01.00"	100
8556	18° 19' 36.14"	064° 57' 02.02"	200
8560	18° 19' 17.84"	064° 57' 20.52"	200
8563	18° 19' 53.00"	064° 57' 38.50"	100
8567	18° 19' 23.00"	064° 57' 08.00"	
8568	18° 20' 05.64"	064° 58' 07.52"	100
8573	18° 20' 06.44"	064° 57' 11.92"	100
8744	18° 19' 40.10"	064° 57' 32.10"	100
8745	18° 18' 45.00"	064° 57' 32.20"	100

Additionally, twenty five previously unknown items were also found and investigated. These were given the name "B-*", where the star represents an identifying number. The items are listed in Table B.2.b.

B.3 Data acquisition commenced on 27 September (DN 270) and concluded on 12 November (DN 316), 1993.

C. SURVEY VESSELS

C.1 A PCDAS equipped Monark was borrowed from the Atlantic Hydrographic Party to assist MT MITCHELL in the shallow water area of the harbor. Table C.1 lists the vessels involved with this survey.

This descriptive report refers to all boats and launches by their electronic data processing numbers.

Table B.2.b: New Item Locations

Identifier	Latitude (N)	Longitude (W)	Identifier	Latitude (N)	Longitude (W)
B-1	18° 19' 56.980"	064° 57' 08.807"	B-12	18° 19' 21.100"	064° 57' 13.595"
B-2	18° 19' 04.613"	064° 57' 10.909"	B-13	18° 19' 49.888"	064° 57' 39.544"
B-3	18° 19' 22.236"	064° 57' 09.672"	B-14	18° 19' 55.753"	064° 56' 53.849"
B-4	18° 19' 33.633"	064° 57' 00.194"	B-15	18° 18' 51.559"	064° 57' 55.284"
B-5	18° 18' 11.058"	064° 58' 23.720"	B-16	18° 19' 01.596"	064° 57' 55.479"
B-6	18° 19' 33.984"	064° 57' 15.547"	B-17	18° 19' 37.662"	064° 57' 29.967"
	18° 19' 34.699"	064° 57' 15.748"	B-18	18° 19' 26.150"	064° 57' 18.425"
	18° 19' 35.213"	064° 57' 16.003"	B-19	18° 20' 06.445"	064° 58' 01.305"
	18° 19' 37.562"	064° 57' 15.816"	B-20	18° 20' 06.146"	064° 58' 02.034"
B-7	18° 19' 01.300"	064° 58' 00.788"	B-21	18° 19' 32.364"	064° 57' 00.136"
B-8	18° 18' 51.429"	064° 57' 46.215"	B-22	18° 19' 40.979"	064° 57' 36.407"
B-9	18° 18' 28.704"	064° 58' 44.093"	B-23	18° 19' 33.805"	064° 57' 26.676"
B-10	18° 18' 23.058"	064° 58' 40.922"	B-24	18° 19' 34.298"	064° 59' 36.776"
B-11	18° 18' 45.182"	064° 57' 31.061"	B-25	18° 18' 48.051"	065° 02' 29.003"

Table C.1: H-10506 Survey Vessels

Vessel Name	Electronic Data Processing Number	Function
MT MITCHELL	2220	CTD Casts
JENSEN LAUNCH 1017	2223	Side Scan Sonar
JENSEN LAUNCH 1002	2224	Hydrographic Survey, Side Scan Sonar Coverage, Bottom Samples, CTD casts, & Dive Support
AHP MONARK 770	770	Shallow Hydrographic Survey, Shoreline Development, & Diver Support
BOSTON WHALER	N/A	Dive Operations

C.2 None of the vessels above employed unusual vessel configurations.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

SEE ALSO THE EVALUATION REPORT.

D.1 Hydrographic Data and Processing System (HDAPS) software gathered all data aboard the Jensen Launches. PCDAPS software gathered all data aboard the Monark Launch. HDAPS was used for processing all project data. HDAPS component versions are listed in Table D.1.a. Table D.1.b displays PCDAPS software versions used.

A *LOTUS 1-2-3* spreadsheet was used to compute DGPS performance checks.

D.2 The programs *VELOCITY* v2.0 and *CAT* v2.0, both dated December 1992, were used to compute sound velocity data. The *CATCRE.EXE* module of *VELOCITY* was updated on 2 June, 1993.

Table D.1.a: Applied HDAPS Software Versions

Program Name	Version	Installation Date (1993)	Program Name	Version	Installation Date (1993)
AUTOST	3.01	17 MAY	LOADNEW	2.05	15 AUG
BACKUP	2.00	23 JUL	LSTAWOIS	3.03	23 JUL
BASELINE	1.14	23 JUL	MAINMENU	1.10	15 AUG
BIGABST	2.05	23 JUL	MAN_DATA	2.01	23 JUL
BIGAUTOST	No Version Listed	23 JUL	NEWPOST	6.01	23 JUL
BLKEDIT	2.02	23 JUL	PLOTALL	2.11	23 JUL
CARTO	2.09	15 AUG	POINT	2.10	23 JUL
CONTACT	2.09	15 AUG	PREDICT	2.01	23 JUL
CONVERT	3.54	23 JUL	PRESURV	7.04	15 AUG
DAS_SURV	6.42	15 AUG	PRINTOUT	4.03	23 JUL
DIAGNOSE	3.03	23 JUL	QUICK	2.04	28 JUL
DISK_UTIL	1.00	23 JUL	RAMSAVER	1.02	25 JUL
DP	2.14	23 JUL	REAPPLY	2.03	23 JUL
EXCESS	4.11	23 JUL	RECOMP	2.02	23 JUL
FILESYS	3.10	15 AUG	REFTIDE2	1.00	28 JUL
GRAFEDIT	1.04	23 JUL	SCANNER	1.00	23 JUL
HIPSTICK	1.01	23 JUL	SELPRINT	2.03	23 JUL
HPRAZ	1.26	23 JUL	SYMBOLS	2.00	15 AUG
INSTALL	4.02	23 JUL	ZOOMEDIT	2.12	23 JUL
INVERSE	2.01	23 JUL	GPSCHECK	1.00	5 OCT
LISTDATA	1.02	23 JUL	TIMECHECK	1.00	2 NOV

Table D.1.b: Applied PCDAS Software Versions

Program Name	Version Date	Program Name	Version Date
CONFIG.EXE	1 JUL 91	OFFSET.EXE	1 JUL 91
PPMENU	10 NOV 90	PROJECT.EXE	21 FEB 90
SATINIT.EXE	14 SEP 92	TABLES.EXE	1 JUL 91
SETPOS.EXE	1 JUL 91	HPCOPY.EXE	17 MAR 90
INITGPS.EXE	16 MAY 92	COLLECT.EXE	21 FEB 90
PREDTIDE.EXE	5 JUN 90	SATSURV.EXE	14 SEP 92
GPS_DAS.EXE	14 MAY 93	CHARTS.EXE	21 FEB 92

D.3 Nonstandard automated data acquisition or processing methods were not used. HDAPS programs *GPSCHECK* and *TIMECHECK* were sent to the ship after the beginning of the project to resolve problems with the data discovered by MT MITCHELL and other hydrographic ships. *GPSCHECK* resolves the problem encountered with the positioning DR Flag being turned on in all data in a dataset. The *TIMECHECK* program takes care of time sequencing problems seen when data is recorded at a second logging rate.

E. SIDE SCAN SONAR EQUIPMENT

E.1 Jensen Launch 1017 and 1002 utilized EG&G Model 260 TH slant-range-corrected side Scan Sonar (SSS) recorders with single-frequency Model 272-T towfishes shown in Table E.1.

E.2 The side scan sonar towfish was configured with a 20° beam depressor.

E.3 A frequency of 100 KHz was used throughout the survey.

Table E.1: Side Scan Sonar Equipment

Vessel Number	Equipment Type	Serial Number	Days Used
2223	Recorder	016672	26 Sep - 12 Nov
2223	Towfish	016670	26 Sep - 12 Nov
2224	Recorder	016669	26 Sep - 12 Nov
2224	Towfish	016696	26 Sep - 12 Nov

E.4.a In sufficiently deep water the 100 meters range scale was used for main scheme SSS coverage. In shoaler areas of the sheet (usually less than 10 meters water depth) the 75 meter or 50 meter range scale was used. The 50 and 25 meter range scales were also used in item investigations for better resolution of the targets.

Line spacing for main scheme SSS coverage was 170 meters for the 100 meters range scale, 120 meters line spacing for the 75 meters range scale, and 70 meters line spacing for the 50 meters range scale. Line spacing was adjusted to ensure sufficient overlap with adjacent lines.

E.4.b Daily opening and closing confidence checks were run by towing the fish over an anchor chain, a located wreck, or bottom texture features. Confidence checks were also possible during side scan operations due to numerous rocks, obstructions, and bottom features.

E.4.c Two hundred percent SSS coverage was obtained in the major traffic areas as outlined in the project instructions. The Foxtrot anchorage was also covered by 200% SSS. Four hundred percent SSS blanketed AWOIS item 4513. Two hundred percent SSS coverage was also run over all or part of the search radii for AWOIS items 8554, 8556, 8560, 8563, and 8573. New items B-1, B-2, B-5 through B-10, B-14, B-15, B-16, B-18, and B-19 were found and/or developed with varying SSS coverage levels. See section N for specific coverage details.

E.4.d Side scan sonar lines were usually run in East-West and North-South directions in the traffic areas. Side scan sonar lines were run in 050-230 direction through the West Gregerie Channel and North of Porpoise Rocks.

On DN 301 the towfish aboard Jensen launch 1002 blew a fuse and was withdrawn for one working hour for repair. No other electrical problems with side scan sonar equipment were encountered.

In heavier seas (4 to 6ft), the jostle of the launch applied tugs and slacks to the towfish cable. This motion created horizontal white lines on the side scan sonar trace. The problem was abated by increasing cable length beyond 25m, and running side scan operations in calmer seas.

E.4.e The towfish were deployed from the launches' sterns for the entire survey.

E.5 Any contact appearing significant was entered into contact tables. The tables were reviewed and correlating contacts examined. Adjacent side scan sonar overage was scanned for each contact to see if it appeared on more than one trace. Contacts which appeared only once or had less than 1m height were labeled insignificant; those appearing more than once were closely examined and compared for location and height.

E.6 Post-survey involved scanning the swath plots for gaps and the sonar tracks for contacts. Processors prepared gap sheets whose highlighted gaps were later covered. Contacts were selected if (1) an object with a connecting shadow was detected on the sonar trace, and (2) the shadow indicated an object with significant height above the bottom.

F. SOUNDING EQUIPMENT

F.1 Raytheon Model 6000 Digital Survey Fathometers (DSF) was used to obtain all soundings on the Jensen launches. An Innerspace fathometer was used to obtain all soundings on the Monark launch. The serial numbers of all used sounding equipment appear in Table F.1.

F.2 No other sounding equipment was used on this survey.

F.3 No problems were encountered with data acquisition using the DSF-6000 or the

Innerspace fathometers.

Table F.1: Sounding Equipment Serial Numbers

Instrument	Location	Serial Number	DN's Used
DSF 6000	2223	B051N	270 - 305
DSF 6000	2223	A122N	305 - 306
DSF 6000	2223	B051N	306 - 316
DSF 6000	2224	B047N	270 - 277
DSF 6000	2224	A122N	277 - 280
DSF 6000	2224	B047N	280 - 316
Innerspace	770	241	270 - 316

F.4 Both the high (100 KHz) and low (24 KHz) frequency sounding data were recorded during data acquisition. Only high frequency soundings were digitized and selected for plotting. Low frequency sounding data were examined for spikes indicating nearby items. These spikes were added as inserts to the digital records and plotted.

G. CORRECTIONS TO SOUNDINGS

G.1.a.1 The velocity of sound through water was determined by a Seacat conductivity, temperature and density gage (serial number 192472-0284). The sensors on this CTD unit were last calibrated on 7 August and 28 October, 1992. On 26 September, 1993, a simultaneous independent test was made with this CTD and CTD unit 192472-0285, in 27 meters of water. The 0285 CTD unit was last calibrated on 25 June, 1993. Using the comparison utility of the *VELOCITY* program, the percent difference between the two casts was 0.01 at the mid-depth of the cast and 0.00 at the bottom

A Data Quality Assurance test was run for each velocity cast to ensure the meter was within tolerance. The DQA test was performed using hydrometers manufactured by H-B Instrument Company. The ship had problems getting the DQA to pass on the first CTD cast, DN 269. All of the data appeared to be within the required values. This data was passed to Dr. Lloyd Huff, Chief, Hydrographic Technology Program for further analysis. The cast was repeated and the DQA passed. On the second CTD cast, DN 286, taken to 30 meters, the *VELOCITY* program would only process the cast to 18 meters. Dr. Huff was also informed of this problem, but could not provide a solution. On DN 287 the cast was repeated and all worked as expected.

All data were processed using *VELOCITY* Version 2.00 and *CAT* Version 2.00 software. Since two different type of survey launches were used on this survey, with different transducer depth, two velocity tables were computed for each CTD cast. The computed velocity correctors were entered into the HDAPS sound velocity tables and applied on-line to digitized high frequency soundings.

G.1.a.2 The HDAPS Velocity Tables cited below, in Table G.1.A.2, were computed for a launch transducer draft of 0.6 meters for launch 2223 and 0.4 meters for launch 770. Launch 2223 used HDAPS velocity tables 1,3,5, and 7 while launch 770 used tables 2,4,6, and 8.

Table G.1.A.2: CTD Sounding Correction Casts

Cast Number	Date	Latitude	Longitude	HDAPS Table #	Applied Day #'s
01	26 SEP 93	18° 17' 00" N	064° 58' 30" W	01/02	269-283
02	14 OCT 93	18° 16' 50" N	064° 57' 25" W	03/04	284-297
03	25 OCT 93	18° 16' 35" N	064° 59' 00" W	05/06	298-311
04	08 NOV 93	18° 16' 41" N	064° 58' 55" W	07/08	312-316

G.1.b There was no variation in the DSF 6000 instrument initial.

G.1.c No instrument correctors to the DSF 6000 were required.

G.1.d Bar checks of the DSF 6000 were attempted each day on the Jensen launches. A comparison of digital and analog readings was also performed during the check. No instrument corrections were determined.

Lead line comparisons with the DSF6000 were made for each vessel on the days listed in Table G.1.d.

Except for the corrector computed on DN 284, for vessel 2223, fathometer B051N, the range of correctors for each fathometer falls within 0.2 meters. The value on DN 284 is attributed to human error. If this value is excluded, then the correctors for fathometer B051N would also fall within the 0.2 meter range. These correctors show that all survey fathometers are working within accuracy requirements. These values were not applies to the survey data as instrument correctors.

G.1.e All sounding correctors were applied to both high (100KHz) and low (24KHz) frequency beams.

G.1.f The static drafts of Jensen launches 1017 (2223) and 1002 (2224) were determined in April, 1993, while the launches were out of the water at Atlantic Marine Center, Norfolk, Virginia. A calibrated steel tape was used to measure the distance from the transducer to reference lines on the launches above the waterline. The launches were then put into the water and the distance from the reference line to the waterline was measured. The launch draft was found to be 0.6 m. The same procedure was utilized to find the static draft of Monark boat 770 upon arrival in St Thomas. This boat's draft was found as 0.4m. These values were applied online and during processing in an HDAPS offset table (refer to Separated III). FILED WITH THE ORIGINAL FIELD RECORDS

Table G.1.d: Lead Line Comparisons

Day Number	Vessel	Fathometer Serial No	Corrected Lead Line Depth	Corrected Digital Depth	Digital Instrument Corrector
271	770	241	12.3	12.5	-0.2
284	770	241	14.0	14.1	-0.1
298	770	241	9.0	9.0	0.0
270	2223	B051N	5.0	5.1	-0.1
279	2223	B051N	10.2	10.1	0.1
284	2223	B051N	8.1	7.9	0.2
291	2223	B051N	11.2	11.3	-0.1
305	2223	B051N	10.4	10.3	0.1
306	2223	A122N	12.8	12.8	0.0
273	2224	B047N	10.2	10.2	0.0
277	2224	A122N	3.5	3.6	-0.1
284	2224	A122N	9.7	9.6	0.1
291	2224	B047N	9.4	9.4	0.0
305	2224	B047N	10.8	10.7	0.1

Fathometer Serial Number	Average Instrument Corrector	Range of Instrument Corrector
241	-0.10	0.2
B051N	0.03	0.3
A122N	0.00	0.2
B047N	0.03	0.1

G.1.g Settlement and squat correctors for the Jensen launch (2223) were determined, using procedures outlined in the Hydrographic Manual, on the Elizabeth River on April 30, 1993. An

observer, stationed with a level on a pier, measured changes in relative height as each launch ran toward and away from the observer at various speeds. The settlement and squat correctors for the 770 boat were determined by the same method on September 27, 1993 in the West Gregory Channel, St Thomas harbor. The settlement and squat correctors were applied to soundings through the HDAPS offset table. Refer to Separates III* for copies of the observed settlement and squat data. * FILED WITH THE ORIGINAL FIELD RECORDS

G.1.h Neither the Monark launch nor Jensen launches are equipped with heave, pitch, and roll sensors.

G.2 The HDAPS program *REAPPLY* was frequently used for data from the day of a sound velocity corrector cast. This program was also used for all data obtained from Monark boat 770.

G.3 No need for special sounding correctors exists.

G.4 MT MITCHELL carries a shallow water (0 to 21m) and a deep water (0 to 42m) pneumatic depth gauge, serial numbers 245419 and 245418, respectively. These gauges were calibrated by 3-D Instruments, Inc, of Huntington Beach, California on 18 August (shallow water gauge), and 28 April (deep water gauge), 1993. None of the calibration values exceeded 0.1m. Therefore, no correctors were applied to the pneumatic depth gauge least depths. On 22 October (DN 295), the shallow water depth gauge failed and was returned to the manufacturer. After that date, all least depths requiring the pneumatic depth gauge were taken with the deep water gauge. On 4 November (DN 308), the deep water depth gauge failed a leak test. All fittings were checked and a small leak was found. This leak was repaired, and the gauge was operational the next day.

System checks were performed on the gauges as illustrated in HSG 55. The gauge checks worked well when the wire angle was 10° or less. When currents created wire angles greater than 10°, a valid agreement between the leadline and the gauge could not be reached. System checks were always performed before the gauges were used.

G.5 Sea conditions greater than one meter affected the fathograms, creating a trace of constant peaks and troughs. Since the launches and boat are not equipped with heave, pitch, and roll sensors, MT MITCHELL personnel scanned the sea action out of the fathograms and edited the selected soundings accordingly.

G.6.a Mean-lower-low-water served as the tidal datum for this investigation. The operating tide station at Long Bay, Charlotte Amalie Harbor (station number 975-1639), served as the control station for tides during this survey. Predicted tide data for St. Thomas Harbor were provided on floppy magnetic disk after the start of the project. APPROVED TIDES WERE APPLIED DURING OFFICE PROCESSING.

G.6.b Since the primary tide gage was located in St. Thomas harbor, no height or time correctors needed to be applied.

G.6.c The project required no zoning.

H. CONTROL STATIONS *SEE ALSO THE EVALUATION REPORT*

H.1 The horizontal datum for this project is the North American Datum of 1983 (NAD 83).

H.2 A list of horizontal control stations appears in Appendix III. *APPENDED TO THIS REPORT.*

H.3 A NOAA VHF DGPS reference station was established at horizontal control station T-41, and was the only station used for positioning. This survey utilized one DGPS reference station for position control. The station T-41 was mounted atop a bunker on the ridge of Mountaintop. This station is Second-Order Class I in position 18° 21' 15.849" North, 064° 56' 41.375" West, and was established by the Virgin Islands Cadastral Survey in 1955. The station's position was verified by MT MITCHELL and AMC EED personnel using the NOS *MONITOR* program.

In operation of the *MONITOR* program, two GPS receivers were set up over the control station. An Astech M-XII GPS receiver generated correctors for each GPS satellite. These correctors are then transmitted to an Ashtech DGPS receiver which computes a DGPS position based on the GPS satellites and correctors. This position is fed into a computer running the *MONITOR* program, which compares the computed position to the known position of the control station. This program is left running for a 24-hour period and a statistical analysis is performed by the *MONITOR* program on this data. These observations were run on station T-41 on 22 to 23 September, 1993, and showed that the mean radial error between the DGPS position and the NAD83 NGS position of T-41 differed by 1.254m. A copy of the *MONITOR* program scatter plot and error statistics is included in Appendix III. *FILED WITH THE ORIGINAL FIELD RECORDS.*

H.4 No horizontal control stations were established by MT MITCHELL during this survey. The Field Surveys Unit of the Field Photogrammetry Section conducted a horizontal control survey in the St. Thomas Harbor area for MT MITCHELL. This survey was run to establish and verify landmarks and aids to navigation for MT MITCHELL's hydrographic survey. They also established photogrammetric control points for a new shoreline manuscript of the area.

H.5 The *Horizontal Control Report* shall be submitted by the Field Surveys Unit.

H.6 No problems or anomalies were encountered in position control of this survey.

I. HYDROGRAPHIC POSITION CONTROL

I.1 The primary method of sounding position control was Differential Global Positioning System (DGPS).

I.2 Tests conducted by the Systems Engineering Branch, Office of NOAA Corps Operations and the Hydrographic Surveys Branch showed that with the recent improvements in the Ashtech DGPS receivers and the full implementation of the GPS constellation, the current positional accuracy of the DGPS was much better than originally considered. Based on these tests the Expected System Error (ESE) was lowered from 4.0m to 2.5m. This improvement increased the overall accuracy to the point where 1:5,000 scale surveys could reliably be controlled by DGPS. Use of the 2.5m ESE was authorized in the project instructions.

The Estimated Distance Error (EDE) value is calculated at 2m per 100nm from the DGPS reference station. In this survey the maximum range from the DGPS reference station was 5nm. At this range the EDE was 0.1m. This is a negligible value and was not used to calculate the maximum allowed HDOP value (as described in section 3.4.2 of the FPM). With a maximum EPE of 7.5m (1.5mm at a 1:5,000 scale), the maximum allowable HDOP for this project is 3.0. This was calculated by the formula given in section 3.4.2 of the FPM.

The HDOP value remained far below 3.0 for most of the survey. On occasions, the HDOP would increase drastically as the GPS satellite configuration changed, the DGPS correctors would not be received for several seconds at a time, or several satellites would be obscured by structures. When this happened HDAPS entered "DR Mode" and began estimations of the vessel's position. If HDAPS was in the "DR Mode" for twenty seconds and failed to receive good navigation information, it forces a fix at the next selected sounding and breaks the survey line, thereby preventing questionable positioning data.

MT MITCHELL encountered several problems with DR'ed data on this project. When HDAPS is in the DR mode it sets a flag in the data to indicated that it is DRing. On several occasions this flag was inadvertently set by the system when it was started and remained on throughout the day affecting all data in all datasets. The HDAPS office developed the program *GPSCHECK*, which will reset all DR flags and only set the flag on the appropriate data.

When HDAPS DRs, it uses the last computed course and speed made good of the launch. If this value is inaccurate or the launch cox'n make any course or speed changes during this period, the position estimate of the DR is not valid. This will result in a positional jump in the trackline when good navigation returns. Fortunately, these jumps are usually very obvious and can be smoothed out during processing. Additionally, the system currently allows survey lines to be started or DP's taken while in the DR mode. This should not occur. DR'ed data collected during these times was deleted. During many of these events the launch OIC's attention is on things other than the HDAPS screen. It is recommended that HDAPS give some sort of audible alarm when it enters the DR mode to bring this event to the attention of the cox'n and OIC.

When the PCDAS installed on the 770 Monark enters the DR mode, it does not break the line if the DR'ing goes over twenty seconds. MT MITCHELL personnel had to pay particular attention to the positional data of this boat. Data exhibiting this problem was deleted and rerun.

I.3 Table I.3 lists the DGPS apparatus and serial number.

Table I.3: DGPS Apparatus Serial Numbers

Vessel	Component	Serial Number	Dates Used
Shore Station	Ashtech M-XII DGPS Receiver	700354B2501	27 Sep-12 Nov
Shore Station	Maxon SM-3010-H VHF Receiver	20813476	27 Sep-12 Nov
Shore Station	GPS Antenna	700228D2313	27 Sep-12 Nov
2223	Ashtech DGPS Receiver	700417B1197	27 Sep-12 Nov
2223	Maxon SM-3010-H VHF Receiver	20813451	27 Sep-12 Nov
2223	GPS Antenna	700391A0520	27 Sep-12 Nov
2224	Ashtech DGPS Receiver	700417B1190	27 Sep-12 Nov
2224	Maxon SM-3010-H VHF Receiver	01007588	27 Sep-12 Nov
2224	GPS Antenna	700378A0468	27 Sep-12 Nov
770	Ashtech DGPS Receiver	700417B1309	27 Sep-12 Nov
770	Maxon SM-3010-H VHF Receiver	01007764	27 Sep-12 Nov
770	GPS Antenna	700378A0270	27 Sep-04 Nov
		700391A0504	04 Nov-12 Nov

I.4 DGPS performance checks were performed daily prior to data collection by using the fixed point DGPS check procedure described in section 3.4.4.2 of the Field Procedures Manual. MT MITCHELL used a horizontal control station or its reference mark for these checks. Station SUB 1985 was set by the NOAA Ship PEIRCE in 1985 for a Field Examination in the area, but the horizontal position of the disk was never established. An Airport Surveys Group party established a position for SUB 1985, and its reference mark, RM1, by traverse during an airport survey in January 1993. The positions of these two points are listed in Table I.4. These stations are located approximately 50m apart on the end of the Crown Bay pier (old Sub Base pier) where the MT MITCHELL was berthed during the survey.

Each morning the launches would pull up alongside a marked section of the pier where one of the control station were located. The actual distance from the control station to the launch's GPS antenna was measured and used as an offset. The calculated Easting and Northing values of the control station were entered into HDAPS as a target so that HDAPS would determined the range between the launch antenna position and the control station. The HDAPS online screen, displaying the target range, was then dumped to the on-line printer four times to record the target range value in meters and the launches' Easting and Northing position. The observed range to target was then entered into a *LOTUS* spreadsheet where the measured offset

was subtracted from it to arrive at the Delta P_{obs} value. The performance check was considered satisfactory if at least three of the Delta P_{obs} values were less than the project EPE_{max} of 7.5m.

Table I.4: DGPS Performance Check Stations

Control Station	Latitude & Longitude	Easting & Northing
Reference mark	18° 19' 54.~~1679~~ 1923" N	E 11734.3
~~RM 1~~ SUB RM, 1985	65° 57' 09.~~0484~~ 0678" W	N 09044.2
Horizontal control station	18° 19' 52.~~3849~~ 4084" N	E 11733.8
SUB 1985	64° 57' 09.~~0654~~ 0847" W	N 08989.3

In a few cases during the beginning of the survey, the launch crew forgot to enter the control station's easting and northing values into HDAPS as a target before the performance check. For these instances a second spreadsheet was prepared which calculated the target range value based on the observed launch's easting and northing values and the station's known position. Copies of all performance checks can be found in Separates III. *

I.5 No calibration data was applied to the DGPS raw positioning data.

I.6.a No unusual methods of DGPS calibration were employed.

I.6.b Whenever the launch was working along side a steep hill or the hull of a ship a large portion of the horizon was obscured and signals from GPS satellites in that area were lost. In these instance HDAPS would go into the DR mode. This usually was not satisfactory because the launch was not running in a straight line at the time. The only way around this problem was to return to an area when the majority of the satellites were in an unobstructed portion of the sky.

I.6.c Atmospheric activity did not affect the DGPS performance.

I.6.d No weak signals or poor geometric configurations were observed.

I.6.e No systematic errors were noted.

I.6.f Antennae positions were corrected for both offset and layback, and were referenced to the DSF6000 or Interspace fathometer transducer position. These correctors were input to the HDAPS Offset table, and corrected data while on line. Launch 2223 used offset table #7, launch 2224 used table #8, and Monark 770 used table #9. Separate III contains a copy of the

* FILED WITH THE ORIGINAL FIELD RECORDS

offset table used.

During preparation of the data for final submission it was discovered that Offset Table #9, for launch 770, did not have the GPS antenna offset, layback, or antenna height values applied. This resulted in a 0.3 meter shift in the horizontal position of all data collected by launch 770. This shift was not considered significant enough to reprocess and replot all data. It is requested that the Atlantic Hydrographic Section reapply these offsets as they process the survey. The offset table values are shown below:
OFFSETS WERE REAPPLIED DURING OFFICE PROCESSING.
Offset Table #9, GPS receiver 1:

Offset	Layback	Depth
+0.1	-0.3	-2.4

I.6.g Offset and layback distance for the A-frame (tow point) on launches 2223 and 2224 are located in HDAPS Offset table #7 (2223) and #8 (2224). These offsets, along with the cable length, towfish height, and depth of water, were used by the HDAPS system to compute the position of the towfish. Refer to Separate III for offset tables. FILED WITH THE ORIGINAL FIELD RECORDS.

J. SHORELINE SEE ALSO THE EVALUATION REPORT.

J.1 Shoreline details were drawn from a copy of chart 25649 which was photographically enlarged from 1:10,000 to 1:5,000 scale. The shoreline did not agree in several places for reasons discussed below.

J.2 All charted shoreline details have been verified as shown on the field sheet. MT MITCHELL had assistance from the Field Photogrammetry Section for this shoreline verification. The Field Photogrammetry Section will be compiling a new shoreline manuscript of the St Thomas chart with recent photography and the data from this project. The field sheet identifies each item by reference number or detached position fix number. The estimated height/depth of each item (corrected to MLLW) is also annotated on the field sheet.

J.3 Field notes may be found in the *Sheet B Shoreline Verification* logbook.

J.4 All shoreline features within the area of this survey has been verified.

J.5 The shoreline on chart #25649 is not accurately charted. The shape of the shoreline and the details it represents appear to be accurate, however the horizontal position of the shoreline is not. A similar discrepancy was noted in the positions of the charted lankmarks. All landmarks and fixed aids to navigation were positioned during this survey to Third Order Class I, or better, accuracy on the NAD83 datum. The currently charted shoreline and landmarks positions were converted from the Puerto Rician datum to NAD83. It appears that

this datum shift introduced a small error into the charted shoreline and landmarks. A *NONFLOATING AIDS OR LANDMARK FOR CHARTS* form is included in Appendix II showing the updated positions for the landmarks. Final positioning of the shoreline should be resolved in the new shoreline manuscript being prepared by Photogrammetry. * APPENDED TO THIS REPORT

During shoreline verification detached positions were take at various locations around the harbor area to assist in transferring the shoreline from the chart enlargement. Because this shoreline is still transferred from the chart it is displayed in brown on the final shoreline field sheet. Changes to the charted shoreline determined during shoreline verification or hydrography are shown in red and descussed in Section J.6 below.

The labeling on the pier in Crown Bay shown as "Riprap" is not accurate. This label tends to show that the entire pier is covered with riprap which is not correct. The north and south berths on this pier (known as the Crown Bay Pier) are concrete. Only the neck of this pier, from the berths to the shoreline, is covered with riprap. This label should be changed to indicate this.

J.6 Red areas depicted on the final shoreline field sheet include expanded foul limits in Limestone, Druif, Elephant, Lindbergh, and Ruyter Bays. Note also rock positions marked by DP 7600, 7610, 7611, 7612, 7620, 7622, 7624, 7627, 7628, and 8164.

The one disproval seaward of shoreline is pier ruins (AWOIS 8568) not found in Lindbergh Bay. CONCUR.

New item B-5 (see section N) documents a recommendation to extend the Porpoise Rocks fish haven (65ft controlling depth) by moving its Southern border further South by 75 meters. CONCUR

K. CROSSLINES

K.1 Crosslines on Survey H-10506 equaled 8.6 percent of total main scheme hydrographic coverage. All crosslines were run perpendicular to main scheme lines except the crossline which ran on a head of 050 through West Gregerie Channel.

K.2 The bottom slope in sheet B was gently sloped in open areas, but rose sharply and often became rocky approaching shore.

Of the 539 crossline/mainscheme line intersections, 98 percent exhibited a depth difference of less than 0.3 m. The remaining 2 percent of intersections are discussed in K.3. Only the main scheme hydrography lines were considered during crossline analysis.

K.3 The 2 percent of crossline/mainscheme line intersections which did not meet the standard set in K.2 were investigated by examining the fathometer traces at the actual intersection point.

Improper scanning of the sea action was found to have caused three quarters of the depth discrepancies between crosslines and mainscheme lines. The remaining one quarter of intersections compared acceptably when the fathometer traces were rescanned and the actual points of intersection determined. The result of the investigation proved all line intersections compare within 0.3m.

K.4 The vessel which obtained crossline data also collected mainscheme data.

L. JUNCTIONS *SEE ALSO THE EVALUATION REPORT.*

L.1 Survey H-10506 junctions with survey H-10505 (1:5,000, November, 1993) along its entire eastern edge. The overlap area is bounded by the meridians 064° 59' 01.40" and 064° 56' 52.00", and by the latitudes 018° 17' 30.00" and 018° 20' 48.40".

L.2 All soundings in the overlap areas between these surveys agreed within 0.3m. No problems within the survey junction were found

The first hydro coverage on this survey directly East of Water Island and South of Limestone Bay was run in North/South directions. Since these lines ran parallel to H-10505's lines in the overlap zone, lines were rerun in East/West directions so that this survey's junction lines would be perpendicular to that of H-10505.

L.3 There were no discrepancies at the junction of the surveys.

L.4 Adjustments for junction of these surveys are not recommended.

M. COMPARISON WITH PRIOR SURVEY *SEE ALSO THE EVALUATION REPORT.*

M.1 Table M.1 lists the prior surveys which were used for comparison.

M.2 In general, the soundings of H-10506 were found to be 0.55 meters deeper than the soundings of H-8877. The soundings of H-10506 were 0.33 meters deeper than FE-279. The soundings of H-10506 were 0.50 meters deeper than the soundings on H-9271.

M.3 All significant features from the prior surveys have been addressed by this survey. See item write up in Section N.

Table M.1: Prior Surveys for Comparison

Registry Number	Scale	Date	Coverage
FE-279	1:5,000	1985	Crown Bay
H-9271	1:10,000	1972	Flamingo Pt and South
H-8877	1:5,000	1966	The rest of the survey area

M.4 Since the area of FE-279 is primarily a dredged channel, the discrepancy with this survey may be caused by extensive dredging in Crown Bay. This difference was also detected in survey H-10505. To ensure that the source of the discrepancies were not with H-10506 the following step were taken.

Efforts at rectifying the discrepancy with FE-279, H-8877 and H-9271 turned first to data processing. The first step was to verify that all correctors had been properly applied to survey H-10506 soundings. Raw soundings were extracted from data randomly, and correctors were applied manually. This investigation found that all sounding correctors were applied correctly.

The next effort was proving that survey H-10506 sounding data is accurate. The fathometers' accuracy in each Jensen survey launch were checked very carefully by leadline and steel tape on DN 306, see Lead Line Comparisons Table G.1.d. Each fathometer was found to be within +0.1 meters of the manually measured depth.

An external explanation was then sought for the discrepancy. Since this survey's soundings were taken to the tenth of a meter, it was hypothesized that the prior surveys' soundings, taken in feet, were shoaler because of a larger round off (one tenth of a meter is about 0.33ft). To check this hypothesis, consecutive equal soundings (i.e. a string of seven 15ft soundings) from prior survey H-8877 were compared to survey H-10506 soundings in the same locations. If the deepening trend was caused by a larger prior survey round-off, then the H-10506 sounding at either end of the string should equal the comparable sounding from H-8877. This investigation found that the larger round-off could cause a difference of as much as +0.2 meters. This itself was not large enough to cause the discrepancy.

The next possibility explored was that the predicted tide correctors were inaccurate. Mr. Steve Gill of Tidal Analysis Branch (N/OES22) was contacted. He provided the ship with a copy of a graph of the actual tidal data from the Next Generation Water Levels gage installed in Charlotte Amalie. This showed that the observed tides were running approximately +0.15 meters above the predicted values during most of the survey period. This difference was also too small in itself to explain the 0.55m observed discrepancy.

Several locals in the area report that the Virgin Island are very geologicly active. The deepening trend may be caused by tectonic shifts (eg. earthquakes).

A single cause for the differences observed between this survey and the prior surveys could not be conclusively determined. It may be possible that several or all of the above factors contribute to this difference. MT MITCHELL has done its best to prove that the problem does not reside in the current survey. We feels that this data is accurate and adequate to supercede the prior surveys and for updating the charted depths.

M.5 No non-NOS surveys were provided or comparisons made.

N. ITEM INVESTIGATION REPORTS *SEE ALSO THE EVALUATION REPORT.*

This investigation covered 13 AWOIS and 25 new items. Note that, because of the clarity of water in St Thomas Harbor, Mr. Steve Verry the Operations Section of Hydrographic Surveys Branch included visual search as a disproval method to all AWOIS items.

A visual search was defined as follows: surveyors visually searched the wreck area from a launch or small boat. If not found, a bouy was dropped on the last known wreck position and a circular area was searched around it by swimming and snorkeling. The swimmers criss-crossed the area in a comprehensive search. Divers searched if the bottom was not visible from the surface. If nothing was found a detached position was taken on the dropped bouy to prove that a searched had been completed.

Note that 2 of the the newly found items, B-24 and B-25, lie outside the survey area. These items were brought to MT MITCHELL's attention by local divers.

AWOIS Item 1266

State and Locale	St. Thomas Harbor & Vicinity	
Last Charted Position	18° 19' 58.84" N 064° 57' 10.52" W	Position Approximate
Datum	Mean Lower Low Water	
Reported Depth	5 feet	
Water Depth	28 feet	
Feature Type	Wreck of 65-foot *Gateway Clipper*	
Source	LNM 19/77: 7CGD; 5/11/77; 65-foot steel vessel sunk in about 28 feet of water with 5-6 feet of water over the wreck in PA 18-20-06N, 064-57-12W. LNM 5/80: 7CGD; 1/30/80; "5 ft Rep. 1980" legend added to chart. FE279/85: OPR-I191-PE-85; Not investigated in field; phone calls by verification to V.I. Port Authority, COE, and 7CGD provided info that wreck has been covered by spoil; considering extensive construction and dredging in area it is believed wreck does not exist; evaluator recommends deleting wreck from chart.	
Survey Requirements	Information Item Only.	
Investigation Method	The charted location was built up and is now solid ground. There are two docking spaces in the current Marina which are closest to the charted location. These spaces were searched by divers for any signs of wreckage. Refer to attached sketch.	
Investigation Results	A twenty minute search of the area revealed no signs of wreckage.	
Prior Survey Comparison	This item does not appear on any prior survey.	
Chart Comparison	This item is not on the current edition of the chart.	
Recommendation	This item is not on the current chart edition. Recommend removal from AWOIS database. CONCUR, NO CHANGE IN CHARTING IS RECOMMENDED	

AWOIS Items 1297, 1298, 8556

State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 19' 40.84" N 064° 57' 04.60" W -- 1297, 1298 18° 19' 36.14" N 064° 57' 02.02" W -- 8556 Position Approximate
Datum	Mean Lower Low Water
Reported Depth	Not Given
Water Depth	25 feet
Feature Type	Wreck of 105-foot barge *Dravo*, P/C *Victory*, Dangerous submerged wreck with "mast"
Source	*AWOIS 1298/1298.* LNM 5/80: 7CGD; 1/30/80; 105-foot barge *Dravo* and P/C (patrol craft) *Victory* have sunk in PA 18-19-48N, 064-57-06W. FE279/85: OPR-I191-PE-85; Wrecks searched for with negative results; Commanding Officer informed by V.I. Port Authority that wrecks are in dredge area and the area is clear; TELCON by AMC with Port Authority, COE, and 7CGD could not confirm this; fathogram examined and obstruction discovered (AWOIS 4513) 96 meters south of wreck's position; wrecks are in area where dredging has been done; evaluator recommends deleting wrecks and charting obstruction. *AWOIS 8556.* LNM 15/83: Add dangerous submerged wreck and "mast", in PA 18-19-43.3N, 064-57-03.5W. Off Caroline Point, Water Island.
Survey Requirements	None for 1297 & 1298, for 8556: 200 meter search radius, 200% side scan sonar, visual search, diver investigation, salvage documentation
Investigation Method	On DN 302, while DP'ing mooring buoys, hydrographers noticed a milk jug buoy was tied to a submerged wreck. DP #7977 was taken. Divers examined the wreck on DN 305. Two additional least depth DP's, 4770 and 4771, were taken on DN 305. The search radius for AWOIS 8556 was covered with 200% SSS on DN 306. The side scan coverage could not cover the entire search radius due to shoal water depths and the abundance of sailboat mooring buoys. In areas without SSS coverage a visual search was performed from the launch. Water visibility exceeds 20 feet in the area, and all relevant areas are shoaller than that. Additionally, we talked to local divers about the items.

AWOIS 1297, 1298, 8556 (cont'd)

Investigation Results

The following results are the only wrecks found in the area. Two distinct submerged metal work boats were found, one next to the other.

The first vessel is 63 feet long and 16 feet wide, and resembles an army "T-Boat". Least depth by leadline = 1.5 meters at MLLW. The location of the least depth is marked with the milk jug buoy previously mentioned. This buoy was placed on the wreck by the owners of the nearby moored sailboats. DP 7977 represents the least depth position.

The second wreck is 120 feet long (105 feet bow to stern, and an extra 15 foot "A-Frame" on the stern) and 30 feet wide. Two least depths by leadline were taken, one on the pilot house (2.7 meters @ MLLW, DP #4770) and one on the top of the crane (2.6 meters @ MLLW, DP #4771). Refer to the attached sketch for more detail.

We were informed by a Jim McManus of Sea Horse Dive Center that the charted wreck, AWOIS 8556, is in fact the *Victory*. He also stated that there are no other wreck in the immediate vicinity of these two.

Prior Survey Comparison

Items do not appear on any prior survey.

Chart Comparison

The position of vessel #1 is 37.63 meters away from the charted location of AWOIS 8556. Vessel #2 is 51.39 meters away. Note that recommended charting position of *Dravo* is midpiont between the two nearly identical least depths: the pilot house (18-19-37.054, 064-57-00.977) and the least depth on the crane (18-19-37.419, 064-57-00.422).

Recommendation

It appears that the *Dravo* and *Victory* are still present, and were mistakened as a new submerged wreck by the person who reported AWOIS 8556 in 1983. We have three recommendations:

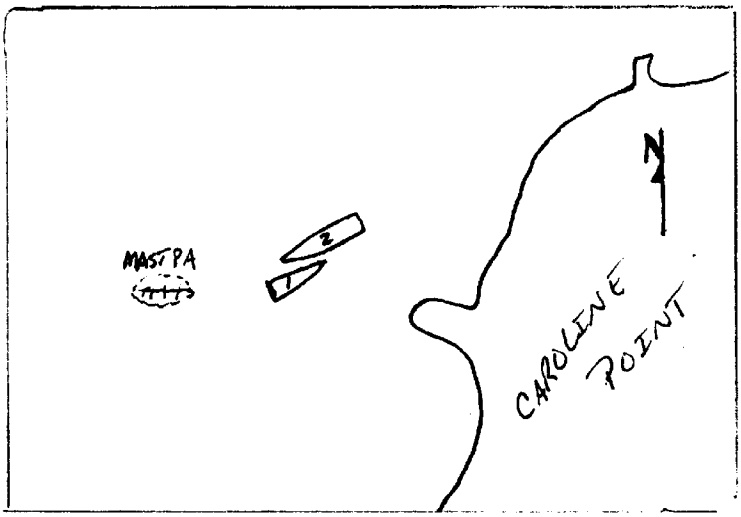
AWOIS 8556: Delete Submerged Wreck, (MASTS) PA, at 18° 19' 36.140" N, 064° 57' 02.020" W — CONCUR

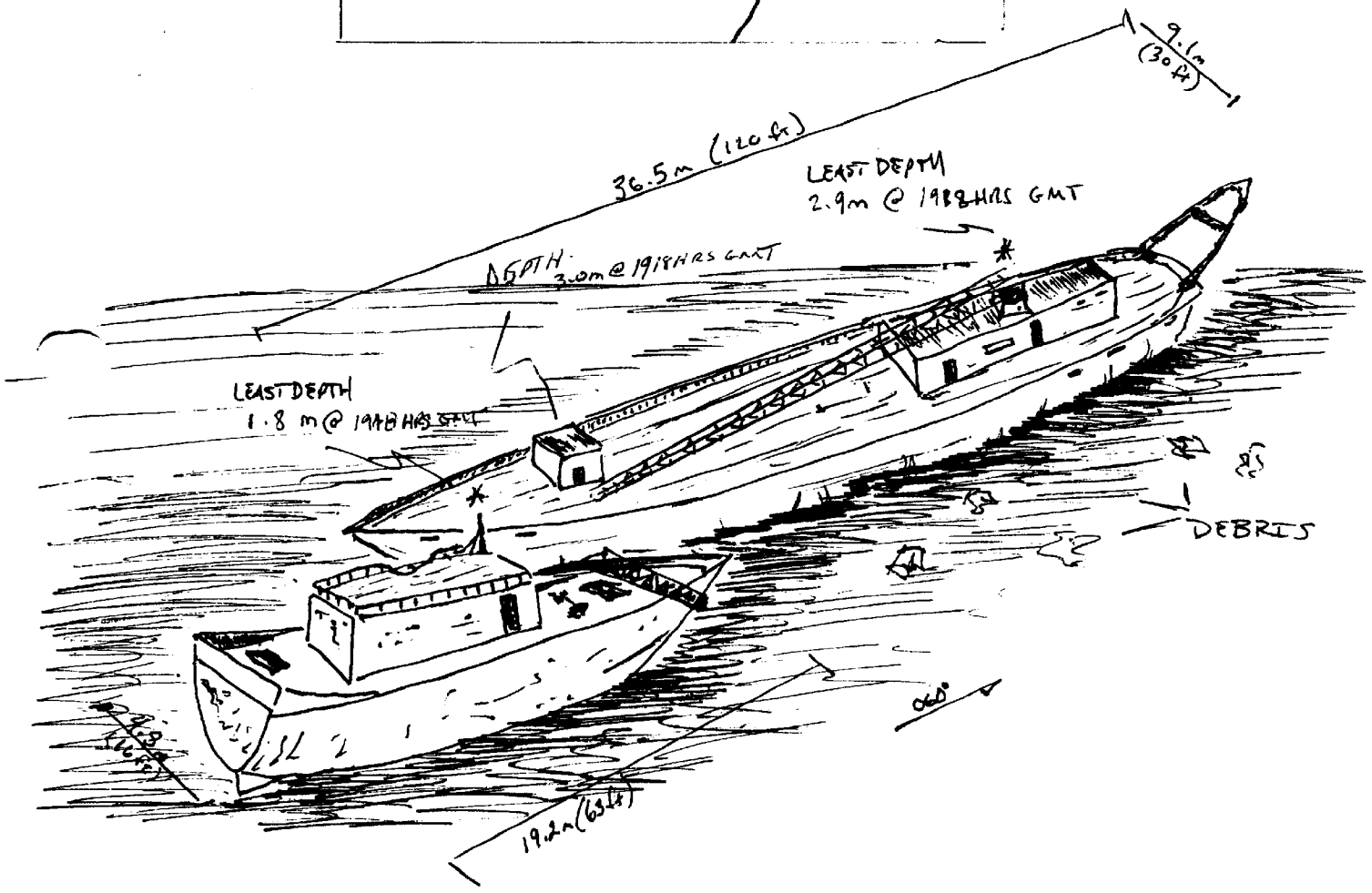
AWOIS 1298: Add ~~Submerged~~ SUNKEN Wreck, *Victory*, at 18° 19' 36.651" N, 064° 57' 00.977" W — CONCUR
Least Depth = 1.5 meters (5 FT)

AWOIS 1297: Add ~~Submerged~~ SUNKEN Wreck, *Dravo*, at 18° 19' 37.237" N, 64° 57' 00.698" W — CONCUR
Least Depth = 2.6 meters (8 FT)

CHART AS SUNK AND SUNK

AWOIS 8556, 1297, 1298





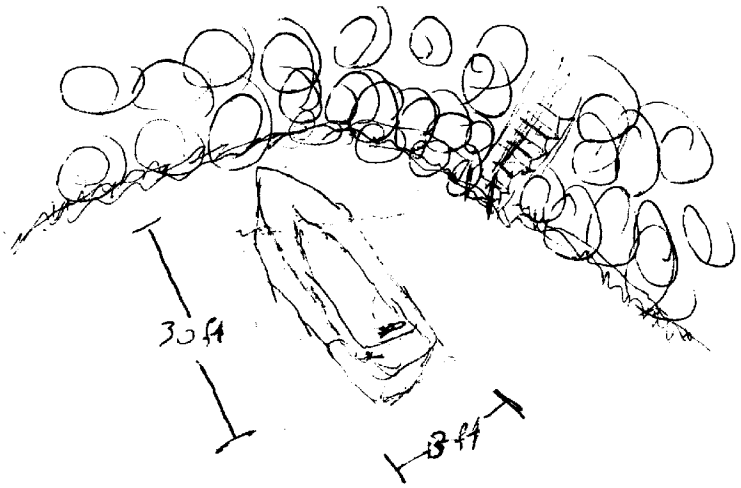
AWOIS Item 4513

State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 19' 37.72" N 064° 57' 04.72" W
Datum	Mean Lower Low Water
Reported Depth	27 feet
Water Depth	37 feet
Feature Type	Obstruction
Source	FE279/85: OPR-I191-PE-85; During office processing of AWOIS 1297 and 1298, an obstruction was found at 18-19-44.88N, 064-57-06.20W; spike on fathograms; in dredge area; echo sounder least depth of 27 feet in survey depths of 36-39 feet; 96 meters south of wrecks; evaluator recommends charting an obstruction with 27 foot depth and danger curve.
Survey Requirements	400% side scan sonar coverage, 100 meter search radius, diver investigation, salvage documentation, visual search
Investigation Method	The entire search radius was covered with 400% side scan sonar coverage on DN 310.
Investigation Results	Nothing resembling the item could be found in the area.
Prior Survey Comparison	This item was found when processing FE-279.
Chart Comparison	Nothing was found near the charted location which could be an obstruction with 27 foot clearance.
Recommendation	CHARTED 27 FT Delete Obstruction at 18° 19' 37.72" N 064° 57' 04.72" W CONCUR

AWOIS Item 4514

State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 19' 50.22" N 064° 57' 18.48" W
Datum	Mean Lower Low Water
Reported Depth	Visible
Water Depth	12 feet
Feature Type	Visible Wreck
Source	FE279/85: OPR-I191-PE-85; Uncharted wreck found in 18-18-57-38N, 064-57-19.96W; awash at MLLW; evaluator recommends charting a visible wreck as shown on survey.
Survey Requirements	100 meter search radius, bottom drag, diver investigation, salvage documentation, visual search
Investigation Method	A visual search of the area was conducted on DN 272, 283, 291, 309, for hydrography shoreline buffer, AWOIS investigation and for shoreline verification. One visible wreck is present. The water has over 20 foot visibility, and most water depths in the area are shallower than that. DP 7421 was taken on DN 283. Divers examined the wreck on DN 309. Discussions with workers at Haulover Marine were performed on DN 312.
Investigation Results	Divers discovered that the wreck is a fiberglass sailboat, bow pointing south. The wreck is 30 feet long and 13 feet wide. Height measured by steel tape. Wreck bares 0.8 meters at MLLW. Refer to attached sketch. The wreck was discussed with Tom Gore at the Haulover Marine drydock, the company which owns the area. They stated that the wreck on the chart was a different one, which was completely destroyed by Hurricane Hugo.
Prior Survey Comparison	This item appears in same position as a visible wreck on survey FE-279.
Chart Comparison	The DP position is 23.75 meters away from the charted position of the original wreck.
Recommendation	Move visible wreck to: 18° 19' 50.569" N CHART A WRECK THAT BARES 2 FT AT MLLW 064° 57' 19.202" W

AWOIS 4514



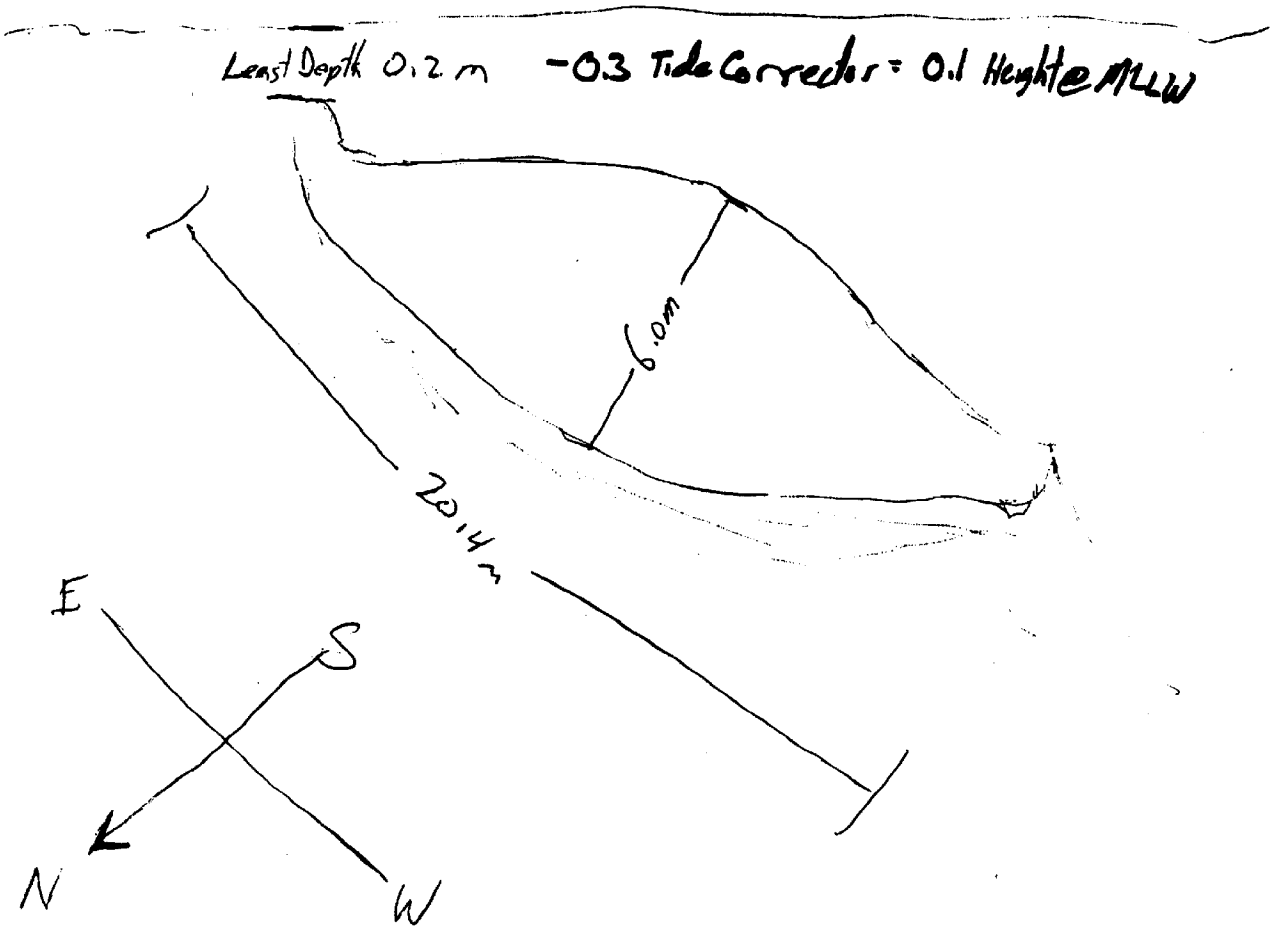
AWOIS Item 8554

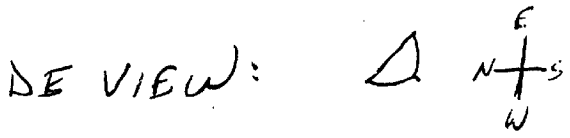
State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 19' 37.00" N 064° 57' 01.00" W
Datum	Mean Lower Low Water
Reported Depth	18 feet
Water Depth	12 - 29 feet
Feature Type	Submerged Piles
Source	CL381/52; Report of hydrographic information from C.O. U.S.S. Achernar (AKA-53) to Hydrographic Office, Washington, D.C., dated April 15, 1953. Dolphins exist in 23-26 feet of water in a line about 25 yards apart. 3 dolphins specifically located by distance and bearing to West Gregerie Channel buoy 4 (PA 18-19-59N, 064-56-55W). Dolphin 1: 208.5°, 550 yards; Dolphin #2: 206.75°, 777 yards; Dolphin #3: 208.5°, 821 yards. H8877/66; OPR-423; Visual and fathometer searches negative. Reviewer notices stubs of submerged piles on fathogram, 4-5 feet above the bottom. Not a hazard to navigation but might affect anchoring and fish nets. Listed position is the northern end of the line of submerged piles in PA 18-19-37N, 064-57-01W.
Survey Requirements	Echo sounder; diver investigation, visual search, salvage documentation, 200% side scan sonar, 100 meter search radius. Swath search is to be centered on the charted line of submerged dolphin stubs. Bearing of search is 206°, 250 meters.
Investigation Method	95% of this item's search radius overlaps the search radius for AWOIS 8556, which was covered with 200% SSS on DN 306 and 314. Additionally, divers descended and did a search along the charted location of the piles on DN 314. A buoy was dropped at the charted beginnning and end of the piles, and divers swam a compass course between the two.
Investigation Results	Nothing was found on the side scan sonogram. Upon descent the divers found 9 piles, all toppled over on their side. The largest of the piles is approximately 10 feet long. Nothing was found still standing.
Prior Survey Comparison	Pilings appear in an identical position, 4 to 5ft above bottom, on survey H-8877. Pilings appear in an identical position, submerged, on survey FE-279.
Chart Comparison	The piles are in line with the charted feature, but no longer any threat.
Recommendation	Remove submerged piles from chart. Concur

AWOIS Item 8560

State and Locale	St. Thomas Harbor & Vicinity	
Charted Position	18° 19' 17.84" N 064° 57' 20.52" W	Position Approximate
Datum	Mean Lower Low Water	
Reported Depth	Not Given	
Water Depth	3 meters	
Feature Type	Dangerous Submerged Wreck	
Source	LNM 32/82: Add dangerous submerged wreck *Escapade* in PA 18-19-25N, 064-57-22W.	
Survey Requirements	200% side scan sonar, 200 meter search radius, bottom drag, diver investigation, salvage documentation, visual search	
Investigation Method	The wreck is visible from the surface. Divers investigated the wreck on DN 291. The rest of the search radius was inspected visually from the surface. Water visibility is roughly 25 feet in the area. Areas where the bottom could not be seen were covered by side scan sonar. 200% side scan sonar coverage was performed on DN 306 in all places where water depths permitted.	
Investigation Results	A submerged wreck measuring 20.4 meters long by 6.0 meters wide was found 65 meters from the charted position of AWOIS 8560. Least depth by leadline is 0.2 meters, but the tide corrector of 0.3 meters means the wreck is awash at MLLW. DP 7597 represents the least depth position. Refer to the attached sketch.	
Prior Survey Comparison	This item does not appear on any prior survey.	
Chart Comparison	The DP position is 65.70 meters from the charted location of the wreck.	
Recommendation	Delete Submerged Wreck, PA at	18° 19' 17.84" N 064° 57' 20.52" W CONCUR
	and Chart a Wreck, Awash, at	18° 19' 18.781"N 064° 57' 18.509"W CONCUR

8560



SIDE VIEW: 

AWOIS Item 8563

State and Locale	St. Thomas Harbor & Vicinity	
Charted Position	18° 19' 53.00" N 064° 57' 38.50" W	Position Approximate
Datum	Mean Lower Low Water	
Reported Depth	Visible	
Water Depth	4.0 meters	
Feature Type	Visible Wreck	
Source	LNM 13/79: Add visible wreck *Western City* at PA 18-19-53.0N, 064-57-38.5W.	
Survey Requirements	Visual search, bottom drag, diver investigation, salvage documentation, 100 meter search radius	
Investigation Method	The area was inspected visually for both visible and submerged wrecks. Hydrographers tried to tow side scan sonar fish on DN 306, but could not cover the search radius. While filling holes in the mainscheme hydrography on DN 310 the area was extensively searched from the surface (ref. DN 310, VesNo 2224, fix #6010). Discussions with Jim McManus of Sea Horse Diving Center was conducted concerning this item.	
Investigation Results	Nothing was observed visually at the charted location which could be the *Western City*. One contact was discovered during side scan sonar operations. This contact, discussed hereafter as **Item B-13**, was not a ship, and also was not significant. The local experts state that the *Western City* was a wooden boat that decayed rapidly. They also state that Hurricane Hugo destroyed the wreck so completely that no remains are left.	
Prior Survey Comparison	This item does not appear on any prior survey.	
Chart Comparison	Nothing was found to compare to the charted feature.	
Recommendation	Delete Visible Wreck, PA at	18° 19' 53.00" N 064° 57' 38.50" W CONCUR

AWOIS Item 8567

State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 19' 23.00" N 064° 57' 08.00" W
Datum	Mean Lower Low Water
Reported Depth	N/A
Water Depth	0 - 4 meters
Feature Type	Wreckage Area
Source	H8877/66; OPR-423; Numerous wrecks and hulks in various conditions were located in Elephant Bay on Water Island. This area is bounded on the north by approx. Lat. 18-27-00N, and on the south by approx Lat. 18-20-00N.
Survey Requirements	Visual search, bottom drag, diver investigation, salvage documentation, required search area includes that area bounded by the 12-foot curve and the HWL.
Investigation Method	On DN 294 and DN 306 divers performed an extensive search of the area. Water visibility in the area exceeds 20 feet. The divers searched the area by staying forty feet apart and swimming on the surface through the entire area. This was followed by a visual inspection from the launch.
Investigation Results	Various pieces of wreckage and other obstructions were encountered. There is no visible wreck in the area. Two items found deserve special attention. The first is a pile of wreckage debris over 1 meter off the bottom. This is addressed later as **Item B-3**. The other item is additional wreckage debris, least depth by leadline ~~1.2~~ 1.8 meters in 2.0 meters of water (ref. DN 306, VesNo 770, DP #8159). Both of these fall within the area listed as foul for wreckage.
Prior Survey Comparison	Survey H-8877 portrays numerous wrecks and hulks along the shore of Elephant Bay with no defined foul area.
Chart Comparison	The area is listed as foul with wreckage. This is still an accurate assessment of the area.
Recommendation	While this area does not contain the amount of wreckage that the chart would indicate, the area still contains scattered debris on the bottom. Two areas of debris do rise over a meter off of the bottom. It is recommended that this item remain as charted. CONCUR. CHART FOUL LIMITS AS SHOWN ON THE PRESENT SURVEY

AWOIS Item 8568

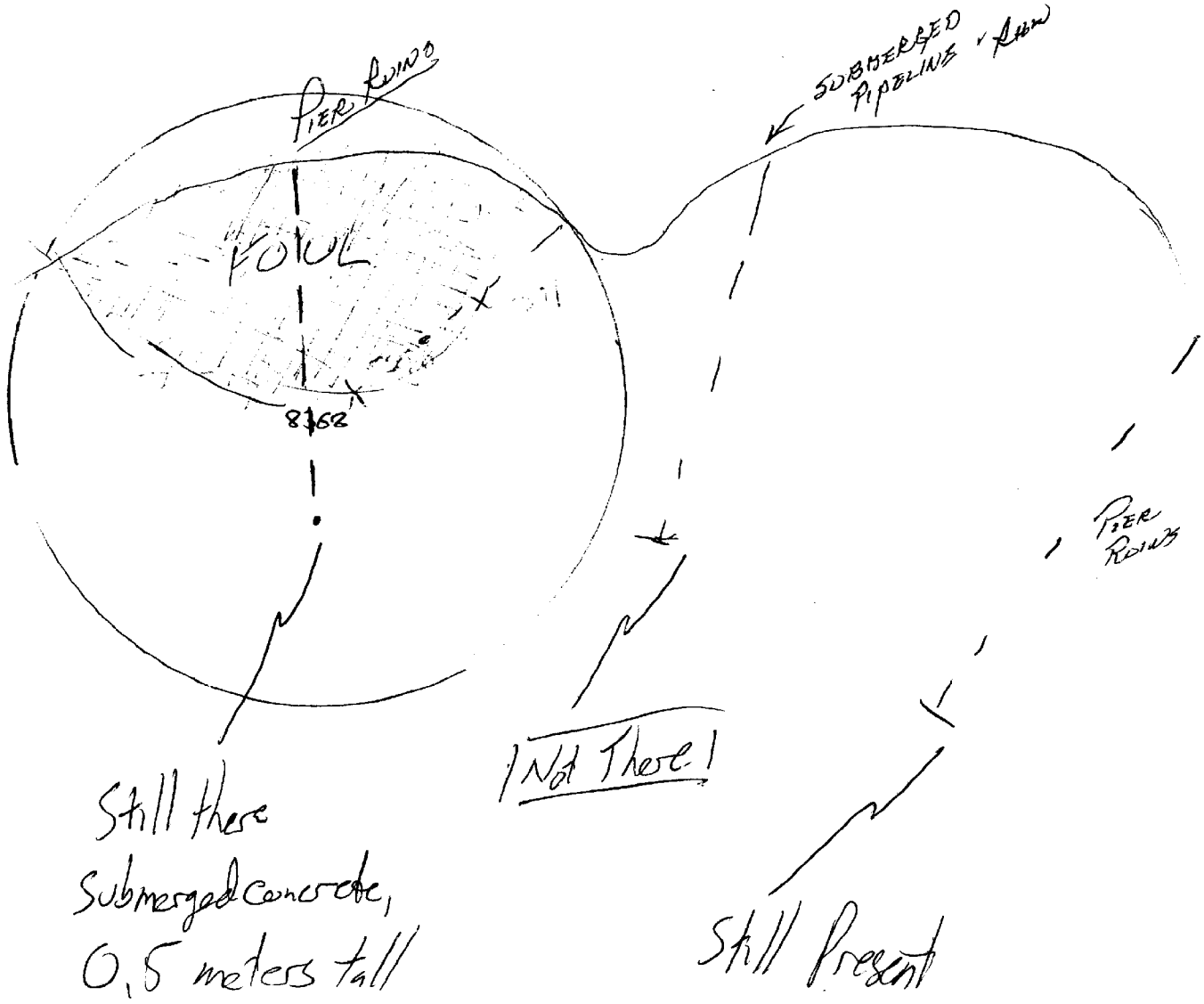
State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 20' 05.64" N 064° 58' 07.52" W
Datum	Mean Lower Low Water
Reported Depth	Visible
Water Depth	4.0 meters
Feature Type	Pier ruins
Source	H8877/66: OPR-423; Pier ruins; offshore end located in 18-20-12.20N, 064-58-09.00W.
Survey Requirements	100 meter search radius, bottom drag, diver investigation, visual search, salvage documentation, swath search required from the listed position shoreward (50 meters on each side of ruins)
Investigation Method	No pier ruins are exposed. The water visibility is greater than 25 feet in the vicinity, and water depths are less than 15 feet in the search radius. The search radius was examined on on DN 292 during shoreline verification, and again on DN 294 by divers. DP's were taken on DN 294. Another dive was done on DN 314.
Investigation Results	Aside from what is mentioned below the bottom consists of sand and seagrass, and is clear of any obstructions. Refer to attached sketch. Two piers are charted within the search radius. The westernmost one was discovered by divers on DN 314, and DP #8176 represents the end of the ruins. The ruins consist of 16 inch diameter concrete supports and square wooden supports, all toppled over. Nothing remains over 0.5 meters off the bottom. No ruins from the other pier remain. There is, however, a foul area of concrete slabs, and other rocky debris. Six DP's (5090, 5091, 5092, 8173, 8174, 8177) were taken to help delineate this area.
Prior Survey Comparison	This item appears as pier ruins of identical shape and length on survey H-8877.
Chart Comparison	DP #8176, the pier found, is 10.45 meters inshore from the charted end of the pier.
Recommendation	Keep the westernmost pier ruins as charted. Delete the other pier ruins. Add a foul area with its limit delineated by the arc formed by connecting DP's 5090,

CONCUR DO NOT CONCUR

AWOIS Item 8568 (cont'd)

5091, 5092, 8173, 8174 and 8177. CONCUR. SEE ALSO SECTION M.3. a), b) AND c) OF THE EVALUATION REPORT.

AWOIS 8568


PIER RUINS
SUBMERGED PIPELINE
FOUL
8568
PIER RUINS
Still there
Submerged Concrete,
0.5 meters tall
!Not There!
Still Present

AWOIS Item 8573

State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 20' 06.44" N 064° 57' 56.80" W
Datum	Mean Lower Low Water
Reported Depth	None given
Water Depth	3.7 meters
Feature Type	Obstruction (Pier Ruins)
Source	BP42671/46: Map of Marine Corps Air Facility, 1946; "Officer's Swimming Pier" at 18-20-13.6N, 064-57-13.4W. H8877/66: OPR-423; Reviewer noted 1965 photo shows pier in ruins.
Survey Requirements	100 meter search radius, bottom drag, visual search, diver investigation, salvage documentation
Investigation Method	The platform ruins were inspected visually. To search for the pier ruins the entire search radius was covered with a combination surface visual search and side scan sonar coverage. The visual search was performed on DN 294. Water visibility is approximately 20 feet. Divers swam compass courses, spaced by swimming buoys in the area. The diver investigation was complemented by a visual search from the launch. 65% of the search radius was covered in this manner. The rest of the entire search radius was covered using a side scan sonar on the offshore, deeper areas on DN 310 and DN 314.
Investigation Results	Two shoreline features fall within the search radius - pier ruins and platform ruins. The platform ruins are six visible, rusted I-beams. They form a 15 foot square, and bare 1.3 meters (adjusted to MLLW with ~~predicted~~ APPROVED tides). DP 7929 was taken on DN 297 at the position of the platform ruins. The search radius to the east of the I-beams was also examined by the divers. The bottom is sand and sea-grass. No signs of any pier wreckage is present. DP 5089 was taken after the search on DN 294 in the area to help disprove the pier ruins. Refer to attached photograph.
Prior Survey Comparison	This item appears as a swimming platform, and was used as hydrographic station "TAY" for survey H-8877.
Chart Comparison	DP 7929's position at is 9.48 meters from the charted location of the platform ruins.

AWOIS 8573 - cont'd

Recommendation Remove pier ruins, but keep charted platform ruins at 18° 20' 06.049" N
064° 57' 55.845" W

CONCUR

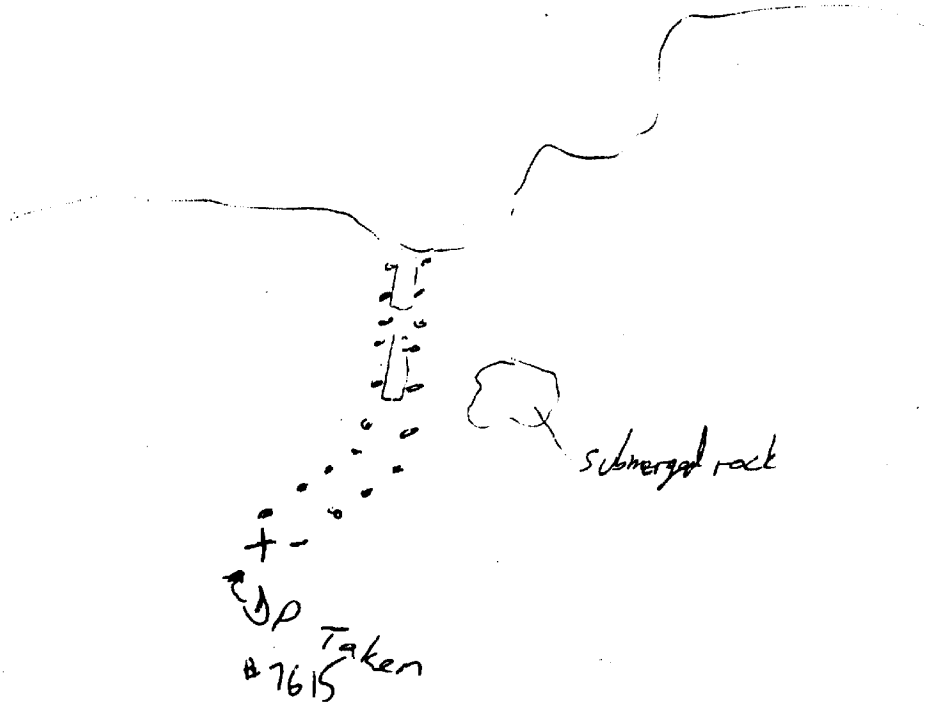
AWOIS Item 8744

State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 19' 40.10" N 064° 57' 32.10" W
Datum	Mean Lower Low Water
Reported Depth	Visible
Water Depth	N/A
Feature Type	Grounded Composite Barge
Source	BP146333/92; NOS photograpthy (2/11/92); what appears to be a grounded composite barge located in 18-19-40.1N, 064-57-32.1W. Position is approximate center of feature scaled from chart 25649.
Survey Requirements	100 meter search radius, salvage documentation, bottom drag, diver investigation, visual search
Investigation Method	The item was observed visually. Refer to attached photograph.
Investigation Results	The item is a grounded composite barge. Contact bares 3.3 meters at MLLW. DP #7928 was taken on DN 297 to verify its position.
Prior Survey Comparison	This item is not present on any prior survey.
Chart Comparison	The DP is a reference position to determine if the chartd position was accurate. It is 22.15 meters from the charted location of the barge. The DP was on the barge's side (the closest a launch could get to its center), while the charted position is the center of the barge.
Recommendation	The item is accurately portrayed on the current chart. No changes recommended. Concur

AWOIS Item 8745

State and Locale	St. Thomas Harbor & Vicinity
Charted Position	18° 18' 45.00" N 064° 57' 32.20" W
Datum	Mean Lower Low Water
Reported Depth	Visible
Water Depth	5.0 meters
Feature Type	Pier ruins
Source	BP164333/92; NOS photography; pier ruins located at 18-18-45.0N, 064-57-32.2W. Approximate position of seaward end of ruins scaled from chart 25649.
Survey Requirements	100 meter search radius, visual search, bottom drag, diver investigation, salvage documentation, if not visible, conduct search starting at listed position and continuing shoreward out to 50 meters either side of ruins
Investigation Method	This item was spotted visually. Inspection of the entire area was performed during shoreline verification on DN 293.
Investigation Results	The pier ruins are a series of concrete piles, extending out as depicted on chart 25649. All piles bare 0.8 meters at MLLW. Divers verified that there are no submerged ones. DP #7615 was taken at the end of the pier ruins, and agrees well with the charted feature. Refer to attached sketch.
Prior Survey Comparison	This item does not appear on any prior survey.
Chart Comparison	The DP position is 10.02m from the charted location of the end of the ruins.
Recommendation	The item is accurately portrayed on the current chart. Do not change. CONCUR

AWOIS 8745



In addition to these items, several new items were discovered, and are discussed below.

Item B-1

Location	18° 19' 56.980"N 064° 57' 08.807"W
Water Depth	9.4m
SSS Contact Height	0.8m

History

DN	Fix Number	Activity
282	5007.72	SSS 100 %
282	5084	DP on least depth position

Investigation Results

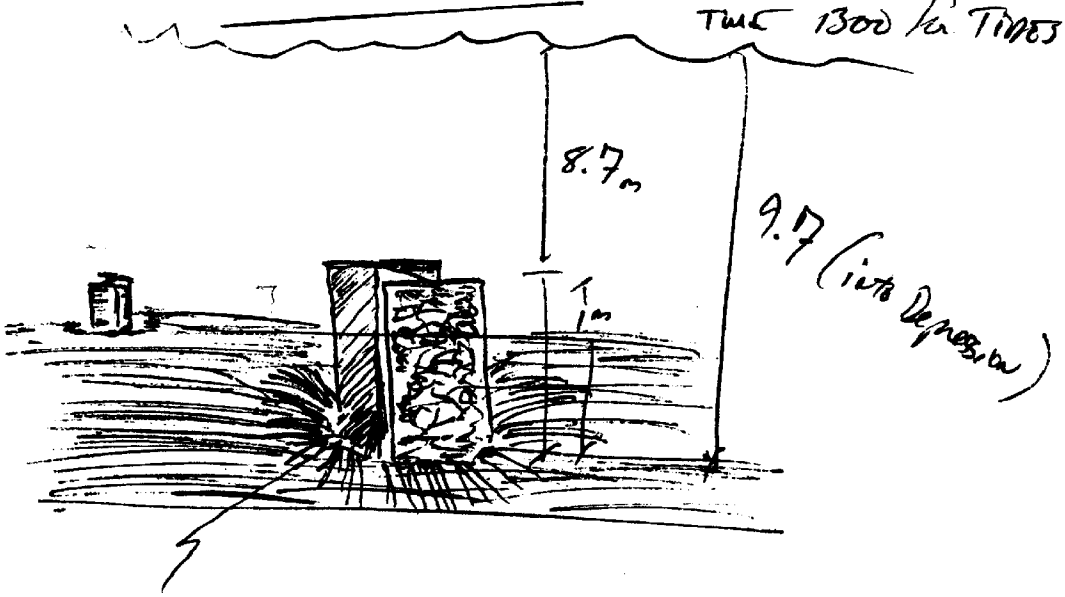
The original item investgated with divers was a tire. While on the bottom divers discovered three I-beams. Two were insignificant, but the third stood upright 1m high. DP #5084 was taken. Refer to attached sketch.

When discussing this with the V.I. Port Authority they said they would salvage the I-beam instead of having it charted. On DN 292 Boatright Marine Salvage was hired by the Port Authority to remove the item. The I-beam was cut off even with the bottom. Survey department personnel visually observed all the I-beams being taken out of the water by the contractor.

Recommendation Do not chart. Concur

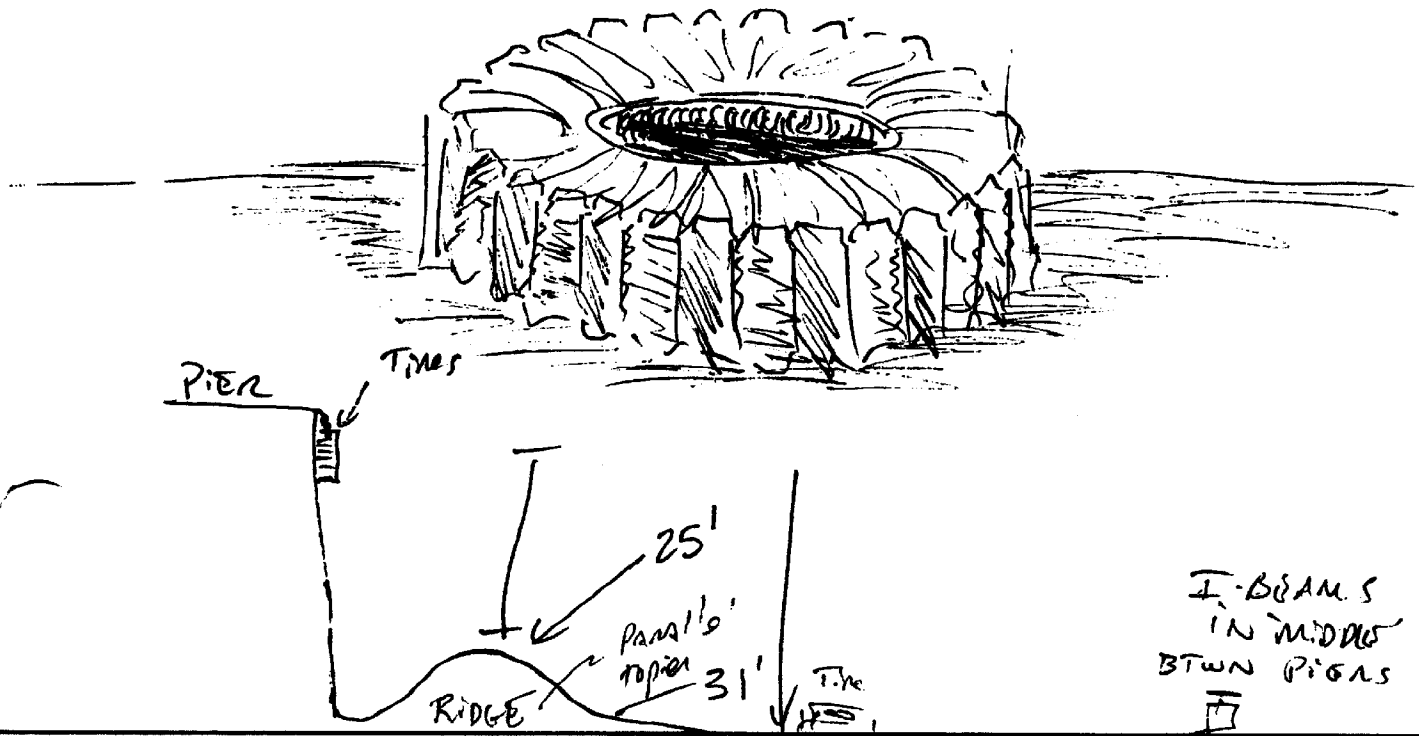
B-1

ITEM "I-BEAM"



"LARGE TIRE" ON SIDE SCAN INSIG

← 10m FROM ATT PIER



I-BEAMS IN MIDDLE BTWN PIERS

Item B-2

Location 18° 19' 04.613"N 064°58' 10.909"W

Water Depth 18.4m

SSS Contact Height 3.6m

History

DN	Fix Number	Activity
284	3710.30	SSS 100 %
284	3807.60	SSS Development
284	3810.17	SSS Development
284	3814.55	SSS Development
288	5088	Dive, Least Depth, Least Depth DP

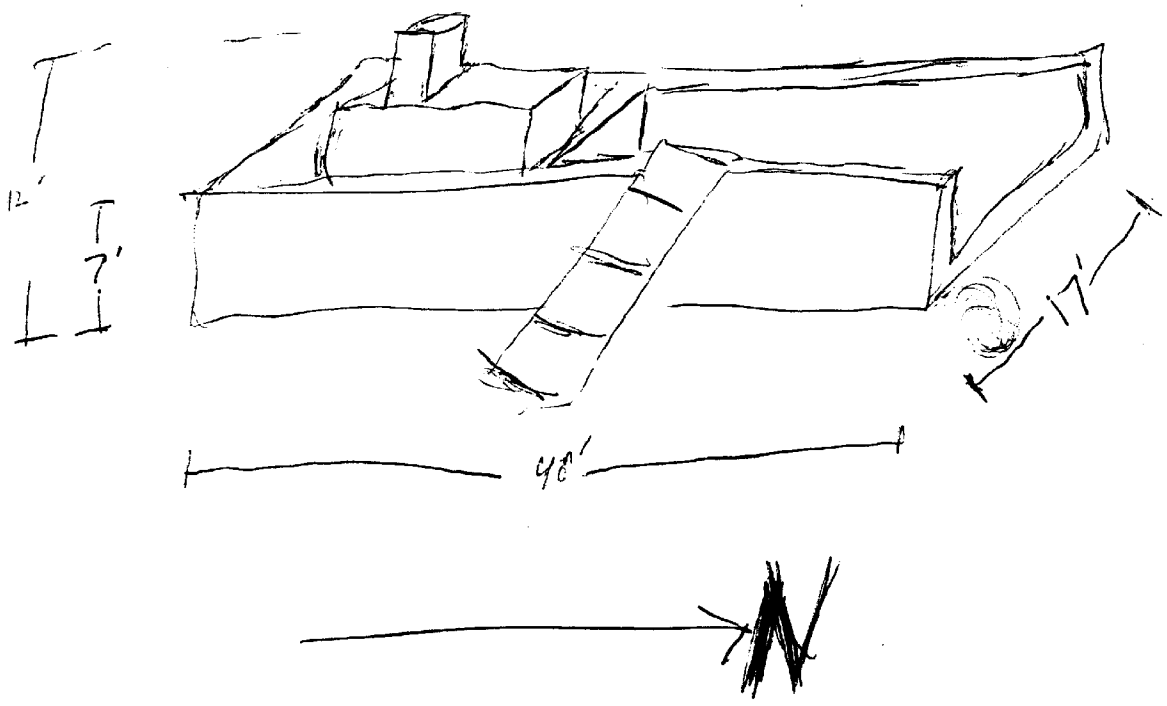
Investigation Results The item was first seen in 100% coverage on DN 284, and developed later that day. On DN 288 divers descended and found a submerged landing craft unit (LCU) boat. The wreck, approximately 13.7 meters long and 5 meters wide, lies in a North/South orientation. The least depth by pneumogauge of 14.6 meters is on one corner of the pilot house. DP #5088 represents the least depth position. Refer to attached sketch.

A danger to navigation report was issued for this item on 18 October 1993 for this item.

Recommendation Add submerged wreck, 14.6 5 (47 FT) meter least depth, at 18° 19' 04.613" N 064° 58' 10.909"W

CHARTED ON THE 17TH EDITION OF CHART 25649.
NO CHANGE IN CHARTING IS RECOMMENDED.

B-2



Item B-3

Location	18° 19' 22.236"N 064° 57' 09.672"W
Water Depth	3.0 meters
SSS Contact Height	N/A

History

DN	Fix Number	Activity
294	5096	Least Depth, DP

Investigation Results During the investigation of the search area for AWOIS 8567, an obstruction was found. It consists of several pieces of metal, possiblty an old shipwreck. The debris is spread over a circular region of 6 meter radius. The least depth by leadline of 1.35 meters (4 FT) (at MLLW with predicted tides) is at the center of the debris. DP #5096 represents the least depth position.

Recommendation Although this item is significant, it falls within the foul area labelled "Wreckage". Refer to AWOIS 8567. Because it is in a foul area, hydrographer recommends that no obstruction be charted. CONCUR

Item B-4

Location	18° 19' 33.633"N 064° 57' 00.194"W
Water Depth	3.4m
SSS Contact Height	N/A

History

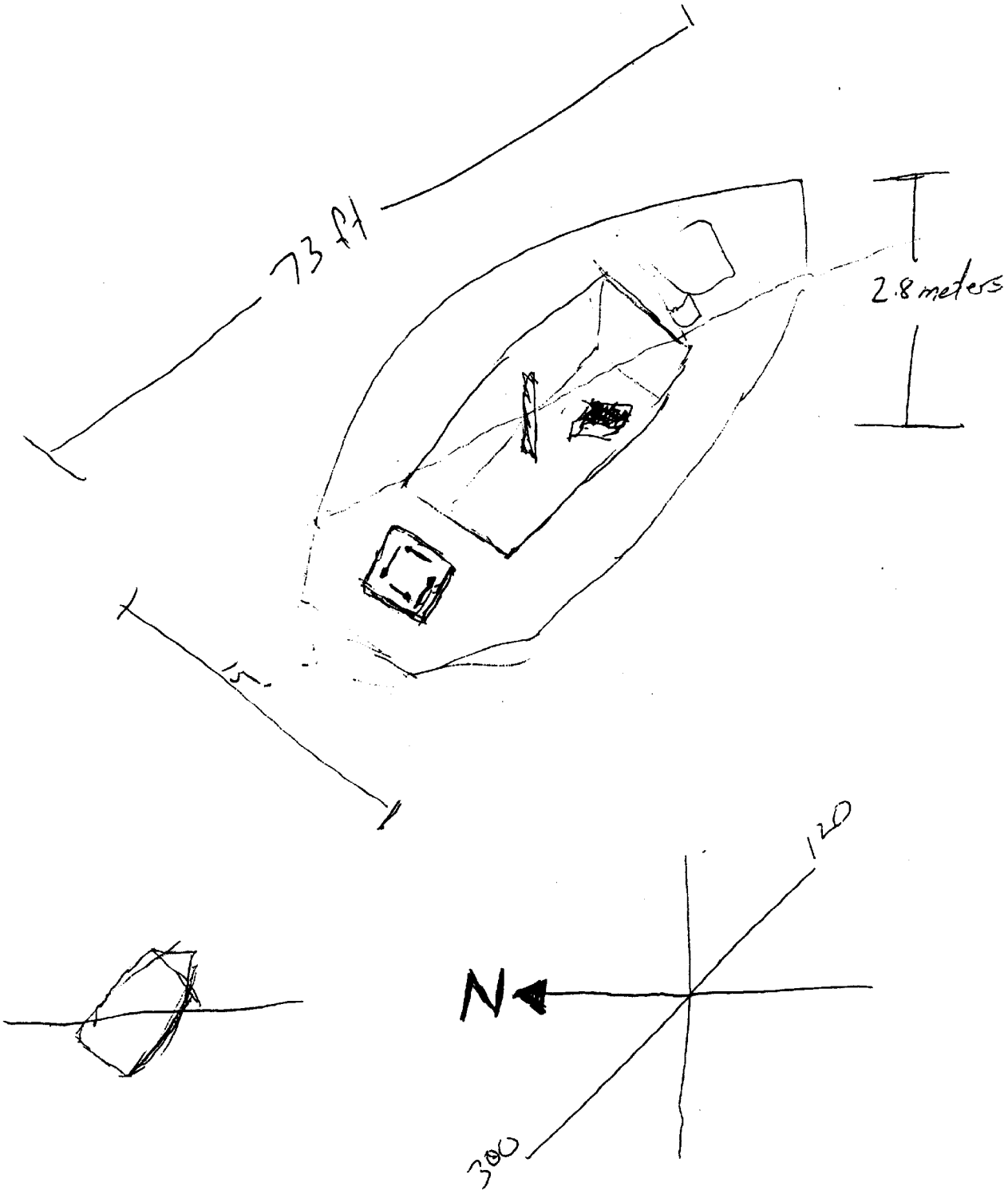
DN	Fix Number	Activity
294	5097	Least Depth DP

Investigation Results The item is a visible shipwreck, aground. The boat is listing to starboard, heading 120°, and is firmly in place. The wreck is roughly 21.7 meters long and 4.5 meters wide. The wreck bares 2.8 meters at MLLW. DP #5097 represents the position of the wreck. Refer to attached sketch.

Recommendation Chart a visible wreck, 2.8 6 (8FT) meter height, at 18° 19' 33.633" N 064° 57' 00.194" W

CONCUR. CHART A WRECK THAT BARES 8FT AT MHW AS SHOWN ON THE PRESENT SURVEY

B-4



Item B-5

Location 18° 18' 11.058" N 064° 58' 23.720" W

Water Depth 27.1m

SSS Contact Height 8.2m

History

DN	Fix Number	Activity
297	4497.14	SSS & Hydro Development
	4494.85, 4495.02, 4499.75, 4500.00, 4502.20, 4504.70, 4504.80, 4505.10 --- Other Correlated Contacts	
305	4765	Dive, DP
314		Least Depth by Pneumogage

Investigation Results

The contact is in the vicinity of a fish haven with an authorized minimum depth of 60 feet. Of all the contacts found during the hydro developments, most were 4 meters or less off the bottom. They would be significant were they not in the fish haven. One grouping of contacts, however, fell south of the fish haven. One of those had a possible SSS contact height of 8.2m, bringing it up to 58ft. A fathometer spike on the same contact registered a depth of 24.2 m. (79 FT)

Divers investigated the contact on DN 305. A buoy was dropped on the position of the 8.2 meter height, obtained from the contact table. Divers descended and did not see any contacts 8.2 meters high. The only item found was a wrecked ship approximately 30 meters east of the buoy. The wreck, 70 feet long and 20 feet wide, has a least depth of 22.5 meters @ MLLW, well within the authorized depth. A 20 meter circle search was conducted around the wreck, with no new items found. DP 4765 was taken on the item. Refer to attached sketch. (74 FT)

A second dive was performed on the same day, again dropping the buoy on the 8.2 meter SSS position. A 60 meter circle search from the buoy discovered the same item, and nothing new.

A third dive was done on DN 314 to obtain a least depth by pneumogage. Least depth was found to be 22.5 meters @ MLLW. (74 FT)

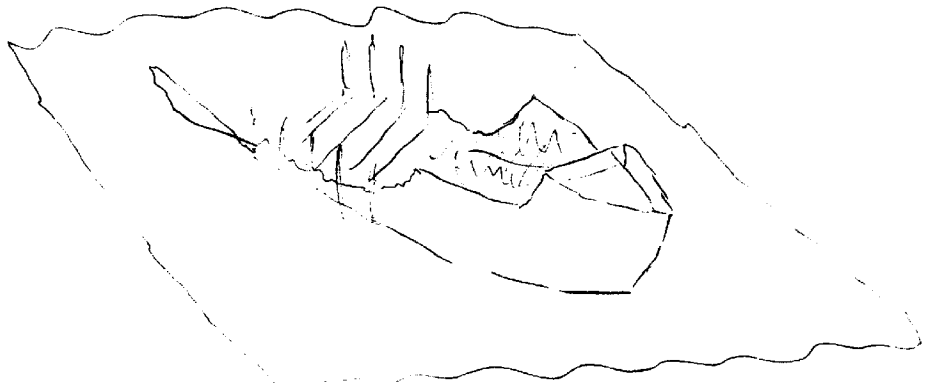
Recommendation The ideal action would be to expand the fish haven to include the item.

Item B-5 (cont'd)

Recommend that until the fish haven is expanded, chart a submerged wreck, 22.5 meter least depth, at position (74FT) 18° 18' 11.058" N 064° 58' 23.720" W

CONCUR CHART AS A 74 WK

B-5



Item B-6

Location	18° 19' 33.984" N	064° 57' 15.547" W
	18° 19' 34.695" N	064° 57' 15.748" W
	18° 19' 35.213" N	064° 57' 16.003" W
	18° 19' 37.562" N	064° 57' 15.816" W

Water Depth 17.5 meters

SSS Contact Height 4.4 meters

History

DN	Fix Number	Activity
282	5052.38	SSS 100%
	5052.50, 5052.52, 5052.55, 3697.60, 3797.63, 3797.83, 3884.60	
287	3912.00	SSS 200%
	3912.10, 3912.18, 3912.20, 4014.13, 4036.44	
308	4973	Dive, Least Depth, DP's
	8166, 8167	
313	6085, 6086,	Dive, Search for more Piles
	6087, 6090	

Investigation Results

On DN 308 divers discovered upon descent a large pile of small rocks, possibly dredged material. The pile is 40 feet long and 25 feet wide. A 20 meter circle search discovered a second rockpile of similar dimensions, roughly 80 feet to the southeast. Another circle search from this rockpile discovered yet a third pile 60 feet away. No other rockpiles were found. DP #4973, 8166 and 8167 were taken. Refer to attached sketch.

Divers did another search on DN 313 for additional rockpiles seen on side scan sonar. They discovered two more piles right next to one another. DP's were taken on all the rockpiles that day, (6085, 6086, 6087, 6090), although the duplicate DP's from from DN 308 (4973, 8166, 8167) were kept.

Least depths by leadline on the piles and associated DP's are as follows: Pile #1 (13.7 meters, 8166/6085), Pile #2 (13.3 meters, 8167/6086), Pile #3 (12.5 meters, 4973/6087), Piles #4 and #5 (16.2 meters, 6090). Note Piles #4 and #5 have least depths determined by pneumogage.

A Danger to Navigation Report was filed for these items on DN 320.

Item B-6 (cont'd)

Recommendation Chart Obstructions at:

#4 18° 19' 37.562" N 064° 57' 15.816" W Least Depth = 16.2 meters (53 FT)
#1 18° 19' 33.984" N 064° 57' 15.547" W Least Depth = ~~13.7~~ 12.2 meters (40 FT)
#2 18° 19' 34.699" N 064° 57' 15.748" W Least Depth = 13.3 meters (43 FT)
#3 18° 19' 35.213" N 064° 57' 16.003" W Least Depth = ~~12.5~~ 13.7 meters (45 FT)

✓ DO NOT CONCUR. SEE SECTION N. OF THE EVALUATION REPORT.

B-6

#1

L.D. = 12.7 m @ 1759 GMT
Water depth = 15m

L.D. 13.5 m @ 1808 GMT
W.D. = 15.5m

L.D. 13.9 m @ 1814 GMT
W.D. 15.5m

#2

L.D. 16.4 m @ 1932 GMT

W.D. 17.9 m

Item B-7

Location	18° 19' 01.300" N 064° 58' 00.788" W
Water Depth	17.6 meters
SSS Contact Height	1.6 meters

History

DN	Fix Number	Activity
284	3741.28	SSS 100%
284	3906.83	SSS 200%
308	8165	Dive, DP
314		Dive, Least Depth Measurement

Investigation Results: The item is a spherical mooring buoy 5 feet in diameter. It rises 4.6 feet off the bottom. A 20 meter circle search was performed; no additional items were found nearby. Pneumogage was not available on DN 308, so an additional dive on DN 314 was done to get an accurate least depth. Least depth by pneumogage was found to be 15.9 meters @ MLLW. Refer to attached sketch.

Recommendation: Chart an Obstruction at 18° 19' 01.300" N
Least Depth = 15.9 meters (52 FT) 064° 58' 00.788" W

CONCUR. CHART AS 52 Obstn (buoy)

B-7

Item B-8

Location	18° 18' 51.429" N 064° 57' 46.215" W
Water Depth	17.4 meters
SSS Contact Height	1.0 meters

History

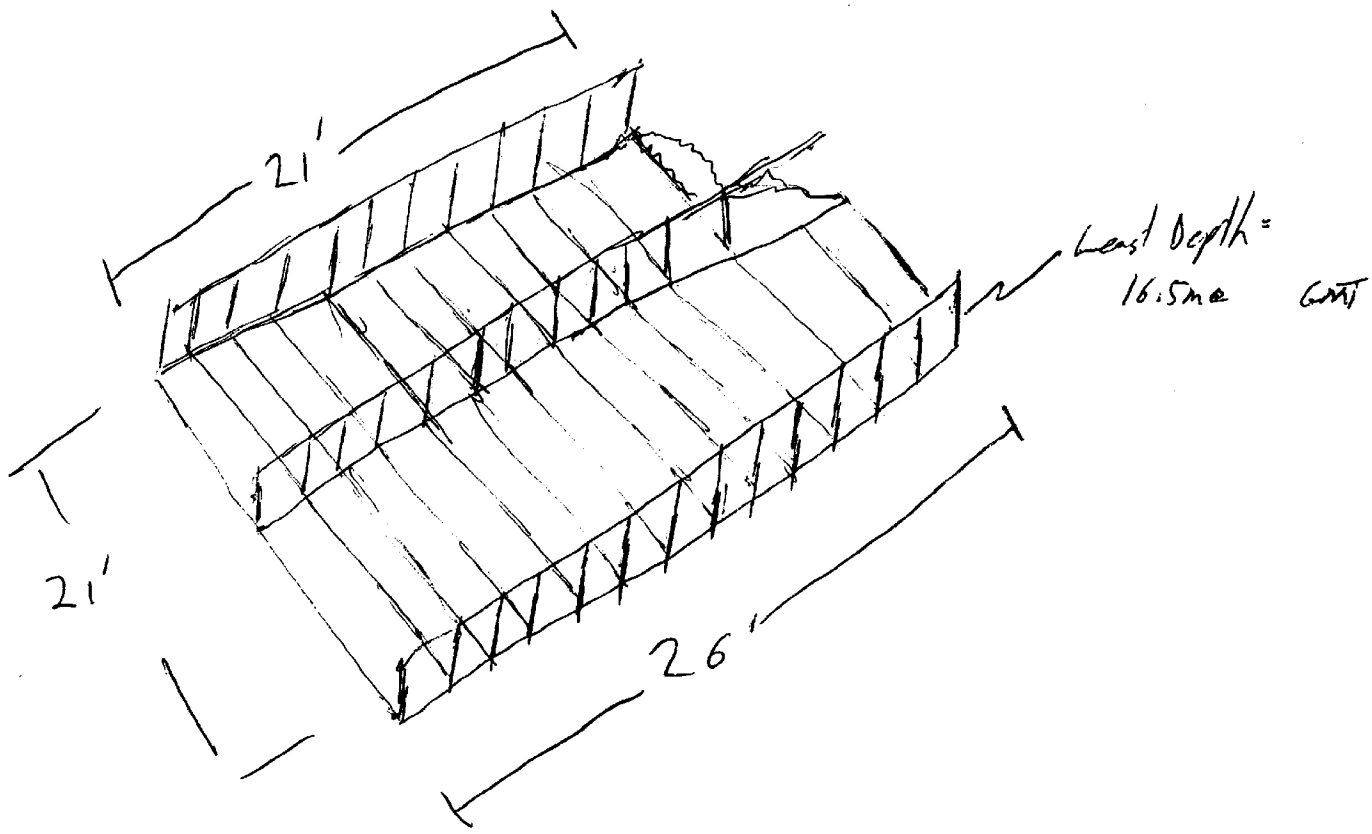
DN	Fix Number	Activity
284	3766.56	SSS 100%
287	4014.13	SSS 200%
	4036.44	SSS 200%
309		Dive, Least Depth
312	6077	Dive, DP

Investigation Results: Divers discovered the keel and ribs of a sunken barge. The wreckage is 21 feet wide, 26 feet long, with 2 foot spacing between ribs. Least depth by pneumogage is 16.1 meters @ MLLW. Refer to attached sketch.

Recommendation: Chart a ~~Obstruction~~ WRECK at 18° 18' 51.429" N
Least Depth = 16.1 meters (53 FT) 064° 57' 46.215" W

CONCUR. CHART AS 53 WK

ITEM B-8



Item B-9

Location	18° 18' 28.704" N 064° 58' 44.093" W
Water Depth	26.5 meters
SSS Contact Height	4.0 meters

History

DN	Fix Number	Activity
302	4613.80	SSS 100%
302	4714.06	SSS 200%
309	8168	Dive, Least Depth, DP

Investigation Results

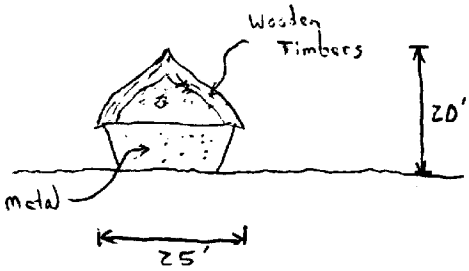
Divers discovered wreckage consisting of wood and steel. No other items were found in the area. Least depth by pneumogage = 22.5 meters @ MLLW. Refer to attached sketch. This item has been deemed significant but not dangerous.

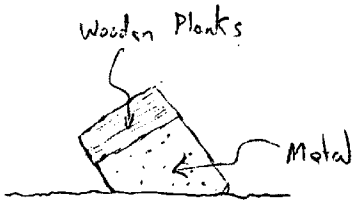
Recommendation

Chart an Obstruction at — 18° 18' 28.704" N
Least Depth = 22.5 meters (74 FT) — 064° 58' 44.093" W

CONCUR. CHART AS 74 OBSTN (WRECKAGE)

B-9





Item B-10

Location 18° 18' 23.058" N 064° 58' 40.922" W

Water Depth 27.0 meters

SSS Contact Height 7.3 meters

History

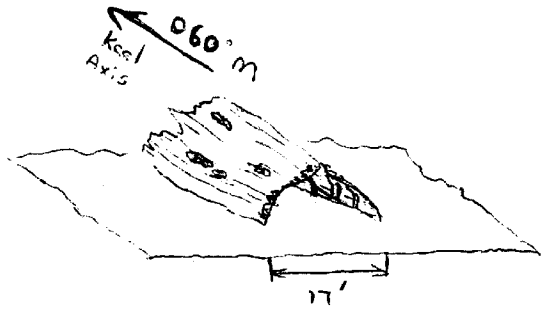
DN	Fix Number	Activity
302	4638.77	SSS 100%
302	4693.82	SSS 200%
309	8169	Dive, Least Depth, DP

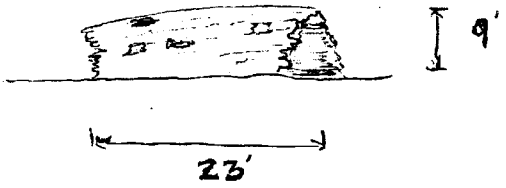
Investigation Results Divers found a piece of wooden wreckage. No other items found in the area. Item appears to be the stern section of a wooden ship. It is inverted (keel up), and only hull members planking remain. Least depth by pneumogage = 24.0 meters @ MLLW. Refer to attached sketch. This item has been deemed significant but not dangerous.

Recommendation Chart a ~~Submerged Wreck~~ Obstruction (Wreckage) at 18° 18' 23.058" N
Least Depth = 24.0 meters (78 FT) 064° 58' 40.922" W

Concur. Chart as Obstn (Wreckage)

B-10





Item B-11

Location	18° 18' 45.182"N 064° 57' 31.061"W
Water Depth	4.5 meters
SSS Contact Height	N/A

History

DN	Fix Number	Activity
306	8158	Least Depth, DP

Investigation Results

A gun carraige of WW-I or WW-II era was found. The gun carraige is approximately 20 meters off of the pier ruins, AWOIS 8745. Least depth by leadline is 1.8 meters @ MLLW. DP #8158 taken.

A Danger to Navigation report has been filed for this item on DN 326.

Recommendation

Chart an Obstruction at 18° 18' 45.182"N
Least Depth = 1.8 meters. (6ft) 064° 57' 31.061"W

CONCUR. SHOWN ON CHART 25649, 17TH EDITION.
NO CHANGE IN CHARTING IS RECOMMENDED

Item B-12

Location	18° 19' 21.100"N 064° 57' 13.595"W
Water Depth	4.5 meters
SSS Contact Height	N/A

History

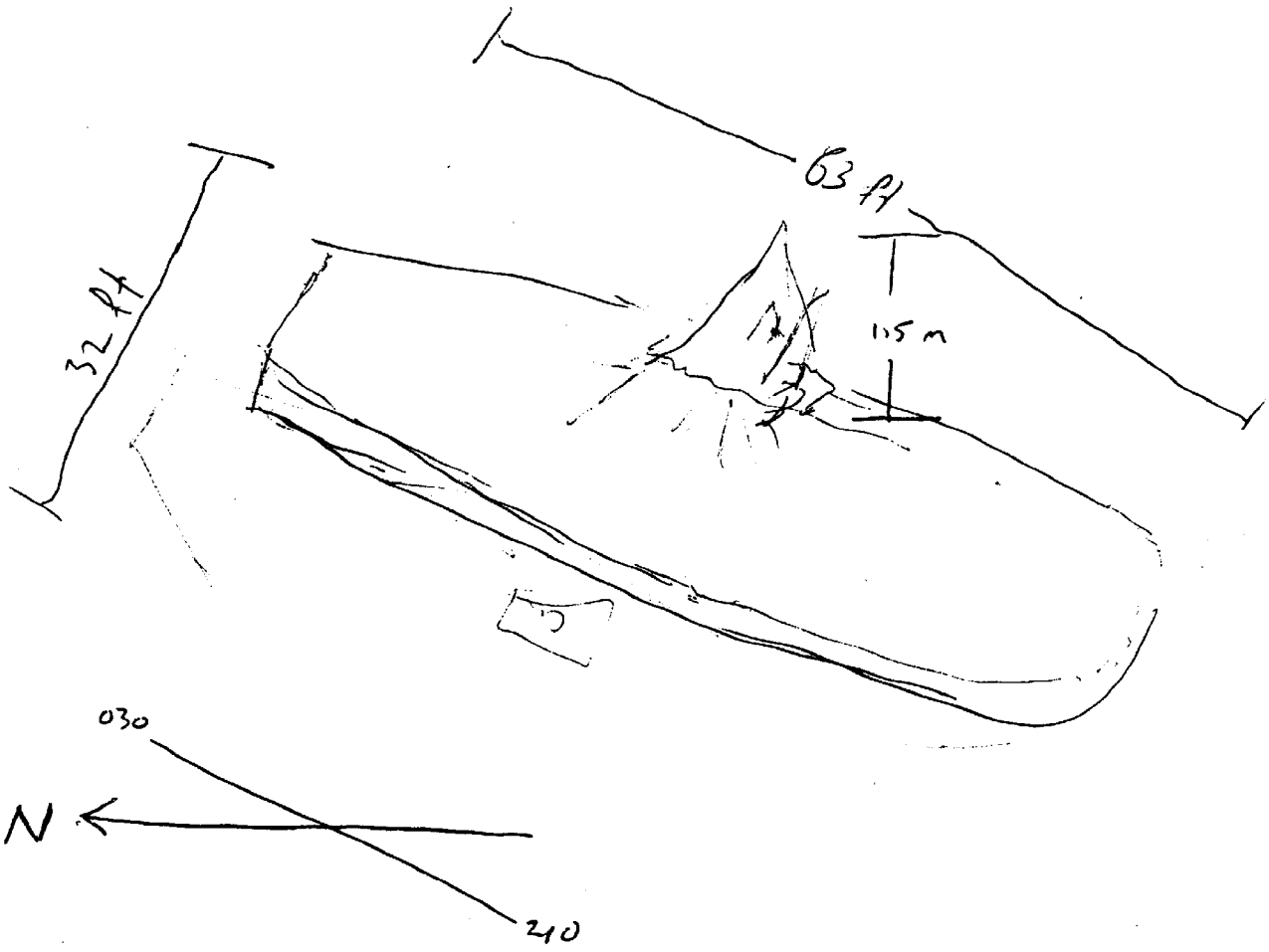
DN	Fix Number	Activity
294	5095	Least Depth DP

Investigation Results A visible wreck was found. The wreck is made of metal, in the general shape of a sailboat. Heavily rusted and covered with coral. Some debris is visible in the area. The height was measured with a leadline to be 1.5 meters, reduced to MLLW with ~~predicted~~ APPROVED tides. DP 5095 represents the least depth position. Refer to attached sketch.

Recommendation Add a Visible Wreck, 1.5 (4.9 FT) meters, at 18° 19' 21.100" N
064° 57' 13.595" W

CONCUR

B12



Item B-13

Location	18° 19' 49.888" N 064° 57' 39.544" W
Water Depth	6.3 meters
SSS Contact Height	0.7 meters

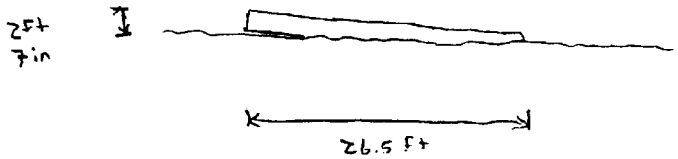
History

DN	Fix Number	Activity
306	4829.15	Search for AWOIS 8563
	4831.53	
312	6082	Dive, DP

Investigation Results The item is a section of 16-inch diameter pipe. The pipe is 26.5 feet long and extends 0.8 meters off the bottom. Least depth was not taken - the item is insignificant. Refer to attached sketch.

Recommendation Do not chart. Concur

B-13



Item B-14

Location 18° 19' 55.753" N 064° 56' 53.849" W

Water Depth 10.5 meters

SSS Contact Height 1.4 meters

History

DN	Fix Number	Activity
282	5010.82	SSS 100%
287	4056.50	SSS 200%
312	6083	Dive, Least Depth, DP

Investigation Results Divers descended and found a large spherical boulder. The boulder is roughly 1.2 meters wide and 1.44 meters high. Least depth by leadline is 9.1 meters @ MLLW. DP #6083 was taken. Refer to attached sketch.

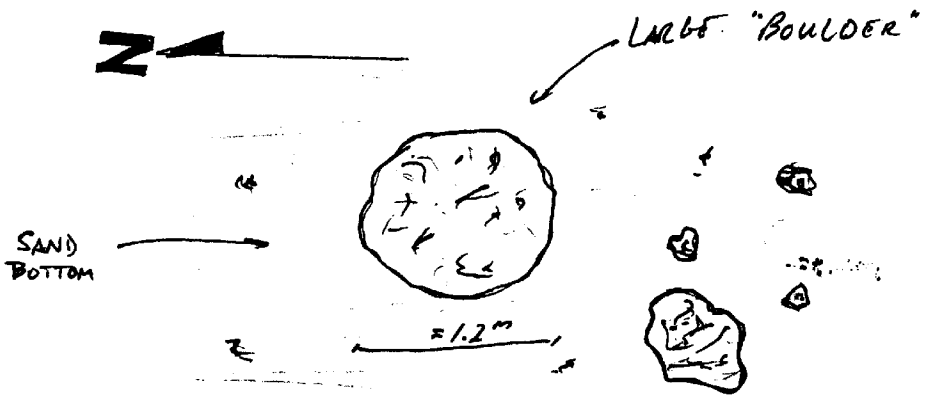
A Danger to Navigation Report was filed for this item on DN 320.

Recommendation Chart a ~~n Obstruction~~ Rock at 18° 19' 55.753" N
Least Depth = 9.1 meters (30 FT) 064° 56' 53.849" W

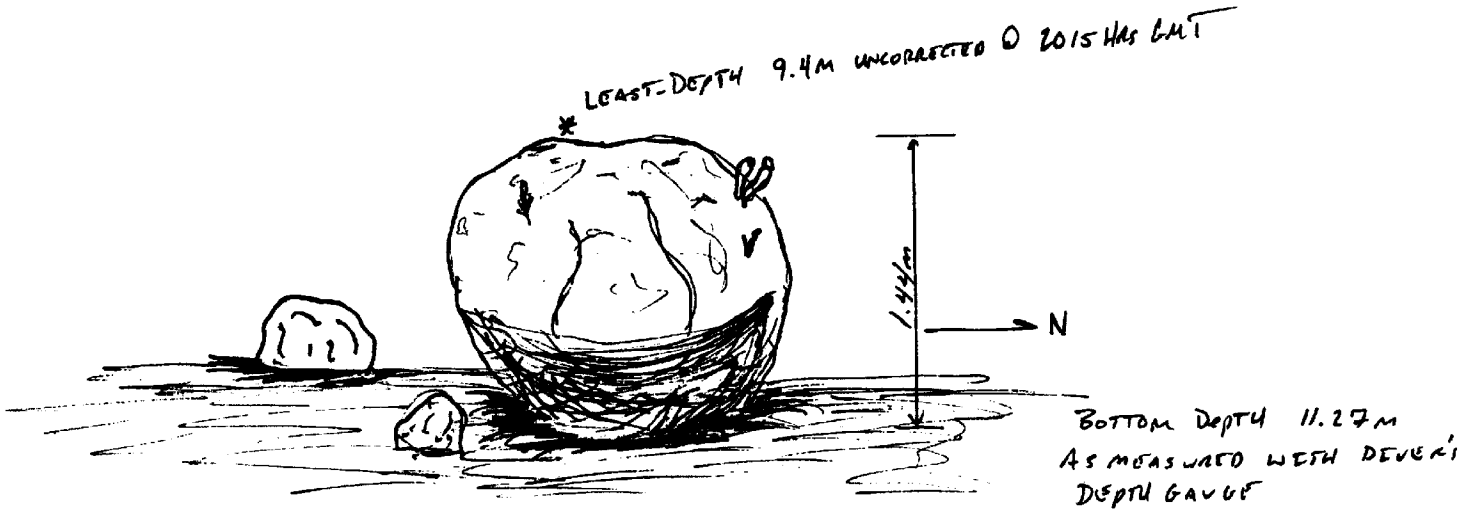
CONCUR. SHOWN ON THE 17TH EDITION OF CHART 25649. NO CHANGE IN CHARTING IS RECOMMENDED.

B-14

TOP VIEW



PROFILE



Item B-15

Location 18° 18' 51.559" N 064° 57' 55.284" W

Water Depth 17.7 meters

SSS Contact Height 1.0 meters

History

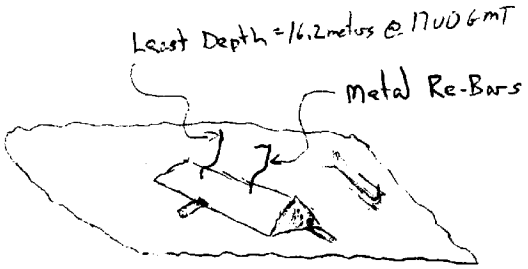
DN	Fix Number	Activity
284	3758.32	SSS 100%
287	4012.71	Fathometer Spike in SSS 200%
312	6079	Dive, Least Depth, DP

Investigation Results Divers found a piece of metal wreckage. The wreckage is 46 feet long and 8 feet wide. Least depth was taken on a metal re-bar jutting up. Least depth by pneumogage is ~~16.0~~ 15.9 meters @ MLLW. DP #6079 was taken. Refer to attached sketch.

Recommendation Chart an Obstruction (METAL BAR) with 18° 18' 51.559" N
Least Depth = ~~16.0~~ 15.9 meters (52 FT) 064° 57' 55.284" W

CONCUR. CHART AS A 52 Obstn

B-15



Item B-16

Location 18° 19' 01.596" N 064° 57' 55.479" W

Water Depth 16.4 meters

SSS Contact Height 0.0 meters

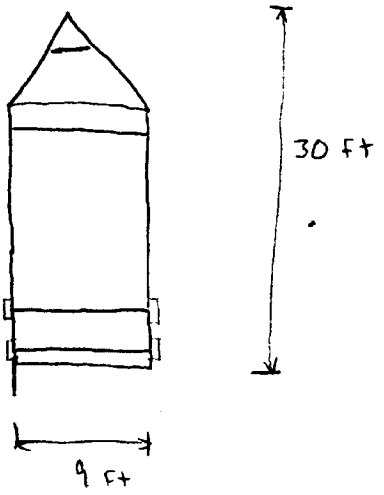
History

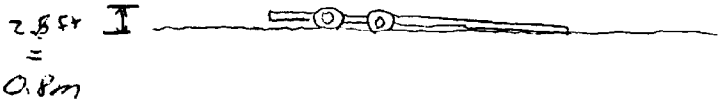
DN	Fix Number	Activity
284	3759.54	SSS 100%
287	3918.78	Fathometer Spike in SSS 200%
312	6080	Dive, DP

Investigation Results The item is a boat trailer. The trailer is 30 feet long and 9 feet wide. It extends 0.8 meters off the bottom. DP #6080 taken. The item is not significant. Refer to attached sketch.

Recommendation Do not chart. DO NOT CONCUR. RECOMMEND A DANGEROUS SUBMERGED OBSTRUCTION WITH A DEPTH OF 16.1 M (53 FT) [53 06/7m] BE CHARTED IN LAT. 18°19'01.596"N LONG. 64°57'55.479"W

B-16





Item B-17

Location	18° 19' 37.662" N 064° 57' 29.967" W
Water Depth	9.8 meters
SSS Contact Height	N/A

History

DN	Fix Number	Activity
312	6081	Dive, Least Depth, DP

Investigation Results

The divers found the stern section of a grounded concrete ship 50 meters away (ref. **Item B-23**, *WITConcrete*). Wreckage is in a 30 foot radius circle. Depth by leadline on the concrete stern is 1.0 meter @ MLLW, but the reinforcing bars are exposed. The reinforcing bars bare 0.4 meters at MLLW. DP #6081 was taken. Refer to attached sketch.

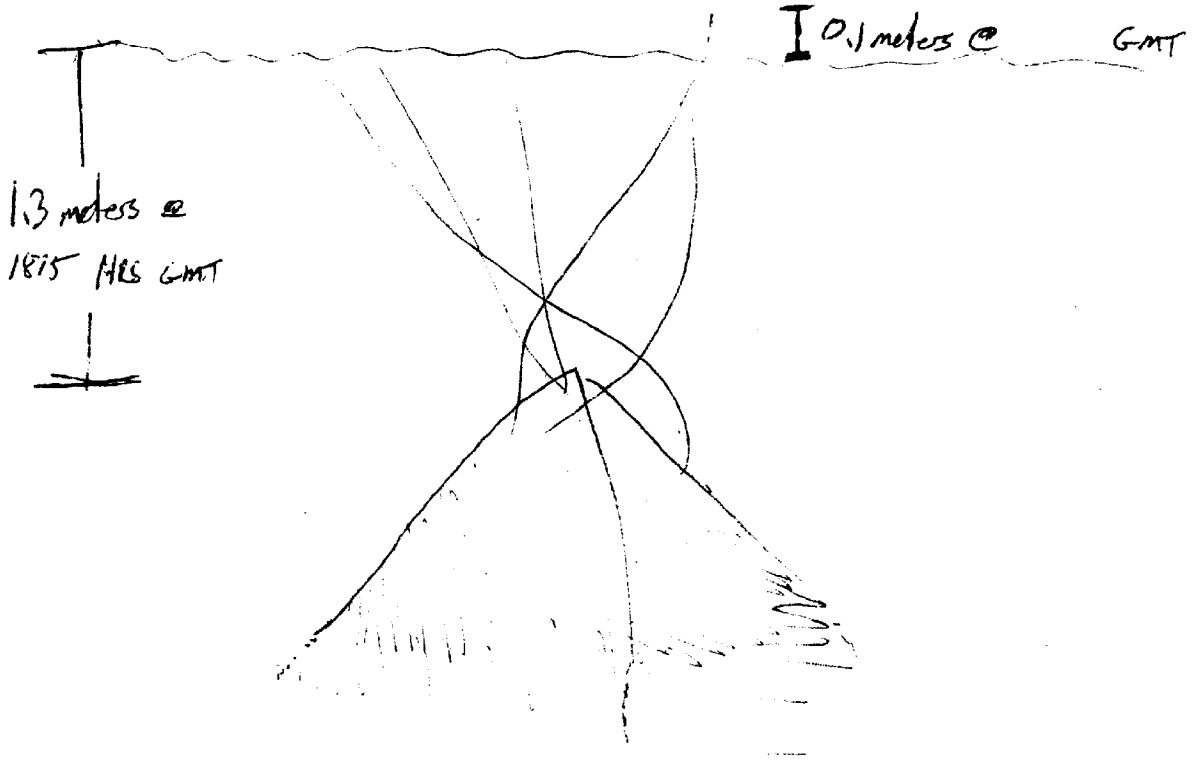
A Danger to Navigation report has been filed for this item on DN 326.

Recommendation

Chart an ~~Obstruction~~ WRECK at 18° 19' 37.662" N
Height = 0.4 meters (1 FT) 064° 57' 29.967" W

CONCUR. CHART A WRECK THAT BARES 1 FT AT MHW

B-17



Item B-18

Location	18° 19' 26.150" N 064° 57' 18.425" W
Water Depth	15.8 meters
SSS Contact Height	1.4 meters

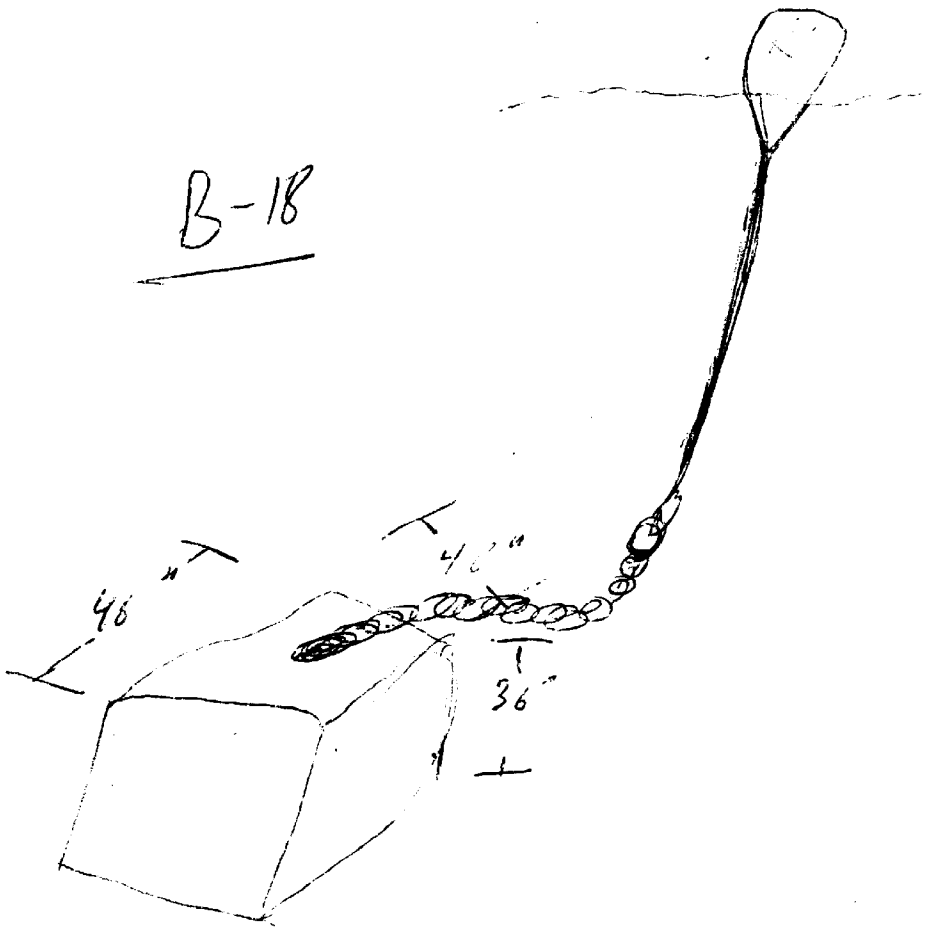
History

DN	Fix Number	Activity
284	3800.50	SSS 100%
306	4836.85	SSS 200%
312		Dive

Investigation Results The item is a mooring buoy anchor. It is a concrete cube, 46 inches by 46 inches, 0.9 meters tall. This item is not significant. Refer to attached sketch.

Recommendation Do not chart. Concur.

B-18



Item B-19

Location 18° 20' 06.445" N 064° 58' 01.305" W

Water Depth 7.8 meters

SSS Contact Height 1.9 meters

History

DN	Fix Number	Activity
310	6071.00	AWOIS 8573 Coverage
314	5099.32	AWOIS 8573 Coverage
314	5107.40	Item Development
314	5110	Dive, Least Depth, DP

Investigation Results When the buoy was first dropped a different item was found; this is discussed as **Item B-20.**

The buoy was replaced and the divers found a sunken fishing boat. The wooden wreck is 6 meters long and 2 meters wide. Least depth by leadline = 6.2 meters @ MLLW. DP 5110 taken. Refer to attached sketch.

A Danger to Navigation report has been filed for this item on DN 326.

Recommendation Chart a submerged wreck at 18° 20' 06.445" N
Least Depth = 6.2 meters (20 FT) 064° 58' 01.305" W

CONCUR. CHARTED ON CHART 25649, 17TH EDITION.
NO CHANGE IN CHARTING IS RECOMMENDED.

Item B-20

Location	18° 20' 06.146" N 064° 58' 02.034" W
Water Depth	8.0 meters
SSS Contact Height	N/A

History

DN	Fix Number	Activity
314	5109	Dive, Least Depth, DP

Investigation Results

The item was found following a buoy drop for **Item B-19.** The item is a tree trunk and limbs. The tree is on its side, and is 30ft long and 6in diameter. Least depth by leadline is 7.4 meters at MLLW. DP #5109 was taken. Refer to attached sketch.

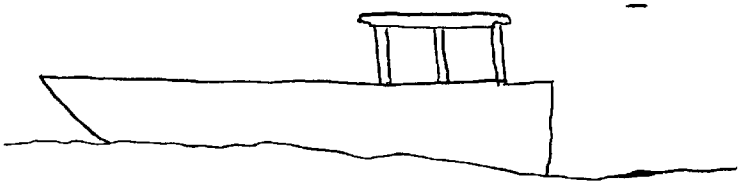
The item is only 0.6 (2m) meters off the bottom. It is not significant.

Recommendation Do not chart. Concur

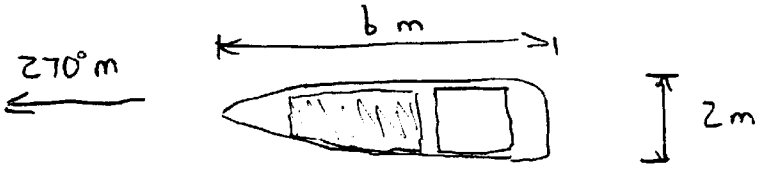
1)

B20

2)



B19



Item B-21

Location	18° 19' 32.364" N 064° 57' 00.136" W
Water Depth	2.0 meters
SSS Contact Height	N/A

History

DN	Fix Number	Activity
306	8161	Dive, Least Depth, DP

Investigation Results Divers discovered that one of the mooring buoys in Elephant Bay was tied to a large piece of debris. Divers obtained a least depth by leadline of 1.4 meters @ MLLW, and took DP #8161.

Recommendation Chart an Obstruction at 18° 19' 32.364" N
Least Depth = 1.4 meters (4FT) 064° 57' 00.136" W

CONCUR. CHART AS A 4' OBSTN

Item B-22

Location	18° 19' 40.979" N 064° 57' 36.407" W
Water Depth	N/A
SSS Contact Height	N/A

History

DN	Fix Number	Activity
283	7418	DP on midships side

Investigation Results The wrecked *Maersk Line* cargo carrier *Marlago* was first seen when MT MITCHELL entered St Thomas Harbor. This item lies on the shore at the entrance to Krum Bay. The *Marlago* is about 100m length overall and 25m at the beam. Refer to attached photograph.

Recommendation Chart a visible wreck at Concur 18° 19' 40.979" N
064° 57' 36.407" W

Item B-23

Location	18° 19' 33.805" N 064° 57' 26.676" W
Water Depth	N/A
SSS Contact Height	N/A

History

DN	Fix Number	Activity
283	7419	DP on midships side

Investigation Results

The concrete utility ship *WITConcrete* was first seen when MT MITCHELL entered St Thomas Harbor. A part of the stern section of the vessel fell off, creating **Item B-17**. The stern keel rests on the bottom, and is tied fast to shore. The bow section is anchored just off Regis Point. The *WITConcrete* is about 100m length overall and 25m at the beam. Refer to attached photograph.

Recommendation

Most of the ship remains afloat in the position cited above. The owner, West Indes Transport, plans to sink it for an artificial reef early next year. Do not chart it as a wreck at this time. DO NOT CONCUR. CHART AS A VISIBLE WRECK

Item B-24

Location	18° 19' 34.298" N 064° 59' 36.776" W
Water Depth	28.0 meters
SSS Contact Height	N/A
History	Dive on DN 295
Investigation Results	This item is to the west of the survey sheet.

The item is the sunken barge *Miss Opportunity*, known about by local divemasters. The barge is approximately 400 feet long and 40 feet wide. Least depth by fathometer is ~~17.1~~ 16.2 meters at MLLW. Refer to attached sketch.

The item falls within a fish haven with an authorized least depth of 65 feet (19.8 meters).

Since this item falls outside the project limits, its data was not saved to disk. The printouts and fathogram are in the accordian folder. In that data, DP 5101 is the least depth position of the wreck.

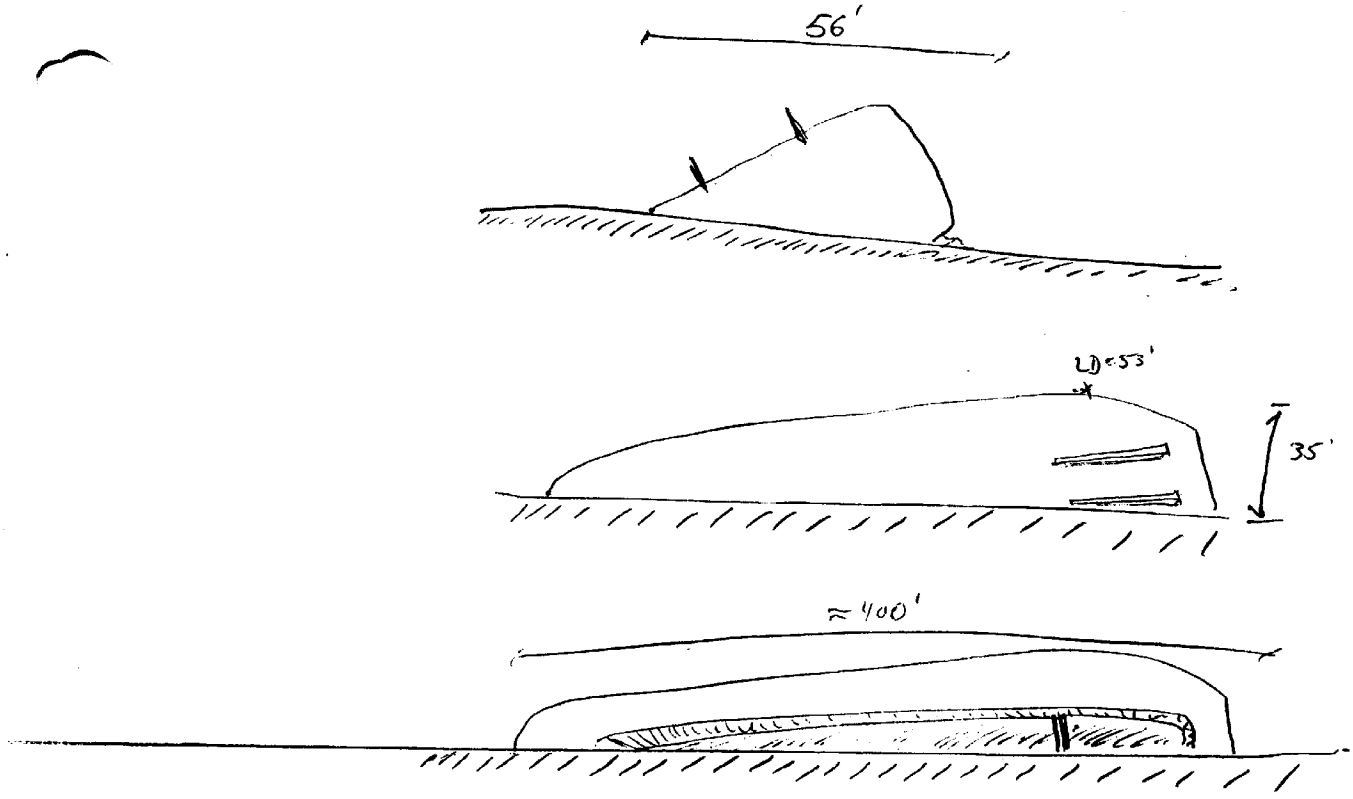
A Danger to Navigation Report was submitted for this item on DN 296. Note that the depths on the Danger to Navigation Report are raw, not reduced depths.

Recommendation

Chart a submerged wreck at 18° 19' 34.298" N
Least Depth = ~~17.1~~ 16.2 meters (53 FT) 064° 59' 36.776" W

CHARTED ON THE 17TH EDITION OF CHART 25649, 17TH EDITION. NO CHANGE IN CHARTING IS RECOMMENDED.

MISS OPPORTUNITY



B24

Item B-25

Location	18° 18' 48.051" N 065° 02' 29.003" W
Water Depth	25.5 meters
SSS Contact Height	N/A
History	Dive on DN 295
Investigation Results	This item is to the west of the survey sheet. The item is the sunken M/V *WITShoal*, known about by local divemasters. The wreck is approximately 400 feet long and 60 feet wide. Least depth by fathometer is ~~9.1~~ 8.6? meters at MLLW. Since this item falls outside the project limits, its data was not saved to disk. The printouts and fathogram are in the accordian folder. In that data, DP 5104 is the least depth position of the wreck. A Danger to Navigation Report was submitted for this item on DN 296. Note that the depths on the Danger to Navigation Report are raw, not reduced depths.
Recommendation	Chart a submerged wreck at 18° 18' 48.051" N Least Depth = ~~9.1~~ 8.7 meters (28 FT) 065° 02' 29.003" W Concur. Chart as 28 Wk

O. COMPARISON WITH CHARTS *See also the Evaluation Report.*

O.1 This investigation affects 1:10,000 scale chart 25649, 16th edition, edition date 1 May 1993. The charted shoreline in this area is not accurate. See section J for details. There have been no Notice to Mariner updates affecting this chart within the survey area.

O.2 Nine Danger to Navigation Reports have been filed for items discovered on this survey. Copies of these reports are included in Appendix I. *Appended to this Report*

O.3.a The depths on chart 25649 are 0.35m shoaler on average than the soundings in this survey.

O.3.b General shoaling trends shown on Chart 25649 were in agreement with this survey. See Section M.4 above for conclusions on the differences between this survey and the charted data.

O.3.c No other hydrographic findings are noted other than those in section N.

O.3.d This survey covers the West Gregerie Channel. See Section O.3.e below.

O.3.e The West Gregerie Channel was covered with 50m-spaced East/West hydro lines overall, with some areas of 25m-spaced and 10m-spaced development. Comparison of soundings between H-10506 and the chart proved the channel to be 0.35m deeper than charted.

O.4.a Positions were taken on 180 small boat mooring buoys and swimming area bouys on the east side of the West Gregery Channel. These buoys are maintained by the Virgin Islands Department of Planning and Natural Resources. Chart 25649 accurately portrays bouys which lie in Elephant, Ruyter, and Druif Bays as "numerous mooring bouys", but those bouys in Flamingo and Lindbergh Bays are not acknowledged. Three other mooring bouys meant for large vessels and of charting significance are shown in Table O.4.a.

O.4.b No other PA, PD, ED, or reported features are present in the survey limits.

O.4.c No wrecks or obstructions other than discussed in Section N. have been found in this survey area.

O.5 No changes to scale or coverage of chart 25649 are recommended.

P. ADEQUACY OF SURVEY *See also the Evaluation Report.*

P.1 Survey H-10506 is complete and adequate to supersede prior surveys. All AWOIS Items in this survey have been resolved. All new items have been fully documented.

Table O.4.a: Nonsounding Features

Item	Designation	Location	Appearance	Charted?
Mooring Buoy	none	18° 19' 56.258" N 064° 58' 32.228" W	white drum with blue stripe, red hook	NO DO NOT CHART
Mooring Bouy	none	18° 19' 51.659" N 064° 58' 28.890 W	white drum with blue stripe	NO DO NOT CHART
Mooring Bouy	none	18° 19' 30.633" N 064° 57' 35.647" W	rusty steel cylinder	YES RETAIN

P.2 This survey is complete and adequate for the purpose of updating the wrecks, obstructions, soundings, and fixed objects in the survey area.

Q. AIDS TO NAVIGATION

Q.1 MT MITCHELL conducted no correspondence with the United States Coast Guard regarding floating aids to navigation. Detached positions were taken on all floating aids to navigation accessible by boat or launch.

Q.2 Four floating aids to navigation lie within the survey area. A comparison between observed and charted locations revealed that all aids are charted within 33m of its survey-determined positions (shown in Table Q.2), and agree with their respective charted characteristics. The only exception is Porpoise Rocks red bouy "2", which had been moved 100m to the Southwest by the U.S. Coast Guard. All of the floating aids serve their intended purpose of marking the limits of the channels. THESE AIDS APPEAR ADEQUATE TO SERVE THEIR INTENDED PURPOSES.

Table Q.2: Floating Aid to Navigation Position Comparison

Name	Charted Position	Survey Position	Distance (m)	D.P. Number
R "2"	064° 58' 32.40" W 18° 18' 24.60" W	064° 58' 35.49" W 18° 18' 23.17" W	97.15	7407
G "3"	064° 58' 22.20" W 18° 19' 18.60" W	064° 58' 21.21" W 18° 19' 18.87" W	33.44	7408
R "4"	064° 57' 30.00" W 18° 19' 08.10" W	064° 57' 30.53" W 18° 19' 16.38" W	16.45	7409
G "5"	064° 57' 19.20" W 18° 19' 37.80" W	064° 57' 19.61" W 18° 19' 38.27" W	18.68	7420

The position of a non-floating aid to navigation was determined during the horizontal control survey described in Section H.4. A comparison between charted locations and survey locations revealed that the one non-floating aid, a lighted dolphin, falls in this survey area is charted within 6.42m of the survey determined position. Its actual light does not agree with its charted light characteristics; the light is, in fact, white, with the same flash period. This light is privately maintained by the V.I. Port Authority and sits on a 30ft diameter dolphin which bares 2 meters at MLLW. All surveyed positions are Third Order Class I positions or better. See the Horizontal Control Report for more details. Recommend repositioning this aid to navigation on chart 25649 to its surveyed position in Table Q.3, and changing its legend to reflect its true light characteristics.

Q.3 During the horizontal control survey, another aid to navigation was located that falls within the boundaries of this survey. The St Thomas airport aero beacon is improperly charted. It actual position is nearly a mile from its charted location. A Danger to Navigation Report was submitted for this descrepancy. Its charted light characteristics were found to be accurate. This beacon is maintained by the V.I. Port Authority. Recommend repositioning this beacon to its surveyed position listed in the Table Q.3.

Table Q.3: Non-Floating Aid Position Comparison

Name	Charted Position		Surveyed Position		Distance(m)
Sub Base Pier	Lat	018° 19' 53.400"	Lat	018° 19' 53.223"	6.42
Lighted Dolphin	Lon	064° 57' 06.000"	Lon	064° 57' 05.873"	
CROWN BAY MOORING CELL LIGHT.					
St Thomas Airport	Lat	018° 20' 30.000"	Lat	018° 19' 38.856"	1615.15
Aero Beacon	Lon	064° 58' 03.000"	Lon	064° 57' 50.437"	

Q.4 One charted overhead cable, reported vertical clearance 44ft, which crossed Krum Bay, has not been found. It is recommended that the charted overhead power cable be removed. CONCUR

Q.5 Two cable areas lie within the West Gregerie Channel. One crosses from Mosquito Point to Providence Pt, Water Island. The other crosses from Haypiece Hill to Caroline Point. Three cables extend from the Northeast corner of Lindbergh Bay to the Caribbean Sea and points beyond this survey. Some cables in these areas were visible in the 100 and 200 percent side scan sonar run through the West Gregerie Channel.

One sewer pipeline extends from the West shore of Red Point Peninsula and ends in an unnamed bay formed by the Cyril King Airport runway extension. The pipeline was detected with the DSF 6000 fathometer along its entire length. NO CHANGE IN CHARTING IS RECOMMENDED.

No ferry routes lie on this survey. Privately owned ferries regularly travel through the West Gregerie Channel and Crown Bay.

Q.6 One passenger ferry shuttles between the Crown Bay Marina and the pier at Caroline Point on Water Island.

R. STATISTICS

Table R outlines all statistical data.

Table R: Survey H-10506 Statistical Data

Statistic	2223	2224	770	2220	Total
Number of Positions	126	4089	1178	0	5393
Linear nm Covered (Hydrography)	0.0	276.3	15.1	0.0	291.4
Linear nm Covered (Side Scan Sonar)	6.1	58.9	0.0	0.0	65.0
Square nm Covered	0.5	11.5	0.0	0	12.0
Production Days	4	24	15	2	36
Detached Positions	14	20	269	0	303
Bottom Samples	0	173	26	0	199
Velocity Casts	1	1	0	2	4

S. MISCELLANEOUS *See also the Evaluation Report.*

S.1.a No unusual silting was noted during this survey. Comparisons with prior surveys indicate a possible subsidence of the land mass since 1966, contributing to the differences between the current survey and the prior surveys.

S.1.b All unusual submarine features have been described previously.

S.1.c No anomalous tidal conditions were encountered.

S.1.d During the period of field operations, a current ran outbound through the West Gregerie Channel, and East-to-West through the rest of the project area. This current appears to be mostly wind-driven and is not potentially dangerous.

S.1.e No magnetic anomalies were detected.

S.2 Bottom samples were collected , but not submitted to the Smithsonian Institution.

T. RECOMMENDATIONS *SEE ALSO SECTION A. OF THE EVALUATION REPORT.*

T.1 No inadequacies have been noted.

T.2 There is no present or planned construction or dredging that will affect the results of this survey. As the ship sailed from the St Thomas harbor the Port Authority was planning to have several of the danger to navigation items, discovered during this survey, removed. It is recommended that all of these items be charted as described in this survey until notification of there removal is received.

T.3 This survey should supersede all prior surveys. No further investigation of this area is recommended.

U. REFERRAL TO REPORTS

The following reports are not included with the survey records:

Horizontal Control Report

User Evaluation Report

Coast Pilot Report

SUBMITTAL SHEET
Survey H-10506

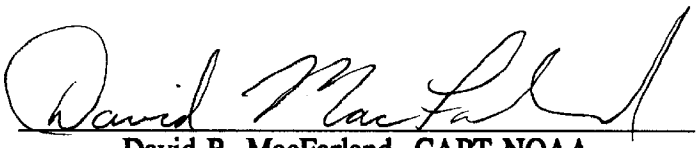
This descriptive report accurately describes all activities pertaining to the control, collection, and processing of data for this survey, and is respectfully submitted by

Scott Aaron Shaulis, ENS NOAA

Letter of Approval

Registry Number H-10506

Field operations contributing to the accomplishment of this survey were conducted under my supervision with frequent personal checks of progress and adequacy. This report, final field sheets, and all accompanying data have been closely reviewed and are considered complete and adequate for nautical charting.



David B. MacFarland, CAPT NOAA
Commanding Officer
NOAA Ship MT MITCHELL

Station 001 - T-41

LAT: ~~29° 15' 57.30111~~ 18° 21' 15.82101" N
LONG: 089° 57' 17.39008" W 064° 56' 41.39128"

ANTENNA ELEVATION: 416.5 meters

CARTOGRAPHIC CODE: 890

SOURCE: NGS Database, established in 1955

Station 002 - SUB 1985

LAT: 18° 19' 52.~~3849~~ 4084" N
LONG: 064° 57' 09.~~0654~~ 0847" W

CARTOGRAPHIC CODE: 890

SOURCE: Airport Surveys Group, January, 1993

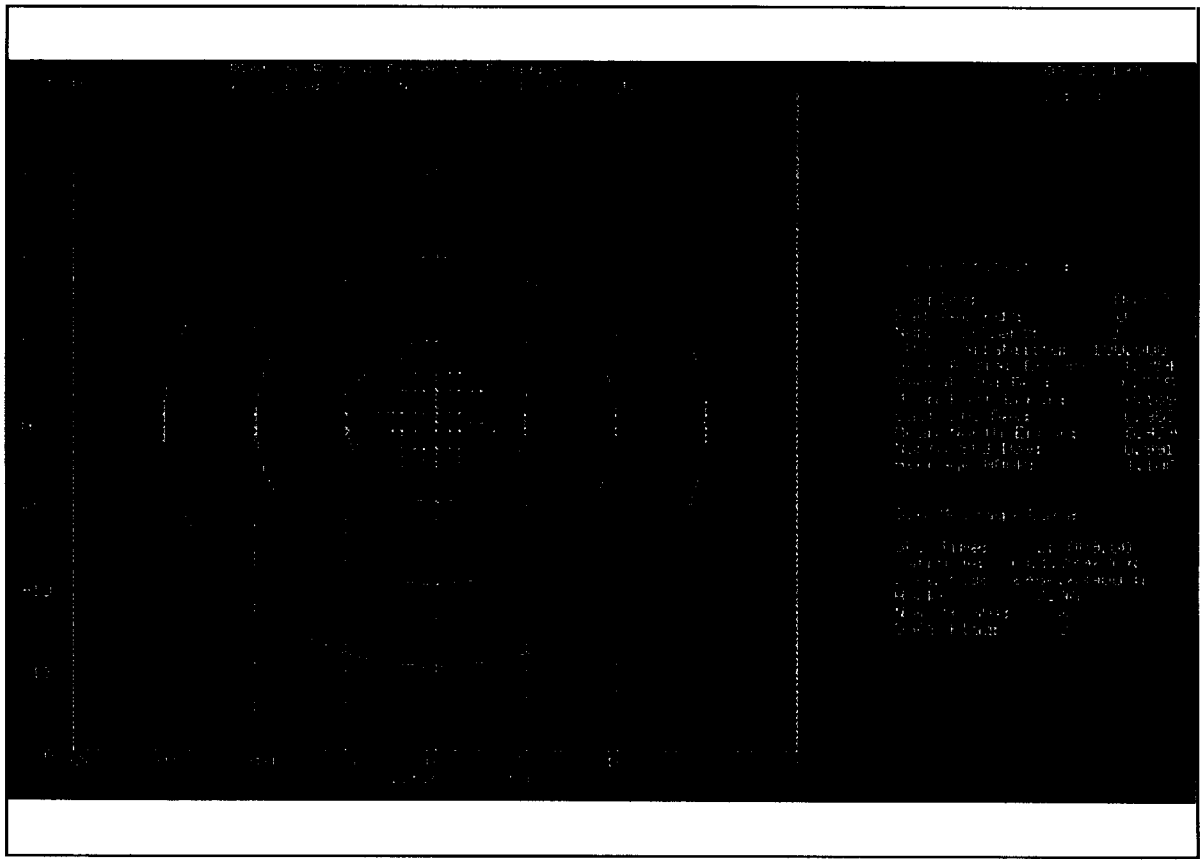
Station 003 - SUB ~~1985 - RM1~~ RM, 1985

LAT: 18° 19' 54.~~1679~~ 1923" N
LONG: 065° 57' 09.~~0484~~ 0678" W

CARTOGRAPHIC CODE: 890

SOURCE: Airport Surveys Group, January, 1993

MONITOR program output scatter plot and statistics



NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [X] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [X] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
MT MITCHELL	VIRGIN ISLANDS	ST THOMAS	11/93

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-I173-MI-93	N/A	H-10506	NAD 83

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	″ D.M. Meters	LONGITUDE ° ′	″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Tower	Tower WATER ISLAND BOX TOWER	18 19	11 N	064 57	12 W		F-3-6-V 10/22/93	25649
Tower	Nisky Mission ABC NBC Tower	18 20	03 N	064 57	16 W		F-3-6-V 10/22/93	25649
Tower	Hawk Hill micro tower	18 21	11 N	064 58	33 W		F-3-6-V 10/22/93	25649
Light	Sub Base pier lighted dolphin	18 19	53 N	064 57	06 W		F-3-6-V 10/22/93	25649

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	LCDR James Gardner, NOAAS MT MITCHELL	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Clifford Middleton, Coastal Surveys Unit	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Clifford Middleton, Coastal Surveys Unit	☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [XX] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
MT MITCHELL	VIRGIN ISLANDS	ST THOMAS	11/93

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-I173-MI-93	N/A	H-10506	NAD 83

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	″ D.M. Meters	LONGITUDE ° ′	″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Aero	Airport Beacon 1993 (STT 1993)	18 19	39 N	064 57	50 W		F-3-6-V 10/22/93	25649

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	LCDR James Gardner, NOAAS MT MITCHELL	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Clifford Middleton, Coastal Surveys Unit	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Clifford Middleton, Coastal Surveys Unit	☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

NOAA FORM [illegible]-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [X] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [ ] TO BE REVISED
- [XX] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
MT MITCHELL	VIRGIN ISLANDS	ST THOMAS	11/93

The following objects HAVE [XX] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-I173-MI-93	N/A	H-10506	NAD 83

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	″ D.M. Meters	LONGITUDE ° ′	″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Aero	Delete Aero Beacon. Relocated to another position.	18 20.	52 N	064 58.	08 W		N/A	25649
Tower	Delete tower. Tower no longer at this position.	18 18.	54 N	064 57.	25 W		N/A	25649

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	LCDR James Gardner, NOAAS MT MITCHELL	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Clifford Middleton, Coastal Surveys Unit	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Clifford Middleton, Coastal Surveys Unit	☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

=R=(N=6,A=MCU043)
R 181302Z OCT 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
GDSEVEN SAN JUAN, RQ//OAN
AHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10505
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUBMERGED VESSEL WAS DISCOVERED AT POSITION 18-19-04.613N3, 064-58-10.909W2. THE LENGTH OF THE VESSEL IS 47 FEET (14.32 METERS) AND HAS A BEAM OF 14 FEET (4.26 METERS). THE LEAST DEPTH OF THE VESSEL IS 47.9 FEET (14.9 METERS)CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE CHARTED WATER DEPTH IS 58 FEET.

ITEM AFFECTS NAUTICAL CHART:

CHART NUMBER	25649
EDITION NUMBER	16TH
DATE	01 MAY 93
CHARTED HORIZ. DATUM	NAD 83
GEOGRAPHIC POSITION	
LATITUDE	18-19-04.613N
LONGITUDE	064-58-10.909W

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

=R=(N=6,A=MCU043)
R 181300Z OCT 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
'GDSEVEN SAN JUAN, RQ//OAN
AHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10505
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT: AIRPORT RADIO BEACON AT POSITION 18-20.5N6, 064-58.05W8 ON BROMMER HILL IS CHARTED INCORRECTLY.

RECOMMENDATIONS:

DELETE AERO BEACON AT 18-20.5N6, 064-58.05W8.

ADD AERO BEACON AT 18-19-38.8417N0, 064-57-50.4183W3. THE
TION OF THE BEACON WAS DETERMINED BY GEODETIC POSITIONING.

THIS ITEM AFFECTS NAUTICAL CHART:

CHART NUMBER	25649
EDITION NUMBER	16TH
DATE	01 MAY 93
CHARTED HORIZ. DATUM	NAD 83
GEOGRAPHIC POSITION	
LATITUDE	18-19-38.8417N
LONGITUDE	064-57-50.4183W

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

R 232000Z OCT 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
CCGDSEVEN SAN JUAN, RQ//OAN
AHTC (NAVWARN) WASHINGTON DC//MCNM//
b
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10505
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUBMERGED BARGE "MISS OPPORTUNITY" WAS DISCOVERED AT POSITION 18-19-34.298N5, 064-59-36.776W2. THE LENGTH OF THE VESSEL IS APPROXIMATELY 400 FEET (121.9 METERS) AND HAS A BEAM OF APPROXIMATELY 40 FEET (12.19 METERS). THE LEAST DEPTH OF THE VESSEL IS 53.0 FEET (16.17 METERS) CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE SURROUNDING WATER DEPTH IS 87 FEET (26.5 METERS) WITHIN AN OBSTRUCTION-FISH HAVEN A MINIMUM DEPTH OF 65 FT (19.8 METERS).

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	25641	25650	25649
EDITION NUMBER	21ST	29TH	16TH
DATE	08 DEC 90	23 NOV 91	01 MAY 93
CHARTED HORIZ. DATUM	NAD 83	NAD 83	NAD 83
GEOGRAPHIC POSITION			
LATITUDE	18-19-34.298N		
LONGITUDE	064-59-36.776W		

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

R 232001Z OCT 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
CCGDSEVEN SAN JUAN, RQ//OAN
AHTC (NAVWARN) WASHINGTON DC//MCNM//

UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10505
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUBMERGED VESSEL, M/V WIT-SHOAL, WAS DISCOVERED AT POSITION 18-18-48.051N7, 065-02-29.003W7. THE LENGTH OF THE VESSEL IS APPROXIMATELY 400 FEET (121.9 METERS) AND HAS A BEAM OF APPROXIMATELY 60 FEET (18.3 METERS). THE LEAST DEPTH OF THE VESSEL IS 28.44 FEET (8.67 METERS) CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE CHARTED WATER DEPTH IS 78 FEET (23.77 METERS).

ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	25641	25650
EDITION NUMBER	21ST	29TH
DATE	08 DEC 90	23 NOV 91
CHARTED HORIZ. DATUM	NAD 83	NAD 83
GEOGRAPHIC POSITION		
LATITUDE	18-18-48.051N	
LONGITUDE	065-02-29.003W	

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

R 161906Z NOV 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
  CGDSEVEN MIAMI, FL//OAN
  DMAHTC (NAVWARN) WASHINGTON DC//MCMN//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10506
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING THE HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A LARGE SPHERICAL BOULDER WAS DISCOVERED AT POSITION 18-19-55.753N4, 064-56-53.849WO. THE BOULDER HAD A DIAMETER OF 4.3 FEET (1.3 METERS).
THE LEAST DEPTH OF THE BOULDER IS 29.8 FEET (9.1 METERS) CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE CHARTED WATER DEPTH IS 33 FEET (10 METERS).

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	25649
EDITION NUMBER	16TH
DATE	01 MAY 1993
CHARTED HORIZ. DATUM	NAD 83
GEOGRAPHIC POSITION	
LATITUDE	18-19-55.753N
LONGITUDE	064-56-53.849W

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

R 161907Z NOV 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
  CGDSEVEN MIAMI, FL//OAN
  DMAHTC (NAVWARN) WASHINGTON DC//MCMN//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10506
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING THE HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: LARGE PILES OF SMALL ROCKS WERE DISCOVERED AT
POSITIONS:
1) 18-19-33.984N6, 064-57-15.547W3
2) 18-19-34.699N0, 064-57-15.748W7
3) 18-19-35.213N3, 064-57-16.003W2
4) 18-19-37.562N2, 064-57-15.816W2

EACH PILE HAD AN APPROXIMATE LENGTH OF 16 FEET (4.8 METERS) AND EXTENDED APPROXIMATELY 10 FEET (3 METERS) OFF THE BOTTOM.
THE LEAST DEPTHS OF THE PILES WERE:
1) 43.96 FEET (13.4 METERS)
2) 42.97 FEET (13.1 METERS)
3) 41.0 FEET (12.5 METERS)
4) 54.46 FEET (16.6 METERS)

ALL LEAST DEPTHS CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE CHARTED WATER DEPTH RANGES FROM 51 TO 59 FEET (15.5-18.0 METERS).

THIS ITEM AFFECTS NAUTICAL CHARTS:
CHART NUMBER 25649
EDITION NUMBER 16TH
DATE 01 MAY 1993
CHARTED HORIZ. DATUM NAD 83
GEOGRAPHIC POSITIONS
1) 18-19-33.984N6, 064-57-15.547W3
2) 18-19-34.699N0, 064-57-15.748W7
3) 18-19-35.213N3, 064-57-16.003W2
4) 18-19-37.562N2, 064-57-15.816W2

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

SCALE 1:10,000

Nautical Miles

0

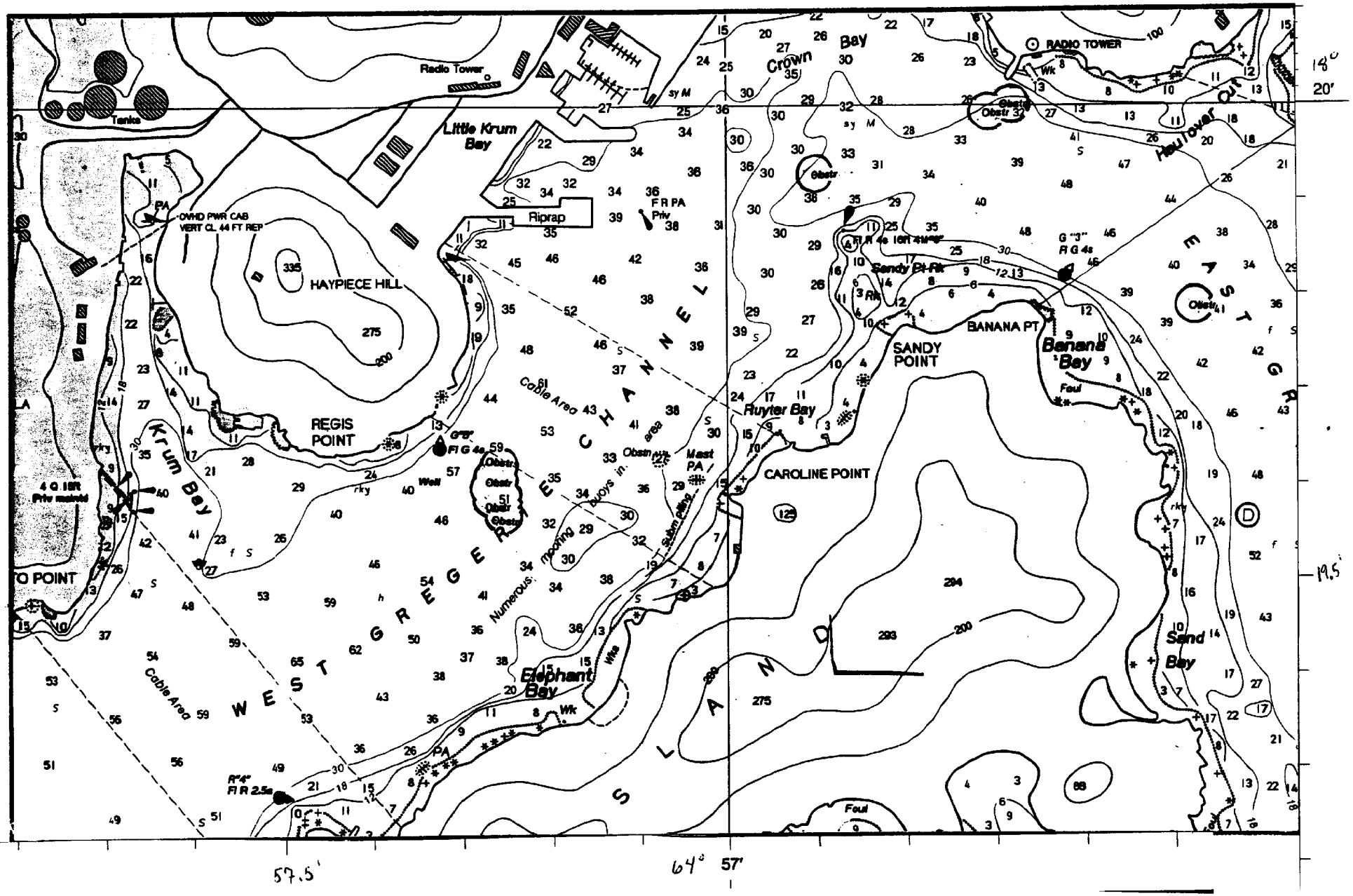
Yards

200 0 200 400 600 800 1000 1200

Meters

200 0 200 400 600 800 1000 1200

CHARTLET FOR 25649



57.5'

64° 57'

18°
20'

19.5'

R 231500Z NOV 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
   CCGDSEVEN MIAMI FL//OAN
   DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10506
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

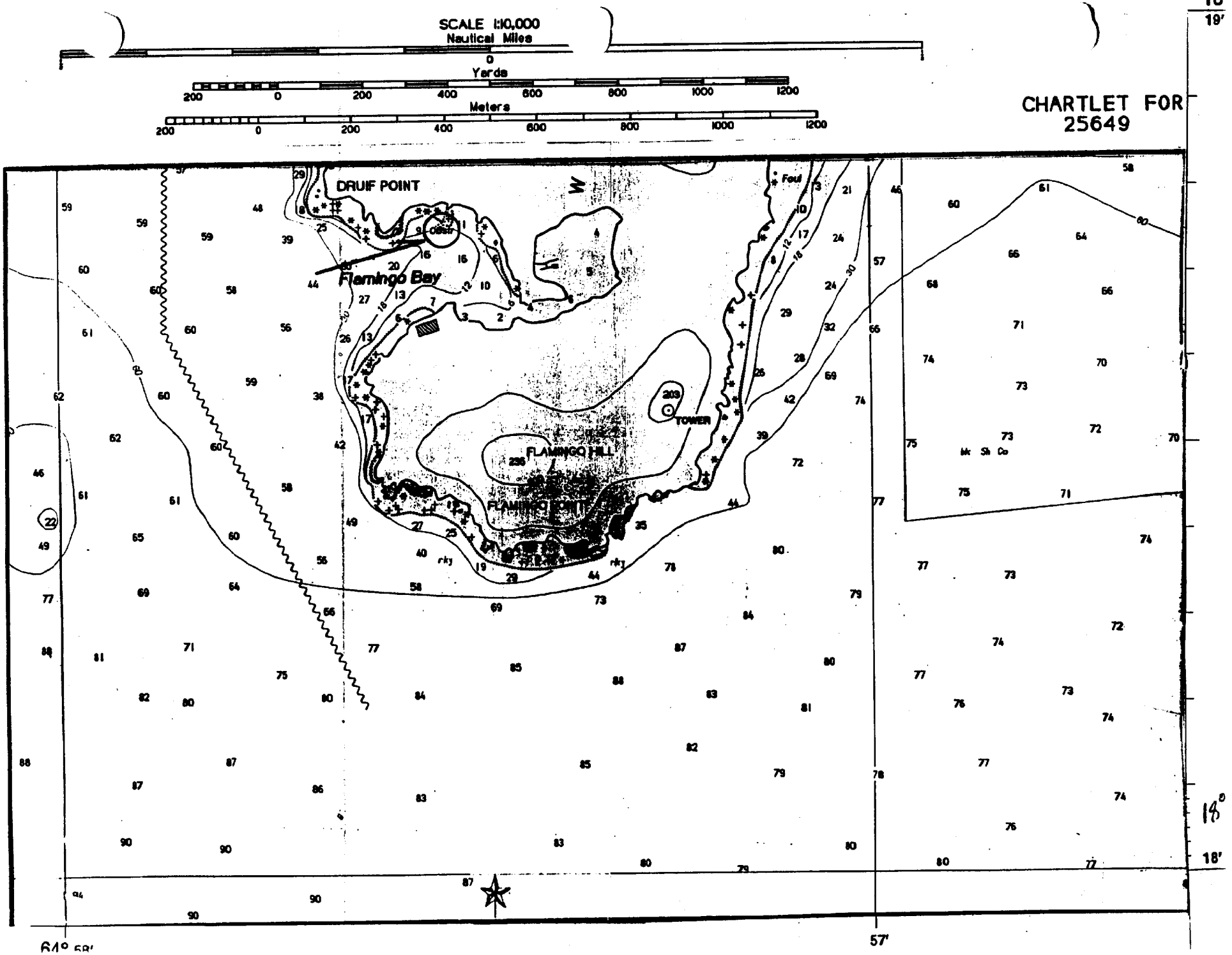
THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUBMERGED GUN CARRIAGE WAS DISCOVERED AT POSITION 18-18-45.182N8, 064-57-31.061W3. THE LEAST DEPTH OF THE OBSTRUCTION IS 5.57 FEET (1.7 METERS)CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE CHARTED WATER DEPTH IS 18 FEET.

THIS ITEM AFFECTS NAUTICAL CHART:

CHART NUMBER	25649
EDITION NUMBER	16TH
DATE	01 MAY 93
CHARTED HORIZ. DATUM	NAD 83
GEOGRAPHIC POSITION	
LATITUDE	18-18-45.182N
LONGITUDE	064-57-31.061W

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN


SCALE 1:10,000
Nautical Miles
0
Yards
200 0 200 400 600 800 1000 1200
Meters
200 0 200 400 600 800 1000 1200
CHARTLET FOR
25649
18
19'
DRUIF POINT
Flamingo Bay
FLAMINGO HILL
FLAMINGO POINT
TOWER
Foul
Mk Sh Co
14°
18'
64° 58'
57'

R 231501Z NOV 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
CCGDSEVEN MIAMI FL//OAN
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10506
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUBMERGED STERN SECTION WAS DISCOVERED AT POSITION 18-19-37.662N3, 064-57-29.967W5. THE REMAINS WERE PART OF THE VISIBLE WRECK OF "WITCONCRETE" 50 METERS TO THE EAST.

WRECKAGE WAS FOUND IN A CIRCLE (30 FEET RADIUS) AROUND THE STERN SECTION. CONCRETE REINFORCEMENT EXTENDED FROM THE WRECKAGE AND WAS UNCOVERED BY ONE FOOT AT MLLW. ALL CONCRETE WAS SUBMERGED.

THE LEAST DEPTH OF THE VESSEL IS 3.3 FEET (1.0 METER) CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE CHARTED WATER DEPTH IS 18 FEET.

THIS ITEM AFFECTS NAUTICAL CHART:

CHART NUMBER	25649
EDITION NUMBER	16TH
DATE	01 MAY 93
CHARTED HORIZ. DATUM	NAD 83
GEOGRAPHIC POSITION	
LATITUDE	18-19-37.662N
LONGITUDE	064-57-29.967W

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN

R 231502Z NOV 93
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
CCGDSEVEN MIAMI FL//OAN
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10506
SURVEY TITLE: U.S. VIRGIN ISLANDS CHARLOTTE AMALIE HARBOR
STATE: U.S. VIRGIN ISLANDS
GENERAL LOCALITY: ST THOMAS
SUBLOCALITY: CHARLOTTE AMALIE
PROJECT NUMBER: OPR-I173-MI-93, NOAA SHIP MT MITCHELL

THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY OPERATIONS BY THE NOAA SHIP MT MITCHELL:

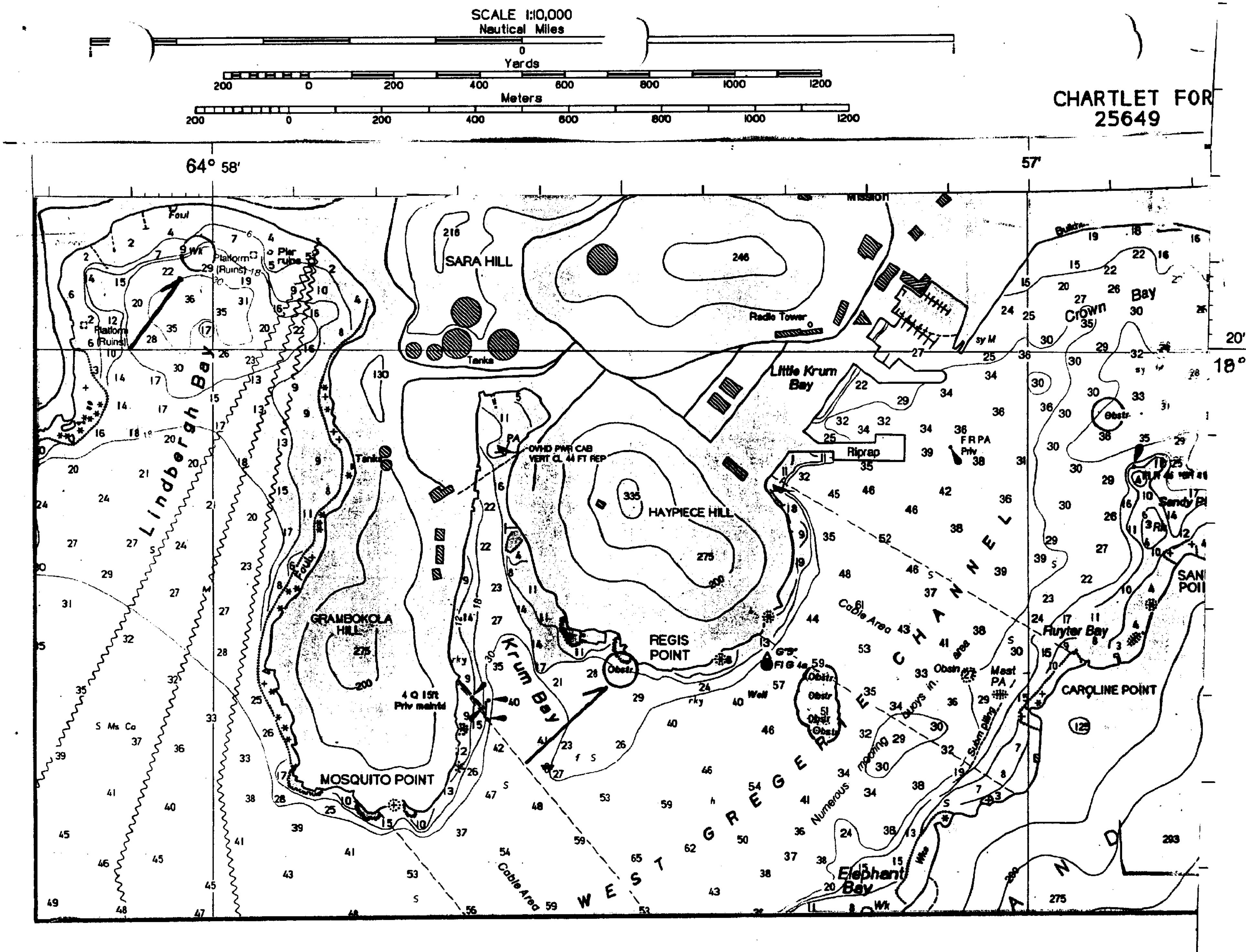
OBJECT DISCOVERED: A SUBMERGED WRECK WAS DISCOVERED AT POSITION 18-20-06.445N0, 064-58-01.305W3. THE WRECK WAS 18 FEET (APPROXIMATELY 6 METERS) IN LENGTH WITH A BEAM OF 6 FEET (APPROXIMATELY 2 METERS).

THE LEAST DEPTH OF THE VESSEL IS 20.3 FEET (6.2 METERS) CORRECTED TO MLLW USING PREDICTED TIDES. THE POSITION OF THE DANGER WAS DETERMINED USING DIFFERENTIAL GPS. THE CHARTED WATER DEPTH IS 29 FEET.

THIS ITEM AFFECTS NAUTICAL CHART:

CHART NUMBER	25649
EDITION NUMBER	16TH
DATE	01 MAY 93
CHARTED HORIZ. DATUM	NAD 83
GEOGRAPHIC POSITION	
LATITUDE	18-20-06.445N
LONGITUDE	064-58-01.305W

QUESTIONS CONCERNING THIS REPORT SHOULD BE DIRECTED TO THE ATLANTIC MARINE CENTER AT (804) 441-6206.
BT
NNNN


SCALE 1:10,000
Nautical Miles
Yards
Meters
CHARTLET FOR
25649
64° 58'
57'
18°
20'
SARA HILL
Tanks
Radio Tower
Mission
Little Krum Bay
Riprap
HAYPIECE HILL
OVHD PWR CAB VERT CL 44 FT REP
REGIS POINT
Krum Bay
GRAMBOKOLA HILL
MOSQUITO POINT
4 Q 15ft Priv maintd
Lindbergh Bay
Platform (Ruins)
Pier ruins
Foul
Crown Bay
Sandy Pt
Ruyter Bay
CAROLINE POINT
Mast PA
F R PA Priv
Numerous mooring buoys in area
Cable Area
Elephant Bay
WEST GREGERIE CHANNEL
Fl G 4s

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 209, 11/5/93 Project/Sheet: B

Dive Supervisor: Schaffgen Dive Item #:

Vessel #: 710/mi-1 AWOIS #: 1266 ✓

DIVE #
DIVERS: Pavelle/Schaffgen/Williams SurfaceInterval/RNT:
TIME IN: 1450 DEPTH: 15 feet
TIME OUT: 1570 Bottom Time: 20 minutes SNORKEL
Diver Type (Letter Class):

DIVE DESCRIPTION: Snorkel search around marina. No wreckage found.

See pg 24 of D.R.

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 1 Nov 93 305 Project/Sheet: Sheet "B"

Dive Supervisor: LT Schattgen Dive Item #:

Vessel #: MI 4 AWOIS #: 8556/1297/1298

DIVE #
DIVERS: Pavelle / Williams / Schattgen SurfaceInterval/RNT:
TIME IN: 1400 DEPTH: 25 feet
TIME OUT: 1436 Bottom Time: 36 minutes
Diver Type (Letter Class):

DIVE DESCRIPTION: Buoy dropped at Easting, Northing (11974.9, 8505.6) 50m away from charted position of AWOIS 8556. Search revealed two sunken metal hulled work boats. Surrounding area searched, wrecks investigated, marker buoys placed at least depth positions. Vessel 1 has length of 63ft. Vessel 2 has length of 120ft. Two marker buoys placed on vessel 2 due to its length. See Drawing.

DIVE #
DIVERS: Pavelle / Williams / Schattgen Surface Interval/RNT:
TIME IN: 1454 DEPTH: 25
TIME OUT: ~~1505~~ 1518 Bottom Time: 24
Diver Type (Letter Class):

DIVE DESCRIPTION: Divers used inverted lead line to obtain least depth measurements.

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

See Pages 15-16 of D.R.

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 1 NOV 93 DN 305
PROJECT/SHEET: 13
GAGE OPERATOR: Divers
DIVERS: Powell/Schaller/Williams
GAGE S/N:
- ☐ 0-21m S/N 245419
- ☐ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

VESNO: MR 4
AWOIS ITEM #: 8556

Section Two: Pneumofathometer Calibration

Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.

Section Three: Least Depth Determination

Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 7977 for pos
READING ONE: 1.8
READING TWO: 1.8
READING THREE: 1.8
AVERAGE DEPTH READING: 1.8
TIME OF READINGS (GMT): ~~1930~~ 1918
~~PREDICTED~~ APPROVED TIDE CORRECTOR: -0.3
CORRECTED LEAST DEPTH: 1.5

LDP @ 1930, Corrections Change @ 1922

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: ~~4603~~ 4770
READING ONE: 3.0
READING TWO: 3.0
READING THREE: 3.0
AVERAGE DEPTH READING: 3.0
TIME OF READINGS (GMT): ~~1930~~ 1918
~~PREDICTED~~ APPROVED TIDE CORRECTOR: -0.3
CORRECTED LEAST DEPTH: 2.7

MEASUREMENT 3: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: ~~4604~~ 4771
READING ONE: 2.9
READING TWO: 2.9
READING THREE: 2.9
AVERAGE DEPTH READING: 2.9
TIME OF READINGS (GMT): ~~1932~~ 1918
~~PREDICTED~~ APPROVED TIDE CORRECTOR: -0.3
CORRECTED LEAST DEPTH: 2.6

Section Four: Diver Report

Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.

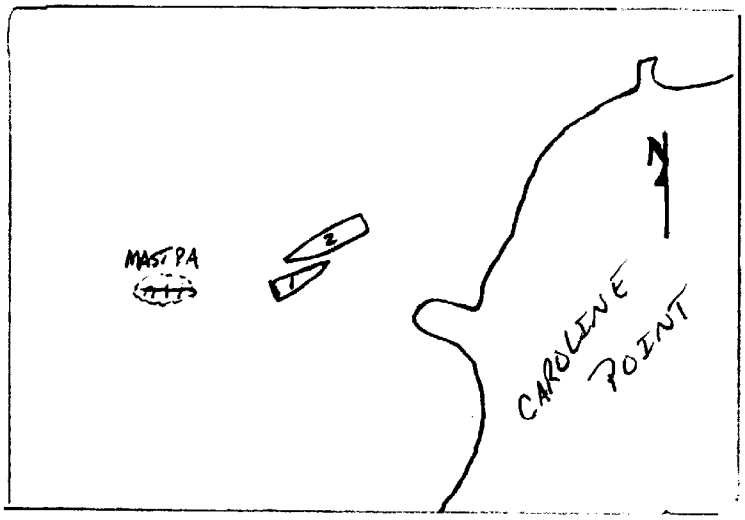
DEPTH/TIME:
VISIBILITY:
CURRENT:

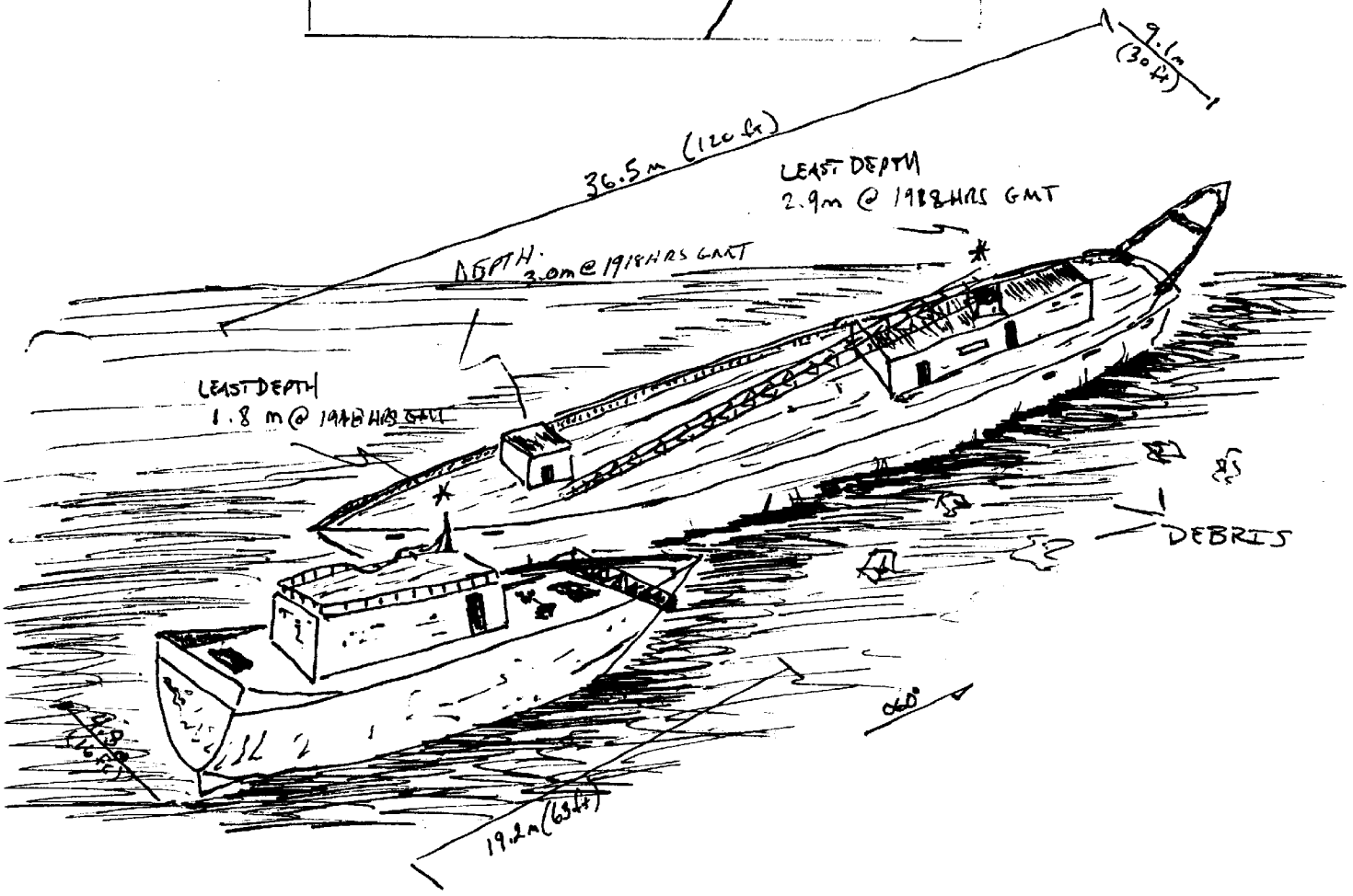
SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

	Easting	Northing	Latitude	Longitude
7977	11974.9	8505.6	018:19:36.651	064:57:00.855
4770	11971.3	8518.0	018:19:37.054	064:57:00.977
4771	11987.6	8529.2	018:19:37.419	064:57:00.422
Av.	11976.5	8517.6	18:19:37.337	064:[illegible]

AWOIS 8556, 1297, 1298





NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: Nov 5 '93 DN309 Project/Sheet: B

Dive Supervisor: LT Schaffner Dive Item #:

Vessel #: MT-1 AWOIS #: 4514

DIVE #
DIVERS: Danielle Fairbanks SurfaceInterval/RNT:
TIME IN: 1435 DEPTH: 5 feet
TIME OUT: 1445 Bottom Time: 10 minutes SCUBA
Diver Type (Letter Class):

DIVE DESCRIPTION: Visible fiberglass sailboat wreck. By Hawkeye Marine Drydock. Wreck is 30' long, 8' wide, bares 1.5' (0.5m) @ T of T (1836 GMT) Bow points south

---

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 5 Nov DN309

PROJECT/SHEET: St. Thx '13'

GAGE OPERATOR: _____

DIVERS: Poole/Williams

VESNO: MT

AWOIS ITEM #: 4514

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☐ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 7421

READING ONE: 0.5

READING TWO: _____

READING THREE: _____

AVERAGE ~~DEPTH~~ Height READING: -0.5m.

TIME OF READINGS (GMT): 1836

~~PREDICTED~~ APPROVED TIDE CORRECTOR: +0.3

CORRECTED LEAST DEPTH: -0.8m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED: _____

SEE PAGE 28 OF D.R.

Latitude 018:19:50.569 Longitude 064:57:19.202

Northing 8933.5 Easting 11436.2

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10 Nov 93 314 Project/Sheet: H10506 B

Dive Supervisor: LT Schattgen Dive Item #:

Vessel #: 2223 AWOIS #: 8554

Submerged Piles

DIVE #

DIVERS: Schattgen/Williams/Spruce/Swallow Surface Interval/RNT:

TIME IN: 1428 DEPTH: 25 feet

TIME OUT: 1501 Bottom Time: 33 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION:

Four divers made compass swim covering the area. Several wooden piles were found (longest 10 ft long). All were laying flat on bottom. No hazards found.

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

See Page 29 of D.R.

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 19 Oct 93 / 291 Project/Sheet: B/H10506

Dive Supervisor: SIMMONS Dive Item #: _____

Vessel #: 770 AWOIS #: 8560

DIVE #

DIVERS: Pawlik/Simmons SurfaceInterval/RNT: _____

TIME IN: _____ DEPTH: _____ feet

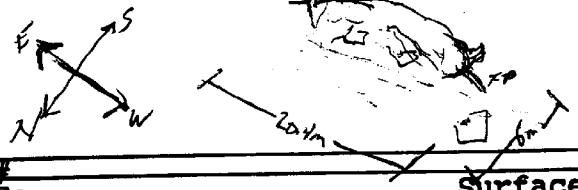
TIME OUT: _____ Bottom Time: _____ minutes

Diver Type (Letter Class): _____

DP#7597

DIVE DESCRIPTION: L.D. 0.2m @1540 local

Wooden vessel, 20.4m long
6.0m beam



On its side, Bow is land depth. Runs East/West

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 19 OCT 93 / 291

GAGE OPERATOR: N/A

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: H-10506 / B

DIVERS: PAVELLE

VESNO: MI-770

AWOIS ITEM #: 8560

SEE PAGE 30 OF 32.

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 7597

READING ONE: 0.2 m

READING TWO:

READING THREE:

AVERAGE DEPTH READING: 0.2 m ✓

TIME OF READINGS (GMT): 1940 ✓

APPROVED ~~PREDICTED~~ TIDE CORRECTOR: -0.34

CORRECTED LEAST DEPTH: 40.1 (Awms) ✓

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: Fary

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

SIBILITY:

CURRENT:

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: Nov2 / 306

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: H-10506

DIVERS: Gardner / Schattgen

VESNO: 770

AWOIS ITEM #: ~~5867~~ 8567

wreckage within area of ~~5867~~ 8567

Party chartered wreckage area.

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

SEE PAGE 32

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 8159

READING ONE: 1.5

READING TWO: 1.5

READING THREE: 1.5

AVERAGE DEPTH READING: 1.8m

TIME OF READINGS (GMT): 133942

~~PREDICTED~~ APPROVED TIDE CORRECTOR: -.3m ✓

CORRECTED LEAST DEPTH: 1.2m ✓

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

8159 S 018:13:24.197 064:52:08.007 199 1.1 + -.3 + .1 + 0.0 - 0.0 = 1.2
N 8122.7 E 11764.9 WRECKAGE DEBRIS LEADLINE DEPTH AT 1 OF 1 1.5

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10/21 294 Project/Sheet: 'B'

Dive Supervisor: LTJG Simmons Dive Item #: ______

Vessel #: MI-1, DP's with MI-3 AWOIS #: 8578 SEE PAGES 33+34

DIVE #
DIVERS: Simmons/Powell SurfaceInterval/RNT: ~~______~~
TIME IN: 0915 DEPTH: ~~______~~ feet
TIME OUT: 0940 Bottom Time: ~~______~~ minutes SNORKEL
Diver Type (Letter Class): —

DIVE DESCRIPTION: Two piers are charted in search radius. Neither was found. In the same area ~~___~~ is a rocky foul area. ~~___~~ 3 DP's taken to delineate this area. (5090, 5091, 5092). Recommend delete both pier symbols and add a foul area.

DIVE #
DIVERS: ______ Surface Interval/RNT: ______
TIME IN: ______ DEPTH: ______
TIME OUT: ______ Bottom Time: ______
Diver Type (Letter Class): ______

DIVE DESCRIPTION:

DIVE #
DIVERS: ______ Surface Interval/RNT: ______
TIME IN: ______ DEPTH: ______
TIME OUT: ______ Bottom Time: ______
Diver Type (Letter Class): ______

DIVE DESCRIPTION:

DIVE #
DIVERS: ______ Surface Interval/RNT: ______
TIME IN: ______ DEPTH: ______
TIME OUT: ______ Bottom Time: ______
Diver Type (Letter Class): ______

DIVE DESCRIPTION:

-----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10/21 294

PROJECT/SHEET: B

DIVERS: Pave Lo / Simmons

GAGE OPERATOR: _____

VESNO: MT-1

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

AWOIS ITEM #: 8568

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

NUMBERS: _____

ADING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

PTH/TIME: _____

SIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL
☐ CIRCLE SEARCH
☐ JACKSTAY

APPROX. AREA COVERED: _____

064:58:07.088
064:58:07.115
064:58:08.893

018:20:07.326
018:20:07.833
018:20:06.649

9448.8
9464.4
9428.0

10030.2
10029.4
9377.2

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10/21 294 Project/Sheet: "B"

Dive Supervisor: CTJG Simmons Dive Item #:

Vessel #: M1-1, DP from M1-3 AWOIS #: 8573

DIVE #

DIVERS: Simmons / Pavelle SurfaceInterval/RNT:

TIME IN: 0905 DEPTH: feet

TIME OUT: 0905 Bottom Time: minutes SNORKEL

Diver Type (Letter Class):

DIVE DESCRIPTION: Platform Ruins are 6 rusted metal beams protruding out ~~6~~ 2 meters

Pier Ruins - 65 meter search radius. Bottom is sand & sea grass. No pier ruins found.

DP's: Platform : 7929

Pier : 5089

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

Recommend: Keep Platform Ruins

~~Delete~~ Pier Ruins

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10/21 294

GAGE OPERATOR:

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☐ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Pavelk / Simmons

VESNO: MH1

AWOIS ITEM #: 8573

SEE PAGES 35 + 36

Section Two: Pneumofathometer Calibration

Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.

Section Three: Least Depth Determination

Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.

MEASUREMENT 1: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 7429/5089

READING ONE:

READING TWO: 1.0

READING THREE:

AVERAGE DEPTH READING: -1.0

TIME OF READINGS (GMT): 1919

~~PREDICTED~~ APPROVED TIDE CORRECTOR: -.3

CORRECTED LEAST DEPTH: 1.3 ✓

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT): ~~1419~~

PREDICTED TIDE CORRECTOR: -.3

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

064:57:57.024
018:20:06.218
9414.7
10325.7
7429

Longitude 064:57:55.845
Latitude 018:20:06.049
Northing 9409.5
Easting 10360.3
5789

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10/20 293 Project/Sheet: '13'

Dive Supervisor: LTJG Simmons Dive Item #:

Vessel #: # 770 AWOIS #: 8745

DIVE #
DIVERS:
TIME IN:
TIME OUT:
Diver Type (Letter Class):
Surface Interval/RNT:
DEPTH: feet
Bottom Time: minutes
VISUAL SEARCH

DIVE DESCRIPTION: Remains of pier found. Pairs of concrete supports, ½ meter high. DP#7615

DIVE #
DIVERS:
TIME IN:
TIME OUT:
Diver Type (Letter Class):
Surface Interval/RNT:
DEPTH:
Bottom Time:

DIVE DESCRIPTION:

DIVE #
DIVERS:
TIME IN:
TIME OUT:
Diver Type (Letter Class):
Surface Interval/RNT:
DEPTH:
Bottom Time:

DIVE DESCRIPTION:

DIVE #
DIVERS:
TIME IN:
TIME OUT:
Diver Type (Letter Class):
Surface Interval/RNT:
DEPTH:
Bottom Time:

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10/20 283

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Favelle/Simmons

VESNO: 770

AWOIS ITEM #: 8745

SEE PAGE 38

Latitude 018:18:45.292 Longitude 064:57:32.351

Northing 6326.6 Easting 11050.0

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 7615

READING ONE: 0.5

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: -0.5

TIME OF READINGS (GMT): 1820

PREDICTED TIDE CORRECTOR: APPROVED -0.34

CORRECTED LEAST DEPTH: Height -0.89

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10/9/93 /282 Project/Sheet: CROWN BAY BASIN N PIER

Dive Supervisor: RIVERA Dive Item #: [redacted]B1

Vessel #: MI-1 AWOIS #: B-1

SEE PAGE 39

DOL 869.4

DAL 3741.4

DIVE #

DIVERS: WILLIAMS / SORACCO Surface Interval/RNT:

TIME IN: ~~1037~~ ~~1040~~ 1123 DEPTH: 32 feet

TIME OUT: ~~1057~~ Bottom Time: 46 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION: WILLIAMS - 2800 psi

Eye beam

3.4 off bc

LD 8.7 n

SD 9.7 n

DP# 5082

DIVE #

DIVERS: WILLIAMS / SORACCO Surface Interval/RNT:

TIME IN: 1252 DEPTH: 30

TIME OUT: ~~1256~~ 1314 Bottom Time: 22

Diver Type (Letter Class):

DIVE DESCRIPTION: WILLIAMS 2750

TIRE (Fender) @ bottom

I. BEAM

1300 LD

8.7

Latitude 18:19:56.980 Longitude 64:57:08.807

DIVE #

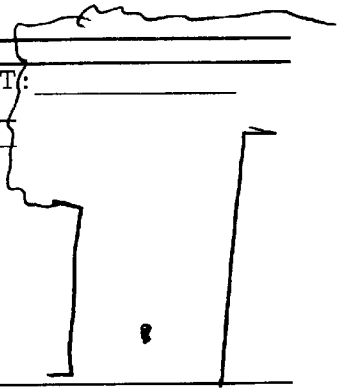
DIVERS: WILLIAMS/ SORACCO Surface Interval/RNT:

TIME IN: 1343 DEPTH: 36

TIME OUT: 1357 Bottom Time: 14

Diver Type (Letter Class):

DIVE DESCRIPTION: PILING



Northing 9130.6

Easting 11741.4

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 15 OCT 93 288 Project/Sheet: H-10506-B

Dive Supervisor: Sousa/Rivera Dive Item #: B2

Vessel #: MT-3 AWOIS #: B2

DIVE #

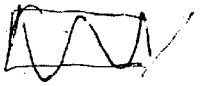
DIVERS: Rivera, Gardner, Lavelle Surface Interval/RNT: 26 of 60

TIME IN: 0919 DEPTH: 60 feet

TIME OUT: 0936 Bottom Time: 17 minutes

Diver Type (Letter Class): D

DIVE DESCRIPTION: Surfaced 1936 0T952



Fix # 5087 SOSS

DIVE # 2

DIVERS: Surface Interval/RNT: ~~10~~

TIME IN: 1005 DEPTH: 60

TIME OUT: 1015 Bottom Time: 10

Diver Type (Letter Class):

DIVE DESCRIPTION:

1 14.9 m

2 14.9 m

3 14.9 m (DEPTHO 15.4)

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 15 OCT 93 DN 288

GAGE OPERATOR: SPRAGUE/WILLIAMS

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☒ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: H-10506-B

DIVERS: Rivera, Powell, Brown

VESNO: MS-3 / MS-4

AWOIS ITEM #: B2

SEE PAGE 40

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.* ✓

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 5027 SDSK

READING ONE: 14.9

READING TWO: 14.9

READING THREE: 14.9

AVERAGE DEPTH READING: 14.9

TIME OF READINGS (GMT): 1410

APPROVED ~~PREDICTED~~ TIDE CORRECTOR: -0.8

CORRECTED LEAST DEPTH: 14.65

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 15.4 FIDO

READING ONE: +0.57 Draft

READING TWO: -(0.3+.4) Vel/Tides

READING THREE: 15.27 15.57

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

-.70
+.57

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10/21 ~~293~~ 294

Project/Sheet: B

Dive Supervisor: LTJG Simmons

Dive Item #: ____

Vessel #: MI-1, DP from ML3

AWOIS #: B-3

DIVE #
DIVERS: Simmons/Pavelle
Surface Interval/RNT: ____
TIME IN: 1100
DEPTH: ____ feet
TIME OUT: 1200
Bottom Time: ____ minutes SNORKEL
Diver Type (Letter Class): —

DIVE DESCRIPTION: Search of "Wks" around Awois 8567, discovered debris from an old wreck. Debris covered 18 ft radius. Least depth by inverted leadline ≈1.55 m @ T&TT (GMT 1820 ≈.2) = 1.35 meters. DP # 5096.

DIVE #
DIVERS: ____
Surface Interval/RNT: ____
TIME IN: ____
DEPTH: ____
TIME OUT: ____
Bottom Time: ____
Diver Type (Letter Class): ____

DIVE DESCRIPTION:

DIVE #
DIVERS: ____
Surface Interval/RNT: ____
TIME IN: ____
DEPTH: ____
TIME OUT: ____
Bottom Time: ____
Diver Type (Letter Class): ____

DIVE DESCRIPTION:

DIVE #
DIVERS: ____
Surface Interval/RNT: ____
TIME IN: ____
DEPTH: ____
TIME OUT: ____
Bottom Time: ____
Diver Type (Letter Class): ____

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10/21 294

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Simmons / Pavelle

VESNO: MT-1

AWOIS ITEM #: B-3 SEE PAGE 41

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

NUMBERS: 5096

READING ONE: 1.55

READING TWO: 1.55

READING THREE: 1.55

AVERAGE DEPTH READING: 1.55

TIME OF READINGS (GMT): 1520

APPROVED
~~PREDICTED~~ TIDE CORRECTOR: -.84

CORRECTED LEAST DEPTH: 1.35 5

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

PTH/TIME: _____

SIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL
☐ CIRCLE SEARCH
☐ JACKSTAY

APPROX. AREA COVERED: _____

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10/21 294 Project/Sheet: '13'

Dive Supervisor: LTJG Simmons Dive Item #:

Vessel #: M1-1, DP from M1-3 AWOIS #: B-4

DIVE #
DIVERS: Simmons/Fowle SurfaceInterval/RNT:
TIME IN: 1320 DEPTH: ~~feet~~
TIME OUT: 1340 Bottom Time: minutes Snorkel
Diver Type (Letter Class):

DIVE DESCRIPTION: Visible wreck, aground. Orientation is bow towards 120°. Listing to starboard. ~~Depth~~ HEIGHT found to be 2.5 meters, Tidal val = 1.3 @ ToDT (1335 GMT) ~~Depth~~ HEIGHT = 2.8 meters. DP #5097.

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10/21 294

GAGE OPERATOR:

GAGE S/N: ☐ 0-21m S/N 245419 ☐ 0-42m S/N 245418 ☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Simmons / Pirelle

VESNO: MI-1

AWOIS ITEM #: B-4

SEE PAGE 42

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 5097

READING ONE:

READING TWO: 2.5

READING THREE:

AVERAGE DEPTH READING: -2.5

TIME OF READINGS (GMT): 1335

~~PREDICTED~~ APPROVED TIDE CORRECTOR: -.81

CORRECTED LEAST DEPTH: 2.86

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED:

018:19:33.633 064:57:00.194

8412.8

11994.3

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 1 Nov 93 305 Project/Sheet: Sheet B"

Dive Supervisor: LT Schattgen Dive Item #: B-5

Vessel #: MT 4 AWOIS #: Fish Haven Sheet B"

DIVE #

DIVERS: Pavelle / Williams SurfaceInterval/RNT: _____

TIME IN: 0937 DEPTH: 80 feet

TIME OUT: 0951 Bottom Time: 15 minutes

Diver Type (Letter Class): D

DIVE DESCRIPTION: Buoy dropped at Easting, Northing (9496.2, 5906.8) taken from SSS contact. Divers descended buoy line to approx 75 ft. Sunken metal hulled wreck sighted approx 30m East of buoy. Metal hulled wreck investigated: least depth = 75 ft (diver depth gages), length = 70 ft, width = 20 ft. Fish Haven Authorized least depth = 60 ft therefore item deemed not significant for pneumogage least depth measurement. DP # ~~4515~~ taken on least depth site of sunken metal hulled wreck. 50 ft. Circle search around item. Sketch on Back →

DIVE #

DIVERS: Schattgen / Williams Surface Interval/RNT: _____

TIME IN: 1026 DEPTH: 90

TIME OUT: 1041 Bottom Time: 15

Diver Type (Letter Class): E

DIVE DESCRIPTION: Divers descended buoy dropped at above Easting, Northing to circle search for other items in area. 60m circle search. No other significant items found.

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10 Nov 93 314 Project/Sheet: H10506 B

Dive Supervisor: LT Schaffgen Dive Item #: B5

Vessel #: 2223 AWOIS #: _____

DIVE #

DIVERS: Pavelle | Williams SurfaceInterval/RNT: _____

TIME IN: 0721 DEPTH: 90 feet

TIME OUT: 0735 Bottom Time: 14 minutes

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

Divers took pneumogage least depth on sunken wreck (described previously).

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 1 NOV 93 305

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: 13

DIVERS: Williams / [redacted] Jarvis

VESNO: 1171-4

AWOIS ITEM #: Fish Haven B-5

SEE PAGES 43-44

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☐ Leadline ☒ Depth Gage

FIX NUMBERS: ~~4578 4765~~

READING ONE: 75 ft

READING TWO: 75 ft

READING THREE: 75 ft

AVERAGE DEPTH READING: 75 ft = 22.9m

TIME OF READINGS (GMT): 1359

~~PREDICTED~~ APPROVED TIDE CORRECTOR: -0.3 /

CORRECTED LEAST DEPTH: 22.6 m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Longitude 064:58:23.720

Latitude 018:18:11.058

Northing 5874.2

Easting 9541.4

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10 Nov 93 314

GAGE OPERATOR: LT Schattgen

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☒ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: F 10506 B

DIVERS: Pavelle / Williams

VESNO: 2223

AWOIS ITEM #: ~~Mdd Mooring~~ B5- wk near fish haven

Section Two: Pneumofathometer Calibration

Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.

Section Three: Least Depth Determination

Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE: 22.7

READING TWO: 22.9

READING THREE: 22.8

AVERAGE DEPTH READING: 22.8

TIME OF READINGS (GMT): 0730 → 1130 GMT

PREDICTED TIDE CORRECTOR: 0.3

CORRECTED LEAST DEPTH: 22.5 meters

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 4 Nov 93 DN 308

Project/Sheet: B

Dive Supervisor: LT Schattgen

Dive Item #: B-6

Vessel #: MI/MI-4/770

AWOIS #: ______

DIVE #
DIVERS: Pavelle/Williams
SurfaceInterval/RNT: ______
TIME IN: 1155
TIME OUT: 1229
DEPTH: 57 feet
Bottom Time: 34 minutes
Diver Type (Letter Class): ______

DIVE DESCRIPTION: Divers descended, found a large pile of small rocks. Circle search found another brng. 150°, 80 ft. Another search found a third pile, brng 130°, 60 ft. Next search came up negative. Piles are 40' x 25'. Least depth on third pile = 12.8 m, by inverted leadline. DP #'s [illegible] by MI-4.

DIVE #
DIVERS: Pavelle/Schattgen
Surface Interval/RNT: ______
TIME IN: 1451
TIME OUT: 1503
DEPTH: 15
Bottom Time: 12
Diver Type (Letter Class): ______

DIVE DESCRIPTION: More least depths by inverted leadline. More DP's: (770) (8166, 8167)

DIVE #
DIVERS: ______
Surface Interval/RNT: ______
TIME IN: ______
TIME OUT: ______
DEPTH: ______
Bottom Time: ______
Diver Type (Letter Class): ______

DIVE DESCRIPTION:

DIVE #
DIVERS: ______
Surface Interval/RNT: ______
TIME IN: ______
TIME OUT: ______
DEPTH: ______
Bottom Time: ______
Diver Type (Letter Class): ______

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 4 NOV 04 DN308

PROJECT/SHEET: ST TNX 'B'

GAGE OPERATOR: _____

DIVERS: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

VESNO: _____

AWOIS ITEM #: B-6
SEE PAGES 45-46

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: ~~8168~~ 4973

READING ONE: 12.8

READING TWO: 12.8

READING THREE: 12.8

AVERAGE DEPTH READING: 12.8

TIME OF READINGS (GMT): 1624

PREDICTED TIDE CORRECTOR: -0.3

CORRECTED LEAST DEPTH: 12.5m

MEASUREMENT 2: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: ~~8167~~ 8166

READING ONE: 13.8

READING TWO: 13.8

READING THREE: 13.8

AVERAGE DEPTH READING: 13.9

TIME OF READINGS (GMT): 1652

PREDICTED TIDE CORRECTOR: -0.3

CORRECTED LEAST DEPTH: ~~13.6m~~ 13.6m

MEASUREMENT 3: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 8167

READING ONE: ~~14.6~~ 14.3

READING TWO: ~~14.2~~ 14.2

READING THREE: ~~14.2~~ 14.2

AVERAGE DEPTH READING: ~~14.3~~ 14.2

TIME OF READINGS (GMT): 1657

PREDICTED TIDE CORRECTOR: -0.3

CORRECTED LEAST DEPTH: ~~13.9m~~ 13.9m

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

Least Depth: 4973 11543.5 8423.6 018:19:33.984 064:57:15.547
8166 11530.1 8461.4 018:19:35.213 064:57:10.003
8167 11537.6 8445.6 018:19:34.699 064:57:15.748

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 9 Nov 93 313 Project/Sheet: H10506 B

Dive Supervisor: LT Schattgen Dive Item #: B-6

Vessel #: 2224 AWOIS #:

DIVE # 1

DIVERS: Soracco / Williams SurfaceInterval/RNT:

TIME IN: 1344 DEPTH: 50 feet

TIME OUT: 1416 Bottom Time: 32 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION:
Buoys were dropped on 3 SSS contacts. Divers found 3 distinct rock piles separated by approximately 25m. Least depths (pneumogage) and DPs were taken.

DP # 6085 6086 6087 Sketch on back

DIVE # 2

DIVERS: Soracco / Williams Surface Interval/RNT:

TIME IN: 1506 DEPTH: 60

TIME OUT: 1530 Bottom Time: 24

Diver Type (Letter Class):

DIVE DESCRIPTION:
Buoys were dropped on 2 SSS contacts. Divers descended first buoy, performed 70 ft circle search; No items found. Descended second buoy and found two closely spaced (5m) rock piles. Least depth (pneumogage) and DP taken on shoaler rock pile.

DP 6090 Sketch on back

DIVE # 3

DIVERS: Schattgen / Williams Surface Interval/RNT:

TIME IN: 1559 DEPTH: 60

TIME OUT: 1609 Bottom Time: 10 min

Diver Type (Letter Class):

DIVE DESCRIPTION:
Divers descended buoy dropped on SSS contact. 75 ft circle search performed; No contacts found.

	Fix	DSN	Latitude / Northing	Longitude / Easting	Cart	Depth	Tide	Draft	SV	Heave	Corr D	
DIVE #												
DIVERS	6085	644	018:19:33.935	064:57:15.366	711	13.4 +	-.2 +	.6 +	.4 -	0.0 =	14.2	
TIME IN:			N 8422.1	E 11548.8	B6 #1							
TIME OUT												
Diver Ty	6086	645	018:19:34.729	064:57:15.734	711	15.3 +	-.2 +	.6 +	.4 -	0.0 =	16.1	Duplicates of 6073, 8166, 8167
DIVE DES			N 8446.5	E 11538.0	B6 #2							
	6087	646	018:19:35.194	064:57:15.894	711	14.9 +	-.2 +	.6 +	.4 -	0.0 =	15.7	
			N 8460.8	E 11533.3	B6 #3							
_____	6090	651	018:19:37.562	064:57:15.816	711	16.1 +	-.2 +	.6 +	.4 -	0.0 =	17.1	→ NEW
			N 8533.6	E 11535.6	B6 #4,5							

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 9 NOV 93 / 313
PROJECT/SHEET: H-10506/13
GAGE OPERATOR: SHATTGEN
DIVERS: SONACHO SHATTGEN, WILLIAMS
GAGE S/N: ☐ 0-21m S/N 245419 ☑ 0-42m S/N 245418 ☐ 0-70m S/N 8302079N
VESNO: MI-4
AWOIS ITEM #: R-6

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 6085
READING ONE: 12.6
READING TWO: 12.6
READING THREE: 12.6
AVERAGE DEPTH READING: 12.6 m
TIME OF READINGS (GMT): ~~1359~~ GMT 1759
~~PREDICTED~~ APPROVED TIDE CORRECTOR: 0.2 m
CORRECTED LEAST DEPTH: 12.45 m

MEASUREMENT 2: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 6086
READING ONE: 13.5
READING TWO: 13.5
READING THREE: 13.5
AVERAGE DEPTH READING: 13.5 m
TIME OF READINGS (GMT): 1808 GMT
~~PREDICTED~~ APPROVED TIDE CORRECTOR: 0.2 m
CORRECTED LEAST DEPTH: 13.3 m

MEASUREMENT 3: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 6087
READING ONE: 13.9
READING TWO: 13.9
READING THREE: 13.9
AVERAGE DEPTH READING: 13.9 m
TIME OF READINGS (GMT): 1814 GMT
~~PREDICTED~~ APPROVED TIDE CORRECTOR: 0.2 m
CORRECTED LEAST DEPTH: ~~13.7~~ 13.7 m

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: —
VISIBILITY: 15-20 ft.
CURRENT: 2-3 kts
SEARCH PROCEDURE: ☒ VISUAL ☒ CIRCLE SEARCH ☐ JACKSTAY
APPROX. AREA COVERED: $\pi (70\text{ ft})^2$

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 9 NOV 93 / 313

GAGE OPERATOR: ~~SORACCO~~ SLATTERY

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☒ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: H-10506 /B

DIVERS: SORACCO, SLATTERY, WELLMAN

VESNO: MI-4

AWOIS ITEM #: B-6

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 6090

READING ONE: 16.4

READING TWO: 16.4

READING THREE: 16.4

AVERAGE DEPTH READING: 16.4 m

TIME OF READINGS (GMT): 1932 GMT

~~PREDICTED~~ APPROVED TIDE CORRECTOR: 0.3 m

CORRECTED LEAST DEPTH: 16.1 m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10 Nov 93 314 Project/Sheet: H10506 B

Dive Supervisor: LT Schaffgen Dive Item #: B7

Vessel #: 2223 AWOIS #:

DIVE #

DIVERS: Pavell T Schaffgen SurfaceInterval/RNT:

TIME IN: 0827 DEPTH: 59 feet

TIME OUT: 0835 Bottom Time: 8 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION:

Divers took pneumogage least depth. Item described in previous report.

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10 Nov 93 (314)

GAGE OPERATOR: ENS Williams

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☒ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: H 10506 B

DIVERS: Schattgen / Pavelle

VESNO: 2223

AWOIS ITEM #: Mstel Mooring Buoy - 87

SEE PAGE 47

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 8165

READING ONE: 16.2

READING TWO: 16.2

READING THREE: 16.2

AVERAGE DEPTH READING: 16.2 ✓

TIME OF READINGS (GMT): 0830 → 1230 GMT

APPROVED ~~PREDICTED~~ TIDE CORRECTOR: 0.3 ✓

CORRECTED LEAST DEPTH: 15.9 meters ✓

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: ______

READING ONE: ______

READING TWO: ______

READING THREE: ______

AVERAGE DEPTH READING: ______

TIME OF READINGS (GMT): ______

PREDICTED TIDE CORRECTOR: ______

CORRECTED LEAST DEPTH: ______

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: ______

READING ONE: ______

READING TWO: ______

READING THREE: ______

AVERAGE DEPTH READING: ______

TIME OF READINGS (GMT): ______

PREDICTED TIDE CORRECTOR: ______

CORRECTED LEAST DEPTH: ______

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: ______

VISIBILITY: ______

CURRENT: ______

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED: ______

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 4 Nov 93 309 Project/Sheet: E

Dive Supervisor: LT Schattgen Dive Item #: E-7

Vessel #: MI-1 AWOIS #: _____

DIVE # _____

DIVERS: Schattgen / Williams SurfaceInterval/RNT: _____

TIME IN: 1335 DEPTH: 56 feet

TIME OUT: 1343 Bottom Time: 8 minutes

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

A spherical, metal mooring buoy 5 ft in diameter was found. The item rose to a height of 4.6 ft off the bottom. No chain or buoy anchor was found by circle search. Bottom depth = 56 ft by diver depth gauge and fathometer.

DIVE # _____

DIVERS: Schattgen / Williams Surface Interval/RNT: _____

TIME IN: 1354 DEPTH: 56

TIME OUT: 1410 Bottom Time: 2

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

Further investigation, circle search of mooring buoy. No new developments.

Picture on back.

DIVE # _____

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE # _____

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 4/NOV 93 308

GAGE OPERATOR: [illegible]

GAGE S/N: ☐ 0-21m S/N ~~245419~~
☐ 0-42m ~~S/N 245418~~
☐ ~~0-70m~~ S/N 8302079N

PROJECT/SHEET: B

DIVERS: B Schaffer/W. Williams

VESNO: MT-1

AWOIS ITEM #: B-7

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

DID NOT USE

MEASUREMENT 1: ☐ Pneumogage ☐ ~~Leadline~~ STEEL TAPE ☐ Depth Gage

FIX NUMBERS: ~~8165~~ 8165

READING ONE: B. Hon = 56 ft

READING TWO: Weight = 4.6ft

READING THREE: 51.4 ft = 15.7m

AVERAGE DEPTH READING: 15.7

TIME OF READINGS (GMT): 1357

PREDICTED TIDE CORRECTOR: -0.3

CORRECTED LEAST DEPTH: 15.4m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

SIBILITY:

CURRENT:

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 11/5/93 DN 309

Project/Sheet: B

Dive Supervisor: LT Schattgen

Dive Item #: B-8

Vessel #: MT-1/770

AWOIS #:

DIVE #

DIVERS: Varello / Schattgen

Surface Interval/RNT: 1:02/20

TIME IN: 1116

DEPTH: 55 feet

TIME OUT: 1136

Bottom Time: 20 minutes

Diver Type (Letter Class): SCH D

DIVE DESCRIPTION: Discovered keel/ribs of sunken barge. Wreckage is 21' wide, 26' long. 2 ft. spacing bet. ribs. Least depth by pneumogauge = 16.5 meters @ TofT (1530 GMT). DP # 077 Taken.

DIVE #

DIVERS:

Surface Interval/RNT:

TIME IN:

DEPTH:

TIME OUT:

Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS:

Surface Interval/RNT:

TIME IN:

DEPTH:

TIME OUT:

Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS:

Surface Interval/RNT:

TIME IN:

DEPTH:

TIME OUT:

Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 11/5 309

GAGE OPERATOR: Williams

GAGE S/N: ☐ 0-21m S/N 245419
~~☒~~ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Powell/Bakkegen

VESNO: MT/1776

AWOIS ITEM #: B-8

See Page 48

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: ~~6077~~ 6077

READING ONE: 16.4

READING TWO: 16.4

READING THREE: 16.6

AVERAGE DEPTH READING: ~~16.4~~ 16.4

TIME OF READINGS (GMT): 1530

PREDICTED TIDE CORRECTOR: Approved -0.3 2

CORRECTED LEAST DEPTH: ~~16.1~~ 16.1 2

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

Fix	DSN	Latitude Northing	Longitude Easting	Cart	Depth	Tide	Draft	SU	Heave	Corr D	
6077	2	018:18:51.429 N 7115.3	064:57:46.215 E 10642.9	711	15.8	+ -.2	+ .6	+ .5	- 0.0	=	16.7

MEASUREM

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

SIBILITY:

CURRENT:

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 5 Nov 93 309 Project/Sheet: B

Dive Supervisor: LT Schaffer Dive Item #: B-9

Vessel #: MI 1 AWOIS #:

DIVE #

DIVERS: Ravelle J Williams SurfaceInterval/RNT:

TIME IN: 0958 DEPTH: 83 feet

TIME OUT: 1014 Bottom Time: 16 minutes

Diver Type (Letter Class): E

DIVE DESCRIPTION:

Divers found a piece of wreckage consisting of wood & steel. No other items were found. Least depth measurements taken by pneumogage.

Sketch on back

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 5 Nov 93 309

GAGE OPERATOR: LT Schattgen

GAGE S/N: ☐ 0-21m S/N 245419
☒ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Pavelle / Williams

VESNO: MI 1

AWOIS ITEM #: B-9
SEE PAGE 49

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 8168

READING ONE: 22.6 m

READING TWO: 22.6 m

READING THREE: 22.7 m

AVERAGE DEPTH READING: 22.6 m

TIME OF READINGS (GMT): 1410

~~PREDICTED~~ APPLIED TIDE CORRECTOR: -0.1

CORRECTED LEAST DEPTH: 22.5 m

B-9

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

064:58:44.093
018:18:28.704
6416.8
8943.2

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 5 Nov 93 309 Project/Sheet: B

Dive Supervisor: LT Schaffgen Dive Item #: B-10

Vessel #: MI 1 AWOIS #:

DIVE #

DIVERS: Schaffgen / Williams SurfaceInterval/RNT:

TIME IN: ~1347 DEPTH: 87 feet

TIME OUT: 1400 Bottom Time: 13 minutes

Diver Type (Letter Class): G

DIVE DESCRIPTION:

Divers found a piece of wooden wreckage. No other items found. Item appears to be stern section of a wooden ship. Least depth by pneumogage. Item is inverted (Keel up), only the hull members and some planking remain.

Sketch on back

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 5 NOV 93 309

GAGE OPERATOR: ENS Pavalis

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☒ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Schaffgen / Williams

VESNO: MI 1

AWOIS ITEM #: B-10

SEE PAGE 50

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 8169

READING ONE: 24.4 m

READING TWO: 24.4 m

READING THREE: 24.5 m

AVERAGE DEPTH READING: 24.4 m ✓

TIME OF READINGS (GMT): 1800 ✓

~~PREDICTED~~ APPROVED TIDE CORRECTOR: -0.8

CORRECTED LEAST DEPTH: 24.X9m

310

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

SIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED: _____

064:58:40.922

018:18:23.958

6243.2

9036.3

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: Nov 2 / 306

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: H-10506

DIVERS: Gardner / Schattgen

VESNO: 770

AWOIS ITEM #: B-11 new item

Gun Carriage in Flamingo Bay / Obstruction

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

SEE PAGE 58'

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 8158

READING ONE: 2.0

READING TWO: 2.0

READING THREE: 2.0

AVERAGE DEPTH READING: 2.0m

TIME OF READINGS (GMT): 13014

APPROVED ~~PREDICTED~~ TIDE CORRECTOR: −0.3m

CORRECTED LEAST DEPTH: 1.8m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

8158 2 010:18:15.182 064:57:31.061 287 1.6 + -.3 + .4 + 0.0 - 0.0 = 1.7
N 6723.2 E 11087.9 GUN CARRIAGE-WRI OR WRECK LEADLINE DEPTH AT 1 OF 1 2.0m

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10/21 294

Project/Sheet: 113'

Dive Supervisor: LTJG Simmons

Dive Item #:

AWOIS #: ~~[illegible]~~ B-12

Vessel #: MI-1, DP from MI-3

DIVE #
DIVERS: Simmons/Pavelle
TIME IN: 1035
TIME OUT: 1100
Diver Type (Letter Class): —

SurfaceInterval/~~RNT~~:
DEPTH: feet
Bottom ~~Time~~: minutes SNORKEL

DIVE DESCRIPTION: Divers descended, found wreck. Made of metal, general shape of a sailboat. Rusted, covered with coral. Some ~~[illegible]~~ debris is visible. Height measured w/ leadline to be 1.3 meters @ Time of Tide (1455 GMT, Tide/value = 0.2 m). Height @ MLLW is 1.5 meters.

DP #5095

DIVE #
DIVERS:
TIME IN:
TIME OUT:
Diver Type (Letter Class):

Surface Interval/RNT:
DEPTH:
Bottom Time:

DIVE DESCRIPTION:

DIVE #
DIVERS:
TIME IN:
TIME OUT:
Diver Type (Letter Class):

Surface Interval/RNT:
DEPTH:
Bottom Time:

DIVE DESCRIPTION:

DIVE #
DIVERS:
TIME IN:
TIME OUT:
Diver Type (Letter Class):

Surface Interval/RNT:
DEPTH:
Bottom Time:

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10/21 294

GAGE OPERATOR:

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☐ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Parelle/Simmons

VESNO: MT-1

AWOIS ITEM #: ~~[illegible]~~ B-12

SEE PAGE 51

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 5095

READING ONE: 1.3

READING TWO:

READING THREE:

AVERAGE DEPTH READING: ~~+8.6~~ -1.3

TIME OF READINGS (GMT): 1455

APPROVED ~~PREDICTED~~ TIDE CORRECTOR: -.2

CORRECTED LEAST DEPTH: 1.5

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

064:57:13.595 018:19:21.100 8027.5 11600.8

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 8 Nov 93 312 Project/Sheet: B

Dive Supervisor: LT Schaltgen Dive Item #: B-13

Vessel #: 2224 AWOIS #: SEE PAGE 53

DIVE #

DIVERS: Pavelle / Williams SurfaceInterval/RNT:

TIME IN: 1519 DEPTH: 20 feet

TIME OUT: 1531 Bottom Time: 12 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION:

Divers found a section of metal pipe. 16 inch diameter. The pipe is 26.5 ft long and extends 2 ft 7inches off the bottom. Item is insignificant. DP taken

sketch on back

DIVE #

DIVERS:

6082 15 018:19:49.888 064:57:39.544 711 5.7 + -.3 + .6 + .2 - 0.0 = 6.2

TJ N 8912.6 E 10838.9 813

TJ

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 8 NOV 93 /312 Project/Sheet: B

Dive Supervisor: ENS Swallow/ST Hamm Dive Item #: B-14

Vessel #: 770, MSM AWOIS #:

DIVE #

DIVERS: Swallow Sorace SurfaceInterval/RNT:

TIME IN: 1612 DEPTH: 35 feet

TIME OUT: 1622 Bottom Time: ~10 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION: Divers descended down an anchored buoy line placed on the SSS contact # 5010,32. A large "Boulder" was discovered. A least-depth and detached position were taken. Diver's performed a 50ft circle search around the 'Boulder' and nothing else of significance was found. DP# 6683 LD = 9.4 nmc @ 2015 hrs given by Leadline

---

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 8 Nov 93 /312

GAGE OPERATOR: N/A

GAGE S/N:
- ☐ 0-21m S/N 245419
- ☐ 0-42m S/N 245418
- ☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Sorrell/Guellow

VESNO: M14/770

AWOIS ITEM #: B14
SEE PAGE 54

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 6083

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING: 9.4m /

TIME OF READINGS (GMT): 2015 GMT

APPROVED
~~PREDICTED~~ TIDE CORRECTOR: -0.3 /

CORRECTED LEAST DEPTH: 9.1meters /

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

VISIBILITY:

CURRENT:

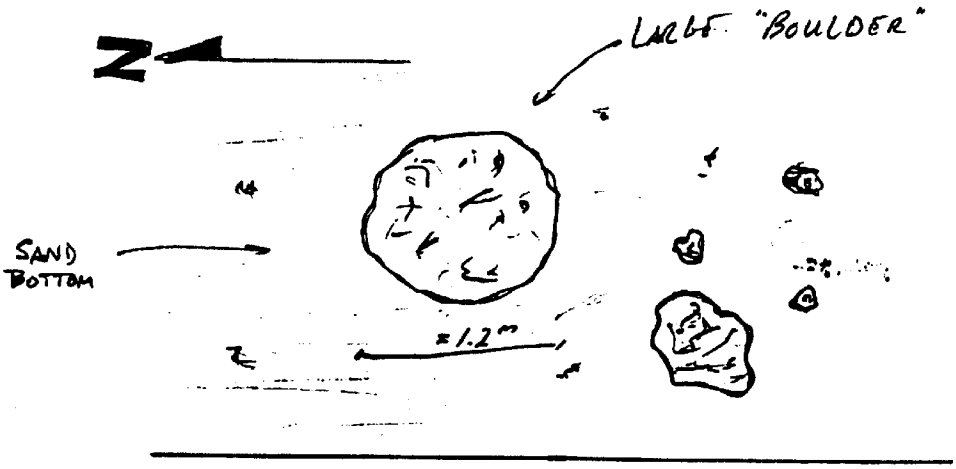
SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

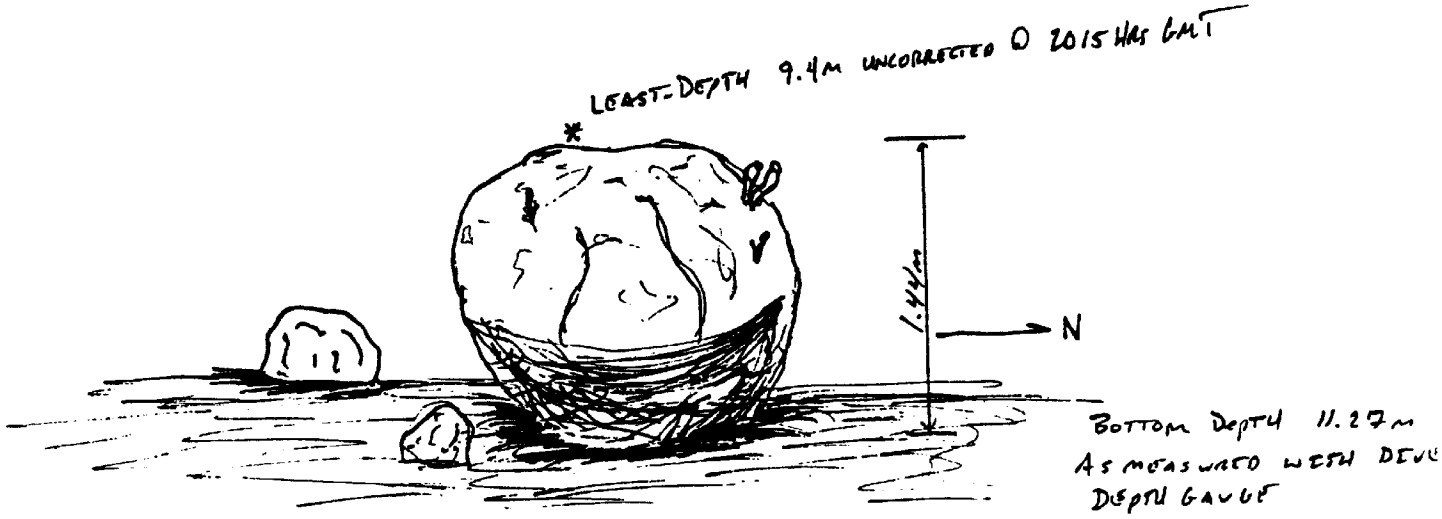
9.7 - 0.0 = 9.7
.6 + .3 -
9.1 + -.3 +
6083 18 010:19:55.753 064:56:53.849 711 B14
N 9092.9 E 12180.6

B-14

TOP VIEW



PROFILE



NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 8 Nov 93 312 Project/Sheet: B

Dive Supervisor: LT Schaffgen Dive Item #: B-15

Vessel #: 2224 AWOIS #: _____

DIVE #

DIVERS: Favelle / Williams SurfaceInterval/RNT: _____

TIME IN: 1251 DEPTH: 60 feet

TIME OUT: 1305 Bottom Time: 14 minutes

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

Divers found a piece of wreckage (metal). 35 ft circle search around wreckage yields no other items. Pneumogage least depth taken, 16.2m. DP taken #6079

Sketch on Back.

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

DIVE #

DIVERS: _____ Surface Interval/RNT: _____

TIME IN: _____ DEPTH: _____

TIME OUT: _____ Bottom Time: _____

Diver Type (Letter Class): _____

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 8Nov93 312

GAGE OPERATOR: LT Schaffgen

GAGE S/N: ☐ 0-21m S/N 245419
☒ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Pavelle / Williams

VESNO: 2224

AWOIS ITEM #: B15

SEE PAGE 55

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☒ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 6079

READING ONE: 16.2 m

READING TWO: 16.2 m

READING THREE: 16.2 m

AVERAGE DEPTH READING: 16.2m

TIME OF READINGS (GMT): 1700

Approved ~~PREDICTED~~ TIDE CORRECTOR: 0.23

CORRECTED LEAST DEPTH: 16.43

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 8 Nov 93 312

Project/Sheet: B

Dive Supervisor: LT Schaffgen

Dive Item #: B16

Vessel #: 2224

AWOIS #:

SEE PAGE 56

DIVE #

DIVERS: Powell / Williams

SurfaceInterval/RNT:

TIME IN: 1316

DEPTH: 55 feet

TIME OUT: 1329

Bottom Time: 13 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION:

Divers found the metal frame of a boat trailer (no boat). Item extends 2.5 feet off bottom. Item is insignificant.

DP taken #6080 ≈ 0.8 meters

Sketch on back

DIVE #

DIVERS:

TIM 6080 9 018:19:01.596 064:57:55.479 711 16.2 + -.2 + .6 + .5 - 0.0 = 17.1

TIM N 7427.9 E 10370.9 B16

Div

DIVE DESCRIPTION:

DIVE #

DIVERS:

Surface Interval/RNT:

TIME IN:

DEPTH:

TIME OUT:

Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS:

Surface Interval/RNT:

TIME IN:

DEPTH:

TIME OUT:

Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 8 Nov 93 312 Project/Sheet: B

Dive Supervisor: LT Schaffgen Dive Item #: 817

Vessel #: 2224 AWOIS #:

DIVE #

DIVERS: Pavelle / Williams SurfaceInterval/RNT:

TIME IN: 1357 DEPTH: 25 feet

TIME OUT: 1424 Bottom Time: 27 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION: Divers descended/found the stern section of an anchored concrete ship approx 50 meters away. Wreckage is in a 30' radius circle. Least depth on concrete stern is 1.3 meters (4 ft.), but the reinforcing bars come up 0.1 meters above the surface. UP taken @ 1815 UTC GMT # 6021

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 8 NOV 03 312

GAGE OPERATOR: [illegible]

GAGE S/N: ☐ 0-21m S/N 245419 ☒ 0-42m S/N 245418 ☐ 0-70m S/N 83020790

PROJECT/SHEET: B

DIVERS: [illegible]

VESNO: MT-4

AWOIS ITEM #: 817

SEE PAGE 57

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: [illegible]

READING ONE: FIX 1.3

READING TWO: 62s 1.3

READING THREE: 1.3

AVERAGE DEPTH READING: 1.3m

TIME OF READINGS (GMT): 1815

PREDICTED TIDE CORRECTOR: -.3

CORRECTED LEAST DEPTH: 1.0 meters

MEASUREMENT 2: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 6081

READING ONE: + 0.1

READING TWO: + 0.1

READING THREE: + 0.1

AVERAGE DEPTH READING: +0.1m

TIME OF READINGS (GMT): 1815

~~PREDICTED~~ APPROVED TIDE CORRECTOR: -.3

CORRECTED LEAST DEPTH: -0.4meters

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED:

6081 12 018:19:37.662 06:57:29.962 711 817 N 8536.7 E 11120.1 8.5 0.0 2 3 4 5 6 7 8.0

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 8NOV93 312 Project/Sheet: B

Dive Supervisor: LT Schaffner Dive Item #: B-18

Vessel #: MT-4 AWOIS #: SEE PAGE 58

DIVE #

DIVERS: Rouelle/Schaffner SurfaceInterval/RNT:

TIME IN: 1600 DEPTH: 43 feet

TIME OUT: 1609 Bottom Time: 9 minutes

Diver Type (Letter Class):

DIVE DESCRIPTION:

Item is a mooring buoy anchor. Concrete cube, 46" x 46", 36" height. Item is not significant. DP already diving mooring buoy DP's.

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #

DIVERS: Surface Interval/RNT:

TIME IN: DEPTH:

TIME OUT: Bottom Time:

Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 10 Nov 93 314 **Project/Sheet:** H10506 B

Dive Supervisor: LT Schaffgen **Dive Item #:** [redacted]

Vessel #: 2223 **AWOIS #:** B-20/B-19

SEE PAGES 59 & 60

DIVE # 1
DIVERS: Pavelle / Williams **SurfaceInterval/RNT:**
TIME IN: 1022 **DEPTH:** 25 feet
TIME OUT: 1050 **Bottom Time:** 28 minutes
Diver Type (Letter Class):

B20

DIVE DESCRIPTION:
Buoy dropped on position obtained from sss contact. Divers made 50 ft circle search – only item found was a sunken tree branch. Least depth taken by leadline (7.6m), the branch is 30 ft long.

DP # 5109 sketch on back

DIVE # 2
DIVERS: Schaffgen / Williams **Surface Interval/RNT:**
TIME IN: 1101 **DEPTH:** 25
TIME OUT: 1134 **Bottom Time:** 33
Diver Type (Letter Class):

B19

DIVE DESCRIPTION:
Buoy repositioned on above mentioned sss contact. Divers found sunken wooden wreck of fishing boat. Boat is resting upright, 2m wide by 6m long.

DP # 5110 sketch on back

DIVE #
DIVERS: **Surface Interval/RNT:**
TIME IN: **DEPTH:**
TIME OUT: **Bottom Time:**
Diver Type (Letter Class):

DIVE DESCRIPTION:

DP/Remarks listing for --> /ST.THOMAS/Sheet02/Edited R022331402

	Fix	DSN	Latitude / Northing	Longitude / Easting	Cart	Remarks	Depth	Tide	Draft	SV	Heave	Corr D
DIVE #	[redacted]											
DIVERS:												
TIME IN:												
TIME OUT:												
Diver Type	5110	276	018:20:06.445 N 9421.7	064:58:01.305 E 10209.0	711 B19		6.5 +	-.2 +	.6 +	.2 -	0.0 =	7.1
DIVE DESCR	5109	275	018:20:06.146 N 9412.5	064:58:02.034 E 10178.6	711 B20		7.6 +	-.2 +	.6 +	.2 -	0.0 =	8.2

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE----------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10 Nov 93 314

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: H 10506 B

DIVERS: Schaffgen/Williams

VESNO: 2223

AWOIS ITEM #: B19
SEE PAGE 59

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

Sunken Wooden boat

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: ~~5100~~ 5110

READING ONE: 6.4

READING TWO: 6.4

READING THREE: 6.4

AVERAGE DEPTH READING: 6.4 –

TIME OF READINGS (GMT): 1130 → 1530 GMT

APPROVED ~~PREDICTED~~ TIDE CORRECTOR: 0.8[3]

CORRECTED LEAST DEPTH: 6.8m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL
☐ CIRCLE SEARCH
☐ JACKSTAY

APPROX. AREA COVERED: _____

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 10 Nov 93 314

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: H10506 B

DIVERS: Pavelle Williams

VESNO: 2223

AWOIS ITEM #: B20
SEE PAGE 60

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

Tree Branch

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 5109

READING ONE: 7.6

READING TWO: 7.6

READING THREE: 7.6

AVERAGE DEPTH READING: 7.6

TIME OF READINGS (GMT): 1050 → 1450 GMT

APPROVED
PREDICTED TIDE CORRECTOR: -0.8 3

CORRECTED LEAST DEPTH: 7.8 3 m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL
☐ CIRCLE SEARCH
☐ JACKSTAY

APPROX. AREA COVERED: _____

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: Nov 2 / 306

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: H-10506

DIVERS: Gardner / Schattgen

VESNO: 770

AWOIS ITEM #: B-21 (new item)
obstruction: Debris on bottom used as Mooring Buoy anchor.

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

SEE PAGE 61

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 8161

READING ONE: 1.7

READING TWO: 1.7

READING THREE: 1.7

AVERAGE DEPTH READING: 1.7m

TIME OF READINGS (GMT): 143227

APPROVED
~~PREDICTED~~ TIDE CORRECTOR: -.03m

CORRECTED LEAST DEPTH: 1.4m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

8161 11 018:19:32.364 064:57:00.136 100 1.3 + -.3 + .4 + 0.0 - 0.0 = 1.4
N 9373.8 E 11996.0 WRECKAGE DEBRIS W/MOORING BUOY ATTACHED LEADLINE DEPTH 1.7

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 22 OCT 93 /295

Project/Sheet: ______

Dive Supervisor: SIMMONS

Dive Item #: ______

Vessel #: MF-3/4

AWOIS #: ______

DIVE # ~~MISS OPPORTUNITY~~
DIVERS: Pavelle, WILLIAMS
SurfaceInterval/RNT: ______
TIME IN: 0815
TIME OUT: 0837
DEPTH: 85 feet
Bottom Time: 22 minutes
Diver Type (Letter Class): G

DP 5101

DIVE DESCRIPTION: BARGE ≈ 400' long 16.57
CORRECTED LD = ~~16~~ MIS
LD = ~~16.0m~~ ~~15.6m~~ 16.17
≈ ~~52.8'~~

MISS. OPPORTUNITY		LAT	LONG		
7396.6	8433.8	018:19:34.298 (.57)	064:59:36.776 (.61)	0	0
0 0	0 0	000:00:00.000	000:00:00.000	0	0

DIVE # ~~WITSHELL~~
DIVERS: ______
Surface Interval/RNT: ______
TIME IN: ______
TIME OUT: ______
DEPTH: 62 (85) max
Bottom Time: 17
Diver Type (Letter Class): ______

DIVE DESCRIPTION: multilevel wreck Freighter Approximately 400' long

DP 5104

Corrected LD = ~~8.67~~ 8.87m MLLW

LD = ~~8.5m~~ ~~8.3m~~ ~~8.1~~ 8.67
≈ ~~27.88'~~ 28.44'

WIT SHOAL		LAT	LONG		
0 0	0 0	000:00:00.000	000:00:00.000	0	0
2330.8	7013.8	018:18:48.051	065:02:23.003	0	0

TIME IN: 1204
TIME OUT: 1216
DEPTH: 55
Bottom Time: 12
Diver Type (Letter Class): C

DIVE DESCRIPTION:

~~DP 5104~~

Simmons 2800
Unity 3600

In water: 1201

DIVE # ______
DIVERS: ______
Surface Interval/RNT: ______
TIME IN: ______
TIME OUT: ______
DEPTH: ______
Bottom Time: ______
Diver Type (Letter Class): ______

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 1 NOV 93 305 Project/Sheet: B

Dive Supervisor: CT Schaffner Dive Item #: 2PA Rock

Vessel #: MT-4 AWOIS #:

DIVE #
DIVERS: Pete/Schaffner SurfaceInterval/RNT:
TIME IN: 1330 DEPTH: 0 feet
TIME OUT: 1350 Bottom Time: 20 minutes SNORKEL
Diver Type (Letter Class):

DIVE DESCRIPTION: Buoy dropped in vicinity of 1.4 meter sounding taken off of sounding plot. Divers descended, discovered area has apletau. One area has least depth. Measurments taken by inverted leadline yielded that rock bares 12 meters @ T-PT. Buoy positioned, DP ~~2[illegible]~~ taken.

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

DIVE #
DIVERS: Surface Interval/RNT:
TIME IN: DEPTH:
TIME OUT: Bottom Time:
Diver Type (Letter Class):

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 1 NOV 93 305

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: B

DIVERS: Schattgen / Revelle

VESNO: MT 4

AWOIS ITEM #: 2H rock

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: ~~4962 4967~~

READING ONE: 1.2

READING TWO: 1.2

READING THREE: 1.2

AVERAGE DEPTH READING: 1.2

TIME OF READINGS (GMT): ~~0844~~ 1719

PREDICTED TIDE CORRECTOR: -0.3

CORRECTED LEAST DEPTH: 0.9

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

SIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

064:58:25.600
000:00:00.000

018:19:27.626
000:00:00.000

8228.3
0.0

9486.5
0.0

NOAA SHIP MT. MITCHELL
DIVER INVESTIGATION REPORT

Dive Operations Information:

DATE/DN: 305 1 NOV 93 Project/Sheet: B

Dive Supervisor: LT Schattgen Dive Item #: ______

Vessel #: MT-4 AWOIS #: 22 ft Rock

DIVE #

DIVERS: Pavek Schattgen SurfaceInterval/RNT: ______

TIME IN: 1115 DEPTH: 35 feet

TIME OUT: 1133 Bottom Time: 18 minutes

Diver Type (Letter Class): ______

DIVE DESCRIPTION: Buoy dropped at position of 7.5 meter sounding taken off of sounding plot. Area consists of large coral-covered boulders. One boulder in particular was obviously the shoalest. A 30 ft circle search was conducted to verify. The boulder was measured for least depth w/inverted leadline. Buoy was placed @ least depth pos, & ΔP # ~~4600~~ 4707 was taken.

DIVE #

DIVERS: ______ Surface Interval/RNT: ______

TIME IN: ______ DEPTH: ______

TIME OUT: ______ Bottom Time: ______

Diver Type (Letter Class): ______

DIVE DESCRIPTION:

DIVE #

DIVERS: ______ Surface Interval/RNT: ______

TIME IN: ______ DEPTH: ______

TIME OUT: ______ Bottom Time: ______

Diver Type (Letter Class): ______

DIVE DESCRIPTION:

DIVE #

DIVERS: ______ Surface Interval/RNT: ______

TIME IN: ______ DEPTH: ______

TIME OUT: ______ Bottom Time: ______

Diver Type (Letter Class): ______

DIVE DESCRIPTION:

----------USE BACK FOR MORE DESCRIPTION/DRAWING SPACE---------

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: 305 1 NOV 93

GAGE OPERATOR: Leadline

GAGE S/N:
- ☐ 0-21m S/N ~~245419~~
- ☐ ~~0-42m~~ S/N 245418
- ☐ ~~0-70m~~ S/N 8302079N

PROJECT/SHEET: B

DIVERS: Pavlik/Schettgen

VESNO: 724

AWOIS ITEM #: 22 ft Rock

000:00:00.000 064:58:01.217 000:00:00.000

Section Two: Pneumofathometer Calibration

Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.

000:00:00.000 018:10:24.578 000:00:00.000

Section Three: Least Depth Determination

Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: ~~4600~~ 4767

READING ONE: ~~[illegible]~~ 7.4

READING TWO: 7.4

READING THREE: 7.4

AVERAGE DEPTH READING: 7.4

TIME OF READINGS (GMT): 1537:40

PREDICTED TIDE CORRECTOR: -0.3

CORRECTED LEAST DEPTH: 7.1

6289.8 0.0 0.0

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: 4767 4600 (Fathometer-DSF)

READING ONE: 6.5 mw

READING TWO: .6 draft

READING THREE: .2 velocity

AVERAGE DEPTH READING: 7.3

TIME OF READINGS (GMT): 1537:40

PREDICTED TIDE CORRECTOR: -0.3

CORRECTED LEAST DEPTH: 7.0 ←

10202.3 0.0 0.0

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS:

READING ONE:

READING TWO:

READING THREE:

AVERAGE DEPTH READING:

TIME OF READINGS (GMT):

PREDICTED TIDE CORRECTOR:

CORRECTED LEAST DEPTH:

Section Four: Diver Report

Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.

DEPTH/TIME:

VISIBILITY:

CURRENT:

SEARCH PROCEDURE:
- ☐ VISUAL
- ☐ CIRCLE SEARCH
- ☐ JACKSTAY

APPROX. AREA COVERED:

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: Nov 2 / 306

PROJECT/SHEET: H10506

DIVERS: Gardner / Schattgen

GAGE OPERATOR: _____

VESNO: 770

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

AWOIS ITEM #: Rocks

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

Both Rocks fall within charted foul area Not Significant.

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 8162
READING ONE: 2.1
READING TWO: 2.1
READING THREE: 2.1

AVERAGE DEPTH READING: 2.1 m
TIME OF READINGS (GMT): 144336
PREDICTED TIDE CORRECTOR: -.03 m
CORRECTED LEAST DEPTH: 1.8 m

MEASUREMENT 2: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 8163
READING ONE: 2.4
READING TWO: 2.4
READING THREE: 2.4

AVERAGE DEPTH READING: 2.4 m
TIME OF READINGS (GMT): 144355
PREDICTED TIDE CORRECTOR: -.03 m
CORRECTED LEAST DEPTH: 2.1 m

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____
READING ONE: _____
READING TWO: _____
READING THREE: _____

AVERAGE DEPTH READING: _____
TIME OF READINGS (GMT): _____

8162 14 018:19:34.546 064:57:00.443 104 1.7 + -.3 + .4 + 0.0 - 0.0 = 1.8
N 8440.7 E 11987.0 SUBM ROCK LEADLINE DEPTH AT T OF T 2.1

8163 17 018:19:34.446 064:57:00.463 104 2.0 + -.3 + .4 + 0.0 - 0.0 = 2.1
N 8437.8 E 11986.4 SUBM ROCK LEADLINE DEPTH AT T OF T 2.4

Section Four:

☞ *Attach narrative t... orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____
VISIBILITY: _____
CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

NOAA Ship MT MITCHELL
Diver Least-Depth Investigations

Section One: Survey Information

DATE/DN: Nov 2 / 306

GAGE OPERATOR: _____

GAGE S/N: ☐ 0-21m S/N 245419
☐ 0-42m S/N 245418
☐ 0-70m S/N 8302079N

PROJECT/SHEET: H-10506

DIVERS: Goodwin / Schattgen

VESNO: 770

AWOIS ITEM #: Rock

Section Two: Pneumofathometer Calibration

☞ *Complete pneumofathometer leak check and leadline comparison as described on Pneumofathometer Calibration log. Attach completed log to this form.*

This Rocks falls out side of Foul area need to move Foul Area Limits

Section Three: Least Depth Determination

☞ *Lower pneumofathometer orifice to diver and await signal for measurement. Make three measurements, visually averaging any wave effect.*

MEASUREMENT 1: ☐ Pneumogage ☒ Leadline ☐ Depth Gage

FIX NUMBERS: 8164

READING ONE: 1.7

READING TWO: 1.7

READING THREE: 1.7

AVERAGE DEPTH READING: 1.7m

TIME OF READINGS (GMT): 150001

PREDICTED TIDE CORRECTOR: -0.3m

CORRECTED LEAST DEPTH: 1.4m

MEASUREMENT 2: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

MEASUREMENT 3: ☐ Pneumogage ☐ Leadline ☐ Depth Gage

FIX NUMBERS: _____

READING ONE: _____

READING TWO: _____

READING THREE: _____

AVERAGE DEPTH READING: _____

TIME OF READINGS (GMT): _____

PREDICTED TIDE CORRECTOR: _____

CORRECTED LEAST DEPTH: _____

Section Four: Diver Report

☞ *Attach narrative to back of report. Describe items found, including type, size, orientation, condition, vertical relief, bottom characteristics, pollution, etc.*

DEPTH/TIME: _____

VISIBILITY: _____

CURRENT: _____

SEARCH PROCEDURE: ☐ VISUAL ☐ CIRCLE SEARCH ☐ JACKSTAY

APPROX. AREA COVERED: _____

8164 20 018:19:39.230 064:56:57.143 104 1.3 + -.3 + .4 + 0.0 - 0.0 = 1.4
N 8584.9 E 12083.9 SWBM ROCK LEADLINE DEPTH AT 1 OF 1 1.7

22-740
224, 22
ANSWER → 22X3

VIRGIN ISLANDS PORT AUTHORITY

POST OFFICE BOX 2216

CHARLOTTE AMALIE, ST. THOMAS, VIRGIN ISLANDS, U.S.A. 00801

OFFICE OF THE MARINE MANAGER

910040

November 25, 1991

Director
Charting and Geodetic Services
N/CG22
National Ocean Services
NOAA
Rockville, Maryland 20852

Dear Sir/Madam:

I am writing regarding the updating of the 15th Edition of chart number 25649 dated October 6, 1990. Many inaccuracies noted on the previous edition of the chart (14th edition, May 3, 1986) were carried forward on the 1990 revision and pertinent new data was omitted.

I will cover some of our concerns and the more obvious errors. This letter should not be construed as a compilation of all discrepancies. Due to numerous changes, I would strongly recommend that a thorough and complete survey be conducted by the following coordinates. Lat 18°- 18.2"N Long 64°- 54'0" W, north and west to Lat. 18°- 20.8" N, Long. 64°- 59' 0" W.

Specific Concerns:

Charlotte Amalie Harbor

Approximately 17.5 acres of filled land has been added in the Long Bay area over four (4) years ago, thus changing the land mass dimensions of the area.

Platforms shown in anchorage "C" do not exist.

TELEPHONES: (809) 774-2250, 774-2333

CABLE ADDRESS: VIPORT

All privately maintained aids to navigation listed on the chart in and around anchorage "A" have been non-existent for over eight (8) years and should be discontinued.

The wreck shown slightly south west of anchorage "A-3" was removed many years ago.

The obstruction south west of anchorage "A-3" was located but never verified. This should be removed from the chart or verified and accurately recorded.

A one hundred and eighty yard dock extension has been added to the West Indain Company Ltd dock. Approximately three (3) years ago, a privately maintained yellow mooring buoy was established slightly south west of the dock extension.

Shoaling and shifting of the sand botton have been reported in many areas of the main harbor.

Mooring buoys in the vicinity of the marina, south of Long Bay, are non existent.

Do the submerged piles charted extending to the north from Careening Cove still exist.

Many more wreck sites now exists in shoal water and along the banks of St. Thomas, Hassel Island and Water Island since Hurricane Hugo in 1989. Some previously charted (prior to 1989) wrecks shown on the 1990 chart edition do not exist. Numerous changes in wreck configuration have taken place in the north of Hassel Island, Haulover Cut and Frenchtown area.

The Cowell Battery Signal station shown on the south end of Hassel Island has been inactive for well over fifteen (15) years. Because it is currently shown on the chart, it sometimes create confusion for ships, especially foreign naval vessels.

Crown Bay Area

The entire land configuration has changed from Little Krum Bay - North east to Crown Bay. Ship berths have been established. The pond area has been filled and a yacht marina built within a breakwater protected area.

A breakwater and marina have been established in the area south of the radio tower shown, south and west of Careen Hill, Crown Bay.

Significant negative depth changes have been reported in the Crown Bay area. In the interests of safety, since larger ships are attempting to use this area regularly, it is urgently requested that an accurate depth and obstruction information be obtained as expeditiously as possible.

Specific target areas should be included but not limited to;

a. Depths in and around the approaches and berths (old and new) in Crown Bay.

b. Depths and possible piling obstruction information is critical and needed and also is essential in the area, north of the existing Little Krum Bay dock and the newly established marina, (south side), not shown on the latest edition of the chart.

c. Does submerged piles still exist as shown (position approximately) in east Crown Bay? In the event they are in existence, then they should be shown accurately and we should be advised.

d. The approximate positions where a wreck is shown in West Gregerie Channel west of Caroline Point, Ruyther Bay, must be accurately recorded, for the safety of deep draft ships utilizing this channel.

A major ship wreck and numerous smaller wrecks, now exists in and around Reges Point and in the Krum Bay channel.

A privately maintained mooring buoy now exists at the entrance to Krum Bay.

A mooring buoy shown east of the Little Krum Bay piers is actually a thirty (30) foot diameter cement dolphin.

An aeronautical rotating becon has been established in the area and should be charted, since it could be used as a long range visual aid to navigation, during periods of darkne

The safety of a vessel approaching this area from sea, Savana Island passage via south westwards, or from the east around the Porpoise Rocks would be greatly enhanced by the proper charting of this aid.

As you have seen our concerns are significant since the Virgi Islands Port Authority is tasked with pilotage duty. It is imperative that we have updated and accurate chart information at all times. Our pilots are badgered by many ship masters about the lack of current data on the "new" 1990 edition of chart number 25649.

In the interest of safe marine commerce, I request that your office expeditiously undertake any and all actions that will provide us with corrected chart data, that we so urgently need to maintain a safe and efficient operation here in St. Thomas.

Your timely reply is anxiously awaited.

Sincerely,

Harry Magras
Marine Manager

mw

Attachment:

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: March 16, 1994

MARINE CENTER: Atlantic

HYDROGRAPHIC PROJECT: OPR-I173-MI

HYDROGRAPHIC SHEET: H-10506

LOCALITY: United States Virgin Islands, Caribbean Sea, Charlotte Amalie Harbor

TIME PERIOD: September 27 - November 11, 1993

TIDE STATION USED: 975-1639 Charlotte Amalie, V.I.
Lat. 18° 20.1'N Lon. 64° 55.2'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 5.16 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.8 ft.

REMARKS: RECOMMENDED ZONING

Times and heights are direct on Charlotte Amalie, V.I. (975-1639).

Note: Times are tabulated in Atlantic Standard Time.

CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10506

Name on Survey	A ON CHART NO. 25649	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
CARIBBEAN SEA			X							1
CAROLINE POINT	X		X							2
CAROL POINT	X		X							3
CROWN BAY	X		X							4
DRUIF BAY	X		X							5
DRUIF POINT	X		X							6
ELEPHANT BAY	X		X							7
FLAMINGO BAY	X		X							8
FLAMINGO POINT	X		X							9
KRUM BAY	X		X							10
LIMESTONE BAY	X		X							11
LINDBERGH BAY	X		X							12
LITTLE KRUM BAY	X		X							13
MOSQUITO POINT	X		X							14
PORPOISE ROCKS	X		X							15
PROVIDENCE POINT	X		X							16
RED POINT	X		X							17
REGIS POINT	X		X							18
RUYTER BAY	X		X							19
SANDY POINT	X		X		Approved:					20
SAINT THOMAS (isl)	X		X							21
SAINT THOMAS HARBOR (title)			X		Chief Geographer					22
VIRGIN ISLANDS (title)	X		X							23
WATER ISLAND	X		X		NOV 16 1995					24
WEST GREGERIE CHANNEL	X		X							25

NOAA FORM 76-155 SUPERSEDES C&GS 197

03/27/96

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H-10506

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	5393
NUMBER OF SOUNDINGS	32358

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	68	07/25/95
VERIFICATION OF FIELD DATA	495	12/11/95
QUALITY CONTROL CHECKS	0	
EVALUATION AND ANALYSIS	70	
FINAL INSPECTION	31	12/22/95
COMPILATION	124	03/27/96
TOTAL TIME	788	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 01/04/96

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H-10506 (1993)

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System (HPS)
QUICKSURF, version 5.1
AutoCAD, Release 12
NADCON, version 2.10
MicroStation, version 5.0

The smooth sheet was plotted using an ENCAD NovaJet III plotter.

H. CONTROL

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the Puerto Rico Datum.

To place this survey on the Puerto Rico Datum, move the projection lines 7.160 seconds (220.132 meters or 44.03 mm at the scale of the survey) south in latitude, and 1.473 seconds (43.253 meters or 8.65 mm at the scale of the survey) east in longitude.

J. SHORELINE

Shoreline originates with unreviewed digital shoreline manuscript DM-10199 dated, February, 1992.

L. JUNCTIONS

H-10505 (1993) to the east

A standard junction was effected between the present survey and H-10505 (1993).

There are no contemporary surveys to the south and west of the present survey. Present survey depths are in harmony with the charted hydrography to the south and west.

M. COMPARISON WITH PRIOR SURVEYS

Hydrographic

FE-195 (1964) 1:10,000

FE-279 (1985) 1: 5,000
H-8877 (1966) 1: 5,000
H-9271 (1972) 1:10,000
H-9272 (1972) 1:10,000
H-9273 (1973) 1:20,000

1. Prior survey FE-195 (1964) covers a small portion of the present survey in the vicinity of Latitude 18°20'05"N, Longitude 64°57'00"W, Crown Bay. The addition of Crown Bay Marina and the existing bulkhead is a major change in shoreline configuration in the common area. Prior survey depths show a general trend of being 1 to 12 feet (0^3 to 3^7 m) shoaler than present survey depths. These differences may be attributed to dredging subsequent to the prior survey.

2. Prior survey FE-279 (1985) covers a small portion of the north eastern portion of the present survey. Prior survey depths show a general trend of being 0 to 3 feet (0 to 1 m) shoaler than the present survey depths. In the vicinity of Latitude 18°20'00"N, Longitude 64°56'56"W, prior survey depths are 7 to 12 ft (2^1 to 3^7 m) shoaler than present survey depths. These differences may be attributed to dredging subsequent to the prior survey.

3. Prior survey H-8877 (1966) covers the northern half of the present survey. Prior survey depths show a general trend of being 1 to 2 feet (0^3 to 0^6 m) shoaler than present survey depths.

The following should be noted:

a) Automated Wreck and Obstruction Information System (AWOIS) Item #8568, a charted pier in ruins, in Latitude 18°20'05.64"N, Longitude 64°58'07.95"W originates with the prior survey. The pier in ruins were verified by the field unit. No change in charting status is recommended.

b) A charted pier in ruins, in Latitude 18°20'08.3"N, Longitude 64°58'04.8"W, originates with the prior survey as a pier. The charted pier in ruins was neither verified nor disproved by the present survey. No change in charting status is recommended.

c) A charted submerged pipeline, in Latitude 18°20'08.0"N, Longitude 64°58'07.5"W, originating with the prior survey was misidentified as pier ruins by the hydrographer. The submerged pipeline is considered disproved by the present survey. It is recommended that the submerged pipeline be removed from the chart.

d) A charted rock awash, in Latitude 18°18'55.0"N, Longitude 64°57'37.9"W, originates with the prior survey and is considered disproved by the present survey. It is recommended that the rock awash be deleted from the chart.

e) A charted 10-ft depth, in Latitude 18°19'04.6"N, Longitude 64°56'58.5"W, originates with the prior survey and is considered disproved by the present survey. Present survey depths in this area range from 16 to 27 feet (4^8 to 8^2 m). It is recommended that the 10-ft depth be deleted from the chart, and the area be charted as shown on the present survey.

f) Numerous charted features originating with the prior survey were verified by the field unit have been brought forward from the prior survey to supplement the present survey. No change in charting status is recommended.

4. Prior survey H-9271 (1972) covers the southern half of the present survey. Prior survey depths are generally 1 to 2 feet (0^3 to 0^6 m) shoaler than present survey depths.

5. Prior survey H-9272 (1972) covers the western edge of the present survey. Prior survey depths are generally 1 ft (0^3 m) shoaler than present survey depths.

6. Prior survey H-9273 (1973) covers a small area in the southwest corner of the present survey. Prior survey depths are generally 1 ft (0^3 m) shoaler than present survey depths.

The differences in depths between the above prior surveys and the present survey may be attributed to natural and cultural changes, dredging, and improved hydrographic surveying methods and equipment.

Except as noted above the present survey is adequate to supersede the prior surveys within the common area.

Wire Drag

H-4544b (1923-27)

Seven uncharted groundings originating with the prior survey fall within the present survey limits. These groundings are considered disproved by the present survey. No change in charting is recommended.

There are no conflicts between the prior survey effective clearance depths and present survey depths.

N. ITEM INVESTIGATIONS

The four rock piles discussed as item B-6 in section N., pages 45 and 46, of the Descriptive Report are shown on the latest edition of chart 25649 (17th Edition, Mar 4/95). Three of the charted rocks are charted in error.

The following is recommended:

Revise the charted dangerous submerged rocks with a depth of 44 feet, in Latitude 18°19'33.94"N, Longitude 64°57'15.37"W, to a 40 feet.

Revise the charted dangerous submerged rocks with a depth of 41 feet, in Latitude 18°19'35.19"N, Longitude 64°57'15.89"W, to a 45 feet.

Revise the charted dangerous submerged rocks with a depth of 54 feet, in Latitude 18°19'37.56"N, Longitude 64°57'15.82"W, to a 53 feet.

O. COMPARISON WITH CHART 25649 (16th Edition, May 1/93)

Hydrography

The charted hydrography originates with the previously discussed prior surveys and needs no further discussion. The hydrographer makes adequate chart comparisons in sections N. and O. of the Descriptive Report. The following should be noted:

1. A charted platform ruins, in Latitude 18°20'01.7"N, Longitude 64°58'09.5"W, is considered disproved by the present survey. It is recommended that the platform ruins be deleted from the chart.

2. The following uncharted dangerous submerged rocks were located by the field unit:

FEATURES (ft)	LATITUDE (N)	LONGITUDE (W)
22 *Rk*	18°18'24.58"	64°58'01.22"
6/7 *Rk*	18°18'40.81"	64°57'08.56"

6/1/96

It is recommended that the dangerous submerged rocks be charted as shown on the present survey.

3. A charted dangerous sunken wreck with a depth of 16 feet, in Latitude 18°19'50.2"N, Longitude 64°58'58.5"W was not discussed by the hydrographer. No change in charting is recommended.

The present survey is adequate to supersede the charted hydrography within the common area.

Dangers to Navigation

Nine Dangers to Navigation reports were submitted by the hydrographer to Commander (oan), Seventh Coast Guard District, Miami, Florida for inclusion in the local Notice to Mariners and to Marine Chart Division, N/CS3x1, Silver Spring, Maryland, Copies of the reports are appended to the Descriptive Report.

P. ADEQUACY OF SURVEY

This is an adequate hydrographic/side scan sonar survey; no additional work is recommended.

S. MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. The chart compilation was done using the present survey as it's primary source; however, subsequent information was provided to this office. This information is registered as Chart Letter 1514 of 1995 (CL-1514/95) and has been incorporated as part of the compiled data. A copy of the chart letter is attached to this report. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

MT MITCHELL Processing Team

Reginald L. Keene Sr.
Cartographic Technician
Verification of Field Data

Richard H. Whitfield

Richard H. Whitfield
Cartographer
Evaluation and Analysis

APPROVAL SHEET
H-10506

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the magnetic tape record for this survey. A final sounding printouts of the survey has been made. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Date: JAN 4, 1996

Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Date: January 4, 1996

Nicholas E. Perugini
Commander, NOAA
Chief, Atlantic Hydrographic Branch

****

Final Approval:

Approved: Date: 6-10-96

Andrew A. Armstrong, III
Captain, NOAA
Chief, Hydrographic Surveys Division

CL NTF(95)
10506

VIRGIN ISLANDS PORT AUTHORITY

POST OFFICE BOX 2216

CHARLOTTE AMALIE, ST. THOMAS, VIRGIN ISLANDS, U.S.A. 00803

OFFICE OF THE MARINE MANAGER

December 7, 1995

Commander Nicholas E. Perugini, NOAA
Chief, Atlantic Hydrographic Branch
Atlantic Marine Center, NOAA
439 West York Street
Norfolk, Virginia 23510-1114

Dear Commander Perugini:

At the recommendation of Captain David MacFarland, Marine Chart Division, we are submitting to you a list of items which are our greatest concerns on NOAA Chart number 25649, 17th edition. In this compilation we have included documentation on significant hazards or encumbrances that have been removed from navigatible waters.

We have divided the letter into four (4) sections, which detail items that have been removed, important corrections, hydrographic concerns, and new obstruction data. Where possible, all changes that are non-NOAA in origin, or where corrective action has taken place after the departure of Mt. Mitchell, documentation has taken place in the form of numbered attachments.

1. DELETIONS

First let me address the major harbor obstructions in St. Thomas that were noted by the NOAA ship Mt. Mitchell in May 1993. The more significant obstructions are detailed on **attachment number 1,** provided to us by NOAA's Captain David MacFarland of the Marine Chart Division.

Item A: Submerged cylinder - Item was floated to the surface with air bags, lifted from the water by crane, and trucked to the local dump in late 1993. We have been unsuccessfully, as of this writing, in obtaining the photos the salvage company is reported to have in their possession. The V.I. Port Authority records of the removal were apparently destroyed in Hurricane Marilyn. CONCUR. DELETE FROM CHART. SEE ALSO ITEM A12, PAGE 65 OF THE D.R. FOR H-10505

TELEPHONES: (809) 774-2250, 774-2333

CABLE ADDRESS: VIPORT

CL1514(95)

Also, next to the tank was a forty five foot (45') long, farrow cement, wrecked sailing vessel, sunk in 1989. This was removed in 1995 - Documentation is attached as a completed invoice with the stub of the payment check. This is included as **attachment number 2**. NOT CHARTED NO CHANGE IN CHARTING

Please remove these items from Chart #25649 at approximately Latitude 18° -20' 17.099" N Longitude 64° -56' 21.258" W.

Item B: No action taken.
Item C: No action taken. } SEE H-10505

Item D: Item was removed and trucked to the local dump. Verification is on **video tape number I** (enclosed). Please remove this item from Chart #25649 at Latitude 18° -19' 30.587" N Longitude 64° -55' 42.798" W. SEE H-10505

Item E: No action taken. SEE H-10505

Item F: Pipes were removed and trucked to the local dump. SEE H-10505 Verification is on **video tape number I** (enclosed). Please remove this item from Chart #25649 at Latitude 18° -19' 59.939" N Longitude 64° -56' 42.722" W.

Item G: This item was floated with air bags and towed to the Crown Bay Dock where it was lifted to shore and placed on a flat bed truck and transported to the local dump. Verification is on **video tapes I and II** (enclosed). Please remove this item from Chart #25649 at Latitude 18° -19' 55.753" N CONCUR. DELETE FROM Longitude 64° - 56' 53.849" W. CHART. ITEM B14, PAGE 54 (H-10506)

Item H1 through **H4**: No action taken. ITEM B6, PAGES 45-46 (H-10506)

Item I: No action taken.
Item J: No action taken.
Item K: No action taken. } SEE H-10505
Item L: No action taken.

Additionally, there are two obstructions showing on Chart 25649 that do not exists. I believe these facts were substantiated in Mt. Mitchell's report H-1505. They are: Delete obstruction "MAST PA" at approximate Latitude 18° -20' 00.9" N Longitude 64° -55' 38.9" W on Chart 25649 - This vessel was removed many years ago. Additionally, please delete "Obstruction PA" on Chart 25649 at approximate Latitude 18° -19' 58.8" N Longitude 64° -55' 51.5" W. This was reported as a lost anchor in the 1960's. The obstruction was never located or substantiated.

SEE H-10505

CL 1514(95)

2. ITEMS OF IMPORTANCE THAT ARE NON OBSTRUCTIVE IN NATURE

I. DEPTHS:

As a result of Hurricane Marilyn on September 15, 1995 the Army Corps of Engineers, immediately after the storm, caused an extensive hydrographic survey to be conducted of all three (3) ship channels depicted on Chart 25649. This was undertaken in order that Military Sealift Command ships could commence landing troops and equipment for the relief effort. New obstructions, hydrographic contour change data, and obstruction removal data were recorded. The results are on file at the Jacksonville Florida Engineering District and are entitled: "St. Thomas Harbor Post - Hurricane Survey - Hurricane Marilyn Recovery" Plot File: "survey.aml." Plot device: "calcomp 5436IJ," and Plot File: "sunk.aml."

This material may serve as a valuable adjunct to the comprehensive data that Mt. Mitchell compiled in 1993.

II. PRIVATE AIDS TO NAVIGATION: SEE H-10505

Please delete two charted mooring buoys in Long Bay and six charted yellow special purpose nun buoys delineating small boat anchorages "E" & "C". These buoys were discontinued in the late 1980's and formal permission for discontinuance by the Coast Guard was recently granted. See **attachment number 3**.

Specifically, please delete buoy Y SP "B" at approximate Latitude 18° -20' 16" N Longitude 64° -55' 51" W through and including Y SP "G" at Latitude 18° -20' 06" N Longitude 64° -55' 19.5 W on chart 25649 - (6 total).

Please delete two mooring buoy symbols at approximately Latitude 18° -20' 05" N Longitude 64° -55' 19" W and Latitude 18° -20' 09" N Longitude 64° -55' 21" W on Chart 25649 - (2 total).

III. SHORELINE AND LANDMARK CONCERNS: SEE H-10505

Of prime importance to us is the charting of two significant landmarks. These landmarks are of major importance in positioning ships, and specifically setting their anchors in "Alpha" anchorage. With the increased size of ships now entering St. Thomas the parameters for anchoring vessels must be tightened considerably. With the capability to anchor a vessel with finite precision in "Alpha" anchorage *the safe movement* of inbound and in an emergency the movement of an outbound ship will be greatly enhanced.

CL 1514(95)

Currently, we use a visual range that can only be approximated on the chart. Vessel Masters are uncomfortable at times when they cannot locate the "marks" on the chart. They believe they cannot accurately ascertain their anchored position and calculate cable length and resultant swing radius. With a gently sloping shoreline radar ranging is of limited use even if tangents are used. Mt. Mitchell was sympathetic to our needs and the increasing demands placed upon us for precision positioning. They were kind enough to ascertain differential GPS positions for us of the "range" we currently use. (see page 16, NOAA Ship Mt. Mitchell Survey H-10505).

The lower range object is a prominent point on the roof of St. Thomas Hospital. The hospital is located in an area of the chart now occupied by a compass rose. The compass rose should be moved to the northwest while still maintaining the height contours of BLUEBEARD HILL and its conspicuous landmarks. Also, the "Square Tower" and the eight hundred and ten foot (810ft.) contour at LOUISENHOJ must be maintained. This will allow the proper charting of the hospital while maintaining two other significant landmarks.

The back portion of the range (not specifically mentioned in MT. Mitchell's report) is the prominent point on the nine hundred and seventy-seven foot (977ft.) WINTBERG PEAK.

The coordinates of the two points we strongly desire to have charted are those supplied to us by the Mt. Mitchell. They are:

Hospital - prominent point (approximately center of building):
Latitude 18° -20' 25.9999" N Longitude 64° -54' 52.4348" W.

Wintberg Peak landmark; Latitude 18° -20' 42.9395" N
Longitude 64° -54' 24.0637" W

We are deeply troubled and hope that the errors noted in the shoreline configuration, and the discrepancies noted in the positioning of charted landmarks will be addressed and corrected in the 18th edition.

In 1993, a small quay located at the northeasterly end of the West Indian Dock was removed. This is significant in that it allows more usable space at this dock. We have included documentation of this removal as **attachment number 4.** SEE H-10505

3. HYDROGRAPHIC CONCERNS

We trust that all sounding and hydrographic data obtained by Mt. Mitchell will be included in the 18th edition of Chart 25649.

Of critical importance to us are items **Z1** through **Z12** as depicted on **attachment number 5**. The source of this data was the preliminary sounding sheets of Mt. Mitchell that were viewed by us during the survey.

CL 1514(95)

* **Z1** - This item depicts the new and significant 30 foot area that is still yet to be officially reported and charted.

* **Z2** - An area of significant shoaling noted by NOAA that should have been incorporated on the latest chart to facilitate safe navigation.

* **Z3** - NOAA pinpointed this "position approx." wreck. It is reported to be 120 meters southeast of its charted position. Also, it is in 44 feet of water, not 35. This should be charted accurately.

* **Z4** - The significant shoaling along the face of the West Indian Company dock should be shown. We are constantly under pressure to berth vessels of drafts that are not compatible with actual depths as opposed to the charted depths. This is a serious legal concern for Pilots.

* **Z5** - This small quay has been removed. See **attachment number 4**. (redundant item).

* **Z6** - The chart reports the depth in this area to be 27 feet. This is dramatically incorrect since the preliminary survey depths were recorded at 18 feet or less.

* **Z7** - New shoaling in our maneuvering area.

* **Z8** - An area of altered depths where smaller ships are sometimes placed if larger ships are in the deep water portion of "Alpha" anchorage.

* **Z9** - Important shoaling or an obstruction of 10 feet in an area of reported depths of 16 to 20 feet. This area is an area we normally anchor large yachts or small freight vessels with drafts of 8 to 15 feet.

* **Z10** - An area of shallower depths where smaller inter island cargo vessels are assigned to berth.

Z11 - An important area of considerable depth change. This section presents a reverse problem for the Pilots because most of the area is somewhat deeper than what is charted. While that may not appear to be a problem, in actually it presents a unique problem. If we convince a Captain that it is safe to berth in an area that is charted to a depth much less than his vessel's draft, it usually will work out all right. But we have experienced situations where a small vessel has accidentally sunk in a ship berth during the night with no report to the Port Authority. If this were the case in this berth, after assuring the Captain he has adequate depth of water, we would be totally responsible and libel. If we adhere to the charted depths, then marine commerce is needlessly curtailed. In fact this berth is specialized; designed for small tank ships and suction discharge bulk cement vessels that cannot discharge elsewhere. DEPTHS ARE 23-33 FT ON H-10506

Z12 - This is an area of significantly altered depth that heavily impacts our operations in Crown Bay. Both naval and commercial traffic are affected. The new survey depth restricts the draft of vessels that would normally leave the port via East Gregerie Channel. DEPTHS 29-36 FT ON H-10506

* NOTE: Z1 TO Z10: REFER TO H-10505

CL 1514(95)

Without the proper depth recorded on the chart, it is difficult at times to convince a Captain that he may not use the East channel. Not using the East channel requires the vessel to turn at the berth and exit via West Gregerie channel. This maneuver is far from routine with ships over 450 feet. There are a large amount of small craft that anchor or moor in the area, a strong current is usually present also.

4. ADDITIONAL SIGNIFICANT OBSTRUCTION

In Mt. Mitchell's "Descriptive Report To Accompany Survey H-10506 OPR-I173-MI-93", **items B17** and **B23** have become recently significant.

B23 was never moved as planned. B23 broke free and sank in West Gregerie Channel as a result of hurricane Marilyn. This obstruction, because of its location and size, is considered extremely serious. Pending federal litigation and hazard mitigation proceedings with West Indian Transport appear to be slowing the immediate removal of this obstruction. The Army Corps of Engineers have assured us that this submerged wreck will be removed as a priority. As of this date the obstruction remains - see U.S. Coast Guard, Seventh District, Local Notice To Mariners #43-95 for details and placement of "temporary" lighted Aid to Navigation "WR3A." TWO SEPARATE SECTIONS OF WK "WRECK" CHART AS SHOWN ON THE PRESENT SURVEY UNLESS OTHER INFORMATION INDICATES OTHERWISE

We sincerely hope that the information contained in this document, along with Mt. Mitchell survey data (updated by the recent Army Corps of Engineer's survey), will produce an 18th edition of chart number 25649 that will be both timely, and of unparalleled accuracy.

Sincerely,

W. Donald Jeffrey

William Donald Jeffrey, Senior Pilot
VIRGIN ISLANDS PORT AUTHORITY

Attest:

Maria Walters

Maria D. Walters, Manager
Marine Division
VIRGIN ISLANDS PORT AUTHORITY

pc: Executive Director
Director of Engineering

WDJ/ki

ATTACHMENT 1

CHARLOTTE AMALIE HARBOR OBSTRUCTIONS
LOCATED BY NOAA S. MT MITCHELL: MAY 1993

CHARTLET CODE	LOCATION OF OBSTRUCTION	DESCRIPTION OF OBSTRUCTION	LEAST DEPTH OF OBSTRUCTION	PREVIOUSLY CHARTED DEPTH (16th Ed., 25649)
* A	18° 20' 17.099" N 64° 56' 21.258" W	Submerged cylindrical tank, 35' by 6'	11.84 feet	15 feet
* B	18° 19' 59.929" N 64° 56' 41.353" W	Mooring anchor with 11' square base, tapering to 6' square top. Rises 3.4' above the sea floor.	30.1 feet	32 feet
* C	18° 20' 00.851" N 64° 55' 58.287" W	Wreck, metal hull, length 32'. Rises 5' above the sea floor.	32.15 feet	36 feet
* D	18° 19' 30.587" N 64° 55' 42.798" W	Fiberglass bow, starboard side partially buried in sand, length 16'. Rises 6' above the sea floor.	32.4 feet	34 feet
* E	18° 19' 47.036" N 64° 56' 28.460" W	Two concrete blocks side by side, length of obstruction 8.3 '. Rises 3.8' above the sea floor.	39 feet	41 feet
* F	18° 19' 59.939" N 64° 56' 42.722" W	Two pipes, one lying across the other and rising 3.3 feet above the sea floor.	26.9 feet	33 feet
G ITEM B14	18° 19' 55.753" N 64° 56' 53.849" W	Large spherical boulder, diameter 4.3'.	29.8 feet	33 feet

* SEE H-10505

CL 1514(95)

H1	18° 19' 33.984" N 64° 57' 15.547" W	At each position, a large pile of small rocks. Each pile is about 16' long and extends about 10' above the sea floor.	43.96 feet	51 to 59 feet
H2	18° 19' 34.699" N 64° 57' 15.748" W		42.97 feet	
H3	18° 19' 35.213" N 64° 57' 16.003" W		41.0 feet	
H4	18° 19' 37.562" N 64° 57' 15.816" W		54.46 feet	
* I	18° 19' 46.956" N 64° 56' 04.803" W	Fiberglass hull, length 35', beam 11.7'.	0.9 feet	6 feet
* J	18° 19' 48.557" N 64° 56' 05.083" W	Metal conning tower, 8' long, one leg extending more than 3.3' off the sea floor.	5.9 feet	6 feet
*K	18° 19' 51.744" N 64° 56' 01.734" W	Remains of wooden sailboat, length 42', beam 12'.	18.3 feet	between 18- and 30-foot contours
*L	18° 19' 52.427" N 64° 56' 01.261" W	Remains of fiberglass sailboat, stern section only, 16' long, 9.1' wide.	26.2 feet	30 feet

* SEE H-10505

CL1514(95)

[redacted]

IMMEL'S MARINE, INC.
P.O. BOX 878
ST. THOMAS, U.S.V.I. 00804
(809) 774-3541

STATEMENT

DATE: Aug. 16, 1995
NUMBER: 9233

ATTACHMENT 2

V.I. Port Authority
Marine Manager
P.O. Box 2216
St. Thomas, VI 00803

TERMS:

PLEASE DETACH AND RETURN WITH YOUR REMITTANCE $ _____

DATE	CHARGES AND CREDITS	BALANCE
	BALANCE FORWARD	
	Services rendered August 15, 1995 Removal of the sunken sailing vessel laying perpendicular to the bulkhead adjacent to the St. Thomas seaplane ramp.	15,800.00

VIRGIN ISLANDS PORT AUTHORITY

403

OUR REF. NUMBER	YOUR INVOICE NUMBER	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT TAKEN	NET CHECK AM
SM3174	9233	08/16/95	15800.00	15800.00	0.00	15800.0

Certified Copy
Dana Waites
Marine Manager

CL1514(95)

epartment
ansportation
ed States
st Guard

Commander
Seventh Coast Guard District

Brickell Plaza Federal Bldg.
909 S.E. First Avenue
Miami, FL 33131
Staff Symbol: (oan)
Ph: (305)536-5621

ATTACHMENT 3.

16518/109
Serial: 0289

03 APR 1995

Ms. Maria Walters
Virgin Islands Port Authority
Marine Division
P.O. Box 302216
St. Thomas, VI 00803

Dear Ms. Walters:

This letter authorizes the discontinuance of St. Thomas Harbor Area Boundary Buoys B, C, D, E, F, and G, VISS Channel Buoys 1S, 2S, and VISS Channel Exclusion Buoy, and Cruz Bay Buoy 4, effective immediately.

Please remove the private aids by May 1, 1995. When you have done so, please contact Lieutenant (Junior Grade) D. Marston at (305) 536-5621.

Sincerely,

B. W. HADLER
Captain, U.S. Coast Guard
Chief, Aids to Navigation and
Waterways Management Branch
Seventh Coast Guard District
By direction of the District Commander

Copy: Commander, Coast Guard Greater Antilles Section

Notification Completed 5/18/95 11:55 wg
Ht out to lunch - dyfo & P.O. on duty.

CL1514(95)

ATTACHMENT 4

The West Indian Company Limited

DOCK OPERATIONS DEPARTMENT

P.O. Box 7660
Charlotte Amalie
St. Thomas
U.S. Virgin Islands 00801
FAX: (809) 775-4008
Telex: 3472313
Telephone: (809) 774-1780

November 24th, 1995

Captain Donald Jeffrey
Harbor Pilot
Virgin Islands Port Authority
St. Thomas, USVI 00801

Dear Captain Jeffrey;

The small cargo dock projecting into WICO berth four was deemed unnecessary by WICO in 1993. During October of 1993 the dock was removed.

On behalf of The West Indian Company Limited, I would appreciate the removal of this pier on the current chart and any future publications.

Regards,
THE WEST INDIAN COMPANY LIMITED

Mike McFadden
Director of Operations

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Norfolk, Virginia 23510-1114

March 26, 1996

MEMORANDUM FOR: Captain Andrew A. Armstrong, NOAA
Chief, Hydrographic Surveys Division

FROM: Commander Nicholas E. Perugini, NOAA
Chief, Atlantic Hydrographic Branch

SUBJECT: Compilation of chart 25649, U.S. Virgin Islands
Hydrographic Surveys H-10505, H-10506

This report is presented to describe compilation work performed by the Atlantic Hydrographic Branch (AHB) on U.S. Virgin Islands Chart 25649. Two H-Drawings were constructed to reflect data from MT MITCHELL surveys H-10505 and H-10506. Since the time that these surveys were conducted in 1993, AHB received supplemental information that subsequently affected chart compilation. This supplemental information is explained in detail in this report and is reflected on the accompanying H-Drawings.

Captain Jeffrey, U.S. Virgin Islands Port Authority, Senior Pilot
During the compilation process, AHB maintained communication with Captain William Donald Jeffrey, U.S. Virgin Island Pilot. Captain Jeffrey provided AHB with written correspondence and video information regarding changes to the survey area after the departure of the MT MITCHELL. The initial correspondence by Captain Jeffrey provided sufficient documentation to delete many of the features that are found on the MT MITCHELL survey. This letter was registered with Marine Chart Division as Chart Letter 1514/95. Written correspondence to and from Captain Jeffrey are appended to this report.

During the compilation process, Captain Jeffrey was furnished preliminary copies of the proposed chart compilation. He made many constructive suggestions about how to improve the preliminary compilation. AHB incorporated these suggestions into the final product. **If subsequent changes are made to AHB compilation, I would strongly recommend that a preliminary copy of the chart be forwarded to Captain Jeffrey for his review.**

SHORELINE AND LANDMARKS
AHB compiled hydrographic data seaward of the high water line. It was agreed that MCD cartographers would compile the most recent shoreline data collected and compiled by NGS Photogrammetry Branch, Coastal Surveys Unit. Photogrammetric

data acquisition for project OPR-I173-MI-93 was done concurrently with the MT MITCHELL's hydrographic survey work. This most recent survey is displayed on both smooth sheets. However, it is not compiled on H-Drawings for H-10505 and H-10506.

In numerous conversations, Captain Jeffrey repeatedly emphasized the problems that many large cruise ships were having with obtaining accurate positions when using radar ranges and lines of position to charted landmarks. In particular, Captain Jeffrey noted specific problems in determining good positions in the vicinity of the West Indian Company Dock. After making a cursory comparison between the currently charted shoreline and the new shoreline, there does appear to be some discrepancies in the vicinity of the West Indian Dock.

In addition, Captain Jeffrey was insistent that several new important landmarks be added to the chart. MT MITCHELL and NGS's Coastal Survey Unit worked closely with Captain Jeffrey to ensure that most of the currently charted and fixed aids to navigation be located to third order standards. It is recommended that special attention be paid to the recommendations made on the attached Virgin Islands Landmark Review. Updated positions for landmarks were extracted from the "Coastal Surveys Unit, Horizontal Control Report, Project OPR-I173-MI-93, Saint Thomas Harbor." Recommendations concerning new landmarks were compiled from correspondence between Captain Jeffrey and AHB. Positions should be extracted from the Coastal Surveys Unit Report for chart compilation purposes.

Captain Jeffrey noted that topographic contours are valuable features on this chart and he recommends that they be retained on the next edition.

CORPS OF ENGINEERS CONTRACT SURVEY

Personnel from Marine Chart Division's Source Data Unit provided AHB with digital data for 13 blueprint survey sheets. These data were collected by a Corps of Engineers contractor in September, 1995. The surveys were conducted after Hurricane Marilyn passed through the Virgin Islands and caused considerable damage. No report was supplied with this information, therefore, an evaluation could not be made as to the quality of the data. Blueprints from these data were registered with MCD as BP # 157065 through 157077.

On BP # 157067, an uncharted wreck was noted in West Gregerie Channel. This wreck has been temporarily buoyed by the Coast Guard. AHB personnel contacted the Jacksonville Army Corps of Engineers concerning this wreck. They informed AHB that the wreck was surveyed thoroughly by a shallow water multibeam system and positioned by DGPS. The precise position and least depth of the wreck follow:

18° 19' 26.065" W 64° 57' 31.697" W	15.7 ft.

The wreck is portrayed on the H-Drawing as a wreck with a depth of 15 feet. Unless further information is heard concerning this wreck, it is recommended that it be charted.

On March 26, 1996, AHB personnel contacted Mr. Fran Woodward, Jacksonville Corps of Engineers concerning the disposition of this wreck. Mr Woodward stated that a contract was being let within two weeks for the wreck to be removed. **It is recommended that Mr. Woodward be contacted concerning the wreck's status before the chart goes to final print.** His telephone number is (904) 232 1132.

MISCELLANEOUS ISSUES

- In a telephone conversation, Captain Jeffrey noted that the Airport runway is completely mischarted. It is recommended that this situation be reviewed during shoreline compilation.

- The G "WR1" buoy is charted marking a wreck in the following position:

18° 18 38.1 N
64° 56 04.2 W

This position of the wreck is approximately 200 meters NW of the charted position of the buoy. AHB personnel discussed this discrepancy with the St Thomas Coast Guard on March 26, 1996. They intend to dive on the wreck, and relocate the buoy. It is recommended that this situation be monitored closely before chart printing.

RECOMMENDATION

Captain Jeffrey is very open to reviewing the preliminary chart before it goes to final print. AHB has experienced a very quick turnaround time in receiving comments from Captain Jeffrey. It is strongly recommended that Captain Jeffrey be asked to review the chart before it goes to final print.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Norfolk, Virginia 23510-1114

March 27, 1996

MEMORANDUM FOR: The Record

FROM: Commander Nicholas E. Perugini, NOAA
Chief, Atlantic Hydrographic Branch

SUBJECT: Comments on USVI CL 1514/95 in Reference to Compilation of Chart 25649

The following information addresses specific charting recommendations made by Captain William Donald Jeffrey, Senior Pilot, U.S. Virgin Island Port Authority. In a letter to CDR Perugini dated December 7, 1995, Captain Jeffrey provided information that was used during chart compilation to supplement, and in some cases, supersede information that was shown on the 1993 MT MITCHELL surveys (H-10505 and H-10506). Items in this report reference specific items that were noted in Captain Jeffrey's original letter. Captain Jeffrey's letter was registered with Marine Chart Division as CL 1514/95

The following comments were compiled by AHB cartographer Rick Whitfield, who performed compilation for the entire chart.

Deletions:
Item A - The cartographer concurs that the submerged cylinder should be removed from the chart. The other item mentioned is a forty five foot wrecked sailing vessel. This wreck does not appear on the chart. No change in charting is recommended.

Items B and C - Items to be retained on the chart.

Item D - The cartographer concurs and agrees that this should be deleted from the chart.

Item E - Item to be retained on the chart.

Items F and G - The cartographer concurs and agrees that these should be deleted from the chart.

Items H1 through H4, I, J - Items to be retained on the chart with updated positions.

Items K and L - Items to be charted with updated positions and depths, with additional revised obstructions and depths.

Additional items - Two obstructions. The cartographer concurs and agrees that these items should be deleted from the chart.

Depths:
Army Corps of Engineers data is routinely incorporated into NOAA nautical products. The information to which you refer should be no exception.

Private Aids to Navigation:
Cartographer concurs and agrees that these aids should be deleted from the chart.

Shoreline and Landmarks:
The cartographer concurs that the St. Thomas Hospital and the Wintberg Peak Flagpole should be included on the chart. The positions will be those obtained by MT. MITCHELL personnel.

Hydrographic Concerns:
Item Z1 - The cartographer concurs as hydrographic survey H-10505 depicts the discussed area of 30 foot depths.

Item Z2 - The cartographer concurs as hydrographic survey H-10505 shows the shoaling you reference in your letter.

Item Z3 - The cartographer concurs as hydrographic survey H-10505 depicts the wreck **northwest** of the currently charted position. The object lies in 60 feet of water. The charted position will be updated.

Item Z4 - The cartographer concurs. Hydrographic survey H-10505 data will be used in this area.

Item Z5 - The cartographer concurs with the removal of the small quay.

Item Z6, Z7, Z8 - This chart area will have soundings updated from the latest hydrographic survey.

Item Z9 - This chart area will have soundings updated from the latest hydrographic survey. No shoaling was indicated.

Item Z10 - This chart area will have soundings updated from the latest hydrographic survey.

Item Z11 - This chart area will have soundings updated from the latest hydrographic survey.

Additional Significant Obstructions: ~~#157076~~ #157067
B17 and B23 - Information from COE blueprint ~~#157076~~, already registered with MCD, shows the position if the wreck. This wreck is scheduled to be removed, however, it is shown on the current H-drawing.

Virgin Islands Landmark Review - Chart 25649

Most charted landmarks and fixed aids to navigation were located to third order standards during the MT MITCHELL survey. This report summarizes the recommended updates to position and description of these features. This information has been compiled from the following sources:

- MT MITCHELL Descriptive Report , H-10505, H-10506, OPR-I173-MI-93, form 76-40
- NGS Coastal Survey Unit Report for Project OPR-I173- MI-93
- Correspondence from Captain Jeffrey, Senior Pilot, VI Port Authority

The positions mentioned below are for reference purposes only. The precise positions should be obtained from the appropriate source report. Special attention should be paid to those items marked with an asterisk (*). These are changes requested by Captain Jeffrey.

* Items mentioned in CL1514/95 (Capt. Jeffrey, Senior Pilot, VI Port Authority)

Section 1 - Updated Landmark and Fixed Aids to Navigation Positions
The following landmarks and fixed aids to navigation are currently charted. Their precise positions should be updated.

Chart Name	Description	Lat (N), Long (W)	Comments
Range Light	St Thomas Harbor Rear Range Light	18/20/40.41418, 64/56/00.56456	Range - 344° 10', 164° 10'
Range Light	St Thomas Harbor Front Range Light	18/20/36.79384, 64/55/59.48988	
Tower	Careen Hill WSTA Radio Tower	18/20/04.17699, 64/56/38.55181	
Light	West Gregerie Channel Light #6	18/19/51.74987, 64/56/52.10693	
Tower	Water Island Box Tower	18/19/11.17103, 64/57/11.99313	
Tower	Nisky Mission ABC NBC Tower	18/20/03.41025, 64/57/16.04152	
Tower	Hawk Hill MicroTower Strobe	18/21/11.00907, 64/58/32.85438	

Light	St. Thomas Airport Beacon 18/19/38.85587, 64/57/50.43670

Section 2 - Updated Landmark Names and Positions. The following charted landmarks were precisely located. It is recommended that their charted names be changed in accordance with Captain Jeffrey's recommendations.

Current Charted name	Recommened Chart Name	Description Lat (N) Long (W)
Tower	Flagpole	Bluebeard Castle Flagpole* 18/20/25.09700, 64/55/26.67922
Tower	Flagpole	Blackbeard Castle Flagpole 18/20/37.85066, 64/55/46.55832
Signal Station	Mast	Cowell Battery Signal Mast* 18/19/32.41747, 64/55/57.45288 Captain Jeffrey notes that foreign ships mistakenly try to signal the "signal station."
W Bn	Sq. Dayshape	Rupert Rock Daybeacon 18/19/41.34717, 64/55/35.85177

Section 3 - New Landmark Names and Positions

Recommended Name	Description Lat (N), Long(W)	Comments
Tower	Signal Hill Cellular One Tower 18/21/16.03282, 64/56/41.36858	
Flagpole	Loiusenhoj Flagpole* 18/21/03.73180, 64/55/29.01494	Captain Jeffrey Recommendation Chart in lieu of "square tower"
Tower	Mafolie Micro Tower 18/21/05.44734, 64/55/41.08882	
Tower	Flag Hill Radio Tower 18/19/47.55129, 64/54/39.53587	

Hospital Ventilator	St. Thomas Hospital Ventilator* 18/20/25.99994, 64/54/52.43477	Captain Jeffrey Recommendation
Flagpole	Wintenberg Peak Flagpole* 18/20/42.93952,64/54/24.06367	Captain Jeffrey Recommendation
Light	West Indian Company Pier Light 18/19/49.81481,64/55/34.14858	

Section 4 - Landmark Names and Positions recommended for deletion

Square Tower	Delete Louisenhoj Square Tower 18/21.14,64/55.46	Delete

Section 5 - Other Features

CL1514/95 specifically requests that the elevation contours be maintained for Bluebeard Hill and the 810 foot contour for Wintberg Peak.

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10506

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
25649	9/5/96	K.K. Whitfield	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. SHORELINE NOT APPLIED
25641	9/18/96	Roy Johnson	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 33 Applied Through 25649
25640	9/25/96	Roy Johnson	
			Full ~~Part Before~~ After Marine Center Approval Signed Via
~~25650~~			Drawing No. ~~BP158310~~
25650	9/30/96	Roy Johnson	Full Part Before After Marine Center Approval Signed Via
			Drawing No. Applied through 25641
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.