H-10536

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Side Scan Sonar

Field No. MI-10-2-94

Registry No. H-10536

LOCALITY

State Florida

General Locality Tampa Bay Entrance

Sublocality Egmont Channel

19 94

CHIEF OF PARTY
CAPT N.A. Prahl

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DATE April 17, 1996

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-10536

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-10-2-94

State: Florida

General locality: ~~Gulf of Mexico~~ TAMPA BAY ENTRANCE

Locality: ~~Tampa Bay, FL~~ EGMONT CHANNEL

Scale: 1:10,000 Date of survey: May 03-June 06, 1994

Instructions dated: March 8, 1994 Project No.: OPR-J343-MI-94

Vessel: NOAA Ship MT MITCHELL

Chief of party: CAPT Nicholas A. Prahl

Surveyed by: J.C. Gardner, J.A. Ferguson, M.P.M. Soracco, J.D. Swallow, S.R. Williams, E.J. Van Den Ameele, J.J. Mann, S.A. Shaulis, U.L. Gardner, P.G. Lewit, M.E. Ahern, M.J. Annis, M.T. Lathrop, L.A. Butler

Soundings taken by echo sounder, hand lead, pole: DSF-6000N

Graphic record scaled by: MT MITCHELL survey personnel

Graphic record checked by: MT MITCHELL survey personnel

ENCAD NOVAJET III (AHB)

Protracted by: N/A Automated plot by: Zeta 936 Plotter

Verification by: ATLANTIC HYDROGRAPHIC BRANCH PERSONNEL

Soundings in ~~fathoms feet at MLW~~ MLLW: ~~meters~~ feet

REMARKS: Basic Hydrographic Survey including AWOIS #8792

Time zones used: 0 (UTC) for data collection, 0 (UTC) for tidal data

200% side scan sonar coverage of navigable areas

NOTES IN THE ORIGINAL DESCRIPTIVE REPORT WERE MADE IN RED DURING OFFICE PROCESSING

Surf/Awois 4/11/96 MCR

APR 17 1996 SC

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

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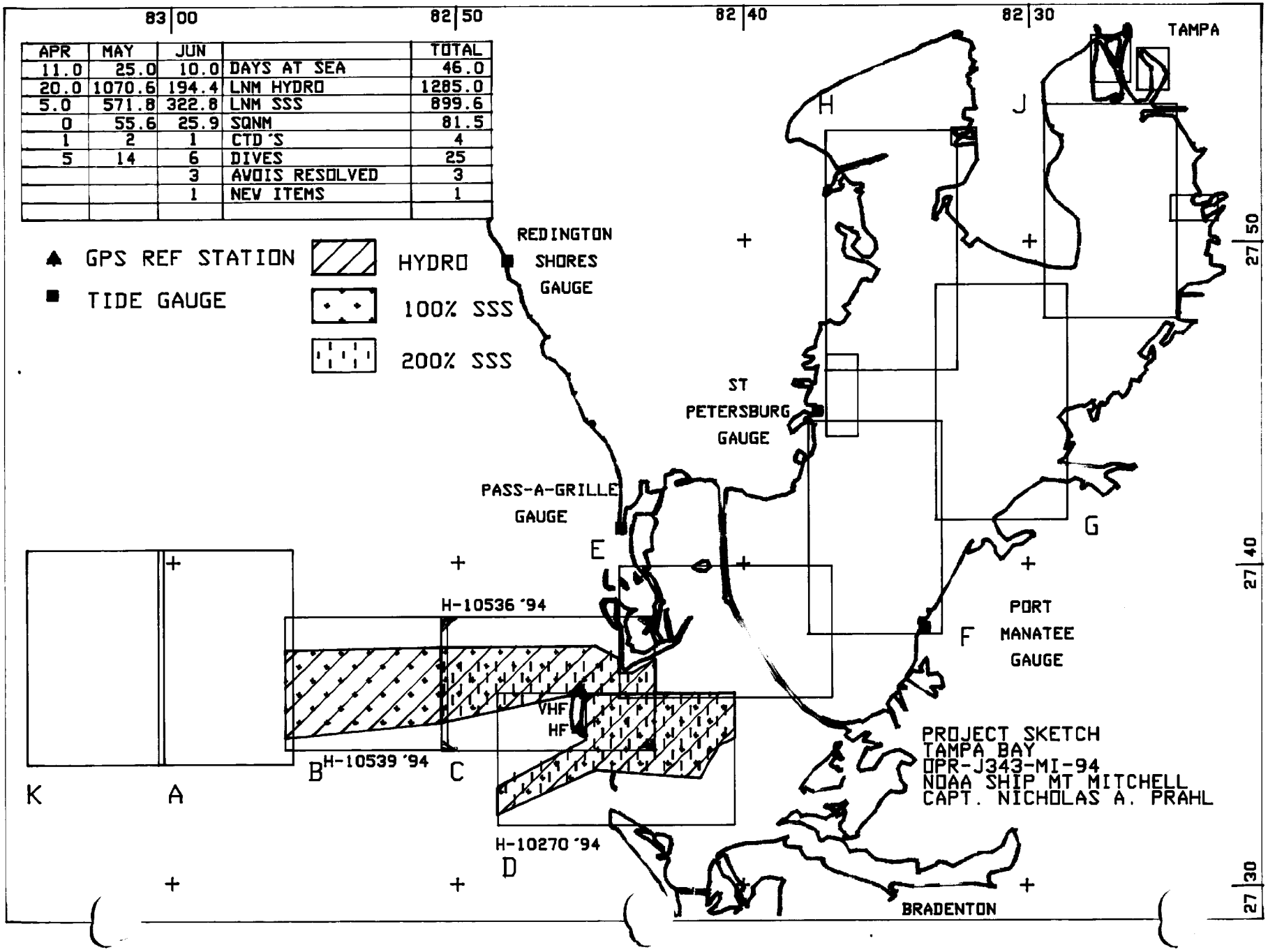

83 00
82 50
82 40
82 30
27 50
27 40
27 30
APR | MAY | JUN | | TOTAL
11.0 | 25.0 | 10.0 | DAYS AT SEA | 46.0
20.0 | 1070.6 | 194.4 | LNM HYDRO | 1285.0
5.0 | 571.8 | 322.8 | LNM SSS | 899.6
0 | 55.6 | 25.9 | SQNM | 81.5
1 | 2 | 1 | CTD'S | 4
5 | 14 | 6 | DIVES | 25
 | | 3 | AVOIS RESOLVED | 3
 | | 1 | NEW ITEMS | 1
GPS REF STATION
TIDE GAUGE
HYDRO
100% SSS
200% SSS
REDINGTON SHORES GAUGE
ST PETERSBURG GAUGE
PASS-A-GRILLE GAUGE
PORT MANATEE GAUGE
TAMPA
BRADENTON
H-10536 '94
H-10539 '94
H-10270 '94
VHF
HF
A
B
C
D
E
F
G
H
J
K
PROJECT SKETCH
TAMPA BAY
OPR-J343-MI-94
NOAA SHIP MT MITCHELL
CAPT. NICHOLAS A. PRAHL

Table of Contents

* FILED WITH THE ORIGINAL FIELD RECORDS

A. PROJECT

A.1 This survey was conducted in accordance with Project Instructions OPR-J343-MI-94, Approaches to Tampa Bay, Florida.

A.2 The original date of the instructions is March 08, 1994.

A.3 There were no changes made to the project instructions.

A.4 This sheet was designated by the project instructions as "Tampa Bay Sheet C"

A.5 Project OPR-J343-MI-94 is being conducted to accomplish a navigable area hydrographic survey, and to complete 200% side scan sonar coverage of the safety fairway and fairway anchorages at the approaches to Tampa Bay, Florida, and in waters adjacent to dredged channels within Tampa Bay.

B. AREA SURVEYED

B.1 The H-10536 survey area encompasses a portion of Egmont Channel and the safety fairway from Buoy's eleven and twelve Eastward to Buoy's twenty-one and twenty-two. Existing depths are between 0 and 28.5 meters. Survey limits were determined by shoal areas or the safety fairway boundary to the North, and extended South to include the limits of the discontinued spoil area. One AWOIS Item is included on this sheet. The frequent traffic in the area includes various deep draft vessels, barges, tugs, fishing boats, and pleasure craft.

B.2 The survey sheet is rectangular and delineated to the north and south by latitudes 027/38.4 N and 027/34.2 N respectively, and to the east and west by longitudes 082/43.1 W and 082/50.6 W, respectively.

The primary requirement on this survey sheet was basic hydrography. Two hundred percent side scan sonar coverage was conducted in Egmont Channel, and as far North and south of the channel as water depths permitted.

B.3 Data acquisition began on May 3, 1994 (DN 123) and concluded on June 6, 1994 (DN 157).

C. SURVEY VESSELS

C.1 The following vessels were used during this survey:

VESSEL	ELECTRONIC DATA PROCESSING NUMBER	PRIMARY FUNCTION
JENSEN LAUNCH 1008 (MI-6)	2226	Hydrography/Side Scan Operations, Diving Operations, Bottom Sampling
JENSEN LAUNCH 1004 (MI-3)	2223	Hydrography, Bottom Sampling
BOSTON WHALER (MI-1)	N/A	Diving Operations, CTD Casts

C.2 There were no unusual vessel configurations used in this survey.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

SEE ALSO THE EVALUATION REPORT

D.1 Survey data acquisition and processing were accomplished using the HDAPS system with the following software versions:

Program Name	Version	Date Installed
BACKUP	2.00	April 15, 1994
BASELINE	1.14	April 15, 1994
BIGABST	2.07	April 15, 1994
BIGAUTOST	3.01	April 15, 1994
BLKEDIT	2.02	April 15, 1994
CARTO	2.13	April 15, 1994
CLASSIFY	1.05	April 15, 1994
CONTACT	2.34	April 15, 1994
CONVERT	3.62	April 15, 1994
DAS_SURV	6.70	May 4, 1994
DIAGNOSE	3.04	April 15, 1994
DISK_UTIL	1.00	April 15, 1994
DP	2.14	April 15, 1994
EXCESS	4.21	April 15, 1994
FILESYS	3.24	April 15, 1994
GRAFEDIT	1.06	April 15, 1994
HIPSTICK	1.01	April 15, 1994
HPRAZ	1.26	April 15, 1994
INVERSE	2.01	April 15, 1994
LISTDATA	1.02	April 15, 1994
LOADNEW	2.10	April 15, 1994
LSTAWOIS	3.07	April 15, 1994

D.1 (Cont'd)

Program Name	Version	Date Installed
MAINMENU	1.20	April 15, 1994
MAN_DATA	2.01	April 15, 1994
NEWPOST	6.01	April 15, 1994
PLOTALL	2.27	April 15, 1994
POINT	2.10	April 15, 1994
PREDICT	2.01	April 15, 1994
PRESURV	7.08	April 15, 1994
PRINTOUT	4.03	April 15, 1994
QUICK	2.05	April 15, 1994
RAMSAVER	1.02	April 15, 1994
REAPPLY	2.10	April 15, 1994
RECOMP	1.02	April 15, 1994
SCANNER	1.00	April 15, 1994
SELPRINT	2.04	April 15, 1994
SYMBOLS	*.**	April 15, 1994
VERSIONS	1.00	April 15, 1994
ZOOMEDIT	2.24	April 15, 1994

D.2 Two programs were used to determine velocities: *VELOCITY* (Ver. 2.10), dated March 15, 1994 and *CAT* (Ver. 2.00), dated December 18, 1992.

D.3 There were no nonstandard automated acquisition or processing methods used.

E. SIDE SCAN SONAR EQUIPMENT

E.1 Side Scan Sonar (SSS) operations were conducted using an EG&G Model 260-TH slant range corrected side scan recorder and a Model 272-T (single frequency) towfish. All side scan operations were conducted from Launch MI-6 (Vesno 2226). The following list shows the equipment serial numbers and corresponding dates used.

Vessel Number	Equipment Type	Serial Number	Dates Used
2226	Recorder	016669	DN 136-157
2226	Towfish	011591	DN 136-141
2226	Towfish	011904	DN 142-157

E.2 The side scan sonar towfish was configured with a 20° beam depression, which is the normal setting.

E.3 The 100 Khz frequency was used throughout the entire survey.

E.4 **a)** In sufficiently deep water the 100 meters range scale was used for main scheme coverage. In shoaler areas of the sheet (less than 10 meters water depth) the 75 meters range scale was used.

E.4.a (Cont'd)

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

b) Daily opening and closing confidence checks were obtained by towing the SSS towfish past fixed or floating aids to navigation, over the ship's anchor chain, or over distinguishable bottom features.

c) A minimum range scale of 75 meters was used to determine the extent of 200% SSS coverage. Lines were run parallel to Egmont Channel and extend North and South approximately 500 meters beyond the limits of the channel to where depths were too shoal to maintain a towfish height of 8%-20% of the 75 meters range scale. Several additional lines were run in the shoal areas where the towfish height averaged 6%-7% of the 75 meters range scale to search for any significant features (see fixes 7305 through 7320). Due to the poor data quality in these shoal waters, full 200% SSS coverage was not possible.

Because of limited project times, data from parts of two SSS lines within the 200% coverage run at a 75 meters range scale was considered acceptable, but only out to a 50 meters swath width. The data contains surface noise within the outer 25 meters of the swath. The majority of these two lines were rerun, but due to time restrictions the data from DN 146, fix #7876.00-#7876.80, and fix #7891.01- #7894.0 was not rerun. The data was accepted and plotted at a 50 meter range scale which provides 200% coverage of the area. The reduced range scale, however, reduces the overlap with the surrounding lines to approximately 5 meters. The same area was covered completely during the 100% SSS data collection, and was considered adequately covered.

d) The shoal areas along with the significant bottom features in the spoil areas occasionally caused the towfish to loose bottom tracking briefly, creating reduced coverage holidays on the swath plot. However, these brief loses of bottom tracking, only condense the data on the SSS trace. Full swath coverage is maintained as long as the towfish actually remains above a depth of 8% of the range scale. Data lines within Egmont Channel and the surrounding 500 meters which contained coverage holidays due to shoaling were rerun to ensure full 200% SSS coverage.

e) The towfish was deployed from the stern of Jensen launch 2226 (MI-6).

E.5 Any contact appearing significant was entered into the contact tables. The tables (Table #'s 5 & 6) were reviewed and correlating contacts examined. Adjacent and 200% side scan sonar coverage was scanned for each contact to see if it appeared on multiple traces. Contacts which occurred only once and appeared insignificant were labeled "NFI" (no further investigation), those appearing multiple times were closely examined and calculated heights compared. Significant contacts were selected for SSS/fathometer development and diver investigation.

E.6 Overlap was checked on-line using the real-time plot and the edited swath plot for gaps. Gaps were filled in by running additional side scan sonar lines where water depths permitted.

F. SOUNDING EQUIPMENT

F.1 All hydrographic soundings were acquired using a Raytheon 6000N digital survey fathometer (DSF). The following list shows the equipment serial numbers and corresponding dates used:

Vessel Number	Manufacturer's Serial Number	Dates Used
2226	047	DN 123 - DN 153
2226	B051N	DN 155 - DN 157
2223	C066	DN 154 (only)

F.2 System checks on launch fathometers were performed using lead lines in the survey area at depths less than 10 meters. The lead lines were calibrated as per instructions in the Hydrographic Manual section 7.2.1.2.

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

F.4 Both the high (100 Khz) and the low (24 Khz) frequency sounding data were recorded during data acquisition. Only high frequency soundings were selected for plotting. Both high and low frequency sounding data were examined for spikes and deeps indicating bottom relief. These spikes and deeps were added as inserts to the digital records and plotted.

G. CORRECTIONS TO SOUNDINGS

G.1 **a)** The velocity of sound through water was determined by a Seacat conductivity, temperature and density sensor (serial number 192472-0284). The sensors on this CTD unit were last calibrated on 22 December, 1993. On 24 April, 1994, a simultaneous independent test was made with this CTD and CTD unit 192472-0285, in 30 meters of water. The 0285 CTD unit was last calibrated on 15 December, 1993. Using the comparison utility of the *VELOCITY* program, the percent difference between the two casts was 0.00 at both the mid-depth, and the bottom of the cast.

A Data Quality Assurance test, performed using hydrometers manufactured by H-B Instrument Company, was run for each velocity cast to ensure the meter was within tolerance. All data were processed using *VELOCITY* Version 2.10 and *CAT* Version 2.00 software. The computed velocity correctors were entered into the HDAPS sound velocity tables and applied on-line to digitized high frequency soundings.

G.1.a (Cont'd)

Cast Number	Date	Latitude	Longitude	HDAPS Table #	Applied To Day #'s
01	24 APR 94	Test cast, data not used.			
02	03 MAY 94	027/36/00 N	082/45/30 W	2	123-135
03	16 MAY 94	027/36/15 N	082/45/32 W	3	136-151
04	01 JUN 94	027/36/16 N	082/45/33 W	4	152-157

b) There was no variation in the fathometer's instrument initial.

c) No instrument correctors to the fathometers were required.

d) No instrument corrections were determined from direct comparison of leadline checks.

Lead line comparisons with the fathometer were made for each vessel on the following days:

VN	DN	Fathometer Serial Number	Lead Line Depth (m)	Digital Depth (m)	Δd (m)
2226	123	047	6.2	6.2	0.0
	129	047	4.2	4.3	0.1
	138	047	7.2	7.2	0.0
	143	047	5.8	5.7	0.1
	146	047	3.6	3.5	0.1
	152	047	9.4	9.4	0.0
	155	047	8.1	8.0	0.1
	157	B051N	5.2	5.3	0.1
2223	152	C066	9.6	9.6	0.0
	155	C066	6.5	6.7	0.2

e) All sounding correctors were applied to both the narrow (100 Khz) and the wide (24 Khz) beams.

f) The static drafts of launch MI-6 (VesNo 2226) and MI-3 (VesNo 2223) were determined in March 1994 while the launches were out of the water at the Atlantic Marine Center, Norfolk, Virginia. A calibrated steel tape was used to measure the distance from the transducer to a reference line on the launch above the water line. The launches were then put into the water and the distance from the water line to the reference line was measured. A static draft of 0.5 meters was used in the HDAPS Offset tables for launch MI-6 and 0.6 meters for launch MI-3. (refer to Separate III). FILED WITH THE ORIGINAL SURVEY DATA

g) Settlement and squat correctors for launch (2226) and (2223) were determined, using procedures outlined in the Hydrographic Manual, on the Elizabeth River on March 31,

G.1.g (Cont'd)

1994. 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 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 SURVEY DATA.

h) None of the launches are equipped with a heave, roll and pitch indicator.

G.2 The HDAPS program "Reapply" was frequently used for data collected on the same day as a velocity cast. Casts were performed at the beginning of each leg, so the new velocity tables for those days were reapplied to the data before processing.

G.3 There were no special correctors to be applied to the fathometers or velocity zoning required.

G.4 Pneumatic depth gauges were not used during this survey.

G.5 Sea conditions greater than 0.5 meters affected the fathogram, creating a trace of constant peaks and deeps. Launches are not equipped with heave, pitch and roll indicators, so MITCHELL personnel scanned the sea action out of the fathograms and edited the selected soundings accordingly.

G.6 **a)** The tidal datum for this project is mean lower low water. The operating tide station at Redington Long Pier, FL, (station number 872-6520) served as control station for tides during the course of this survey. Predicted tidal data for Tampa Bay was provided on floppy magnetic disk before the start of the project. APPROVED TIDES AND ZONING WERE APPLIED DURING OFFICE PROCESSING.

b) The height and time correctors listed below were provided in the project instructions for sheet C and applied to the Clearwater Beach, Fl (station number 872-6724) tides to generate online predicted tide tables:

TIME CORRECTOR	HEIGHT RATIO
-10 minutes	x0.75

c) No zoning was required for this survey.

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 is ~~located in Appendix III~~ *APPENDED TO THIS REPORT*

H.3 NOAA HF and VHF DGPS reference stations were established on Egmont Key and used for positioning. The NOAA HF reference station was established at the Third Order horizontal control station TAMPA PILOTS (PID AG9476), and the NOAA VHF reference station was established at the Third Order horizontal control station EGMONT KEY LH ECC (PID AG9474). Both stations were monumented by the National Ocean Service in 1981, and recovered as described by MT MITCHELL personnel in March, 1994. The position for each station was obtained from the NGS database and verified by MT MITCHELL and AMC EED personnel using the NOS *MONITOR* program.

The *MONITOR* (Ver 2.0) program was run over the HF station TAMPA PILOTS. The M-XII setup on the station received the correctors from the VHF base station at EGMONT KEY LH ECC and computed a differentially corrected position. This position was then output to a PC running the *MONITOR* program. The program was run for a complete twenty-four hour period and showed that no multi-path or other site specific problems existed. The MONITOR.SUM file, and scatterplot can be found in Appendix III. *FILED WITH THE ORIGINAL SURVEY DATA*

H.4 No horizontal control stations were established by the MT MITCHELL during this survey. However, the Field Surveys Unit of the Field Photogrammetry Section conducted a horizontal control survey in the Tampa Bay area to establish and verify landmarks and fixed aids to navigation for MT MITCHELL's hydrographic survey.

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

H.6 No problems or anomalies were encountered in positioning 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 At no time in this survey did the estimated position error (EPE) consistently exceed 15 meters (1.5mm at the survey scale). On occasion, DGPS correctors would not be received for a few seconds at a time. When this happened HDAPS entered "DR mode" and continued to collect data unless correctors were not received within 30 seconds at which point HDAPS will break the line automatically.

I.3 The manufacturer, model number, and serial number of all DGPS equipment used during this survey are identified below:

VESSEL #	MODEL	S/N	DATES USED
HF Shore Station	Ashtech M-XII DGPS Receiver	700354B2504	03 May - 06 June
HF Shore Station	LRD-2 HF Radio	613	03 May - 06 June
HF Shore Station	GPS Antenna	70228D2311	03 May - 06 June

VESSEL #	MODEL	S/N	DATES USED
VHF Shore Station	Ashtech M-XII DGPS Receiver	700354B2503	03 May - 06 June
VHF Shore Station	TAD MD-150 VHF Radio	57531	03 May - 06 June
VHF Shore Station	GPS Antenna	700228D2317	03 May - 06 June

VESSEL #	MODEL	S/N	DATES USED
2226	Ashtech DGPS Receiver	A000442	03 May - 06 June
2226	LRD-1 HF Radio	A002718	03 May - 06 June
2226	Maxon SM-3010-H VHF Receiver	A006186	03 May - 06 June
2226	GPS Antenna	700378A0461	03 May - 06 June
2223	Ashtech DGPS Receiver	A002541	03 May - 06 June
2223	LRD-1 HF Radio	A006147	03 May - 06 June
2223	Maxon SM-3010-H VHF Receiver	A006185	03 May - 06 June
2223	GPS Antenna	700391A0518	03 May - 06 June

I.4 DGPS performance checks were performed during each leg (Day #'s 123, 128, 132, 138, 143, 146, 152, & 155) by comparing positioning of the launches by the HF and VHF DGPS stations. The inverse distance between the computed launch positions by the HF and VHF stations was calculated to ensure it did not exceed the EPE_{max} of 15 meters. For the comparison, each of two launches brought up HDAPS, one using the HF station for positioning, and the other using the VHF station for control. The launches would lay dead in the water alongside each other with their GPS antennae as close together as sea conditions permitted. The launch OIC's would then simultaneously mark their position by dumping the on-line HDAPS screen to the printer. The Easting and Northing values from each launch, along with the HDOP, and number of satellites used were entered into a spreadsheet for computation of position error. Of the 38 performance checks conducted, none exceeded the max EPE of 15 meters, and the greatest inverse distance was 6.5 meters. The following constant values were used in the spreadsheet:

Reference Station	ESE	EDE	MAX HDOP
HF Fly-away	4.0	0.0	3.0
VHF Fly-away	4.0	0.0	3.0

A copy of the DGPS spreadsheet can be found in Separate III.*

I.5 No calibration data is applied to the DGPS positioning data.

I.6 **a)** No unusual methods of operation were employed with the DGPS equipment.

b) No major equipment malfunctions were encountered. Occasionally, on calm days, holidays in the VHF coverage on the sheet was found. These holidays were attributed to multipath.

c) No unusual atmospheric conditions were encountered.

d) No weak signals or poor geometric configurations were observed.

e) No adjustment or systematic errors were discovered.

f) Antenna positions were corrected for offset and layback, and referenced to the position of the DSF-6000N fathometer transducer. These correctors were located in the HDAPS Offset table, and applied on-line to the positioning algorithm. Launch 2226 used Offset table #6 and launch 2223 used table #3. Refer to Separate III* for a copy of offset tables used during this survey.

g) Offset and layback distance for the A-frame (tow point) on launch 2226 was located in HDAPS Offset table #6 and applied on-line. 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 a copy of the offset table.

* FILED WITH THE ORIGINAL FIELD RECORDS

J. SHORELINE *See the Evaluation Report*

J.1 Shoreline verification was not required for this survey.

K. CROSSLINES

K.1 Crosslines on survey H-10536 equaled 13% of the total main-scheme sounding lines. Crosslines were run either parallel to Egmont Channel (083/263 degrees true) or due East/West, intersecting the North/South mainscheme lines at or near a 90 degree angle. The SSS lines were also run across the mainscheme lines and can be used for comparison.

K.2 Crossline to main-scheme sounding intersection comparisons were very good, with most of the soundings agreeing to within 0.3 meters or less with main-scheme soundings. Some of the sounding line intersections occurred over steep bottom features found along the dredged edge of Egmont Channel, where a distance of only a few meters could reveal a large change in the water depth. All of the soundings, however, conformed to the contours of the channel or surrounding area.

K.3 Crossline to main-scheme sounding intersections outside of significant bottom feature areas were considered a discrepancy if a crossline sounding on or near a main-scheme sounding differed by more than 0.3 meters. The discrepancies were reconciled by viewing the fathometer traces of the main-scheme and comparing them to those of the crossline. After individual analysis of these discrepancies, each was found to be either caused by improperly scanned sea action, or was a correct sounding which delineates an irregular bottom contour.

K.4 The vessel and sounding equipment used to run crosslines was also used in the main-scheme.

L. JUNCTIONS *See also the Evaluation Report*

L.1 The western edge of this survey sheet junctions with the eastern edge of survey sheet H-10539 and the south-eastern edge of this survey sheet junctions with the north-western edge of survey H-10270. Both adjoining surveys were run by MT MITCHELL personnel within the same time frame and are at the same scale as this survey.

L.2 All soundings outside of the delineated spoil area in the junction with survey H-10539 agreed within 0.3 meters. Within the spoil area, soundings differed by as much as 0.6 meters, but still generally agreed within 0.3 meters. The greater differences can be attributed to the irregular bottom features found in the spoil areas and the slight differences in tracklines between the vessels used in each of the surveys.

L.2 (Cont'd)

Sounding comparisons at the junction with survey H-10270 revealed similar results. Soundings comparisons over a relatively flat bottom were excellent, with soundings agreeing to within 0.3 meters. Part of the junction area contained steep sided sandwaves, some rising up to 3.5 meters off the bottom in 10 meters of water, so many of the nearby soundings have large depth differences even though they are only a few meters apart. Contour agreement between the two surveys was excellent throughout the junction area.

L.3 The slight differences mentioned above at the junction of these two surveys were not deemed significant enough to warrant further investigation. The sandwave area, and irregular features in the spoil areas were developed with 25 meters line spacing to ensure adequate coverage.

L.4 There are no recommended adjustments to sounding features or depth contours.

M. COMPARISON WITH PRIOR SURVEYS *See the Evaluation Report*

M.1 Prior survey comparison will be accomplished by N/CG244. The project instructions only require comparison of item investigations found on the prior surveys and on this sheet. The items investigated on this sheet were not reported by the prior surveys of the area. A discussion of the items found in this survey can be found in section N. No non-NOS / USC&GS surveys were provided or comparisons conducted.

N. ITEM INVESTIGATION REPORTS

A total of 38 contacts were entered into the HDAPS contact utility program. The contacts were checked for correlation with other contacts and, if significant were considered for development and diver investigation. Through diver investigation, contacts C-3 and C-4 were discovered to be of insignificant least depth. All the newly found significant items and diver investigations are addressed below.

One AWOIS item was included on this sheet and is described below.

AWOIS 8792

State and Locality: Tampa Bay, Florida

Charted Position: 027/36/14.0 N 082/46/10.0 W Search Radius: N/A

Datum: MLLW

Type of Feature: Shoaling

Source: CL825/89--NM Marine Information Report, 1989; the M/S SCANDINAVIN SAGA reports charted shoal area located .52 miles W/NW of Egmont Key light , indicated by 2 & 3 foot soundings, is frequently seen awash.

Survey Requirements: N/A

Method of Investigation: A visual search was conducted on DN 154. A fathometer development was not possible due to the extreme shoaling in the area.

Results of Investigation: On DN 154 a fathometer development was attempted over the area but failed due to depths shoaling to less than the vessels draft. A Detached Position (Fix #1089) was taken over the shoal area. The raw leadline depth over the position was 1.4 meters (time 15:30:53 UTC). By visual observation the shoal extends to least depths of .4 meters (Not corrected to MLLW). Waves were seen breaking over the shoal in seas of .7 meters or greater.

Comparison with Prior Surveys: Item is not reported in prior surveys. Prior survey H-8427, however, delineates a contour enclosing 2 and 3 foot soundings over the area.

Comparison with Chart: Chart #11414 and #11411 SC depicts an oval contour enclosing a 2 and 3 foot sounding with the annotation "Shl rep 1989".

Recommendation: Recommend retaining the 2 foot sounding and "Shoaling Reported" annotation as charted on chart #11414 and #11411 SC. Concur

New Item C1

State and Locality: Tampa Bay, Florida

Location: 027/36/22.892 N 082/47/10.401 W

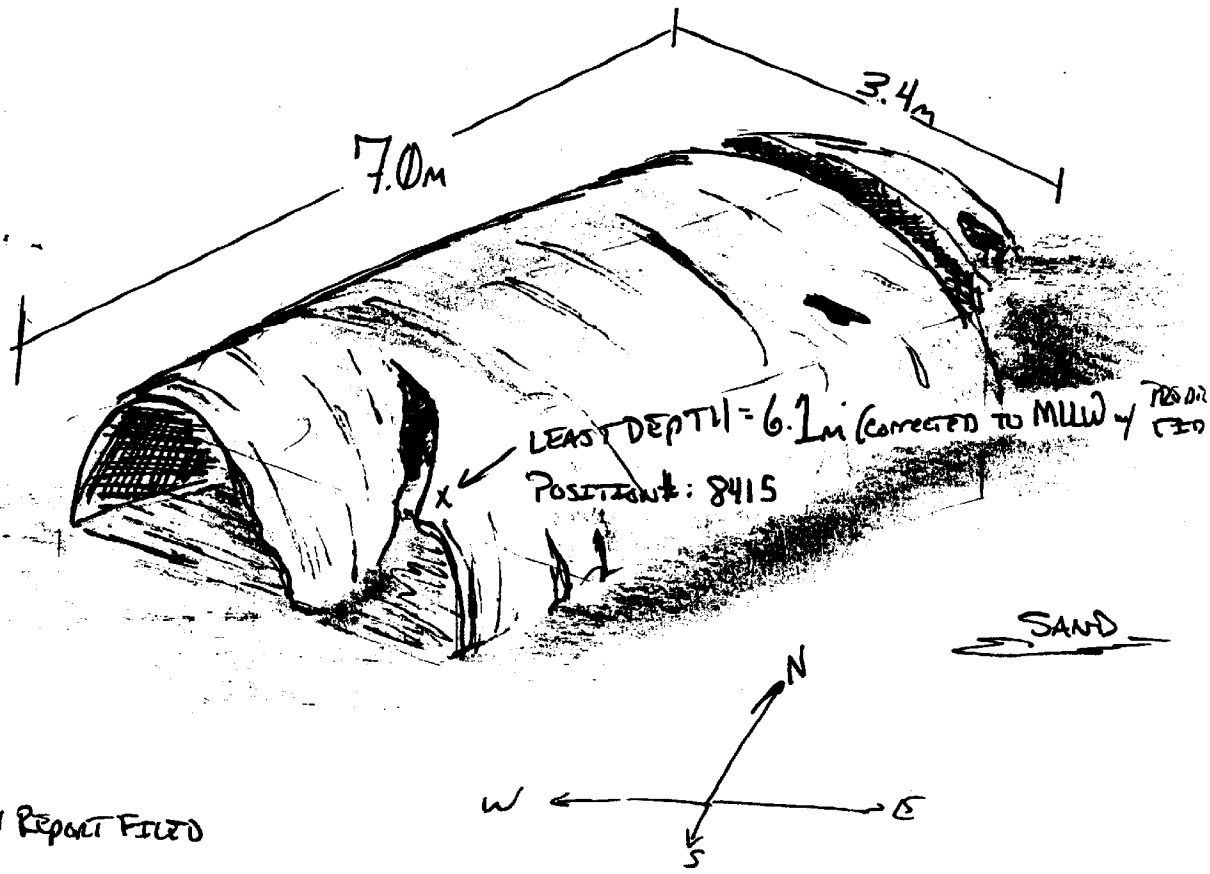
Type of Feature: Sunken Wreck

Description: A dive was conducted on DN 156 to investigate a side scan sonar contact at fix #'s 7292.39, 7326.78, 7329.27, and 8301.86. Divers descended down a buoy line dropped on the contact site and discovered a rectangular metal barge or tank, heavily corroded and encrusted in sea growth, partially buried in the bottom. The container was 7.0 meters long by 3.4 meters wide, and extended 1.5 meters off the bottom at the South East corner. A raw leadline least depth of 6.7 meters (6.1 meters corrected to predicted tides) was taken at time 13:38:40 UTC (Detached Position # 8415). Surrounding water depths were 7.3-8.8 meters. See the attached sketch.

A copy of the Danger to Navigation report submitted for this item can be found in Appendix I. APPENDED TO THIS REPORT

Recommendation: Recommend charting a DANGEROUS "sunken wreck, least depth 6.1m (~~20~~ 19ft)," in position: 027/36/22.892 N, 082/47/10.401 W. CONCUR. CHART AS A 19 WK

C1



HARNAV REPORT FILED

New Item C2

State and Locality: Tampa Bay, Florida

Location: 027/36/24.183 N 082/48/24.298 W

Type of Feature: Sunken Wreck

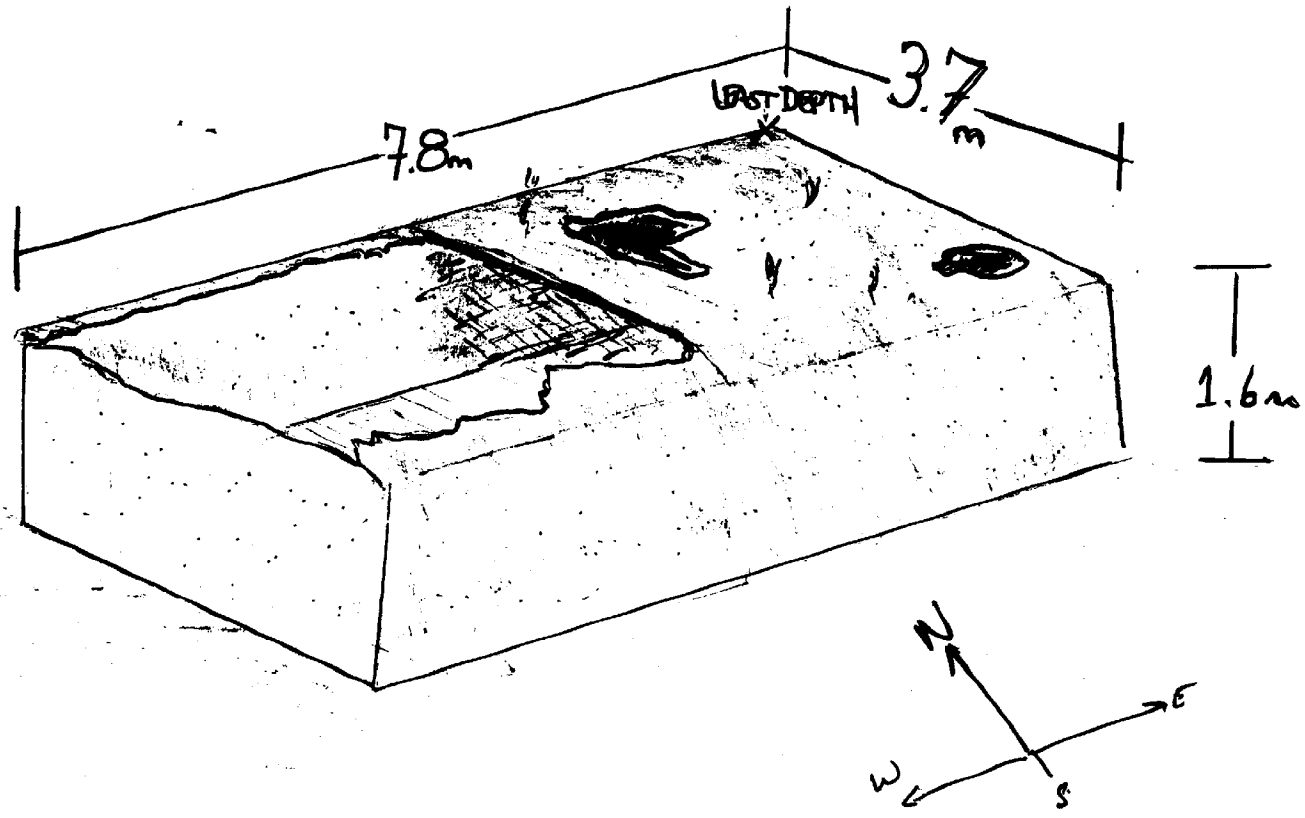
Description: A dive was conducted on DN 142 to investigate a side scan sonar contact at fix #'s 7250.34, 7263.24, 7332.58, 7334.13, 7776.28, and 7796.12. Divers descended down a buoy line dropped on the contact site and discovered a sunken barge or tank, heavily corroded and encrusted in sea growth, partially buried in the bottom. The barge was 7.8 meters long by 3.7 meters wide, and extended 1.6 meters off the bottom at the South East corner. A raw leadline least depth of 7.1 ~~meters~~ (23 FT) (6.~~9~~ 7 (22 FT) meters corrected to ~~predicted~~ APPROVED tides) was taken at time 17:32:00 UTC (Detached Position # 7360). Surrounding water depths were ~~8.7-9.0~~ 7.6-8.2 meters. (25-27 FT) See the attached sketch.

A copy of the Danger to Navigation report submitted for this wreck can be found in Appendix I. APPENDED TO THIS REPORT

Recommendation: Recommend charting a "sunken wreck, least depth 6.~~9~~7m (2~~3~~2ft)," in position: 027/36/24.183 N, 082/48/24.298 W. CONCUR. CHART AS 22 WK

C2

LEAST DEPTH = 6.9m
POSITION #: 7360



New Item C4

State and Locality: Tampa Bay, Florida

Location: 027/36/~~25.311~~ 24.999 N 082/49/05.8~~77~~ 84 W

Type of Feature: Abandoned Buoy Anchor Block

Description: A dive was conducted on DN 142 to investigate a side scan sonar contact at fix #'s 7237.25, 7348.35, and 7350.23. Divers descended down a buoy line dropped on the contact site and discovered an old buoy anchor block with chain on the bottom. The block extended only .8 meters from the bottom, therefore it was an insignificant item. A 15 meter circle search of the area revealed no significant items.

Recommendation: Recommend not charting this item. DO NOT CONCUR. CHART AN OBSTRUCTION WITH A DEPTH OF 28 FEET (8.6 M) (28 OBSTN) IN LAT: 27°36'24.999"N, LON: 82°49'05.884"W.

New Item C3, C5, & C6

Three other SSS contacts were developed with both SSS and fathometer lines. A dive was also conducted on Item C3 (SSS contact #'s 7301.29, 7336.09, 7338.01, 7342.28, 7346.26) which was a sunken barge deeply buried in the bottom. The highest point extended only 0.6 meters off the bottom, therefore, the item was considered insignificant. DO NOT CONCUR. CHART AS A 24 WK IN LAT: 27°36'07.774"N, LON: 82°49'32.188"W.

Items C5 (SSS contact #'s 7427.86, 8242.57, 8417.43, 8423.32, 8425.12) and C6 (SSS contact #'s 7430.10, 8428.50, 8434.43) were both located on the edge of the steep dredged channel wall of Egmont Key. A fathometer development reveals a peak which extends up to 2.5 meters from the edge of the jagged channel wall (see hydro development fixes, 8462.3, 8464.4, and 8466.35), but is too close to the wall which extends upwards another 8 meters almost vertically to the undredged bottom to be considered a dangerous obstruction. Investigation of the surrounding data showing large sand waves leads to the conclusion that the items are part of the bottom relief. Dangerous conditions in the vicinity of items C5 & C6 precluded any diving investigations. CONCUR.

O. COMPARISON WITH THE CHART *See also The Evaluation Report.*

O.1 The following charts are affected by this survey:

Chart #	Edition	Date	Scale
11411 SC	8th	November 14.1992	1:40,000
11412	35th	April 24, 1993	1:80,000
11414	34th	January 09, 1993	1:40,000

No Notice to Mariner changes affected the survey area during data acquisition.

O.2 Danger to navigation reports were submitted on two of the items discussed under section N. Copies of the Danger to Navigation reports can be found in Appendix I. *Appended to this Report. See also the Evaluation Report.*

O.3 **a)** Soundings from Chart #11414 were compared to this survey. Twenty soundings from the chart were overlayed onto the depth plot and compared to the shoalest depth within a 1.25cm diameter circle. The charted depths differed from surveyed depths from as much as 1.4 meters deeper to 1.8 meters shoaler in some of the areas with significant bottom features. On average, however, the selected soundings from this survey were 0.2 meters shoaler than the charted depths.

b) General trends depicted on Chart #11414 were in agreement with this survey. Contour line agreement between the chart and this survey is good. The charted spoil areas contain many significant peaks and deeps. The area south of Egmont Channel and east of Egmont Key contains sandwaves, some extending 3.5 meters off the bottom in 10 meters of water, that are clearly seen on both the fathometer development and SSS traces. The area was developed with 25 meter splits to ensure accurate bottom representation. There is presently no indication of these features on chart #11414.

c) There were no hydrographic findings of special note other than the sandwaves discussed in section O.3.b.

d) Sounding data collected within Egmont Channel was compared to the controlling depths listed on chart #11414. No surveyed depths were found to be shoaler than the controlling depths.

e) Egmont Channel and the surrounding safety fairway out to 200m was surveyed at 25 meters line spacing, with the mainscheme lines running across the channel. Crosslines were run parallel to the channel along each edge and along the center-line range of Egmont Channel. The centerline soundings were found to be within the controlling depths listed on chart #11414. The crossline soundings along each edge of Egmont Channel agree with the main scheme contours. See section O.3.a for specific sounding comparisons.

from H-8427, 1958

O.4 One non-sounding feature that is not discussed in section Q is a "marker" charted in position 027/37/15.8 N Latitude, 082/48/57.9 W Longitude. A visual search was made for this item but nothing was found in the area. A disproval detached position (Fix #8593) was taken at the marker's charted location. It is recommended that the "marker" annotation and symbol be removed from chart. CONCUR. REVISE TO SUBMERGED OBSTN X PILE X ED 6KM.

Two other non-sounding features in the survey area are a charted dolphin and pile in location 027/36/~~22~~ 24 N Latitude, 082/45/45 W Longitude. The two items are side by side and extend approximately 4 meters out of the water. A detached position was not taken on these items due to the shoal water surrounding them. Recommend retain the dolphin and pile as charted on chart #11414. CONCUR. 4KM ~~5/20/96~~ 4/18/96

O.5 No changes to the scale, coverage or format of chart #11414 is recommended.

P. ADEQUACY OF SURVEY SEE ALSO THE EVALUATION REPORT

P.1 The H-10536 survey is sufficiently complete to supersede prior surveys.

P.2 This survey is complete and adequate for the purpose of updating the charted sounding data.

Q. AIDS TO NAVIGATION

Q.1 The MT MITCHELL did not correspond with the U.S. Coast Guard regarding floating aids to navigation. Detached Positions were taken on all floating aids and navigational aids accessible by survey launch.

Q.2 Floating Aids

Chart #11414 depicts ten floating aids to navigation within the survey area, all of which outline Egmont Channel. A comparison between charted locations and survey locations revealed that all aids, except for buoy "G 15", are charted within 60 meters of the survey determined positions, and agree with their respective charted light characteristics. Buoy "G 15" was positioned 105 meters north-west of it's charted position (detached position #7362). THESE AIDS APPEAR ADEQUATE TO SERVE THEIR INTENDED PURPOSES

Non-floating Aids

The positions of the non-floating aids to navigation were determined during the horizontal control survey described in Section H.4. All surveyed positions are Third Order Class I positions or better. See the Horizontal Control Report for more details.

Q.2 (Cont'd)

Two detached positions were taken on a fixed light "FL R 4s 16ft 3M", charted in location 027/35/55 N Latitude, 082/45/25 W Longitude. DP #8619 was taken using the HF DGPS station for control and DP #8620 was taken with the VHF DGPS station as control. The computed distance error between the two detached positions is 1.8 meters. The surveyed position converts to 027/35/54.618 N, 082/45/26.135 W. THESE AIDS APPEAR ADEQUATE TO SERVE THEIR INTENDED PURPOSES

Q.3 All aids to navigation located during the survey are properly described in the light list.

Q.4 No bridges, overhead cables or pipelines were within the survey limits.

Q.5 **a)** One charted submarine cable area was included in the survey. The cable area extends from the north end of Egmont Key across Egmont Channel to Mullet Key. No evidence of a cable was detected on SSS or fathometer traces, however, local pilots stated that power cables from Egmont Key to Mullet Key do run through this area.

b) No pipelines crossing to shore were present within the survey limits.

c) There are no designated ferry routes within the survey area.

Q.6 There were no designated ferry terminals in the survey area.

R. STATISTICS

		VN 2226	VN 2223	MI-1	Total
R.1	a) Number of positions:	3366	117	0	3483
	b) Lineal nm coverage: (Hydrography)	421	10	0	431
	c) Lineal nm coverage: (Side Scan Sonar)	142	0	0	142
R.2	a) Total square nautical miles:	24.0	0.3	0	24.3
	b) Total days of production:	41	01	0	42
	c) Detached positions:	17	01	0	18
	d) Bottom samples:	24	26	0	50
	e) Velocity casts:	0	0	4	4
	f) Dives:	5	0	5	10

S. MISCELLANEOUS See also the Evaluation Report

S.1 a) No unusual silting was noted during this survey.

b) All unusual submarine features have been discussed previously.

c) No anomalous tidal conditions were encountered.

d) Significant tidal currents exist in the survey area and could be responsible for some of the significant bottom features displayed in the data. Ebbing currents exceeding 2.5 knots were common.

e) No magnetic anomalies were encountered during this survey.

S.2 Bottom samples were collected and submitted to the Smithsonian Institution in accordance with sections 1.6.3 and 4.7.1 of the Hydrographic Manual. A copy of the transmittal letter can be found in Separate II. Filed with the original field records

T. RECOMMENDATIONS

T.1 No inadequacies have been noted other than the reduced SSS rangescale coverage used for the two lines mentioned in section E.4.c.

T.2 There is no present or planned construction or dredging that will affect the results of this survey.

T.3 This survey should supersede all other prior navigable area surveys and AWOIS reports of the area. No further investigation of this area is recommended. Concur.

U. REFERRAL TO REPORTS

The following reports are not included with the survey records:

Horizontal Control Report

SUBMITTAL SHEET
Survey H-10536

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

Ensign Jon D. Swallow, NOAA

Letter of Approval
Registry No. H-10536

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 updating the nautical chart.

Nicholas A. Prahl, CAPT, NOAA
Commanding Officer
NOAA Ship MT MITCHELL

DESCRIPTIVE REPORT ADDENDUM

to Hydrographic Survey
MI-10-02-94
H-10536

Tampa Bay and Approaches
Gulf of Mexico
Florida

MT MITCHELL conducted survey work on H-10536 in 1994, completed the Descriptive Report (DR) and submitted the survey to the Atlantic Hydrographic Section (AHS) for verification. During the verification process, an item requiring additional field work was discovered. This addendum describes the field work conducted in 1995 to resolve the item.

A. PROJECT

No change, refer to original DR.

B. AREA SURVEYED

Data acquisition in 1995 began on April 26 (DN 116) and concluded on May 4 (DN 124).

C. SURVEY VESSELS

The following vessels were used during 1995 operations:

VESSEL	ELECTRONIC DATA PROCESSING NUMBER	PRIMARY FUNCTION
JENSEN LAUNCH 1021 (MI-5)	2225	SSS development
JENSEN LAUNCH 1002 (MI-4)	2224	Dive support, Detached Position
BOSTON WHALER (MI-1)	N/A	Dive support

D. AUTOMATED DATA ACQUISITION AND PROCESSING

Survey data acquisition and processing for data collected in 1995 were accomplished using the HDAPS system with the following software versions.

Program Name	Version	Date	Date Installed
BACKUP	2.00	27-OCT-93	15-MAR-95
BASELINE	1.14	07-APR-93	15-MAR-95
BIGABST	2.07	01-OCT-93	15-MAR-95
BIGAUTOST	3.01	01-FEB-93	15-MAR-95
BLKEDIT	2.02	11-MAR-93	15-MAR-95
CARTO	2.17	06-FEB-95	15-MAR-95
CLASSIFY	2.11	24-FEB-95	15-MAR-95
CONTACT	2.46	24-FEB-95	15-MAR-95
CONVERT	3.65	10-FEB-95	15-MAR-95
DAS_SURV	6.76	08-FEB-95	15-MAR-95
DIAGNOSE	3.05	04-MAY-94	15-MAR-95
DISK_UTIL	1.00	01-FEB-93	15-MAR-95
DP	2.18	27-OCT-94	15-MAR-95
DPCONVERT	1.03	24-FEB-95	15-MAR-95
DSNEDITS	1.04	03-MAR-95	15-MAR-95
EXCESS	4.32	25-NOV-94	15-MAR-95
FILESYS	3.31	24-FEB-95	15-MAR-95
GRAFEDIT	1.06	16-NOV-93	15-MAR-95
HIPSTICK	1.01	28-JUL-93	15-MAR-95
HPRAZ	1.26	22-MAY-93	15-MAR-95

INVERSE	2.02	06-FEB-95	15-MAR-95
LISTDATA	1.02	19-APR-93	15-MAR-95
LOADNEW	2.13	24-FEB-95	15-MAR-95
LSTAWOIS	3.10	24-FEB-95	24-MAR-95
MAINMENU	1.20	02-NOV-93	15-MAR-95
MAN_DATA	3.02	24-FEB-95	15-MAR-95
NEWPOST	6.13	26-SEP-94	15-MAR-95
PLOTALL	2.32	06-FEB-95	15-MAR-95
POINT	2.12	24-FEB-95	15-MAR-95
PREDICT	2.01	07-APR-93	15-MAR-95
PRESURV	7.11	06-FEB-95	15-MAR-95
PRINTOUT	4.04	26-JUL-94	15-MAR-95
QUICK	2.07	23-SEP-94	15-MAR-95
RAMSAVER	1.02	07-APR-93	15-MAR-95
REAPPLY	2.12	27-SEP-94	15-MAR-95
RECOMP	1.04	24-FEB-95	15-MAR-95
SCANNER	1.00	10-JUL-93	15-MAR-95
SELPRINT	2.05	07-JUN-94	15-MAR-95
SYMBOLS	2.00	01-FEB-93	15-MAR-95
SYSBOOT	2.17	06-FEB-95	19-APR-95
VERSIONS	1.00	24-NOV-93	15-MAR-95
ZOOMEDIT	2.33	06-FEB-95	15-MAR-95

E. SIDE SCAN SONAR EQUIPMENT

Identical procedures and equipment types were used as described in the original DR.

Side scan data collected in 1995 used side scan recorder serial number 016672 and side scan fish serial number 11591.

F. SOUNDING EQUIPMENT

Identical procedures and equipment types were used as described in the original DR.

Fathometer serial number B053N was used in MI-5, fathometer serial number C066 was used in MI-4.

G. CORRECTIONS TO SOUNDINGS

Identical procedures and equipment were used as described in the original DR.

The Seacat units were recalibrated on February 24, 1995.

Cast Number	Date	Latitude	Longitude	Table #	Day #'s
01	24APR95	027/36/25 N	082/45/40 W	1	116
02	02MAY95	027/33/37 N	082/58/08 W	2	124

Settlement and squat correctors were recomputed in 1995. The offset tables were forwarded to AHS and approved prior to conducting survey operations in 1995. Offset tables are included in Separate III.*

Refer to Separate IV for specific calibration and corrector data.

Predicted tidal data, provided by N/CG241, have been applied to all data.

H. CONTROL STATIONS

No change, refer to original DR.

I. HYDROGRAPHIC POSITION CONTROL

The primary method of sounding position control was Differential Global Positioning System (DGPS). The United States Coast Guard differential beacon on Egmont Key was used as the source of differential correctors.

Refer to Appendix III for station positions and reference station verification results.

Performance Checks were performed on a regular basis using the launch to launch method described in the original DR. Refer to Separate III* for Performance Check results.

J. SHORELINE

No change, refer to original DR.

K. CROSSLINES

No change, refer to original DR.

L. JUNCTIONS

No change, refer to original DR.

M. COMPARISON WITH PRIOR SURVEYS

No change, refer to original DR.

N. ITEM INVESTIGATION REPORTS SEE ALSO THE EVALUATION REPORT

* FILED WITH THE ORIGINAL FIELD RECORDS

Item C1-95

State and Locality: Tampa Bay, Florida

Location: 27/36/19.44 N 082/49/16.21 W

Type of Feature: Metal container

History: During preprocessing of the 1994 data by AHS, an item was found which was not thoroughly investigated by MT MITCHELL (SSS contacts 7247.26, 7266.51, 7779.44 and a fathometer spike at 6657.21). AHS recommended that the item be investigated by a dive during 1995 field operations. AHS submitted a hazard to navigation report for the item, described as an obstruction with a least depth of 24 feet.

Description: On DN 116 a side scan development (FIX 5008-5019) was conducted at the site, and several side scan and fathometer contacts were found. On DN 124 a dive was conducted at the site. Divers found a large metal container heavily encrusted with marine growth. The object was described by divers as being approximately 7.6 meters (25 feet) by 6.4 meters (21 feet) and extends 1.7 meters (5.5 feet) off the bottom. The MOD III diver depth gage was used to record a least depth of 8.7 meters at 1824 GMT. An identical fathometer least depth was obtained as a check (FIX 003). A copy of the diver investigation form and MOD III depth computation form can be found in Separate VI. APPENDED TO THIS REPORT

Recommendation: Chart a dangerous obstruction with least depth of 8.7 meters. DO NOT CONCUR. SEE SECTION N. OF THE EVALUATION REPORT.

O. COMPARISON WITH THE CHART

No change, refer to original DR. ✓

P. ADEQUACY OF SURVEY

No change, refer to original DR. ✓

Q. AIDS TO NAVIGATION

No change, refer to original DR. ✓

R. STATISTICS

Statistics for data collected in 1995:

0.28 lineal nautical miles of SSS development,
1 detached position,
2 dives,

9 position numbers,
2 days of production.

S. MISCELLANEOUS

No change, refer to original DR.

T. RECOMMENDATIONS

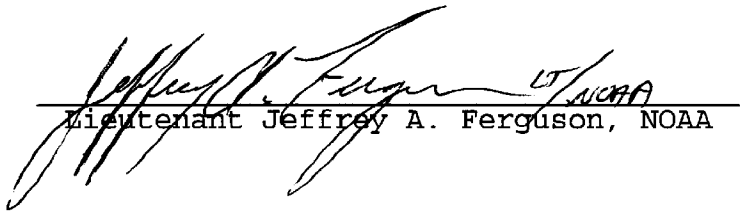
No change, refer to original DR.

U. REFERRAL TO REPORTS

No change, refer to original DR.

SUBMITTAL SHEET
for Descriptive Report Addendum
Survey H-10536

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



Lieutenant Jeffrey A. Ferguson, NOAA

Horizontal Control Stations - 1994

Station TAMPA PILOTS (#AG9476)

LAT: 27° 35' 06.21396" N
LONG: 082° 45' 40.51161" W

ANTENNA ELEVATION: -14.2 meters

SOURCE: NGS Database, established in 1981

Station EGMONT KEY LH ECC (#AG9474)

LAT: 27° 36' 02.89170" N
LONG: 082° 45' 38.39070" W

ANTENNA ELEVATION: -1.0 meters

SOURCE: NGS Database, established in 1981

Horizontal Control Stations 1995

Station 000 - United States Coast Guard, Egmont Key, Florida Differential Beacon

Lat:27° 36' 01.488" N Transmission Frequency: 310 KHz
Long:082° 45' 37.170" W Transmission Rate: 200 bps
Source: USCG DGPS Radiobeacon Prototype Status & Operating Specifications

Station 001 - TAMPA PILOTS, Egmont Key, Florida (NOAA-HF System)

Lat:27° 35' 06.214" N Transmission Frequency: 2774.50 KHz
Long:082° 45' 40.512" W Transmission Rate: 100 bps
Source: NGS, established in 1981 and position confirmed by MT MITCHELL in 1994

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship MT. MITCHELL S-222
439 W. York Street
Norfolk, VA 23510-1114

May 23, 1994

MEMORANDUM TO: Rear Admiral Freddie L. Jeffries, NOAA
Director, Atlantic Marine Center

FROM: Captain Nicholas A. Prahl, NOAA
Commanding Officer, NOAA Ship MT MITCHELL

SUBJECT: Danger to Navigation Reports

On 23 May 1994, MT MITCHELL submitted two reports of dangers to navigation (Date/Time Groups 231200Z, and 231201Z MAY 94).

The messages were addressed to NOAAMOA NORFOLK VA, CCGD SEVEN MIAMI FL, and DMAHTC (NAVWARN) WASHINGTON DC//MCNMN//. A copy of these messages and accompanying chartlets have been attached. In accordance with HSG 66, a copy of this memorandum, radio message, and chartlet will be forwarded to N/CG221.

Attatchments

cc: Mr. Dennis Romesburg N/CG221

R 231201Z MAY 94
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
CCGDSEVEN MIAMI FL//JJJ//
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ: REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: ~~H-10270~~ H-10536 ← THIS WAS CHANGED before sending EJV
SURVEY TITLE: APPROACHES TO TAMPA BAY, FLORIDA
STATE: FLORIDA
GENERAL LOCALITY: TAMPA BAY
SUBLOCALITY: EGMONT CHANNEL SAFETY FAIRWAY
PROJECT NUMBER: OPR-J343-MI-94, NOAA SHIP MT MITCHELL

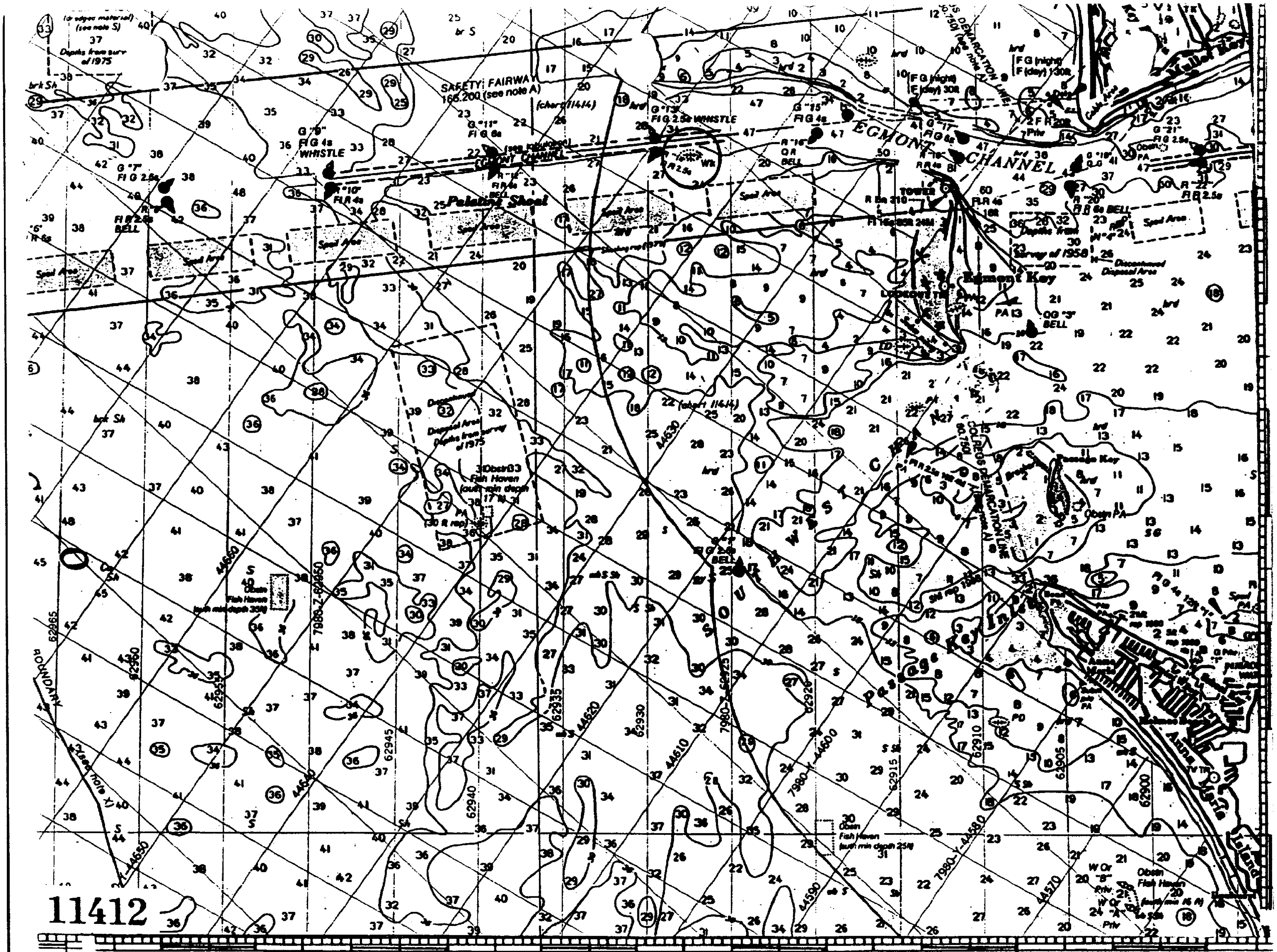
THE FOLLOWING ITEM WHICH IS A POTENTIAL DANGER TO NAVIGATION WAS DISCOVERED DURING HYDROGRAPHIC SIDE SCAN SONAR SURVEY AND DIVING OPERATIONS BY THE NOAA SHIP MT MITCHELL:

OBJECT DISCOVERED: A SUBMERGED SUNKED BARGE WAS DISCOVERED AT POSITION 27-36-24.183N6, 082-48-24.298W7. THE DIMENSIONS OF THE BARGE ARE APPROXIMATELY 26FT X 12FT X 5FT (7.8M X 3.8M X 1.6M). THE LEAST DEPTH OF THE BARGE IS 22.6FT (6.9M) CORRECTED TO MLLW USING PREDICTED TIDES. THE CHARTED WATER DEPTH IS 27 FT (8.2M). THE POSITION OF THE BARGE WAS DETERMINED USING DIFFERENTIAL GPS.

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11412	11414
EDITION NUMBER	35TH	34TH
DATE	24 APR 93	9 JAN 93
CHARTED HORIZ. DATUM	NAD 83	NAD 83
GEOGRAPHIC POSITION		
LATITUDE	27-36-24.183N	
LONGITUDE	082-48-24.298W	

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



EGMONT CHANNEL
SAFETY FAIRWAY
Egmont Key
Passage Key
Palatine Shoal
COLREGS DEMARCATION LINE
Anna Maria Island
BOUNDARY
11412

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship MT. MITCHELL S-222
439 W. York Street
Norfolk, VA 23510-1114

June 8, 1994

MEMORANDUM TO: Rear Admiral Freddie L. Jeffries, NOAA
Director, Atlantic Marine Center

FROM: Captain Nicholas A. Prahl, NOAA
Commanding Officer, NOAA Ship MT MITCHELL

SUBJECT: Danger to Navigation Reports

On 8 June 1994, MT MITCHELL submitted one report of a danger to navigation (Date/Time Group 081200Z JUN 94).

The message was addressed to NOAAMOA NORFOLK VA, CCGD SEVEN MIAMI FL, and DMAHTC (NAVWARN) WASHINGTON DC//MCNMN//. A copy of this message and an accompanying chartlet has been attached. In accordance with HSG 66, a copy of this memorandum, radio message, and chartlet will be forwarded to N/CG221.

Attachments

cc: Mr. Dennis Romesburg N/CG221

MP 6/7/11

R 081200Z JUN 94
FM NOAAS MT MITCHELL
TO NOAAMOA NORFOLK VA
CCGDSEVEN MIAMI FL //JJJ//
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
BT
UNCLAS

SUBJ REPORT OF DANGER TO NAVIGATION

HYDROGRAPHIC SURVEY REGISTRY NUMBER: H-10536
SURVEY TITLE: APPROACHES TO TAMPA BAY AND VICINITY
STATE: FLORIDA
GENERAL LOCALITY: TAMPA BAY
SUBLOCALITY: EGMONT CHANNEL
PROJECT NUMBER: OPR-J343-MI-94

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

OBJECT DISCOVERED: A SUBMERGED LARGE METAL TANK WITH THE FOLLOWING DIMENSIONS: 4 FT (1.1 M) X 23 FT (7.0 M) X 11 FT (3.4 M). THE OBJECT IS AT POSITION 27-36-22.892N1 082-47-10.401W7 AND HAS A LEAST DEPTH OF 20 FT (6.1 M) CORRECTED TO MLLW USING PREDICTED TIDES. THE SURROUNDING DEPTH IS 24 FT (7.2 M).

THIS ITEM AFFECTS NAUTICAL CHARTS:

CHART NUMBER	11414	11412	11411
EDITION NUMBER	34	35	8
DATE	1 JAN 93	24 APR 93	14 NOV 92

CHARTED HORIZ. DATUM NAD 83
GEOGRAPHIC POSITION
LATITUDE 27-36-22.892N1
LONGITUDE 082-47-10.401W7

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

NOAA Ship MT MITCHELL
Least-Depth Dive Investigations

Dive Operations Information: GAUGE S/N __ 0-21 m S/N 245419
__ 0-42m S/N 245418
__ 0-70m S/N 8302079N

DATE/DN: 5 June 94 / 156 Project/Sheet: C

Dive Supervisor: Williams Dive Item #: C-1

Vessel #: M.I 6 AWOIS #: N/A

DIVE #1

DIVERS; 1 Swallow (2900) 2 Mann (2900)

TIME IN: 0911 Pressure In: 2800/2900

TIME OUT: 0930 Pressure Out: 1700

BOTTOM TIME: 19 m MAX DEPTH: 25

PROFILE:

- found tank or large container, Decomposed heavily encrusted in Seagrowth. Highest pt. extended 16 m off the bottom. A leadline least depth was taken of 6.7 m (6.1 m CD) opposite it was nearly buried completely. Surrounding depths were 24-29 (7.3 m)

PNEUMOFATHOMETER CALIBRATED: Y N

LEAST-DEPTH DETERMINATION ☐ Pneumogauge ☐ Leadline ☐ Depth gage /Other

DP FIX NUMBER(s): 8415 AVERAGE DEPTH READING: 6.7m (leadline raw depth)

FATHOMETER DEPTH: 6.8 TIME OF READINGS (GMT): 13:38:40

DRAFT CORRECTOR: + .5 PREDICTED TIDE CORR.: - .6 0

VELOCITY CORR.: + .2 CORRECTED LEAST-DEPTH: 6.1m (19FT)

PRED. TIDE CORR.: - .6 ⇒ 6.9m HAZNAV REPORT FILED: (Y) N

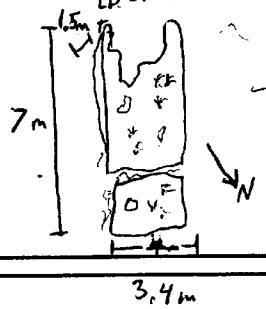
READING #1: _____ DP Fix - 8415

READING #2: _____

READING #3: _____

AVG : _____

LD 6.7m → 6.1 (pre tides)

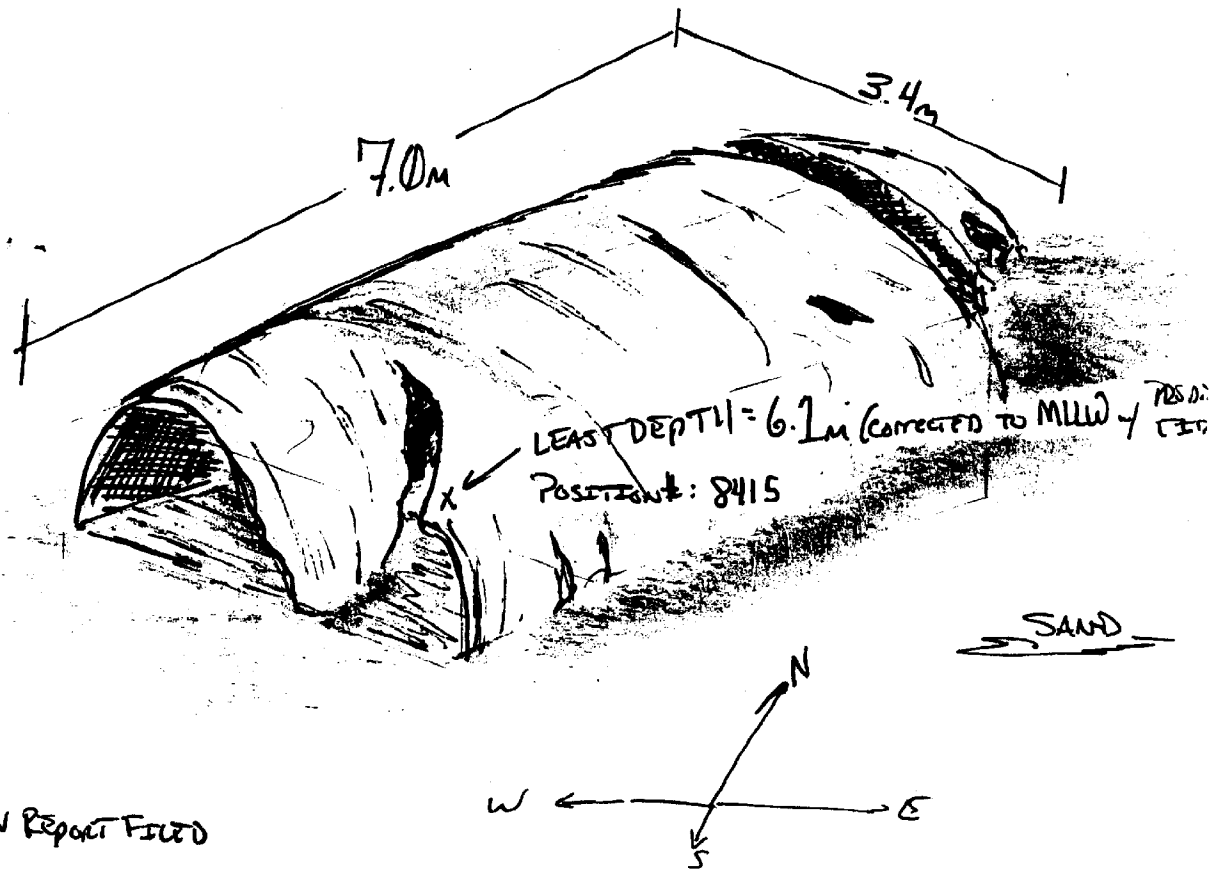


POSITION / SUPPORTING INFORMATION

LAT: 027:36:22.892 LONG: 082:47:10.401

* SEE SECTION N. Pg 15 OF THE DESCRIPTIVE REPORT FOR CHARTING RECOMMENDATION

C1



HAZNAV REPORT FILED

NOAA Ship MT MITCHELL
Least-Depth Dive Investigations

Dive Operations Information: GAUGE S/N __ 0-21 m S/N 245419
__ 0-42m S/N 245418
__ 0-70m S/N 8302079N

DATE/DN: 22 May 94/142 Project/Sheet: H-10536 "C"

Dive Supervisor: Soracco Dive Item #: "C-2"

Vessel #: 2226 AWOIS #: N/A

DIVE #

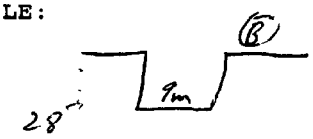
DIVERS: 1 Swallow 2 Mann

TIME IN: 13:06 Pressure In: 1250

TIME OUT: 13:15 Pressure Out: 800

BOTTOM TIME: 9 min MAX DEPTH: 28'

PROFILE:



PNEUMOFATHOMETER CALIBRATED: Y N

LEAST-DEPTH DETERMINATION ☐ Pneumogauge ☒ Leadline ☐ Depth gage /Other

DP FIX NUMBER(s): 7360 AVERAGE DEPTH READING: 7.1

FATHOMETER DEPTH: 7.0 TIME OF READINGS (GMT): 17:32

DRAFT CORRECTOR: + .5 PREDICTED TIDE CORR.: - -.4

VELOCITY CORR.: + .2 Corr fathos = 7.5 CORRECTED LEAST-DEPTH: 6.9' (22 FT)

PRED. TIDE CORR.: - -.2 HAZNAV REPORT FILED: (Y) N

READING #1: _____

READING #2: _____ Sunken Barge

READING #3: _____ Surrounding depths 8.7 - 9.0 m

AVG : _____

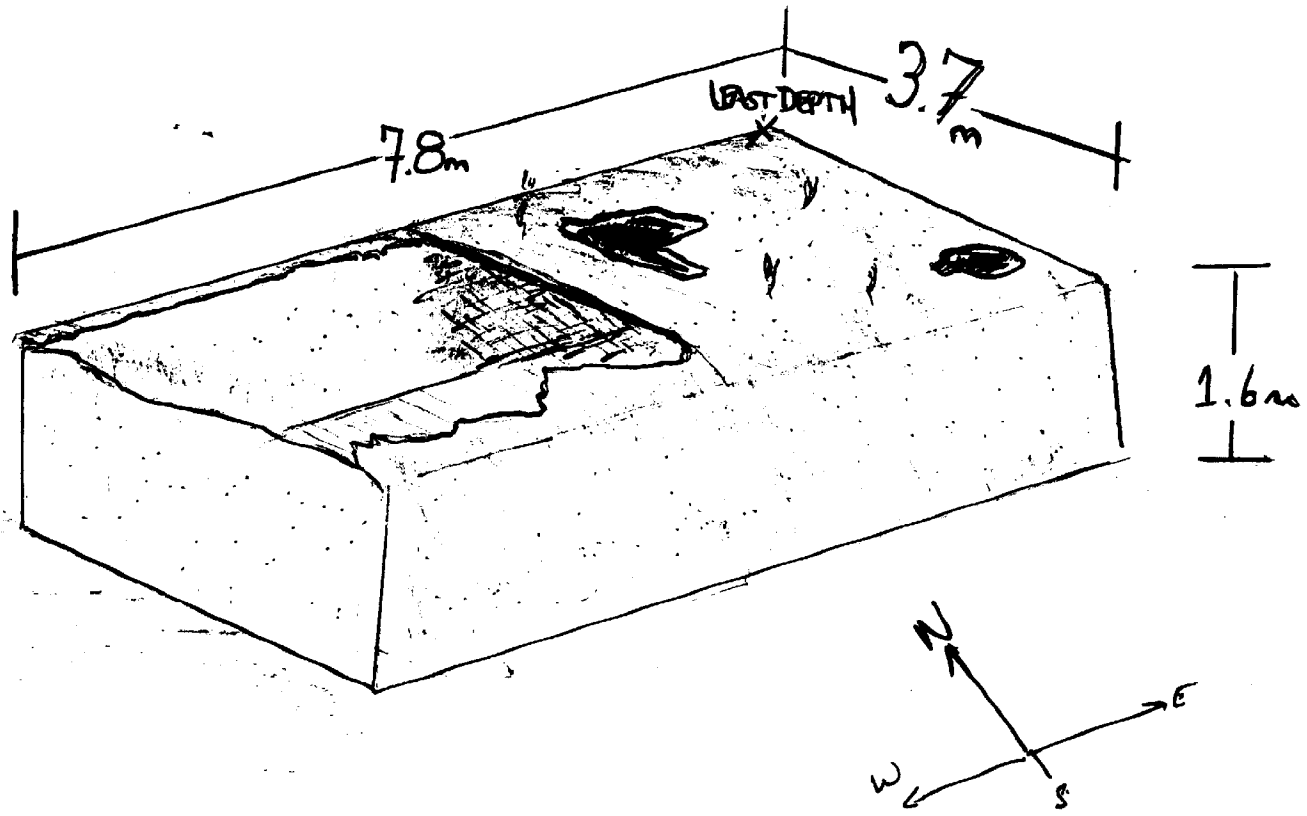
POSITION / SUPPORTING INFORMATION

LAT: 027: 36: 24.183 LONG: 082: 48: 24.298

SEE ALSO SECTION N., PAGE 16, OF THE DESCRIPTIVE REPORT.

C2

LEAST DEPTH = 6.9m
POSITION #: 7360



NOAA Ship MT MITCHELL
Least-Depth Dive Investigations

Dive Operations Information: GAUGE S/N __ 0-21 m S/N 245419
__ 0-42m S/N 245418
__ 0-70m S/N 8302079N

DATE/DN: 5 June 94 / 156 Project/Sheet: C

Dive Supervisor: Williams Dive Item #: C-3

Vessel #: MI 6 AWOIS #: _____

DIVE # 2

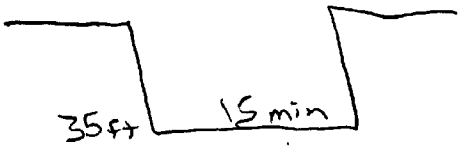
DIVERS: 1 Swallow (2900) 2 Man (2900)

TIME IN: 1018 Pressure In: _____

TIME OUT: 1033 Pressure Out: 2100

BOTTOM TIME: 15 MAX DEPTH: 35

PROFILE:



- found remains of a possible barge buried in the bottom & heavily covered in seagrowth. Highest pt. was only 16 m off the bottom no LD determination was required

PNEUMOFATHOMETER CALIBRATED: Y N

LEAST-DEPTH DETERMINATION ☐ Pneumogauge ☐ Leadline ☐ Depth gage /Other

DP FIX NUMBER(s): N/A AVERAGE DEPTH READING: _____

FATHOMETER DEPTH: _____ TIME OF READINGS (GMT): _____

DRAFT CORRECTOR: + _____ PREDICTED TIDE CORR.: - _____

VELOCITY CORR.: + _____ CORRECTED LEAST-DEPTH: _____

PRED. TIDE CORR.: - _____ HAZNAV REPORT FILED: Y N

READING #1: _____

READING #2: _____

READING #3: _____

AVG : _____

POSITION / SUPPORTING INFORMATION

LAT: _____ LONG: _____

SEE ALSO SECTION N., PG 17, OF THE DESCRIPTIVE REPORT.

NOAA Ship MT MITCHELL
Least-Depth Dive Investigations

Dive Operations Information: GAUGE S/N __ 0-21 m S/N 245419
— 0-42m S/N 245418
— 0-70m S/N 8302079N

DATE/DN: 22 MAY 1994 / 142 Project/Sheet: H-10536/C

Dive Supervisor: SORACCO Dive Item #: C4

Vessel #: 2226, MI-1 AWOIS #: —

DIVE #

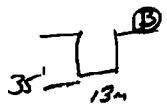
DIVERS: 1 SWALLOW 2 MANN

TIME IN: 1222 LT Pressure In: 3000

TIME OUT: 1235 LT Pressure Out: 1250

BOTTOM TIME: 13m MAX DEPTH: 35'

PROFILE:



PNEUMOFATHOMETER CALIBRATED: Y N

LEAST-DEPTH DETERMINATION ☐ Pneumogauge ☒ Leadline ☐ Depth gage /Other

DP FIX NUMBER(s): 7359 AVERAGE DEPTH READING: 9.3

FATHOMETER DEPTH: 8.5 TIME OF READINGS (GMT): 164300

DRAFT CORRECTOR: + 0.5 PREDICTED TIDE CORR.: - -0.4

VELOCITY CORR.: + 0.3 CORRECTED LEAST-DEPTH: 8.96 (28FT)

PRED. TIDE CORR.: - -0.4 =8.9 HAZNAV REPORT FILED: Y N

READING #1: _____

READING #2: _____

READING #3: _____

AVG : _____

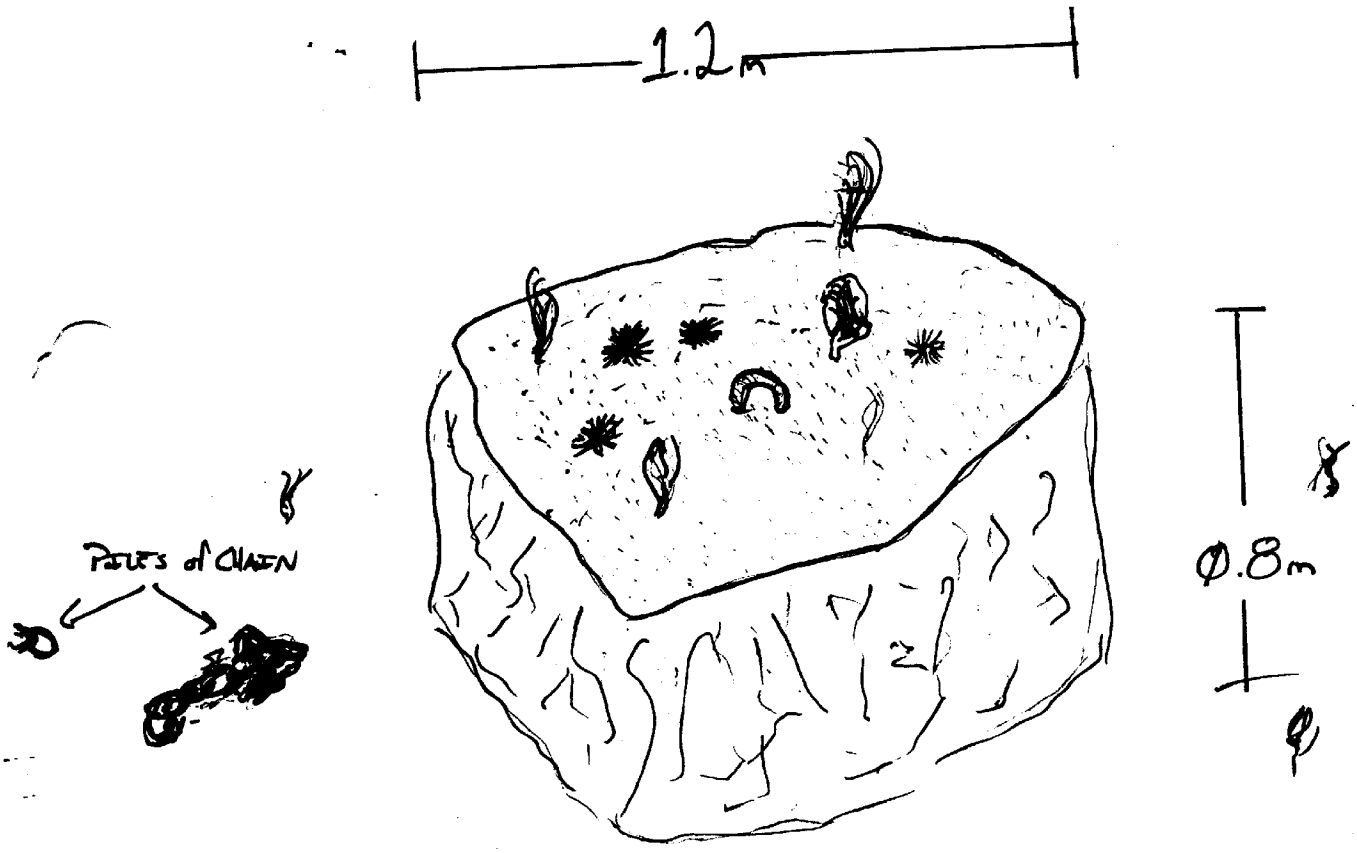
old Buoy Anchor w/ same chain

POSITION / SUPPORTING INFORMATION

LAT: 27 36 24.~~788~~ 999 N LONG: 082 49 05.~~953~~ 884 W

SEE ALSO SECTION N, PAGE 17, OF THE DESCRIPTIVE REPORT

C4



NOAA Ship MT MITCHELL
Least-Depth Dive Investigations

DATE/DN: 4 May 95 / 124 Project/Sheet: C

Dive Supervisor: J Mann Dive Item #: C1-95

Vessel #: 1/4 AWOIS #: N/A

DIVE # 5

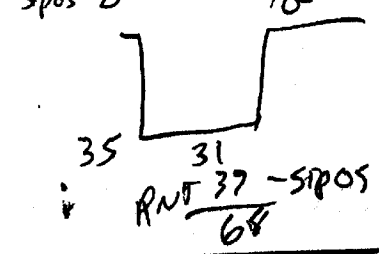
DIVERS: 1 Smallow 2 SIPOS

TIME IN: 1358 Pressure In: 3000/3100

TIME OUT: 1429 Pressure Out: /1500

BOTTOM TIME: 31 MAX DEPTH: 35

PROFILE:



DESCRIPTION: Metal Container or tank, heavily encrusted with marine growth

LEAST-DEPTH DETERMINATION ☐ Leadline # MOD III Depth gage S/N: 68137

SEACAT CTD S/N: -284

CTD CAST #: 3 951242a.7

PREDIVE MOD III GAUGE PRESSURE: 14.74 psia

AVG. LEAST DEPTH GAUGE READING: 27.27 psia

TIME OF LEAST DEPTH READING (GMT): 1824

Leadline 8.4

DP FIX NUMBER(s): 3

FATHOMETER DEPTH: 8.0

DRAFT CORRECTOR: + .5

VELOCITY CORR.: + .2

PRED. TIDE CORR.: - .6

CORRECTED FATHO DEPTH: 8.1

COMPUTED LEAST DEPTH READING: 8.62 ~~psia~~ db

COMPUTED LEAST DEPTH: 8.88 meters

PREDICTED TIDE CORR.: - .6

CORRECTED LEAST-DEPTH: 8.1 meters

HAZNAV REPORT FILED: Y N

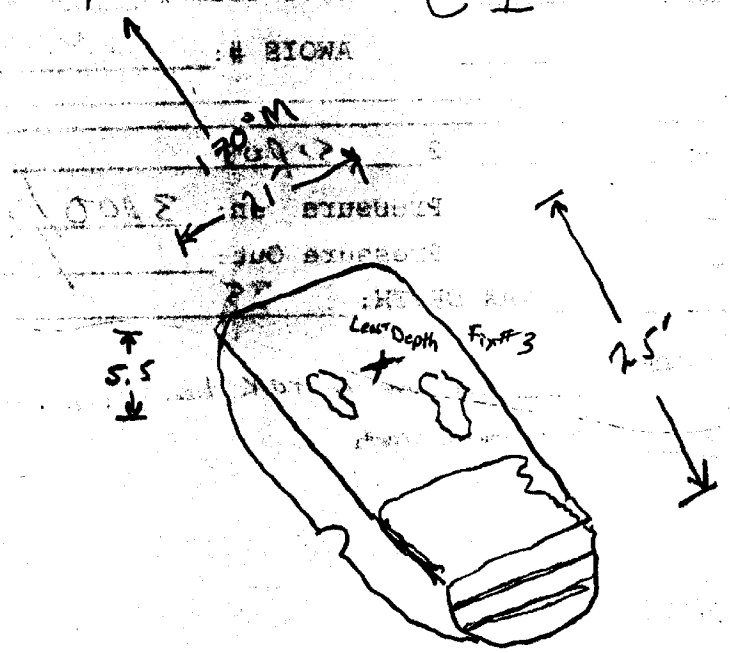
See Section N. of the Evaluation Report

POSITION / SUPPORTING INFORMATION

LAT: 027.36.19.439 LONG: 082.49.16.208

EASTING: ~~153750~~ 32974.5 NORTHING: 15375.0

C1-95



LEAST DEPTH USING SHLGAUGE PROGRAM VERSION 2.2

NOAA UNIT: HI 1 YEAR 1995
AWOIS NUMBER: CONTACT NUMBER: SHEET C ITEM C1
DAY-OF-THE-YEAR 124 LATITUDE 27/26/19 N
START TIME 21:06 LONGITUDE 082/49/16 W

95124 2106

CAST MEASUREMENT INSTRUMENT SEACAT S/N:284 CD:02/24/95
LEAST DEPTH DIVER GAUGE, SERIAL NUMBER 68337

C1-95

DIVER'S PREDIVE GAUGE PRESSURE 14.74 psia
DIVER'S GAUGE PRESSURE AT DESIGNATED LEAST DEPTH 27.27 psia

COMPUTED PRESSURE AT DESIGNATED LEAST DEPTH 8.62 decibars
COMPUTED LEAST DEPTH 8.68 meters

Time of LD Measurement (UTC): 1824

LD Measurement (m): 8.68

Tide Corrector (m): 0.6

Corrected Least Depth (m): 8.08 → 8.1 M

Comments:

8.1 M ⇒ 26.6 FT (MOD III DEPTH)

FATHO LD = 8.1 M

ITEM IN 9.0 M of WATER ⇒ 29.5 FT

Recommendation:

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship MT. MITCHELL S-222
439 W. York Street
Norfolk, VA 23510-1114

June 28, 1994

MEMORANDUM FOR: Thomas Jackson
Chief, Coast Pilot Section

FROM: Captain Nicholas A. Prahl, NOAA
Commanding Officer
NOAA Ship MT MITCHELL

SUBJECT: Coast Pilot Report for Hydrographic Project OPR-J343-MI-94, Approaches to Tampa Bay, Florida

The survey was conducted from 23 April - 08 June. During this period survey operations covered Egmont channel near buoys 5 and 6 east to buoys 21 and 22 in Mullet Key channel. The Southwest channel and anchorage east of Egmont Key were also covered. Other observations were made during the transits of the ship to port at St. Petersburg.

The Coast Pilot reviewed for the project area was Coast Pilot 5, 24th Edition, 1993. Items of note are listed here with the affected page and paragraph numbers.

Page 128, (17): The radiobeacon on the North end of Egmont Key began transmissions as a differential GPS beacon in April of this year at 310.0 KHz and 200 bps. The reference station equipment is supplied and maintained by the state of Florida, and the U.S. Coast Guard has allowed the equipment to be connected to the marine beacon. This beacon will not be part of the final Coast Guard network of differential beacons. A new beacon will be established at another location in the future. The beacon tower is a red and white painted metal structure approximately 25 meters east of the Egmont Key Light.

The buildings near the center of Egmont Key are no longer part of a Coast Guard station. There is one building designated as the Tampa Bay Pilots dispatch station. Several other small buildings are temporary homes for pilots. In addition, the pilot boats are docked at the pier at this center inshore part of the key. Depths of 3.5 meters were reported at the pier. There is a prominent communications tower near the pilot station lookout tower.

Shoaling exists at the small pier just inside the north end of the key. Depths of 2.5 meters or less were observed by MT MITCHELL personnel.

Small recreational vessel traffic were observed as heavy during the weekends and holidays of the survey period primarily near the state parks of Egmont and Mullet keys.

Page 128, (18): The water tank shape on St. Jean Key should be noted as spherical supported by one column. A tower with red aircraft warning lights stands out near the north end of Mullet Key, approximate position 27° 38.6' N, 82° 44.2' W, determined by MT MITCHELL anchor bearings.

Page 129, (79): In the vicinity of buoys 7 & 8 of Egmont channel, depths as shallow as 7.7 meters were observed extending from the spoil areas northward to the southern edge of the channel.

Page 129, (81): Reported shoaling position was observed at 27° 36.1' N, 82° 44.3' W with depths as shallow as 7.3 meters.

Page 129 (85): A Physical Oceanographic Real Time System (PORTS) has been established in Tampa Bay. The system provides real time current, water level, and wind measurements at multiple locations. Data is disseminated by telephone voice response on 813-822-5836, as well as modem dial up on 813-822-5931, 8 data bits, 1 stop bit, no parity, keyword PORTS. In addition, Tampa Bay PORTS data are broadcast over NOAA weather Radio hourly.

Page 130, (93): The pilot boats TAMPA and ST. PETERSBURG are no longer used. The boats kept at the pilot station and used to transfer pilots to vessels are named MANATEE, DE SOTO, and EGMONT.

Page 130, (95): Vessels are requested to have pilot ladders 2.5 meters above the water.

Page 138, (256): There is an airport runway near the entrance to the Port of St. Petersburg with low flying private aircraft.

SPECIAL NOTE: Survey data (depths) are subject to final verification.

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: December 5, 1994

MARINE CENTER: Atlantic

HYDROGRAPHIC PROJECT: OPR-J343

HYDROGRAPHIC SHEET: H-10536

LOCALITY: Tampa Bay, Florida

TIME PERIOD: May 3 - June 6, 1994

TIDE STATION USED: 872-6384 Port Manatee, Tampa Bay, Fl.
Lat. 27° 38.2'N Lon. 82° 33.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 7.88 ft.
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.9 ft.

TIDE STATION USED: 872-6430 St. Petersburg Beach, South End, Fl.
Lat. 27° 41.0'N Lon. 82° 44.3'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 9.73 ft.
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.1 ft.

REMARKS: RECOMMENDED ZONING

1. East of 82° 55.0'W, and west of a line between the southern point of Mullet Key and Bean Point on Anna Maria Key, times are direct and apply a X0.95 ratio to heights using St. Petersburg Beach, Fl. (872-6430).

2. East of a line between the southern point of Mullet Key and Bean Point on Anna Maria Key, apply a -36 minute time correction, and a X0.96 ratio to heights using Port Manatee, Fl. (872-6384).

Notes: Times are tabulated on Greenwich Mean Time.
Data for Port Manatee, Fl. (872-6384) and St. Petersburg Beach, Fl. (872-6430) are stored in temporary files #672-6384 and #672-6430 respectively.

William M. Hatcher

CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10536

Name on Survey	A ON CHART NO. 1414	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	
EGMONT CHANNEL	X		X							1
EGMONT KEY	X		X							2
FLORIDA (title)	X		X							3
MEXICO, GULF OF	X		X							4
TAMPA BAY	X		X							5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
					Approved					20
					Chief Geographer					21
										22
										23
					SEP 27 1995					24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

05/16/96

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H-10536

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	3483
NUMBER OF SOUNDINGS	18286

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	38	12/19/94
VERIFICATION OF FIELD DATA	141	09/26/95
QUALITY CONTROL CHECKS	0	
EVALUATION AND ANALYSIS	42	
FINAL INSPECTION	34	10/04/95
COMPILATION	44	05/08/96
TOTAL TIME	299	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 10/30/95

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H-10536 (1994)

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.

During office processing of the present survey, one item was identified that required additional field work for verification or disproval. The Addendum to the Descriptive Report for the 1995 field work for this item is appended to 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)
AUTOCAD, Release 12
NADCON, version 2.10

The smooth sheet was plotted on 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 sheets have been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27, move the projection lines 1.118 seconds (34.40 meters or 3.44 mm at the scale of the survey) north in latitude, and 0.633 seconds (17.35 meters or 1.74 mm at the scale of the survey) east in longitude.

J. SHORELINE

Brown shoreline originates with a 1:10,000 scale 11414 enlargement of National Ocean Service (NOS) chart ~~14414~~ (34th Edition, Jan. 9/93) and is shown on the smooth sheet for orientation purposes only.

GKM 4/18/96

L. JUNCTIONS

H-10270 (1994) to the southeast
H-10539 (1994-95) to the west
H-10598 (1995) to the east

A standard junction was effected between the present

survey and survey H-10270 (1994).

A standard junction could not be effected with surveys H-10539 (1994-95) and H-10598 (1995). These junctional surveys have not reached the sounding stage of office processing. Any adjustments to the depth curves in the junctional areas will have to be made on the chart during compilation.

There are no contemporary surveys to the north and south of the present survey. Present survey depths are in harmony with the charted hydrography to the north and south.

M. COMPARISON WITH PRIOR SURVEYS

Hydrographic

H-8427 (1958) 1:20,000

Prior survey H-8427 (1958) is common to the present survey in its entirety. Present survey depths within Egmont Channel are 4 to 10 feet (1^2 to 3 m) deeper than prior survey depths. Present survey depths outside of the channel area are generally 1 to 8 feet (0^3 to 2^4 m) shoaler than prior survey depths. Scattered present survey soundings in the vicinity of Latitude 27°35'53"N, Longitude 82°49'00"W are 12-14 ft (3^6 to 4^2 m) shoaler than prior survey soundings. The differences between the above prior survey and the present survey may be attributed to dredging, natural changes, and improved hydrographic surveying methods and equipment.

The present survey is adequate to supersede the prior surveys within the common area.

N. ITEM INVESTIGATIONS

During office processing of the 1994 field data, an uncharted dangerous submerged obstruction with a fathometer depth of 23 feet (7^2 m), in Latitude 27°36'19.406"N, Longitude 82°49'16.142"W, was noted. The fathometer trace clearly shows an obstruction rising 5.5 to 6 feet (1^7 to 1^8 meters) off the bottom. This item was recommended for additional work during the 1995 field season. During the 1995 field season a dive investigation located a metal container extending 5.5 feet off the bottom. A depth of 26 feet (8^1 m), using predicted tides, was obtained on the obstruction using a MOD III Depth Gauge. Present survey depths are 28 feet (8^5 m)in the immediate area. The 1994

fathometer image of the obstruction shows a height comparable with the diver's description. Inconsistencies between the discussion in the Addendum to the Descriptive Report, the fathograms and the dive report make it difficult to accept the 1995 depth. It is recommended that the 23 foot (7^2 m) depth obtained during the 1994 field season be used. It is recommended that a dangerous submerged obstruction with a depth of 23 feet (7^2 m) (23 *Obstn*) be charted as shown on the present survey.

O. COMPARISON WITH CHARTS 11411 (8th Edition, Nov. 14/92)
11412 (35th Edition, Apr. 24/93)
11414 (34th Edition, Jan. 9/93)

Hydrography

The charted hydrography originates with the previously discussed prior survey and needs no further discussion. The hydrographer makes an adequate chart comparison in sections N. and O. of the Descriptive Report. The following should be noted:

A charting recommendation for the Discontinued Disposal Area with the note Depths from surveys of 1958-1991, in the vicinity of Latitude 27°35'36"N, Longitude 82°44'30"W can be found in the Descriptive Report for H-10270.

Three charted Spoil Areas in the vicinities of Latitude 27°35'42"N, Longitude 82°50'42"W, Latitude 27°35'54"N, Longitude 82°49'06"W, and Latitude 27°36'00"N, Longitude 82°47'36"W were developed by the hydrographer. It is recommended that the charted limits and the notations Spoil Area be retained and the blue tint be deleted within the limits of the spoil areas. Soundings in the common areas should be charted to reflect the present survey soundings.

The present survey is adequate to supersede the chart within the common area, except as indicated in para. 0.4 (OR, pg 19)
GLM 4/18/96

O.2 Dangers to Navigation

During office processing, one Danger to Navigation report was submitted 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. A copy of the report is appended to this report.

P. ADEQUACY OF SURVEY

This is an adequate hydrographic/side scan sonar survey. Additional work was recommended as discussed in section N. of this report and has been completed.

S. MISCELLANEOUS

Chart compilation using the present survey was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

MT MITCHELL Processing Team

Richard H. Whitfield
Cartographer
Verification and Evaluation and Analysis

APPROVAL SHEET
H-10505

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 printout of the survey has been made. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Date: 10/30/95

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: 10-30-95

Nicholas E. Perugini, CDR, NOAA
Chief, Atlantic Hydrographic Branch

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Final Approval:

Approved: Date: 4-18-96

Andrew A. Armstrong, III
Captain, NOAA
Chief, Hydrographic Surveys Division

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Norfolk, Virginia 23510-1114

November 17, 1994

Commander (oan)
Seventh Coast Guard District
Brickell Plaza Building
909 SE 1st Avenue
Miami, FL 33131-3050

Dear Sir,

The following item was discovered during office processing and is considered a danger to navigation.

REPORT OF DANGER TO NAVIGATION

Hydrographic Survey Registry Number...H-10536
State.....Florida
General Locality.....Tampa Bay Entrance
Sublocality.....Egmont Channel
Project Number.....OPR-J343-MI-94
Surveyed by.....NOAA Ship MT MITCHELL

Object Addressed:

An uncharted dangerous submerged obstruction was located 3.24 nautical miles bearing 275° True from Egmont Key Lighthouse in the following location on the North American Datum of 1983 (NAD 83):

Latitude 27°36'19.42"N
Longitude 82°49'16.14"W

The depth of this feature is 24 feet corrected to Mean Lower Low Water (MLLW) using predicted tides.

Affected Nautical Charts:

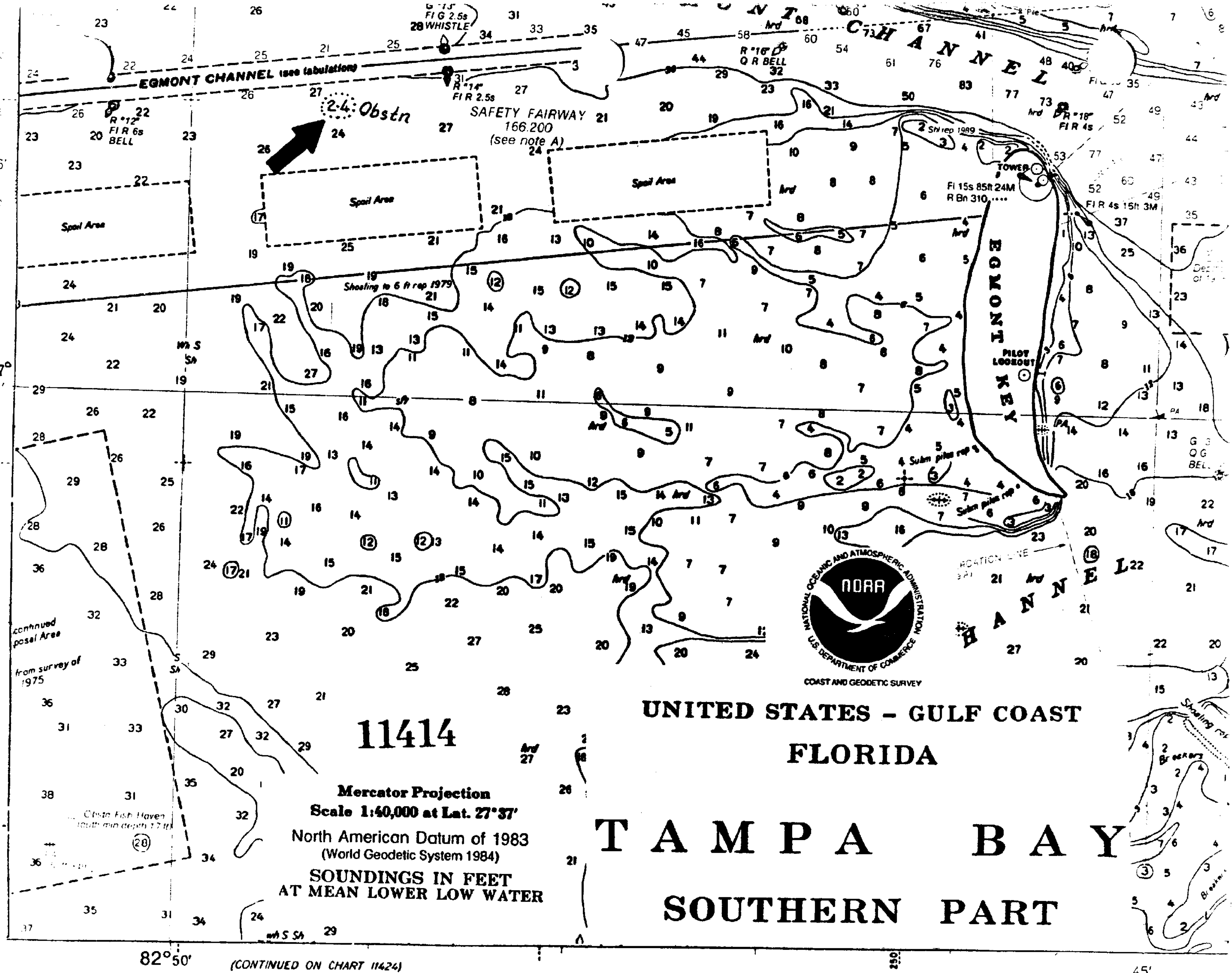
CHART NUMBER	EDITION NO.	EDITION DATE	REPORTED DEPTH	DATUM	GEOGRAPHIC POSITION LATITUDE	GEOGRAPHIC POSITION LONGITUDE
11411	9	Jun 4/94	24 ft	NAD 83	27°36'19.42"N	82°49'16.14"W
11412	35	Apr 24/93	24 ft	NAD 83	27°36'19.42"N	82°49'16.14"W
11414	34	Jan 1/93	24 ft	NAD 83	27°36'19.42"N	82°49'16.14"W

Questions concerning this report should be directed to the Atlantic Hydrographic Section, by calling 804 441-6746.

Sincerely,

Nicholas Perugini, CDR, NOAA
Chief, Atlantic Hydrographic Section

Attachment


EGMONT CHANNEL (see tabulation)
CHANNEL
2.4 Obstn
SAFETY FAIRWAY
166.200
(see note A)
Spoil Area
Spoil Area
Spoil Area
Shoaling to 6 ft rep 1979
EGMONT KEY
TOWER
PILOT LOOKOUT
Fl 15s 85ft 24M
R Bn 310
R "12" Fl R 6s BELL
R "14" Fl R 2.5s
G "15" Fl G 2.5s WHISTLE
R "16" Q R BELL
R "18" Fl R 4s
Fl R 4s 15ft 3M
Subm piles rep
Sh rep 1989
Breakers
from survey of 1975
(CONTINUED ON CHART 11412)
(CONTINUED ON CHART 11424)
27° 35′
36′
82°50′
45′
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
11414
Mercator Projection
Scale 1:40,000 at Lat. 27°37′
North American Datum of 1983
(World Geodetic System 1984)
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER
UNITED STATES – GULF COAST
FLORIDA
TAMPA BAY
SOUTHERN PART

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-10536

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
11414	5/6/96	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
~~11411~~			Drawing No.
11411	6/12/96	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
11412	11/13/96	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
11420	11/13/96	[signature]	Full Part Before After Marine Center Approval Signed Via
			Drawing No. Examine No Correction
			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.