10206

Diagram No. 1115-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. MI-40-4-85

Registery No. H-10206

LOCALITY

State Alabama

General Locality Gulf of Mexico

Sublocality Approaches to Mobile Bay

19 85

CHIEF OF PARTY
CAPT F.T. Smith

LIBRARY & ARCHIVES

DATE March 7, 1988

☆U.S. GOV. PRINTING OFFICE: 1985—566-054

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NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10206

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-40-4-85

State: ALABAMA

General locality: GULF OF MEXICO

Locality: APPROACHES TO MOBILE BAY

Scale: 1:40,000 Date of survey: OCT. 16 - DEC. 9, 1985

Instructions dated: AUGUST 26, 1985 Project No.: OPR-J217-MI-85

Vessel: NOAA SHIP MT MITCHELL (S-222)

Chief of party: FIDEL T. SMITH, CAPT., NOAA

Surveyed by: LT GREENAWALT, LT JOHNSON, LTJG RODRIGUEZ, LTJG RIX
ENS JEFFERS, ENS MONTGOMERY, ENS BRADLEY, ENS SCHATTGEN *

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

Graphic record scaled by: CST MARSH, CST HOPKINS, SST GARDNER, AST JONES
AST DEHLINGER, AST STOUT, JST ZOBY

Graphic record checked by: JOHNSON, MARSH, HOPKINS, GARDNER, JONES, DEHLINGER, STOUT, ZOBY

Protracted by: N/A Automated plot by: AMC *YNETICS 1201 PLOTTER

Verification by: ATLANTIC MARINE CENTER HYDROGRAPHIC SURVEYS PROCESSING SECTION

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

REMARKS: NOTES IN THE DESCRIPTIVE REPORT WERE MADE IN RED DURING OFFICE PROCESSING.

* LT C.B. GREENAWALT, LT M.R. JOHNSON, LT(jg). J.E. RIX, ENS M.W. JEFFERS, ENS C.A. MONTGOMERY, ENS C.J. BRADLEY, ENS P.L. SCHATTGEN, LT (jg). V.M. RODRIGUEZ

STANDARDS CK'D 3-10-88

C.Lot

ALWAYS ✓ 8/17/89 SV

SUPV

SC 1-31-97

KWW 11-26-90

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

☆ U.S. GPO: 1974-0-768-081/1207

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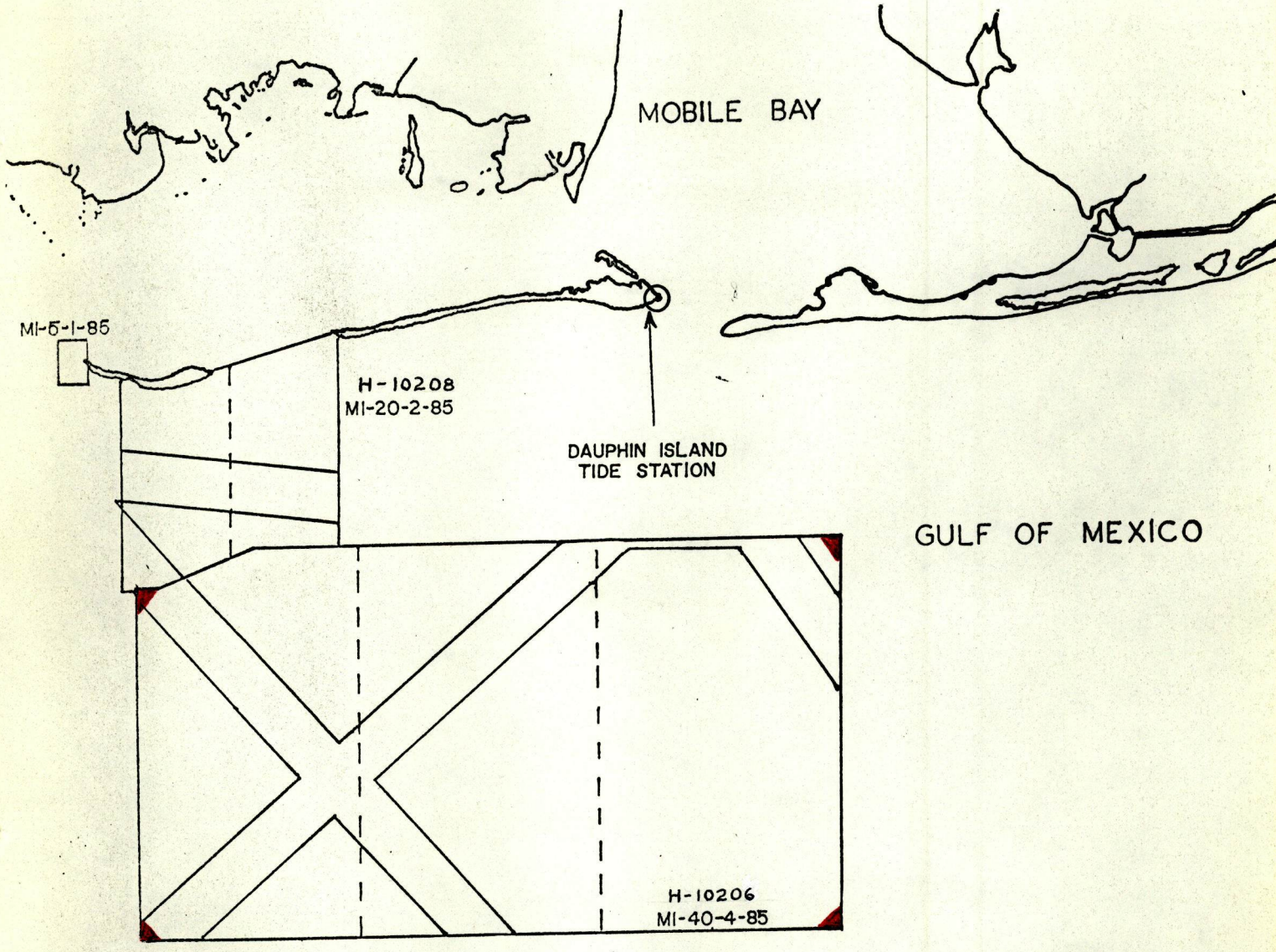


APPROACHES TO MOBILE BAY, ALABAMA

PROGRESS SKETCH
HYDROGRAPHIC OPERATIONS
NOAA SHIP MT. MITCHELL S-222
FIDEL SMITH, CAPT., NOAA
COMMANDING OFFICER

OCTOBER	NOVEMBER	DECEMBER	
0	74.5	56.6	LNM HYDRO (LAUNCH)
0	2.4	2.3	SNM HYDRO (LAUNCH)
736.5	3410.7	455.0	LNM HYDRO (SHIP)
72.5	273.8	430.6	SNM HYDRO (SHIP)
0	47.0	47.0	MISC NM (LAUNCH)
157.3	421.2	371.0	MISC NM (SHIP)
2	0	54	BOTTOM SAMPLES
1	2	1	NANSEN CASTS
0	12.2	28.2	SIDESCAN SONAR (LAUNCH)
0	0	0	SIDESCAN SONAR (SHIP)

Descriptive Report
To Accompany
Hydrographic Survey H-10206

A. PROJECT

The purpose of this project is to provide contemporary hydrographic survey data for existing nautical charts covering portions of the Gulf of Mexico at the approaches to Mobile Bay. This survey will increase the level of confidence of bottom mapping by reducing the hydrographic line spacing from 1/2 mile as recorded by the prior surveys, to 200 meters as recorded by the current work. In addition, modern techniques and equipment will provide more accurate information to replace the hydrography conducted during the 1920 and 1940 prior surveys.

This survey was conducted in accordance with Project Instructions OPR-J217-MI-85, issued August 26, 1985, and amended by Change No. 1, dated September 5, 1985 (Attachment 1).

Included in Attachment 2 of this report are two letters. The first, dated 10 October 1985, to the Commander of the Eighth U.S. Coast Guard District, contains information regarding the project for the Local Notice Notice to Mariners. The second is a letter to Mr. Fred Rees, Operations Director of Dauphin Island Sea Lab, requesting use of the Air Force radar dome building for a Mini-Ranger site. Verbal permission was granted by Mr. Rees but no written reply was received.

B. AREA SURVEYED

The survey area is in the Gulf of Mexico and consists of the portion of the approaches to Mobile Bay, Alabama, south of Dauphin Island and Petit Bois Island from the 10 fathom contour seaward to about 20 fathom. The survey is bounded as follows:

On the east by	087°	56.9'W
On the west by	088°	28.0'W
On the north by	30°	05.4'N
On the south by	29°	~~51.0~~ 50.0'N

The survey area is on the continental shelf which is the remnant of an ancient coastline inundated by the ocean's transgression. The ocean transgression was the result of the melting of the last great continental ice sheet. The bottom is composed of fine sand and silt. All of this ancient shoreline material is being carried westward by the prevailing longshore current.

Petit Bois Island and Dauphin Island form the nearest land about 8 miles north of the survey. They are long low barrier

islands about 10 miles off the coast of Alabama and Mississippi. The islands are composed of fine to medium grain sand and shells. Beach sand comes from the offshore continental shelf and is moved shoreward by fairweather winds. Both of the islands are being eroded by the longshore current on their eastern ends. The eroded material is being deposited on the western ends. Therefore Petit Bois Island, Dauphin Island, and the passes between them are moving westward.

The field work was accomplished between October 16, 1985, and December 9, 1985. Three hurricanes impacted the work on this project. Initially, sailing from Atlantic Marine Center for the working grounds was delayed one day on October 9 to allow Hurricane Isabel to pass. Hurricane Juan caused the MT MITCHELL to seek shelter in Pensacola Bay for 6 days from October 27 to November 1. Hurricane Kate sent the ship to Pascagoula to seek shelter for 2 days from November 20 to November 21.

C. SOUNDING VESSELS

The NOAA Ship MT MITCHELL and two of its survey launches were used as sounding vessels for this survey. The vessel numbers and the days they conducted operations follow:

EDP#	VESSEL	HULL NO.	DAY
2220	MT MITCHELL	S-222	295-299, 309-319, 326-329, 337, 339-342
2224	Jensen Launch	1012	318, 339, 341
2225	Jensen Launch	1002	341

The NOAA Ship MT MITCHELL is a Class II hydrographic survey ship. The Jensen launch is a standard 28-foot aluminum survey boat. No special or unusual modifications were made to any of these vessels and no problems were encountered.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

This survey was conducted using predicted tides on-line. Tide tapes were generated using Mobile, Alabama as the reference station for daily tide predictions. The control for datum determination was at Dauphin Island, Alabama (873-5180) and was under contract by Chapin and Associates, Inc., 4951 Woodlane Circle, Tallahassee, Florida. See the field tide note included in Appendix B.

Smooth tides were requested from Chief, Tides and Water Levels Branch, (N/OMS12) in a letter dated December 17, 1985. A copy of this letter is included in Appendix B.

For a list of the sounding equipment and corrections to echo soundings, see the SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS REPORT for OPR-J217-MI-85 (Attachment 4). SEE ALSO SECTION 4.d. OF THE EVALUATION REPORT.

Dual Channel Side Scan Sonar investigations were conducted by Launch 2224 on several pre-survey review items in the project area to supplement the echo sounding information. The side scan sonar unit was model 521 T, s/n 088, manufactured by EG&G. The unit was operated and maintained in accordance with manufacturer's technical manuals.

All survey records were scanned by the Survey Department personnel, Commissioned Officers, and were checked by the Officer-in-Charge. In scanning the DSF 6000N data, all significant peaks and deeps occurring between soundings, as well as incorrectly digitized soundings were inserted and corrected on the electronic corrector tape. Survey depths ranged from 48 to ~~118~~ 121 ft.

Soundings were collected in feet using predicted tides on line. The final field sheets were plotted using predicted tides.

E. HYDROGRAPHIC SHEETS (FIELD)

All field sheets were made aboard the MT MITCHELL with the PDP8/e computer and Hydroplot system. Hydrographic data is presented on three final 1:40,000 scale field sheets showing all mainscheme soundings, and on three overlays showing all crosslines, developments, bottom samples, and oceanographic casts. Two side-scan sonar investigation sheets are included with the survey as follows:

SCALE	ITEMS INVESTIGATED
1:10,000	AWOIS 03600, 03601
1:10,000	AWOIS 03603, 03605, 03606 plus Investigation of echogram spikes

Mechanical problems were experienced with the Hydroplot System plotter on board the MT MITCHELL. The final field sheets showed some spaces between sounding lines which appeared to be holidays. However, these spaces did not show on the rough plots; they were caused by plotter malfunctions. In addition, the plotter had difficulty drawing the X-Y grids on the field sheets and some grids mismatched by up to 1.5 mm when sheets were overlayed. A complete Hydroplot system overhaul was scheduled during the inport period following this project.

The field sheets contain some overprints due to overlap of sounding lines. No concentrated effort was made to eliminate the overprints since this work can be more efficiently accomplished at the Marine Center with excessing programs. However, when plotting developments and investigations on the overlays the plotter pen was raised to eliminate some overprints where no important information would be omitted.

Parameter tape printouts for all plotted sheets are included in Appendix A. All field records and tapes will be forwarded to

Atlantic Marine Center, 439 West York Street, Norfolk, Virginia for verification and smooth plotting.

F. CONTROL STATIONS

Horizontal control was established in the survey area for the placement of ARGO navigation stations and the placement of Mini-Ranger Falcon stations used for electronic calibration of the ARGO equipment. All control stations used the North American Datum of 1927. A list of all signal names and geographic positions is included in Appendix F of this report.

A detailed description of all geodetic work used for this project can be found in the Horizontal Control Report which was forwarded to N/MOA2x1, Atlantic Marine Center. A copy is included as Attachment 3.

G. HYDROGRAPHIC POSITION CONTROL SEE SECTION 4.e. OF THE EVALUATION REPORT.

A complete description of the position control for this survey is included with this report as Attachment 5, HYDROGRAPHIC POSITION CONTROL REPORT. The calibration values were checked by three different methods during operations: range-range, range-azimuth, and circle calibration. The checks were in agreement, and the calibration data are adequate to apply to the raw positioning data and to provide assurance of acceptable electronic position control. ANDIST correctors used in the field are:

VESNO 2220	ANDIST = +6.0
VESNO 2224	ANDIST = -3.5
VESNO 2225	ANDIST = -3.5

H. SHORELINE

No shoreline exists in the survey area. No control stations exist seaward of the shoreline.

I. CROSSLINES SEE SECTION 3. OF THE EVALUATION REPORT.

A total of 286.7 miles of crosslines were surveyed. This represents 7.7% of the total mainscheme miles and satisfies the criteria of the Hydrographic Manual, Section 1.4.2 (5 to 6% requied). Crosslines were run between 45 degrees and 90 degrees to the mainscheme orientation except that one line along the course of each of the safety fairways was included as a crossline. Two lines in each safety fairway were run along the inside and outside quarters.

Crossline and mainscheme hydrography were in agreement in accordance with the criteria of the Hydrographic Manual Section 1.1.2 Part B.II.1.

J. JUNCTIONS SEE SECTION 5. OF THE EVALUATION REPORT.

This survey junctions with the following surveys:

REG. NO.	FIELD NO.	AREA OF JUNCTION	SCALE	DATE
H-10113	WH-40-1-85	Southern limit	1:40,000	1983
H-10001	WH-40-1-82	Southern limit	1:40,000	1982

There is excellent agreement between the depth soundings obtained by this survey and all junction soundings. These junctions meet the criteria of the Hydrographic Manual Section 1.1.2 Part B.II.1.

K. COMPARISON WITH PRIOR SURVEYS SEE SECTION 6. OF THE EVALUATION REPORT.

AWOIS Items 03603 and 03604 originated with prior survey *H-9452 WD. Item 03603 at 30° 01' 06.00"N, 088° 06' 30.00"W, is reported to be a pile of debris and is charted as a fish haven. Sidescan investigation verified the location as previously reported by the RUDE & HECK. The RUDE and HECK cleared the item at 65.5 67 feet by wire drag in 1974. A low frequency spike rising to 74 feet** was recorded during mainscheme hydrography but no least depth over the item was obtained during the current survey. The bottom depth in the area is 79 feet. We recommend that it remain charted as is.

*FE-276WD(1974) **POSITION: LATITUDE 30° 01' 04.47"N (740BSTR)-2889+7 LONGITUDE 88° 06' 28.05"W SEE SECTION 6. OF THE EVALUATION REPORT

The one full investigation item, AWOIS 03604, was located previously by the RUDE & HECK in 1974 at 30° 01' 21.60"N, 088° 07' 10.80"W, and was reported to be a wooden hull. The RUDE and HECK cleared the item to a depth of 67.5 66 feet by wire drag. The depth at the location is 79 feet. The item was given a low priority for sidescanning by the ship and was not investigated during this survey. Possible scouring was noted on the echogram of the current survey at 30° 01'21.8 21.4"N, 088° 07'12.1 13.8"W (position 2748 + 8) indicating the probable existence of this item. We recommend that it remain as charted. SEE SECTION 6. OF THE EVALUATION REPORT.

Prior surveys available for comparison are as follows:

REG. NO.	SCALE	YEAR SURVEYED
H-4139	1:80,000	1919-1920
H-4171	1:80,000	1920
H-6552	1:40,000	1940
H-6554	1:40,000	1940
H-6688	1:40,000	1941
H-9374WD	1:40,000	1973
H-9452WD	1:40,000	1974 - CHANGED TO FE 276WD (1974)

The project instructions also listed surveys H-4020, H-4023, H-4023a, H-4212, H-4223, H-8526, H-9109, and H-9118. Comparisons

were not made with these surveys since they were not within this survey area.

Comparison with H-4171 showed that in general the depth is now about 1 to 3 feet shoaler that it was in 1920. This is probably due to silting from run-off carried to sea by the rivers along the Gulf Coast. Following Hurricane Juan, muddy water was observed as far south as 29° 58.5'N. CONCUR

Comparison with H-6552 showed that in general the depth is now about 1 to 2 feet deeper than it was in 1940. The explanation for this difference probably lies in the velocity correctors. Correctors of up to 6 feet were calculated for this part of the Gulf during the current survey. Since today's methods are more accurate that the methods of 1940, it is suggested that the current survey depths are correct and the 1940 survey depths are in error. CONCUR

Depth soundings obtained during this survey, however, are in agreement with the soundings obtained from all of these prior surveys in accordance with the criteria of the Hydrographic Manual Section 1.1.2 Part B.II.1 except as follows:

1. In eight cases, soundings or small groups of soundings from prior surveys were found to be deeper than the current observations by 1 to 2 feet more that the criteria of the Hydrographic Manul. Since the current observations are shoaler, it is recommended that this survey supersede the prior surveys. CONCUR

2. In two cases, soundings from the prior surveys were shoaler:

a. At 30°04.6'N, 088°25.1'W, a prior sounding from H-6552 of 56 feet is located in an area sounded at 57-58 feet by the MT MITCHELL. This is in the junction area with concurrent survey H-10208 and was investigated with a mainscheme line split during the MI-20-2-85 junction. A depth of 56 feet was recorded on H-10208 thus verifying the prior sounding (see Section L). CONCUR *

b. At 30°02.2'N, 087°58.3'W, a prior sounding from H-4139 of 57 feet is located in an area where the MT MITCHELL found a depth of 59 feet. The mainscheme lines were split in this area to investigate the prior sounding. No depth of 57 feet was recorded. However, it is possible that it could exist between the 100 meter spaced lines and it is recommended that 57 foot depth be carried forward. This sounding from the prior survey was not previously charted. CONCUR *

* NOT SUFFICIENT ENOUGH DIFFERENCE BETWEEN PRIOR AND PRESENT SURVEY SOUNDING TO BRING 56FT OR 57FT SOUNDINGS FORWARD TO SUPPLEMENT PRESENT SURVEY.

L. COMPARISON WITH THE CHART SEE SECTION 7. OF THE EVALUATION REPORT.

This survey was compared with the following charts:

CHART	EDITION	DATE	SCALE
11360	28th	10 DEC 83	1:456,394
11373	29th	01 SEP 84	1:80,000
11376	37th	04 FEB 84	1:80,000

Depths obtained by this survey are in agreement with the charts in accordance with the criteria of the Hydrographic Manual Section 1.1.2 Part B.II.1 except in one case at 30°04.6'N, 088°25.1'W, where a charted depth of 56 feet lies in an area sounded at 58 feet during this survey (see Section K.2.a). However, the junction soundings of MI-20-2-85 revealed a 56 foot depth and, therefore, verified the charted value. CONCUR

There are eleven AWOIS items within the survey limits: 00436, 02715, 03596, 03600, 03601, 03603, 03604, 03605, 03606, 03607, 03615. ~~Three~~ Nine are information only items, ~~seven~~ two are limited search items, and one is a full investigation item. Only five of the eleven items were investigated.

The three information items were not detected during mainscheme hydrography. They were reported in the AWOIS listing as follows:

*	00436	TULSA, cargo	30°00' 00.00"N, 088°05' 00.00"W
	02715	Unexploded projectiles	29°50' 30.00"N, 088°12' 48.00"W
	03596	Obstruction	29°59' 20.78"N, 088°23' 42.89"W

AWOIS ITEM 03596 WAS CLEARED BY 91 FEET ON PRIOR SUVEY H-9420WD (1974). THIS ITEM WILL BE FURTHER ADDRESSED WHEN PROCESSING FOR H-9420WD (1974) IS COMPLETED.

Inspection of the echograms in the vicinity of these information items revealed no indication of any obstruction. No further investigations were conducted. We recommend that these items remain as presently charted. CONCUR
* SEE SECTION 6.b. OF THE EVALUATION REPORT.

Of the seven limited search items, five were investigated. The two that were not investigated were the two liberty ships, AWOIS *03606 ~~07~~ at 30°~~01~~00' ~~36~~00.00"N, 088°~~05~~00' ~~00~~00.00"W, and AWOIS *03615 at 29°57' 32.00"N, 088°07' 00.00"W. They ~~are~~ 06 ~~charted~~ 46 as fish havens. No indication of these items appeared during mainscheme hydrography. We recommend that they remain charted as is. CONCUR

* AWOIS 3607 AUTH DEPTH OF FISH HAVEN 12 FMS = 72 FT. PRESENT SURVEY DEPTHS 82-83 FT.
* AWOIS 3615 AUTH DEPTH OF FISH HAVEN 12 FMS = 72 FT. PRESENT SURVEY DEPTHS 99-100 FT.

The five items that were investigated are as follows:

1. Item 03600 at 30°02' 32.00"N, 088°17' 48.00"W, is reported to be a well covered 80 feet in 85 feet of water. Mainshceme hydrography showed the depth in the area to be 68 to 70 feet. An area of 500 meter radius was sidescanned at 100 meter line spacing giving a coverage of 200%. No evidence of the well was detected. The location is marked by a black, lighted, horn buoy, privately maintained, with no markings. The buoy is charted on Chart No. 11373. We recommend that it remain as charted. CONCUR

2. Item 03601 at 30°02' 32.00"N, 088°16' 20.00"W, is reported to be a well covered 65 feet. Mainscheme hydrography showed the depth in the area to be 70 to 75 feet. An area of 500 meter radius was sidescanned at 100 meter line spacing giving a coverage of 200%. No evidence of the well was detected. The location is marked by a black, lighted, horn buoy, privately maintained, with markings "ODECO MB-953-1." The buoy is charted on Chart No. 11373. We recommend that it remain as charted. CONCUR REVISED TO COVER 80 FEET BY LNM 14/84.

3. Item 03603 AND 03604 ARE ~~is~~ discussed in Section K. of this report.

4. Item 03605 at 30°01' 36.00"N, 088°06' 36.00"W, is reported to be a wooden hull and is charted as a fish haven. An area of 500 meters radius was sidescanned at 100 meter line spacing giving 200% coverage. No evidence of the hull was discovered. However, the 200% coverage is not sufficient to disprove the item; we recommend that it remain charted as is. CONCUR

5. Item 03606 at 30°01' 15.00"N, 088°06' 36.00"W, is reported to be an obstruction and is charted as a fish haven. An area of 250 meter radius was sidescanned at 100 meter line spacing giving 200% coverage. No evidence of an obstruction was detected within the search area, but about 500 meters north of the area the bottom was scattered with debris. No least depth was obtained over any of the items. The bottom depth in the area is 75 feet and the sidescan record indicated that the tallest item rose about 10 feet above the bottom. We recommend that the charted limits of the fish haven be extended to include the area of debris as follows: CONCUR

Eastern Limit	088° 04.7'W
Western Limit	088° 05.4'W
Northern Limit	30° 02.4'N
Southern Limit	30° 01.1'N

82' obstn

For further information on the history of the AWOIS items, refer to Attachment 1 which includes a complete listing dated August 29, 1985.

Attachment 6 contains a listing of "Hangs and Bottom Obstructions of the Mississippi/Alabama Gulf, Loran C" was obtained from the Mississippi-Alabama Sea Grant Consortium. Additional information may be obtained from:

Alabama Sea Grant Advisory Service
3940 Government Blvd.
Mobile, Alabama 36609

The purpose of this listing is to accumulate and disseminate locations of bottom fishing obstructions in shrimping grounds. The information was obtained primarily by fishermen.

One hundred and two of the listed hangs were in the survey area. The Loran C rates from the listing were converted to positions with Program RK 321 (computations included in Attachment 6). The positions were then plotted on the boat sheet (shown as hexagons numbered 1 through 102). The hangs were treated as information items; ie, in the vicinity of the hangs, the echograms were scanned for indication of an obstruction. If no indication appeared on the echogram, then no search of the area was conducted.

The echograms showed spikes or possible scouring in the vicinity of four of the hangs. One was investigated by divers but the divers could not locate the item (see details below, position 8023, Loran hang #99). Two were investigated by fathometer search from the surface with negative results (positions 4648-4651 and 6203-6208; Loran hangs #4 and #96). Therefore, the identity of the hangs could not be discovered. One was investigated with echosounder search and located (position 4542, Loran hangs #86 and #87). See below.

Sidescan search in the vicinity of the AWOIS items revealed that the bottom in several places was littered with debris. It has been customary for local fishermen to deposit debris on the bottom for the purpose of creating fish havens. It is surmmized that most of the hangs are probably isolated items lying on the ocean bottom. CONCUR

During scanning of the echograms, 26 spikes were detected, both high frequency spikes and low frequency spikes. Four of these are mentioned above in connection with the Loran C hang listing. Seventeen of the most prominent spikes were investigated by echosounder search, sidescan search, or diver search. The searches rendered reliable evidence of an obstruction in only one case at 29° 59'06.~~11~~46"N, 088°04'24.~~06~~39"W (position 4542), where an echosounder spike and/or scouring were identified on 3 passes over the same location (also see positions 3174+8 and 4537). The submerged obstruction rises to 7~~4~~2 feet in 8~~0~~2 feet of water. We recommend that it be charted as a submerged obstruction*.

11360 Add OBSTN

*720BSTR LATITUDE 29°59'03.96"N, LONGITUDE 88°04'24.73"W

Echosounder search for a spike at 30°05'34.27"N, 088°02'14.89"W, revealed promising evidence of an obstruction rising to 61 feet in 70 feet of water (position 8023, Loran hang #99). But two consecutive dives by NOAA divers on the location turned up no proof. The echos may have been fish or strays on the echograms. We recommend that the item be charted as an obstruction reported, depth of 61 feet*. Reference the Dive Report, Attachment 9. CONCUR

*(61 OBSTR) Appl X-DWG 11360

Our interpretation of all of the other spikes detected on the echograms is that they may be fish or they may be items of debris on the bottom or they may be strays on the echogram. The area surveyed is known to be littered with debris, and the number of hangs (102) reported indicate their existence, but this survey could not provide conclusive evidence for charting purposes. Although it would be desirable to search each location and identify the obstructions, economics do not allow such an exhaustive investigation under the current operational requirements. Each item would take a minimum of

1/2 day to search with sidescan or bottom drag. In addition, it would require divers another half day under ideal conditions to identify and describe the object. Therefore, the items could not be located during this survey. CONCUR

No dangers to navigation were located or reported during this survey.

We recommend no changes to the scale, coverage, or format of the published charts of the survey area.

M. ADEQUACY OF SURVEY SEE SECTION 9. OF THE EVALUATION REPORT.

This survey is considered complete and adequate to supersede all prior surveys of the area.

There were eleven AWOIS items listed within this survey. The investigations of these items were insufficient to define or disprove the items. Additional field work is needed to completely resolve the AWOIS items.

N. NAVIGATIONAL AIDS SEE SECTION 7.b. OF THE EVALUATION REPORT.

No fixed aids exist in the survey area. Two floating aids, privately maintained, black, lighted, horn buoys marking wells, are charted in the survey area at approximately 30° 02.5'N, 088° 17.2'W (Chart No. 11373). A detached position was taken by the MT MITCHELL on the buoys (positions 6201 and 6202) and the positions compared well with the DIPFILE listing. The eastern buoy has identifying marks, "ODECO MB-953-1". The western buoy has no identifying markings. The characteristics of the lights were not determined during the survey. We recommend that these buoys remain as charted.

Two other privately maintained white and orange buoys marked "A" and "B" are charted at approximately 30° 03.2'N, 088° 06.0'W on Chart No. 11360. These two buoys no longer exist. We recommend that they be removed from the chart. CONCUR

An unlighted, spherical, rusty steel buoy, 3 feet in diameter, was located at 30°04'10.27"N, 088°21'40.72"W (50 feet south of position 971). The buoy had no markings. The origin and purpose of the buoy are unknown. We recommend that it be charted as a privately maintained, orange, spherical buoy. CONCUR

None of the buoys in this area is listed in the Light List.

No overhead pipelines or cables, submerged pipelines or cables, bridges, or ferry routes exist in the survey area. The offshore oil rig, OCEAN CHAMPION, is located at 29°51'15"N, 088°16'08"W. This position was obtained from the listing included with the Project Instructions in Attachment 1, titled "Rig Locations by Geographic Area", dated 10/03/85. The position was confirmed by survey position #7021 where the rig was observed 30 meters to the east.

Calculations show that 30 meters east of position 7021 would be 29° 51'15.97"N, 088° 16'09.38"W. We recommend that the published position be charted rather than the observed position since the observed position is only approximate. CONCUR

The two black buoys mentioned above mark abandoned wells, AWOIS items 03600 and 03601. A limited sidescan sonar search did not locate the abandoned wells. CONCUR

Three mooring buoys were located near the OCEAN CHAMPION (positions 7003, 7015, and 7025). ~~These buoys need not be charted since they lie so close to the rig.~~ IT IS RECOMMENDED THE BUOYS BE CHARTED AS SHOWN ON PRESENT SURVEY. Added symbol + text

Section 4.2.1.2 of the Project Instructions requested that Third Order, Class I positions be established on 10 aids to navigation outside the project area. Seven of the aids were located. See the Horizontal Control Report for details. ATTACHMENT 3.

O. STATISTICS

MT MITCHELL - VESNO 2220

Total number of positions	4659
Linear nautical miles of mainscheme hydrography	3678.5
Linear nautical miles of crosslines	286.7
Linear nautical miles of development	11.2
Total linear nautical miles of hydrography	3976.4
Total square nautical miles of hydrography	182.7

Launch - VESNO 2224

Total number of positions	291
Linear nautical miles of mainscheme hydrography	42.4
Linear nautical miles of side scan investigation	24.4
Total linear nautical miles of hydrograhpy	42.4
Total square nautical miles of hydrography	3.0

Launch - VESNO 2225

Total number of positions	36
Linear nautical miles of development	7.7
Total linear nautical miles of hydrography	7.7
Total square nautical miles of hydrography	2.5

TOTAL OF ALL SOUNDING VESSELS

Total number of positions	4986
Linear nautical miles of mainscheme hydrography	3728.6
Linear nautical miles of crosslines	286.7
Linear nautical miles of development	37.1
Linear nautical miles of side scan investigation	24.4
Total linear nautical miles of hydrography	4078.3
Total square nautical miles of hydrography	188.2
Tide Stations	0
Oceanographic Casts	4
Total Bottom Samples	56

P. MISCELLANEOUS

Loran C comparisons were made by the MT MITCHELL and will be forwarded to the U.S. Coast Guard through the Atlantic Marine Center. Loran C rates in the survey are compared well with satellite, radar, visual, and ARGO positioning and provided accurate navigational fixes.

Bottom samples were taken and forwarded to the Smithsonian Institution. Oceanographic Log Sheet M was completed for all samples and copies are included in Appendix H of this report.

No anomalous or potentially dangerous currents were observed during the survey. Set and drift observations are included with this report in Attachment 7. The observations were made by comparing the ship's course and speed through the water with the course and speed over the ground. The drift varied from Ø.1 knot to 1.5 knots and the drift was primarily in a westward direction. It was not possible to eliminate the effects of wind on the ship's set and drift. The wind speed and direction are recorded with the observations for comparison. A copy of this section of the report along with the observations have been forwarded to N/MOA2x1 in accordance with the Project Instructions Section 8.1.4.

No unusual magnetic variations were noted on the ship's compass. The magnetic compass observations as compared to the corrected gyro compass observations are included in Attachment 7. The calculated variation ranges from 4.4°E to Ø.1°W. The charted variation ranges from 1°45'E to 2°ØØ'E. It is unlikely that the variation varies as much as the calculations indicate. The ship's deviation card had not been updated since January, 1985. There is likely error in the recorded deviation as well as some error in the reading of the swinging compass underway. A copy of this section of this Descriptive Report plus the data has been sent to MOA2x1.

An evaluation of charts outside the survey area was done concurrently with this survey in accordance with Section 8.6 of the Project Instructions. Refer to Attachment 8 for a copy of the Chart Inspection Report.

Q. RECOMMENDATIONS

This survey is complete and adequate to supersede all prior surveys of the area. See Sections L and N for recommendations.

Additional field work is required to disprove the AWOIS Items. However, it is recommended that this work be deferred because of the great cost involved. Most of the AWOIS Items in the area would be best located by ~~wire drag methods from NOAA Ships RUDE and HECK~~. SIDE SCAN SONAR OR CONSTANT TENSION WIRE DRAG.

R. AUTOMATED DATA PROCESSING

The following HYDROPLOT programs were used to acquire and process the survey data:

PROGRAM	PROGRAM NAME	VERSION
RK 112	Hyperbolic, Range/Range Hydroplot	Ø4/23/84
RK 2Ø1	Grid, Signal, and Lattice Plot	Ø2/13/84
RK 211	Range/Range Non-Real Time Plot	Ø2/13/84
RK 3ØØ	Utility Computations	1Ø/21/8Ø
RK 33Ø	Data Reformat and Check	Ø5/Ø4/76
PM 36Ø	Electronic Corrector Abstract	Ø2/Ø2/76
RA 362	Combined RK 33Ø/AM 6Ø2	Ø8/2Ø/84
RK 4Ø7	Geodetic Inverse/Direct Comps.	Ø9/25/78
RK 4Ø9	Geodetic Utility Package	Ø9/2Ø/78

AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Correction for Velocity	05/10/76
RK 561	Hyperbolic and Range/Range Geodetic Calibration	12/01/82
AM 602	Extended Line Oriented Editor	12/08/82

In addition to the above programs, the Geodetic Package Programs were:

Geodetic Utilities Package

S. REFERRAL TO REPORTS

TITLE	TRANSMITTAL INFO & DATE
Horizontal Control Report for OPR-J217-MI-85	N/MOA 2X1 Atlantic Marine Center 439 West York Street Norfolk, Virginia Transmittal 86-04 Dated 07 February 1986
Sounding Equipment and Corrections to Echo Soundings Report for OPR-J217-MI-85	N/MOA 2X1 Atlantic Marine Center 439 West York Street Norfolk, Virginia Transmittal 86-03 Dated 07 February 1986
Electronic Position Control Report for OPR-J217-MI-85	N/MOA 2X1 Atlantic Marine Center 439 West York Street Norfolk, Virginia Not yet transmitted.
Coast Pilot Report	N/MOA 2X1 Atlantic Marine Center 439 West York Street Norfolk, Virginia Transmittal #95-85 Dated 19 December 1985
Chart Inspection Report	N/MOA 2X1 Atlantic Marine Center 439 West York Street Norfolk, Virginia Transmittal 86-08 Dated 21 February 1986

Submitted by:

Fidel T. Smith, Captain, NOAA
Commanding Officer
NOAA Ship MT MITCHELL

APPENDIX F
LIST OF STATIONS

STATION LIST: H-10206

100	7	30	20	40824	088	33	35603	250	0000	164860
200	7	30	13	36331	088	01	31070	250	0000	164860
001	7	30	14	55100	088	11	31996	139	0010	000000
030	7	30	14	59369	088	04	42042	139	0025	000000
202	4	30	13	36897	088	01	30164	139	0010	000000
004	7	30	12	07171	088	27	54586	139	0000	000000
005	4	30	12	11828	088	28	08766	139	0000	000000

STA	NAME	PURPOSE	SOURCE	YEAR
100	FORD ECC	(LEFT ARGO)	MM	1985
200	WHITING 82	(RIGHT ARGO)	WH	1982
001	HALFWAY 1985	(M/R STA)	NOS	1985
030	AIR FORCE DOME	(M/R STA)	MM	1985
202	WHITING ECC	(M/R STA)	MM	1985
004	PETIT BOIS 1985	(CALIB)	NOS	1985
005	PETIT AZ MK	(CALIB)	MM	1985

APPENDIX I
LANDMARKS FOR CHARTS

NO FIXED AIDS TO NAVIGATION NOR LANDMARKS EXIST WITHIN THE SURVEY AREA AND THEREFORE NO NOAA FORM 76-40 WAS SUBMITTED.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship MT MITCHELL
439 West York Street
Norfolk, VA 23510

30 January 1986

CHART INSPECTION REPORT
OPR-J217-MI-85

The purpose of this report is to provide an evaluation of NOS charts used by the MT MITCHELL during the 1985 Gulf of Mexico project, OPR-J217-MI-85, in accordance with Section 5-10 of the Hydrographic Manual. Recommended changes to charts are as follows:

CHART	COMMENTS
11360	"DOME" at 30°15.0'N, 088°04.6'W no longer exists. Remove from chart.
11373	1) Add "Well (casing), HORN (lighted)" at 30°06'08.96"N, 088°16'47.28"W. Position was determined by ARGO rates. Reference NM 21/85. Identifying marks - "SH-MB-909-1". The well is lighted and has a fog horn. The light and horn characteristics were not observed. 2) Add "Platforms (lighted)" at the following positions: 30°06'54"N, 088°26'32"W. Ref. NM 25/85. 30°07'05"N, 088°26'10"W. Ref. NM 27/85. 30°07'08"N, 088°26'55"W. Ref. NM 27/85. 30°06'53"N, 088°26'48"W. Ref. NM 32/85. 30°07'05"N, 088°26'49"W. Ref. NM 32/85. 30°06'58"N, 088°25'48"W. Ref. NM 37/85. 30°07'08"N, 088°26'32"W. Ref. NM 37/85. 30°06'40"N, 088°27'04"W. Ref. NM 37/85. The positions listed were obtained from the Notice to Mariners. The existence of the platforms was observed during the survey but the positions were not verified by independent means.
11375	None.
11376	None.
11382	"TOWER" at 30°20.80'N, 087°17.34'W is not visible from the bay. Remove from chart.
11383	"TOWER" at 30°20'48"N, 087°17'21"W is not visible from the bay. Remove from chart.
11384	"TOWER" at 30°20'48"N, 087°17'21"W is not visible from the bay. Remove from chart.

Prepared by Michael Johnson
LT Michael Johnson

Approved by Fidel T. Smith
CAPT Fidel T. Smith

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
- [x] HYDROGRAPHIC PARTY
- [ ] 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
- [x] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): NOAAS MT MITCHELL

STATE: FLORIDA

LOCALITY: PENSACOLA BAY

DATE: 01/16/86

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

OPR PROJECT NO.: J217-MI-85

JOB NUMBER:

SURVEY NUMBER: OUTSIDE OF SURVEY AREA

DATUM: NAD 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
TOWER	NO LONGER EXISTS	30° 20′	48″	087° 17′	21″		F-S-VIS 12/08/85	11382 11383 11384

7-16380

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NOAA Ship MT MITCHELL
439 West York St.
Norfolk, VA 23510

18 December 1985

TO: Commander
8th U.S. Coast Guard District

FROM: Commanding Officer
NOAA Ship MT MITCHELL

SUBJECT: Fixed Aids to Navigation

As requested, the following navigational aids were located to Third Order, Class I standards of accuracy by personnel from the NOAA Ship MT MITCHELL during her recent hydrographic survey of the approaches to Mobile Bay:

L.L.#	Name	Lat (N)/Lon (W)
2378	Mobile Point ~~Range Rear~~ Range Rear Light	30° 13' 40".817 -
		88° 01' 26".517 -
2395	Mobile Middle Ground Front Range	30° 15' 25".549 -
		88° 02' 28".531 -
2396	Mobile Middle Ground Rear Range	30° 15' 44".646 -
		88° 02' 32".458 -
2555	Pascagoula Channel Range "D" Front Range	30° 12' 58".024 -
		88° 30' 15".699 -
2556	Pascagoula Channel Range "D" Rear Range	30° 12' 41".857 -
		88° 30' 13".602 -
2542	Horn Island Pass Front Range	30° 12' 49".048 -
		88° 30' 19".139 -
2543	Horn Island Pass Rear Range	30° 13' 04".545 -
		88° 30' 03".541 -

It should be noted that the above positions are Field Positions and are subject to office verification. A letter containing final positions of these navigational aids will be forthcoming following such verification. The above positions are based on the 1927 North American Datum (NAD-27).

DIVE REPORT

On December 7, 1985, diving operations were conducted from the MT MITCHELL's launch no. 2225. Launch 2225 searched areas indicated on its boat sheet with the DSF-6000 attempting to locate investigation items.

At position no. 8023, which corresponds to item LORAN hang item no. 99, a spike of approximately 9 ft. in height was observed in 73 ft. of water.

Launch 2225 was anchored as close to the spike as possible and dive operations were conducted. Divers reported visibility of 10 feet on the flat sand and silt bottom. A search pattern of approximately 24 ft. in diameter was conducted around the launch's anchor. There was no sign of the obstruction.

Divers also reported anchor drag marks so launch 2225 was repositioned by rerunning the line on the boat sheet on which the spike had previously been seen. When the spike was observed again the launch was anchored as close as possible to the spike. Divers again entered the water and conducted a 24 ft. diameter search around the anchor. There was still no sign of the obstruction. Dive operation were then secured because of darkness.

Dive operations were not thorough enough to prove or disprove the existence of the obstruction and it is recommended that the item be charted as an obstruction reported depth of 63 ft.

PREPARED BY: DIVE OFFICER, ENS PAUL SCHATTGEN Paul L. Schattgen 1/30/86

APPENDIX J
APPROVAL SHEET

APPROVAL SHEET

The field work on this Hydrographic Survey was under my daily supervision. I have reviewed and approved all final field sheets and records. This survey is complete and adequate to supersede all prior surveys in this area.

Fidel T. Smith, Captain, NOAA
Commanding Officer
NOAA Ship MT MITCHELL

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA LAUNCH 1257
P. O. Box 158
Dauphin Island, AL 36528

28 April 1987

TO: N/CG222 - Norman Banks
Chief, Chart Information Section

THRU: N/MOA233 - LCDR Kenneth W. Perrin
Chief, HFPS

FROM: N/MOA233 - LTJG David W. Moeller
OIC, HFP-1

SUBJECT: Reported Item, Gulf of Mexico, NOS Chart 11360.

Enclosed is a copy of the letter sent to Eighth Coast Guard District, concerning a sunken wreck reported by HFP-1.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

NOAA LAUNCH 1257
PO Box 158
Dauphin Island, AL 36528

28 April 1987

Commander, Eighth Coast Guard District
Aids to Navigation Branch
Hale Boggs Federal Building, Room 1141
500 Camp Street
New Orleans, Louisiana 70130

Dear Sir:

During hydrographic operations, by the National Ocean Service's Hydrographic Field Party 1 in the Gulf of Mexico, a Sunken Wreck, Not Dangerous to Surface Navigation, known as the Tulsa (AWOIS #00436) was located. The charted position of this wreck is 30°00'00" N, 088°05'00" W. This position should be revised to 30°01'04.18 N, 088°06'28.15"W. with a fathometer least depth of 70.7 feet (corrected for predicted tides, vessel draft, and sound velocity).

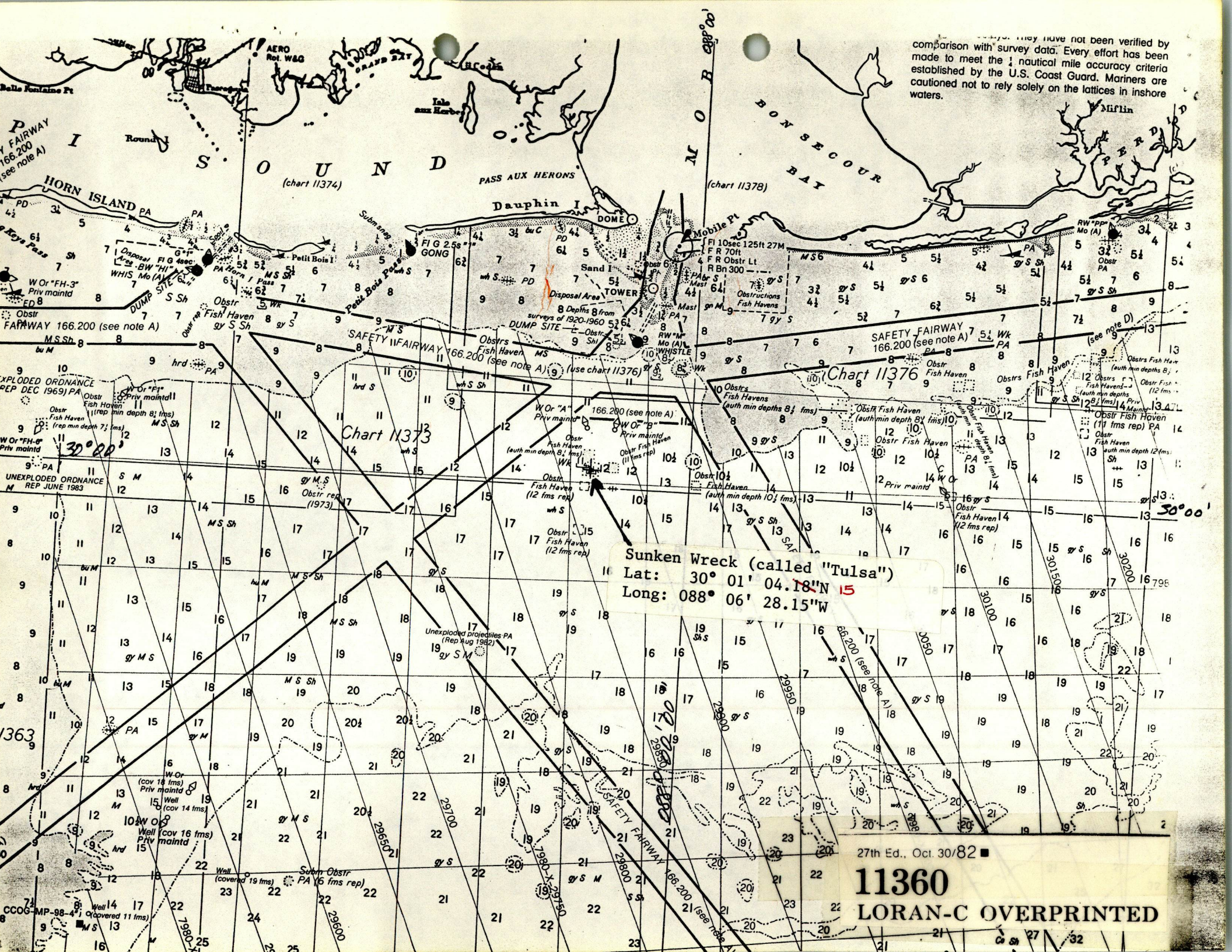
This information affects NOS Chart 11360. The preceding advance field information is subject to review and verification.

The obstruction reported by this office on 10 April 1987 (see attached letter) was reported in LNM 16-87 as a position approximate (PA). The position reported is accurate and the PA designation should be deleted.

Sincerely,

David Moeller

David W. Moeller
LTJG, NOAA
Officer-in-Charge

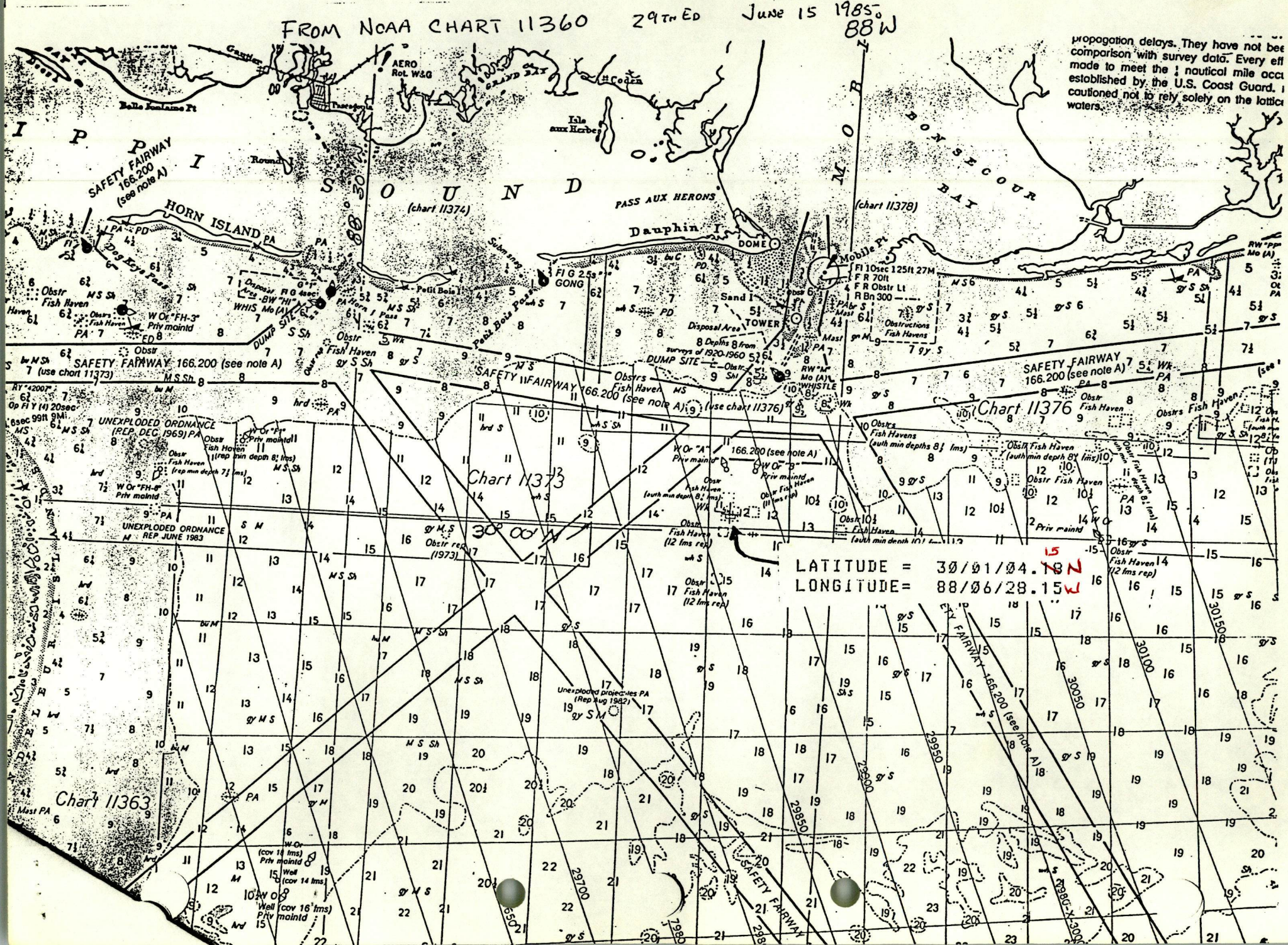


Sunken Wreck (called "Tulsa")
Lat: 30° 01' 04.18"N
Long: 088° 06' 28.15"W

27th Ed., Oct. 30/82 ■

11360

LORAN-C OVERPRINTED


FROM NOAA CHART 11360 29TH ED JUNE 15 1985
88°W
30°00'N
I P P I S O U N D
MOBILE BAY
BON SECOUR BAY
HORN ISLAND
Dauphin I.
Sand I.
Petit Bois I.
Isle aux Herbes
Round I.
Dog Keys Pass
PASS AUX HERONS
Petit Bois Pass
SAFETY FAIRWAY 166.200 (see note A)
(chart 11374)
(chart 11378)
(use chart 11373)
(use chart 11376)
Chart 11373
Chart 11376
Chart 11363
DUMP SITE
DOME
TOWER
GONG
Mobile Pt
Gaillard
AERO Rot. W&G
Fl 10sec 125ft 27M
F R 70ft
F R Obstr Lt
R Bn 300
Obstr Fish Haven
Obstrs Fish Havens
UNEXPLODED ORDNANCE (REP. DEC 1969) PA
UNEXPLODED ORDNANCE REP JUNE 1983
Unexploded projectiles PA (Rep Aug 1982)
LATITUDE = 30/01/04.15N
LONGITUDE= 88/06/28.15W
propogation delays. They have not bee
comparison with survey data. Every eff
made to meet the ¼ nautical mile accu
estoblished by the U.S. Coast Guard.
cautioned not to rely solely on the lattice
waters.

DIVE INVESTIGATION REPORT
PROJECT NUMBER OPR-J217-HFP
SURVEY H-10206
FIELD NUMBER

DIVE NUMBER 1 DIVE DATE 23 April 1987

I. AREA OF INVESTIGATION

A. State/Country Alabama Sub-Locality Gulf of Mexico

B. Position: Latitude 30° 01' 04" Longitude 88° 06' 28"
(Dive site or center of search area)

C. Method of Positioning Mini-Ranger (Range/Range)

II. PURPOSE OF INVESTIGATION

A. AWOIS item number: 00436

B. Source of item being investigated (if other than AWOIS listing):

C. Contacts (e.g. USCG, C of E, Harbor Masters, Owners, etc.):

D. Names, Addresses and Phone Numbers etc. of contacts:

III. SURVEY PROCEDURES

A. Determination of dive site (e.g. wire drag, side scan, development):
Fathometer Investigation

B. Search Procedure(e.g. following a groundwire, circle search, sweep along known feature, etc.)

C. Known reference to features nearby:

D. Area and depths covered:

70-80 feet

IV. DIVE DATA

A. Divers: LTJG Moeller, ENS Schatigen

B. Time of Dive (in UTC) - Real 1600 - 1620
Elapsed 20

C. General Bottom Depths (units and method of determination):
75 - 80 feet, depth gage

D. Current and conditions: surface current, temperature 70°F

E. Visibility (number of feet - horizontally and vertically):
3 - 4 feet maximum

F. Bottom type (mud, sand, rocks, etc.): mud + silt

IV. RESULTS

A. Detached Positions Number(s): 002

Time of D.P.'s (UTC): Describe if other time zone: 153927

Least Depth and Fix Numbers (raw depth): 65.8 feet

Method of determining depth (The raw sounding should be recorded. The reduced least depth should be plotted on the field sheet.) Fathometer least depth

B. Description of findings:
Metal pipes and assorted metal debris.

C. Dimensions of item or feature (attach sketch if appropriate):
Poor visibility prevented accurate visual evaluation.

D. Unusual Conditions:

VI. CHARTING RECOMMENDATIONS

Position Lat. 30° 01' 04.~~18"N~~ 150 Long. 088° 06' 28.15"W

Reduced Depth 70.3 feet (corrected for predicted tides, velocity & TRA)

Type of Feature (Reference Chart No.1) Sunken Wreck, not dangerous to surface navigation

CHART # 11360 ITEM # 00436

ITEM DESCRIPTION: Sunken Wreck, not dangerous to surface navigation. (locally called "Tulsa")

SOURCE: AWOIS

INVESTIGATION DATE: 23 April 1987 TIME: 1600 UTC VESSEL: NOAA 1257

OIC: LTJG David W. Moeller, NOAA

REFERENCE:

Position No: 002 Volume: Page:

CORRECTORS APPLIED:

[X] Velocity [X] TRA Correctors

[X] Predicted or [ ] Actual Tide Correctors

GEODETIC POSITION:

	Latitude	Longitude
Charted:	30° 00' 00"N	088° 05' 00"W
Observed:	30° 01' 04.18"N	088° 06' 28.15"W

15

POSITION DETERMINED BY:

Mini-Ranger

METHOD OF ITEM INVESTIGATION:

Fathometer + Diver Investigation

CHARTING RECOMMENDATIONS:

Revise charted position.

Compilation Use Only

CHART APPLIED AS

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

DATE: 02/03/86

Marine Center: Atlantic

OPR: J-217

Hydrographic Sheet: H-10206

Locality: Approaches to Mobile Bay, AL

Time Period: October 22 - December 7, 1985

Tide Station Used: 873-5180 Dauphin Island, AL

Plane of Reference (Mean Lower Low Water): 2.68 ft.

Height of Mean High Water Above Plane of Reference: 1.2 ft.

Remarks: Recommended Zoning:

Apply a -15 minute time correction to all heights.

for Brick M. Lund

Chief, Tidal Datum Quality
Assurance Section

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10206

Name on Survey	A ON CHART NO.	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	
ALABAMA (title)	X									1
GULF OF MEXICO	X									2
MOBILE BAY (title)	X									3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
				Approved:						17
										18
				Charles E. Harrington						19
				Chief Geographer - N/CG2x5						20
				MAY 26 1987						21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
MOA23-14-88

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL
☑ REGISTERED MAIL ☐ EXPRESS
☐ GBL *(Give number)* _____

TO:

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY
6001 EXECUTIVE BOULEVARD
Rockville, Maryland 20852
ATTN: N/CG24

DATE FORWARDED
29 Jan 1988

NUMBER OF PACKAGES
one (1)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10206 (MI-40-4-85)
OPR-J217-MI-85, Alabama, Gulf of Mexico,
Approaches to Mobile Bay

PKG. 1 (ENVELOPE)

1 ENVELOPE conatining SIDE SCAN SONARGRAMS FOR H-10206 (1985)

FROM: *(Signature)*
NORRIS A. WIKE Norris A. Wike

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

☆U.S.GPO:1983-0-664-006/1192

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
MOA23-15-88

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL
☑ REGISTERED MAIL ☐ EXPRESS
☐ GBL *(Give number)* _____

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/CG243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

DATE FORWARDED
29 Jan 1988

NUMBER OF PACKAGES
one (1)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10206 (MI-40-4-85)
OPR-J217-MI-85, Alabama, Gulf of Mexico,
Approaches to Mobile Bay

PKG. 1 (ENVELOPE)

1 ENVELOPE conatining SIDE SCAN SONARGRAMS FOR H-10206 (1985)

FROM: *(Signature)*
NORRIS A. WIKE Norris A. Wike

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

★U.S.GPO:1983-0-664-008/1182

NOAA FORM 61-29 (12-71)

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

LETTER TRANSMITTING DATA

REFERENCE NO.

MOA23-16-88

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL

☑ REGISTERED MAIL ☐ EXPRESS

☐ GBL *(Give number)* _____

TO:

Chief, Data Control Branch, N/CG243
Room 151, WSC-1
National Ocean Service - NOAA
Rockville, MD 20852

DATE FORWARDED

29 Jan 1988

NUMBER OF PACKAGES

FOUR (4) 3 BOXES 1 TUBE

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10206 (MI-40-4-85)
OPR-J217-MI-85, Alabama, Gulf of Mexico
Approaches to Mobile Bay

PKG. 1 (TUBE)

1 SMOOTH SHEET
1 FINAL SMOOTH POSITION OVERLAY
2 FINAL EXCESS OVERLAYS
6 FINAL FIELD SMOOTH SHEETS
1 ORIGINAL DESCRIPTIVE REPORT

PKG. 2 (BOX)

1 CAHIER containing FINAL POSITION PRINTOUT
1 CAHIER containing FINAL SOUNDING PRINTOUT and L-FILE
1 ENVELOPE containing SUPPLEMENTAL DATA from PRINTOUT

FROM: *(Signature)*

NORRIS A. WIKE Norris A. Wike

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

☆U.S.GPO:1983-0-664-008/1192

NOAA FORM 61-29 (12-71)

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

REFERENCE NO.
MOA23-16-88

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL
☑ REGISTERED MAIL ☐ EXPRESS
☐ GBL *(Give number)* _____

TO:

Chief, Data Control Branch, N/CG243
Room 151, WSC-1
National Ocean Service - NOAA
Rockville, MD 20852

DATE FORWARDED
29 Jan 1988

NUMBER OF PACKAGES
FOUR (4)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10206 (MI-40-4-85)
OPR-J217-MI-85, Alabama, Gulf of Mexico
Approaches to Mobile Bay

PKG. 3 (BOX)

5 NOAA FORM 77-44 (SOUNDING VOLUMES)
1 ACCORDION FILE containing MASTER TAPE PRINTOUTS, CORRECTOR TAPE PRINTOUTS, and FATHOGRAMS following JD,s: VESNO 2220: 296-299, 309-316

PKG. 4 (BOX)

1 ENVELOPE containing DATA REMOVED FROM ORIGINAL DESCRIPTIVE REPORT
1 BINDER containing CORRECTIONS TO ECHO SOUNDER
6 BUNDLES of SAWTOOTH POSITION CHARTS

FROM: *(Signature)*
NORRIS A. WIKE Norris A. Wike

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

★U.S.GPO:1983-0-664-006/1192

NOAA FORM 61-29 (12-71)

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

LETTER TRANSMITTING DATA

REFERENCE NO.
MOA23-16-88

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL
☑ REGISTERED MAIL ☐ EXPRESS
☐ GBL *(Give number)* _____

TO:

Chief, Data Control Branch, N/CG243
Room 151, WSC-1
National Ocean Service - NOAA
Rockville, MD 20852

DATE FORWARDED
29 Jan 1988

NUMBER OF PACKAGES
FOUR (4)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-10206 (MI-40-4-85)
OPR-J217-MI-85, Alabama, Gulf of Mexico,
Approaches to Mobile Bay

PKG. 4 (BOX) CONT:

1 ACCORDION FILE containing MASTER TAPE PRINTOUTS,
CORRECTOR TAPE PRINTOUTS, and FATHOGRAMS following
JD,s: VESNO 2220: 316-319, 326-329, 337,339-342
VESNO 2224: 318, 328, 339, 341
VESNO 2225: 341
VESNO 1257: 1987/113

FROM: *(Signature)*
NORRIS A. WIKE Norris A. Wike

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

☆U.S.GPO:1983-0-664-006/1192

12/09/87

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H-10206

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	4691
NUMBER OF SOUNDINGS	36649

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	36	05/20/86
VERIFICATION OF FIELD DATA	599	02/27/87
QUALITY CONTROL CHECKS	164	
EVALUATION AND ANALYSIS	95	08/17/87
FINAL INSPECTION	23	08/12/87
TOTAL TIME	917	

MARINE CENTER APPROVAL 08/14/87

ATLANTIC MARINE CENTER
EVALUATION REPORT

SURVEY NO.: H-10206 FIELD NO.: MI-40-4-85

Alabama, Gulf of Mexico, Approaches to Mobile Bay

SURVEYED: 16 October to 9 December 1985

SCALE: 1:40,000 PROJECT NO.: OPR-J217-MI-85

SOUNDINGS: RAYTHEON DSF-6000N Fathometer

CONTROL: Cubic Western DM-54 ARGO (Range/Range)

Chief of Party.....F. T. Smith

Surveyed by.....C. B. Greenawalt
.....M. R. Johnson
.....V. M. Rodriguez
.....J. E. Rix
.....C. J. Bradley
.....M. K. Jeffers
.....C. A. Montgomery
.....P. L. Schattgen

Automated Plot by.....XYNETICS 1201 Plotter (AMC)

1. INTRODUCTION

a. On 23 April 1987 HFP-1 located a wreck that falls within the limits of the present survey. The field data was forwarded to the marine center and incorporated with the present survey. A discussion of this wreck is found in section 6.b. of this report.

b. No unusual problems were encountered during office processing.

c. Notes in the Descriptive Report were made in red during office processing.

2. CONTROL AND SHORELINE

a. Control is adequately discussed in sections F., S., Attachment 3., and Attachment 5. of the Descriptive Report.

b. There is no shoreline within the limits of this survey.

3. HYDROGRAPHY

a. Soundings at crossings are in excellent agreement and comply with the criteria found in sections 4.6.1 and 6.3.4.3. of the HYDROGRAPHIC MANUAL.

b. The standard 60 foot depth curve could be drawn in it's entirety. Some brown and dashed curves were also drawn to delineate bottom relief.

c. The development of the bottom configuration and determination of least depths is considered adequate.

4. CONDITION OF SURVEY

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

a. The field unit did not submit a completed NOAA Form 76-40 (NONFLOATING AIDS OR LANDMARKS FOR CHARTS) in the Descriptive Report. Section 5.3.4.(O) of the HYDROGRAPHIC MANUAL outlines the necessary information to be provided in the Descriptive Report.

b. The field unit did not obtain bottom characteristics on shoal areas determined during this survey as required by section 6.7. of the Project Instructions and section 4.5.9.2. of the HYDROGRAPHIC MANUAL.

c. The field unit did not annotate side scan sonar data as required by section 7.11.4.1. of the Project Instructions and section 2.6. of the Provisional Side Scan Sonar Manual, dated 25 April 1986.

d. Section D. of the Descriptive Report did not provide the required information on sounding equipment used during the survey operations. Section 5.3.4.(D) of the HYDROGRAPHIC MANUAL outlines the necessary information to be provided in the Descriptive Report. Identification of type and serial number of sounding equipment used are required in this section. A discussion on how corrections to echo sounder were determined should also be submitted in this section.

e. Section G. of the Descriptive Report did not provide the required information on sounding line position control used during the survey operations. Section 5.3.4.(G) of the HYDROGRAPHIC MANUAL outlines the necessary information to be provided in the Descriptive Report.

5. JUNCTIONS

H-10001 (1982) to the southeast
H-10113 (1983) to the south
H-10208 (1985) to the northwest
H-10180 (1985-86) to the east

A standard junction was effected between H-10180 (1985-86) and the present survey.

Standard junctions could not be effected with junctional surveys H-10001 (1982), H-10113 (1983), and H-10208 (1985). The junctional surveys are archived at National Ocean Service (NOS) Headquarters, Rockville, Maryland. Surveys H-10001 (1982), H-10113 (1983), and H-10208 (1985) are in substantial agreement with present survey. Depths generally agree to within one (1) foot. While junctional differences with depth curves occur between adjoining surveys and the present survey those differences will have to be resolved on the nautical charts during compilation.

There are no contemporary surveys to the north and west of the present survey. Charted hydrography and the present survey soundings are in harmony.

6. COMPARISON WITH PRIOR SURVEYS

a. Hydrographic

H-4133 (1920) 1:80,000
H-4139 (1919-20) 1:80,000
H-4171 (1920) 1:80,000
H-6552 (1940) 1:40,000
H-6554 (1940) 1:40,000
H-6688 (1941) 1:40,000

The six (6) prior surveys listed above cover the present survey area in its entirety.

Prior survey H-4133 (1920) is common to a small area of the present survey in the vicinity of Latitude 30°02'N, Longitude 87°57'W. The few depths in the area common to the present survey provide little basis for a meaningful comparison.

Prior survey depths from H-4139 (1919-20) compare favorably and show a general trend of being one (1) to two (2) feet deeper than present survey depths.

Prior survey depths from H-4171 (1920) compare favorably with present survey and show a general trend of being one (1) to four (4) feet deeper than present survey soundings. A sixty (60) foot sounding in Latitude 30°04'39"N, Longitude 88°14'59"W is six (6) to eight (8) feet shoaler than present survey surrounding depths of sixty-five (65) to sixty-eight (68) feet. The sounding was brought forward to supplement the present survey.

Prior survey depths from H-6552 (1940) compare favorably with the present survey and show a general trend of being one (1) foot shoaler than present survey depths.

Prior survey depths from H-6554 (1940) compare favorably with the present survey and show a general trend of being one (1) foot shoaler than present survey depths.

Prior survey depths from H-6688 (1941) compare favorably with the present survey and show a general trend of being one (1) to two (2) feet shoaler than present survey depths.

Differences between the above prior surveys and the present survey depths can be attributed to improved hydrographic surveying methods and equipment.

Except as noted above the present survey is adequate to supersede the above prior surveys within the common areas.

b. Wire Drag

H-9374WD (1973) 1:40,000
H-9420WD (1974) 1:40,000
FE-276WD (1974) 1:40,000

The comparison with prior survey H-9374WD (1973) and the present survey revealed one (1) hang and (6) groundings that fall within the present survey area.

An anchor was hung at sixty (60) feet in Latitude 30°04'48"N, Longitude 87°59'30"W and cleared by sixty (60) to sixty one (61) feet. The obstruction was neither verified nor disproved by the present survey. The present survey surrounding depths are sixty-two (62) to sixty-three (63) feet. It is recommended that an obstruction with a depth cleared by wire drag at 60-ft be charted. The obstruction was brought forward to supplement the present survey.

Exam NC 11300

The following groundings from survey H-9374WD (1973) are considered verified and/or disproved by the present survey:

Grounding Depth	Latitude	Longitude	Clearance Depth	Present Depths
60	30°04'44"N	87°59'22"W	49	60-62
61	30°04'41"N	87°58'50"W	49	56-58
60	30°04'55"N	87°58'22"W	49	60-62
56	30°03'45"N	87°59'20"W	49	56-58
59	30°02'30"N	87°57'17"W	51	58-60
58	30°01'50"N	87°58'24"W	50	56-60

The above hang depths with the exception of the 61-foot hang in Latitude 30°04'41"N, Longitude 87°58'50"W are consistent with present survey depths. These hangs are considered bottom hangs and can be disregarded from a charting standpoint. The 61-foot hang in present survey depths of 56 to 58 feet is probably due to excessive lift of the drag at time of grounding and should also be disregarded.

In the following vicinities the wire drag effective depths of prior survey H-9374WD (1973) and present survey soundings are in conflict. The prior survey depths are one (1) to two (2) feet deeper than present survey depths:

Effective Depths	Latitude	Longitude	Present Depths
50	30°04'00"N	87°57'12"W	49-51
55	30°03'06"N	87°57'12"W	54-56
58	30°03'06"N	87°58'07"W	55-56
58	30°02'48"N	87°58'00"W	56-57

These differences may be attributed to subsequent change in the bottom configuration and/or the greater accuracy of the present survey in establishing survey depths. Therefore, these conflicts can be disregarded.

H-9420WD (1974) was processed to an extent to determine whether or not any hangs and/or groundings existed in the common area. No hangs and/or groundings were located in the common area, and there are no conflicts between the effective depths and the present survey depths.

Prior survey FE-276WD (1974) previously identified as H-9452WD (1974) covers the search areas of AWOIS Items, #0436, #3603, and #3604. There are four mud hangs and five groundings in the area common to the prior and present surveys. AWOIS Items #3603 and #3604 are discussed in section K., page 5 of the hydrographer's report. The remaining items are discussed as follows:

1) Automated Wreck and Obstruction Information System (AWOIS) Item #00436, a charted non-dangerous sunken wreck, "TULSA", in Latitude 30°00'N, Longitude 88°05'W was located by HFP-1 on 23 April 1987. The wreck was located in Latitude 30°01'04.15"N, Longitude 88°06'28.15"W with a fathometer depth of 70 feet. It should also be noted that the ambiguity of AWOIS #03604 in the Evaluation Report of FE-276WD (1974) has been cleared up by the supplemental information provided by HFP-1. See also AWOIS #03604 of this report. The field party positively identified AWOIS Item #00436 as being the "TULSA". It is recommended the charted non-dangerous sunken wreck be deleted, and a wreck with a cleared by wire drag depth of 67 feet from FE-276WD (1974) be charted in present survey location.

2) A sixty-six (66) foot mud hang in Latitude 30°04'47"N, Longitude 88°02'38"W was located by the prior survey. The hang depth of 66 feet was neither cleared nor diver verified by the prior survey. The present survey did not verify or disprove the hang. Present survey depths in this area are seventy (70) feet. It is recommended that a 66-ft, depth be charted in the prior survey location. The 66-ft,

depth has been brought forwarded to supplement the present survey.

3) A sixty-nine (69) foot mud hang in Latitude 30°04'00"N, Longitude 88°04'55"W was located by the prior survey. The hang of 69 feet was cleared by 67 feet and diver verified by the prior survey. The present survey did not verify or disprove the hang. Present survey depths in this area are seventy-two (72) to seventy-four (74) feet. It is recommended that a 69-ft, depth be charted in the prior survey location. The 69-ft, depth has been brought forwarded to supplement the present survey.

4) The following mud hangs and groundings were found by the prior survey but not by the present survey:

Depths	Latitude	Longitude	Surrounding Depths
68 ft mud hang	30°05'10"N	88°03'06"W	70
68 ft mud hang	30°04'01"N	88°02'21"W	71
62-64 ft grounding	30°04'20"N	87°59'30"W	57-62
69 ft grounding	30°03'42"N	88°05'26"W	69-71
79 foot grounding	30°00'26"N	88°05'44"W	77
79 foot grounding	29°59'46"N	88°03'53"W	72-73
84 foot grounding	29°59'20"N	88°04'58"W	81-83

It is recommended the items listed above not be charted as determined by the prior survey and the present survey depths be charted.

5) AWOIS Item #03603, a charted fish haven, was reported in Latitude 30°01'06.0"N, Longitude 88°06'30.0"W from the unverified survey H-9452WD (1974). The survey registry number was rescinded and a subsequent registry number of FE-276WD (1974) was issued. The survey was given a limited and modified processing at the marine center. The position determined for this item during processing is Latitude 30°01'03.7"W, Longitude 88°06'27.3"W, and it was recommended in the report that that the fish haven be charted as found by FE-276WD (1974).

6) AWOIS Item #03604, a charted sunken wreck, was reported in Latitude 30°01'21.6"N, Longitude 88°07'10.8"N from the unverified survey H-9452WD (1974). The survey registry number was rescinded and a subsequent registry number of FE-276WD (1974) was issued. The survey was given a limited and modified processing at the marine center. The position determined for this item during processing is Latitude 30°01'16.5"W, Longitude 88°07'10.6"W, and it was recommended that a sunken wreck cleared by 11-fms be charted as found by FE-276WD (1974).

7) In the vicinity of Latitude 30°03'46"N Longitude 87°57'03"W there are some conflicts between the wire drag

effective depths of fifty (50) feet and the present survey depths of forty-nine (49) to fifty (50) feet. These conflicts may be attributed to improved hydrographic surveying methods and equipment.

Except as noted above the present survey is adequate to supersede the above prior surveys within the common area.

7. COMPARISON WITH CHART 11360 29th. Edition 15 June 1985
11373 29th. Edition 1 Sept. 1984
11376 38th. Edition 26 Oct. 1985

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section L. of the Descriptive Report. In addition to the recommendations in section L. of Descriptive Report the following obstructions were added during office processing and should be noted:

Obstruction	Latitude	Longitude
93	29°58'56.57"N	88°25'44.41"W
82	30°01'07.20"N	88°23'05.60"W
58	30°03'33.61"N	88°22'16.47"W
56	30°03'37.31"N	88°22'16.56"W
53	30°02'52.35"N	88°19'46.07"W
62	30°03'39.60"N	88°17'17.28"W
74	30°02'16.18"N	88°16'39.56"W
81	29°59'57.14"N	88°13'52.93"W
80	30°00'54.36"N	88°12'18.90"W
97	29°57'35.04"N	88°09'42.25"W
89	29°58'58.74"N	88°09'25.98"W
72	30°02'39.71"N	88°06'57.70"W
73	30°02'27.77"N	88°06'58.40"W
70	30°03'07.76"N	88°06'06.27"W
69	30°01'59.70"N	88°05'20.41"W
65	30°05'31.27"N	88°04'36.45"W
64	30°01'17.43"N	88°03'43.64"W
61	30°05'28.37"N	88°02'14.14"W
55	30°04'02.48"N	88°02'36.70"W

It is recommended the obstructions listed above be charted as shown on present survey. It is also recommended that the obstructions listed above be investigated at an opportune time.

Except as noted above the present survey is adequate to supersede the charted hydrography in the common area.

b. Aids to Navigation

The hydrographer located six (6) floating aids to navigation in the survey area. These aids appear adequate to serve their intended purpose.

8. COMPLIANCE WITH INSTRUCTIONS

This survey complies with the Project Instructions except as noted in section 4. of this report.

9. ADDITIONAL FIELD WORK

This is a good basic survey. Additional field work is desirable for the items discussed in sections 6. and 7.a. of this report.

Franklin L. Saunders
Cartographic Technician
Verification of Field Data

Norris A. Wike
Cartographer
Evaluation and Analysis

Robert R. Hill
Senior Cartographic Technician
Verification Check

ADDENDUM TO ACCOMPANY SURVEY H-10206

The average values for shifting surveyed NAD 1927 positions to NAD 1983 positions for this survey are as follows:

Position shifts (NAD 1983 minus NAD 1927):
Average latitude shift = 0.748 seconds = 23.0 meters
Average longitude shift = 0.116 seconds = 3.1 meters

Inspection Report
H-10206

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. Final control, position, and sounding printouts of the survey have been made. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

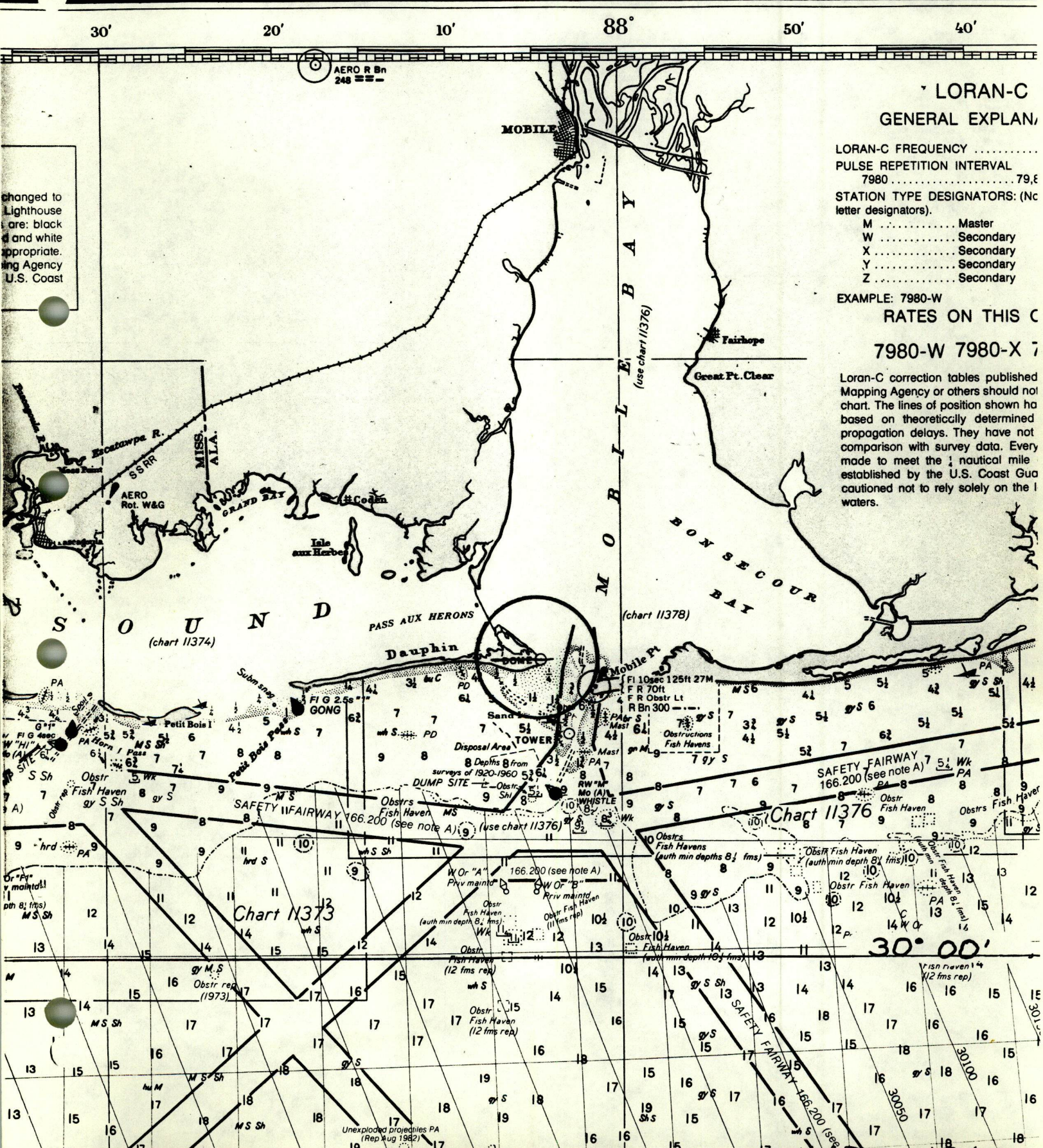
Inspected

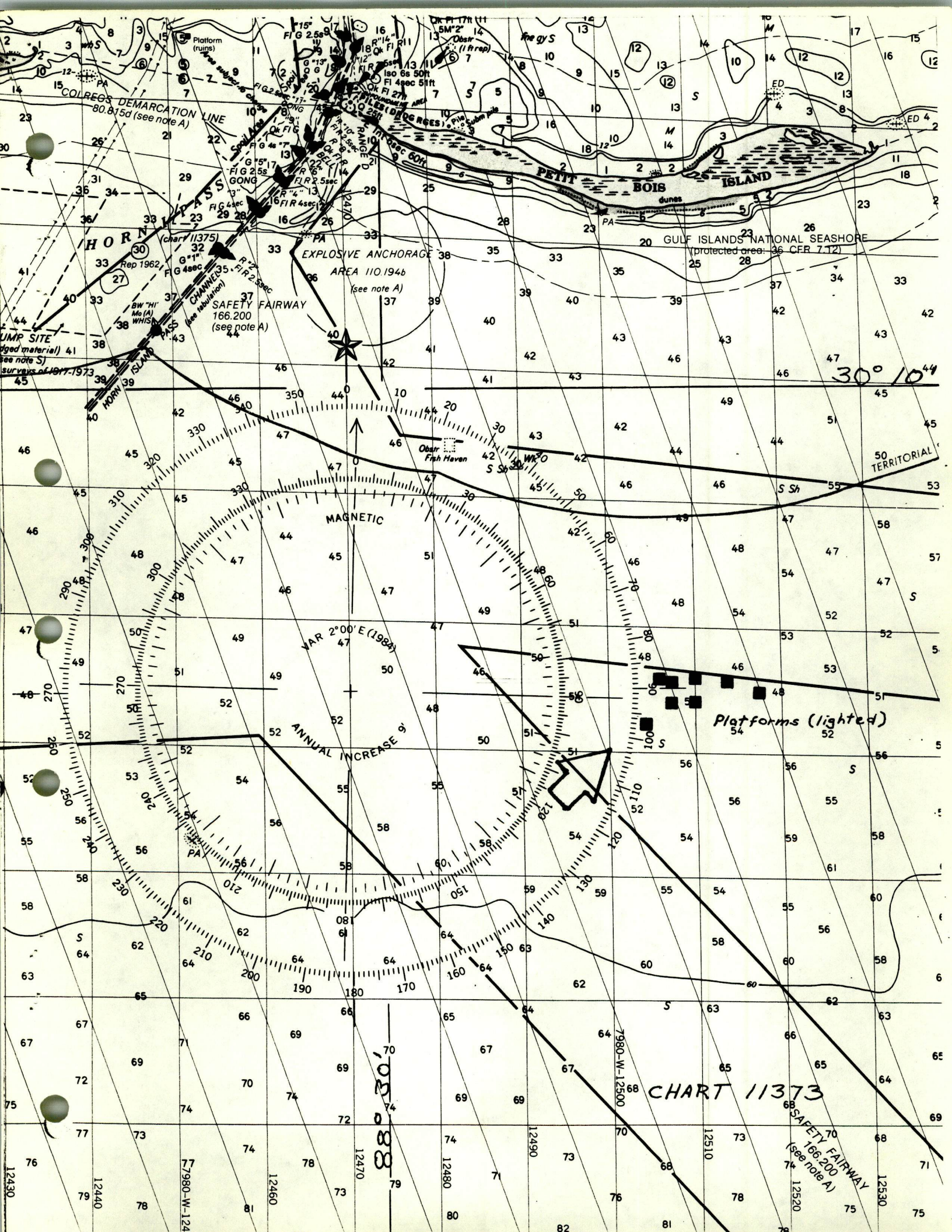
Robert G. Roberson
Chief, Evaluation and Analysis Group
Hydrographic Surveys Branch

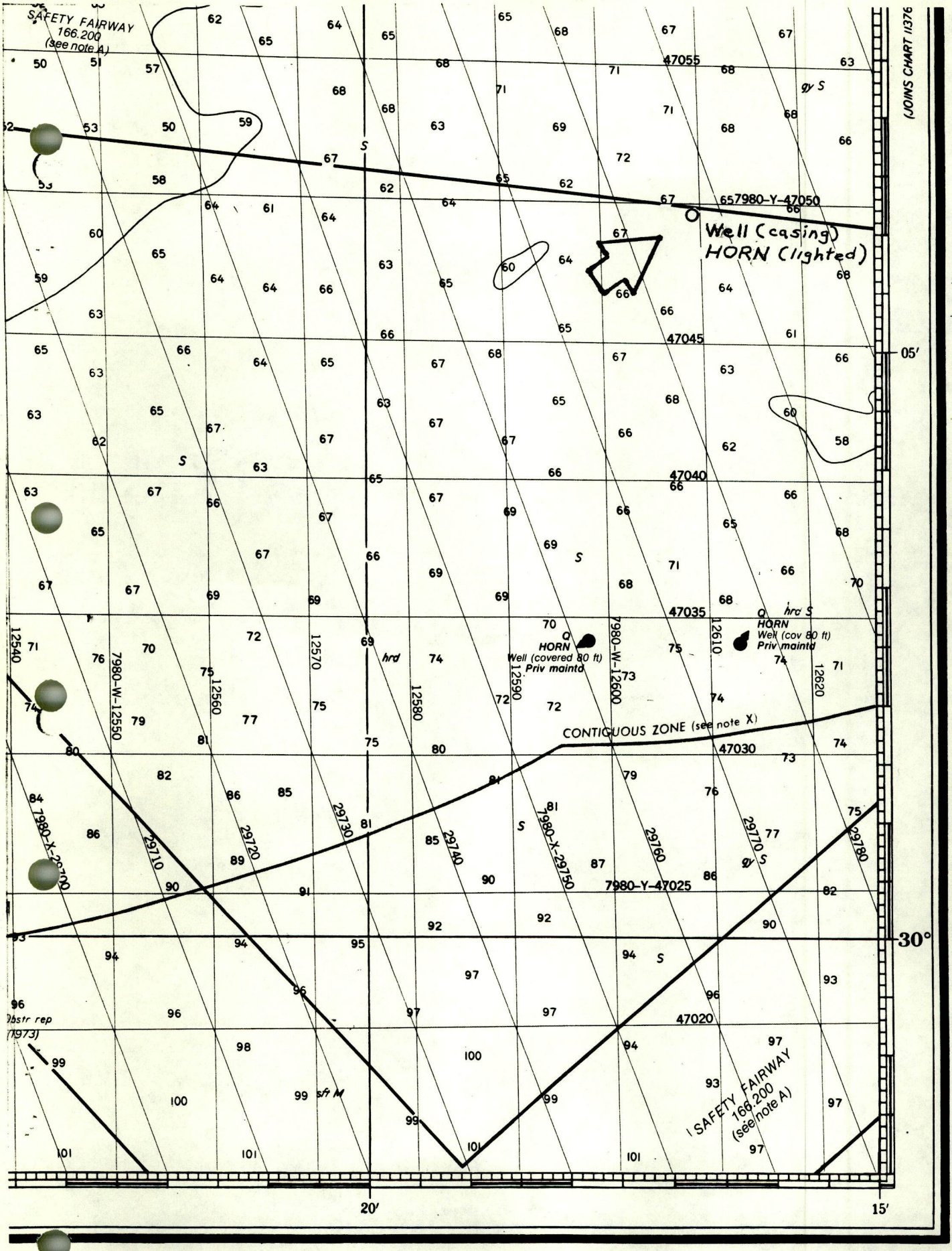
for R. A. Samucki
William A. Wert
Chief Hydrographic Surveys Branch

Approved: 31 August 1987

Ray E. Moses, RADM, NOAA
Director, Atlantic Marine Center


30'
20'
10'
88°
50'
40'
AERO R Bn
248
MOBILE
MOBILE BAY
(use chart 11376)
Fairhope
Great Pt. Clear
Escatawpa R.
MISS.
ALA.
AERO
Rot. W&G
GRAND BAY
Coden
Isle aux Herbes
MOUND
(chart 11374)
PASS AUX HERONS
(chart 11378)
BON SECOUR BAY
Dauphin
DOME
Mobile Pt
Fl 10sec 125ft 27M
F R 70ft
F R Obstr Lt
R Bn 300
Obstructions
Fish Havens
Petit Bois I
Petit Bois Pass
Fl G 2.5s
GONG
Sand I
TOWER
Disposal Area
8 Depths 8 from surveys of 1920-1960
DUMP SITE
RW "M"
Mo (A) WHISTLE
SAFETY FAIRWAY
166.200 (see note A)
(use chart 11376)
Chart 11376
Chart 11373
Obstr
Fish Haven
(auth min depth 8½ fms)
Obstr
Fish Haven
(12 fms rep)
Obstr rep
(1973)
Unexploded projectiles PA
(Rep Aug 1982)
30° 00'
30100
30050
LORAN-C
GENERAL EXPLAN
LORAN-C FREQUENCY .....
PULSE REPETITION INTERVAL
7980 79,8
STATION TYPE DESIGNATORS: (No
letter designators).
M ..... Master
W ..... Secondary
X ..... Secondary
Y ..... Secondary
Z ..... Secondary
EXAMPLE: 7980-W
RATES ON THIS C
7980-W 7980-X 7
Loran-C correction tables published
Mapping Agency or others should not
chart. The lines of position shown ha
based on theoretically determined
propagation delays. They have not
comparison with survey data. Every
made to meet the ¼ nautical mile
established by the U.S. Coast Gua
cautioned not to rely solely on the l
waters.


COLREGS DEMARCATION LINE
80.815d (see note A)
HORN PASS
(chart 11375)
Rep 1962
CHANNEL
(see tabulation)
SAFETY FAIRWAY
166.200
(see note A)
EXPLOSIVE ANCHORAGE
AREA 110.194b
(see note A)
PETTIT BOIS ISLAND
dunes
GULF ISLANDS NATIONAL SEASHORE
(protected area: 36 CFR 7.12)
HORN ISLAND
Platform (ruins)
Obstr Fish Haven
TERRITORIAL
MAGNETIC
VAR 2°00'E (1984)
ANNUAL INCREASE 9'
Platforms (lighted)
CHART 11373
SAFETY FAIRWAY
166.200
(see note A)
7980-W-12500
7980-W-12440
30° 10'
29° 50'
88°



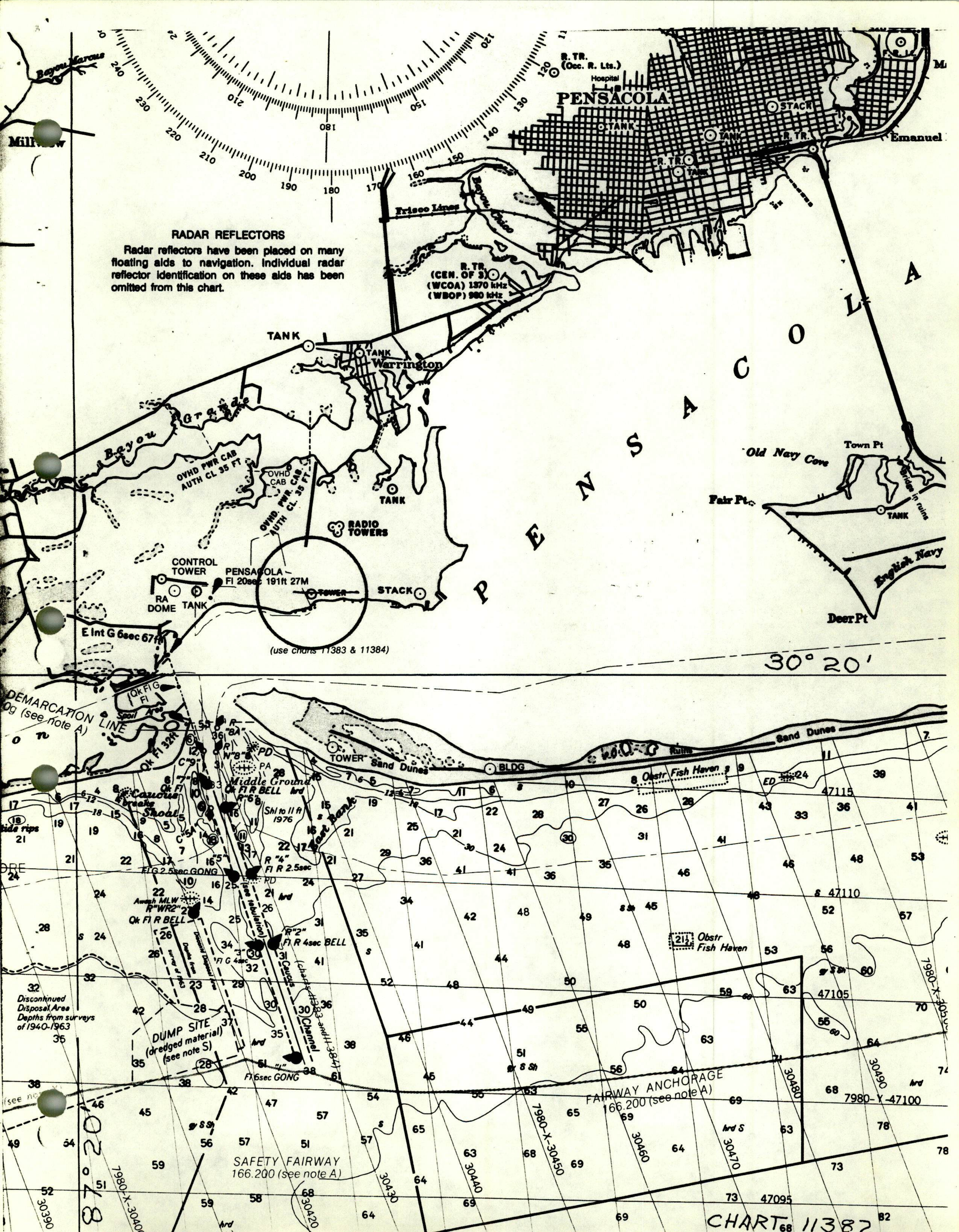
Mississippi Sound and Approaches)

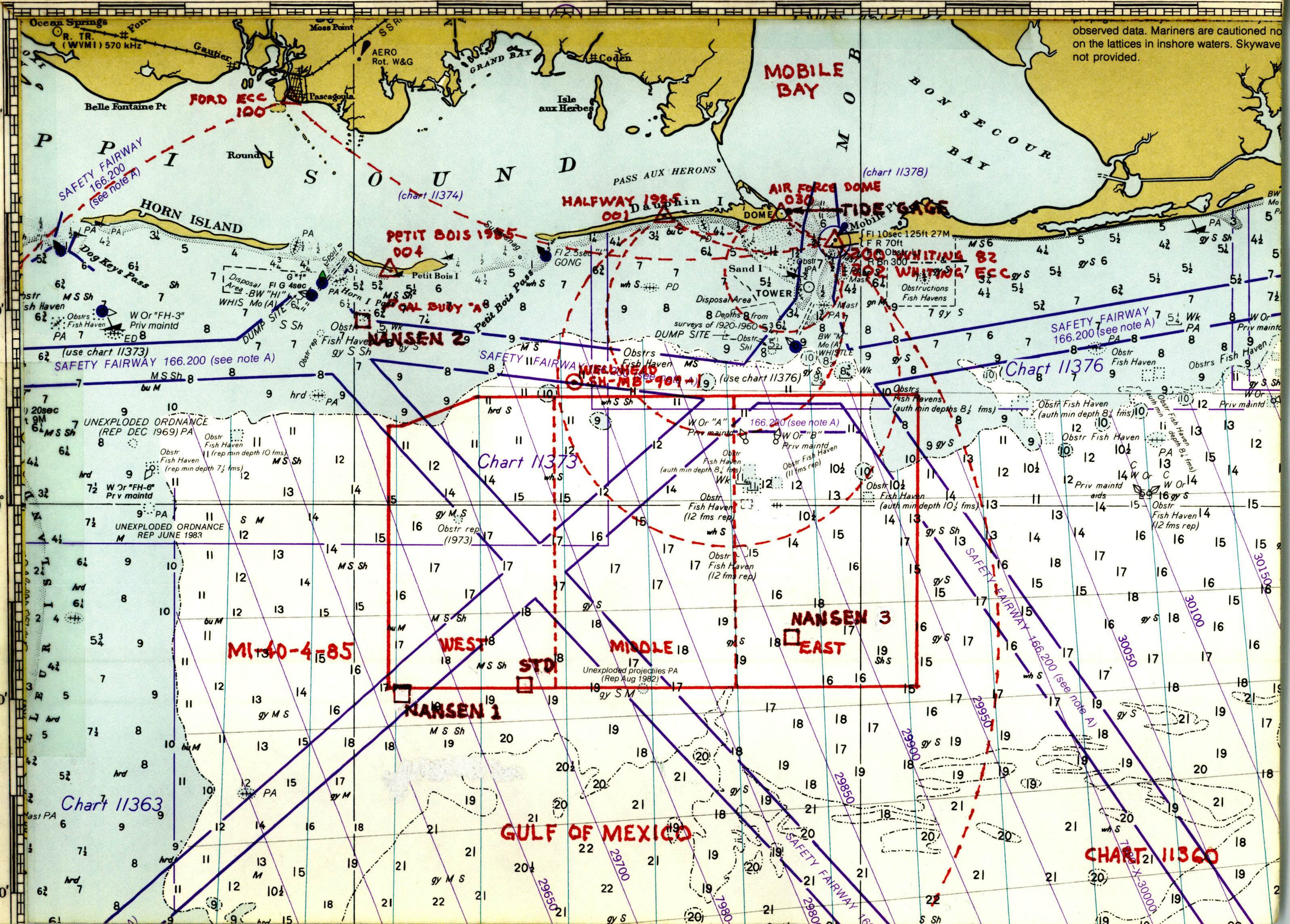
SOUNDINGS IN FEET - SCALE 1:80,000

11373

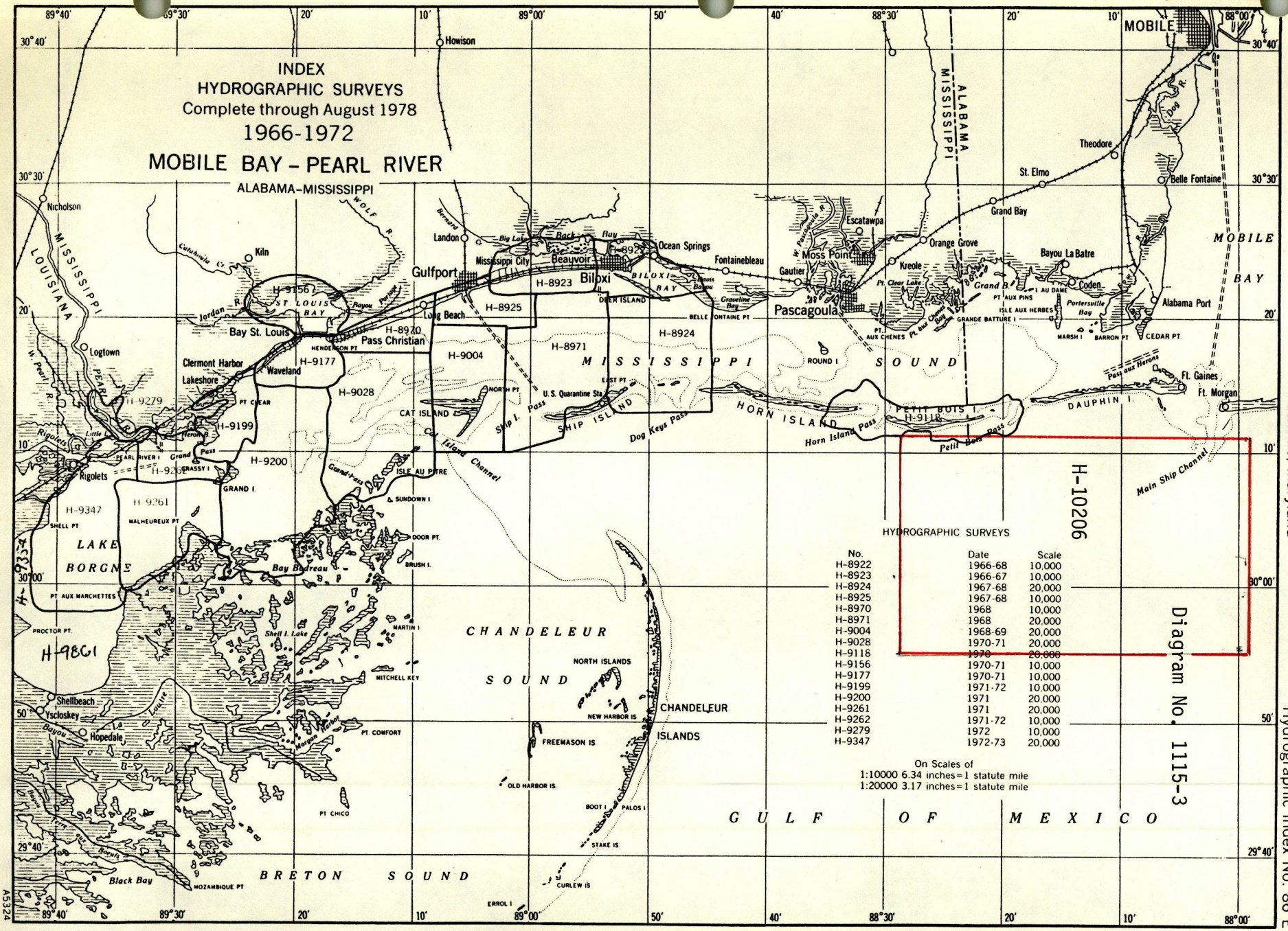
LORAN-C OVERPRINTED

DMA STOCK NO. 11BHA11373


Bayou Marcus
Millview
PENSACOLA
R. TR. (Occ. R. Lts.)
Hospital
STACK
TANK
R. TR.
Emanuel
Frisco Lines
Bayou Chico
RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.
R. TR. (CEN. OF 3)
(WCOA) 1370 kHz
(WBOP) 980 kHz
Warrington
Bayou Grande
OVHD PWR CAB AUTH CL 35 FT
OVHD CAB
OVHD PWR CAB AUTH CL 35 FT
RADIO TOWERS
CONTROL TOWER
PENSACOLA Fl 20sec 191ft 27M
RA DOME
TOWER
STACK
E Int G 6sec 67ft
(use charts 11383 & 11384)
P E N S A C O L A
Old Navy Cove
Town Pt
Fair Pt
Bridge in ruins
English Navy
Deer Pt
30° 20'
DEMARCATION LINE (see note A)
Spoil Area
Qk Fl G
Qk Fl 32ft
Sand Dunes
BLDG
Ruins
Obstr Fish Haven
Middle Ground
Qk Fl R BELL
Caucus Shoal
Breaks
Shl to 11 ft 1976
Tide rips
Fl G 2.5sec GONG
R "4" Fl R 2.5sec
Awash MLW
R "WR2"
Qk Fl R BELL
R "2" Fl R 4sec BELL
Fl G 4sec
Caucus Channel
Obstr Fish Haven
Discontinued Disposal Area Depths from surveys of 1940-1963
DUMP SITE (dredged material) (see note S)
Fl 6sec GONG
FAIRWAY ANCHORAGE 166.200 (see note A)
SAFETY FAIRWAY 166.200 (see note A)
7980-Y-47100
7980-X-30450
7980-X-30400
87° 20'
CHART 11382



observed data. Mariners are cautioned no
on the lattices in inshore waters. Skywave
not provided.
MOBILE BAY
BON SECOUR BAY
MISSISSIPPI SOUND
HORN ISLAND
Dog Keys Pass
Petit Bois I
Petit Bois Pass
Dauphin I
Sand I
PASS AUX HERONS
GRAND BAY
Isle aux Herbes
Coden
Pascagoula
Moss Point
Gautier
Ocean Springs
Belle Fontaine Pt
Round I
R. TR. (WVMI) 570 kHz
AERO Rot. W&G
FORD ECC 100
HALFWAY 1985 001
PETIT BOIS 1985 004
AIR FORCE DOME 030
TIDE GAGE
200 WHITING 82
202 WHITING ECC
OAL BUOY "A"
NANSEN 1
NANSEN 2
NANSEN 3
WEST
MIDDLE
EAST
STD
WELLHEAD SH-MB 909 #1
MI-40-4-85
GULF OF MEXICO
CHART 11360
Chart 11363
Chart 11373
Chart 11376
(chart 11374)
(chart 11378)
(use chart 11373)
(use chart 11376)
SAFETY FAIRWAY 166.200 (see note A)
UNEXPLODED ORDNANCE (REP DEC 1969) PA
UNEXPLODED ORDNANCE REP JUNE 1983
Unexploded projectiles PA (Rep Aug 1982)
DUMP SITE
Disposal Area
Depths from surveys of 1920-1960
Obstructions Fish Havens
Obstr Fish Haven
Fl 10sec 125ft 27M
F R 70ft
Fl 2.5sec GONG
W Or "FH-3" Priv maintd
W Or "A" Priv maintd
W Or "B" Priv maintd
TOWER
DOME
30150
30100
30050
29950
29900
29850
29700
29650
7980-X-30000
50' 40' 30' 20' 10' 88° 50' 40'
30°



DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 86 E

A53324

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-10206

EXAMINED FOR
GDBU NC
~~Zmm 9-26-89~~
Dmr 11/3/89

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
11373	12-6-88	Russell P Kennedy	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
11376	4-20-90	Lin Arkonas	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 53 ~~(overlaps with 10226)~~
~~11360~~	~~12-18-90~~	~~Jim Seabright~~	~~Full Part Before After Marine Center Approval Signed Via~~
			~~Drawing No. 45~~
11366	10-30-91	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. New Chart
411	12-17-92	Ken Forster	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 64 Exam-n/c-scale.
11360	4/25/93	L. Arkonas	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 47
11006	5/5/93	Dan Black	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 38 THRU CHT. 11360
			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.