

# 10015

Diagram No. 1283-2

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

Type of Survey ..... Hydrographic.....  
Field No. .... WH-20-3-82 .....  
Office No..... H-10015 .....

### LOCALITY

State ..... Texas .....  
General Locality Gulf of Mexico .....  
Locality ..... Southwest of Freeport.....

1982

CHIEF OF PARTY  
CDR R.K.Matsushige.....

### LIBRARY & ARCHIVES

DATE ..... March 2, 1984 .....

☆U.S. GOV. PRINTING OFFICE: 1980-766-230

10015

AREA 4  
CHARTS:

- 11300 - 2100
- 11300 - 460
- 11330 - 250
- 11321 - 80

HYDROGRAPHIC TITLE SHEET

H-10015

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

WH-20-3-82

State Texas

General locality Gulf of Mexico

Locality Southwest of Freeport Coast

Scale 1:20,000 Date of survey 10 May to 28 May 1982

Instructions dated 22 December 1981 Project No. OPR K104-WH-82

Vessel NOAA Ship WHITING S-329 EDP 2930

Chief of party Commander Roy K. Matsushige, Commanding Officer

Surveyed by A. Eliorov, T. Wolf, Shaffer, M. Henderson, E. Steigerwald, P. Ruiz, P. Kenul

Soundings taken by echo sounder, ~~and tide gauge~~ Ross Model 5000

Graphic record scaled by WHITING personnel

Graphic record checked by VNS, MEH, EAS, PJR, TAW, PMK, FRC, RWB, RCB

Protracted by \_\_\_\_\_ Automated plot by Hydroplot

Verification by \_\_\_\_\_

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

REMARKS: All times are Universal Coordinated Time.

Notes in the Descriptive Report were made in red during verification

3-5-84 - STANDARDS CK'D

C. LOY

Always Checked 4/2/84 SSV

# GULF OF MEXICO

PROGRESS SKETCH

OPR - K104 - WH-82

April - June 1982

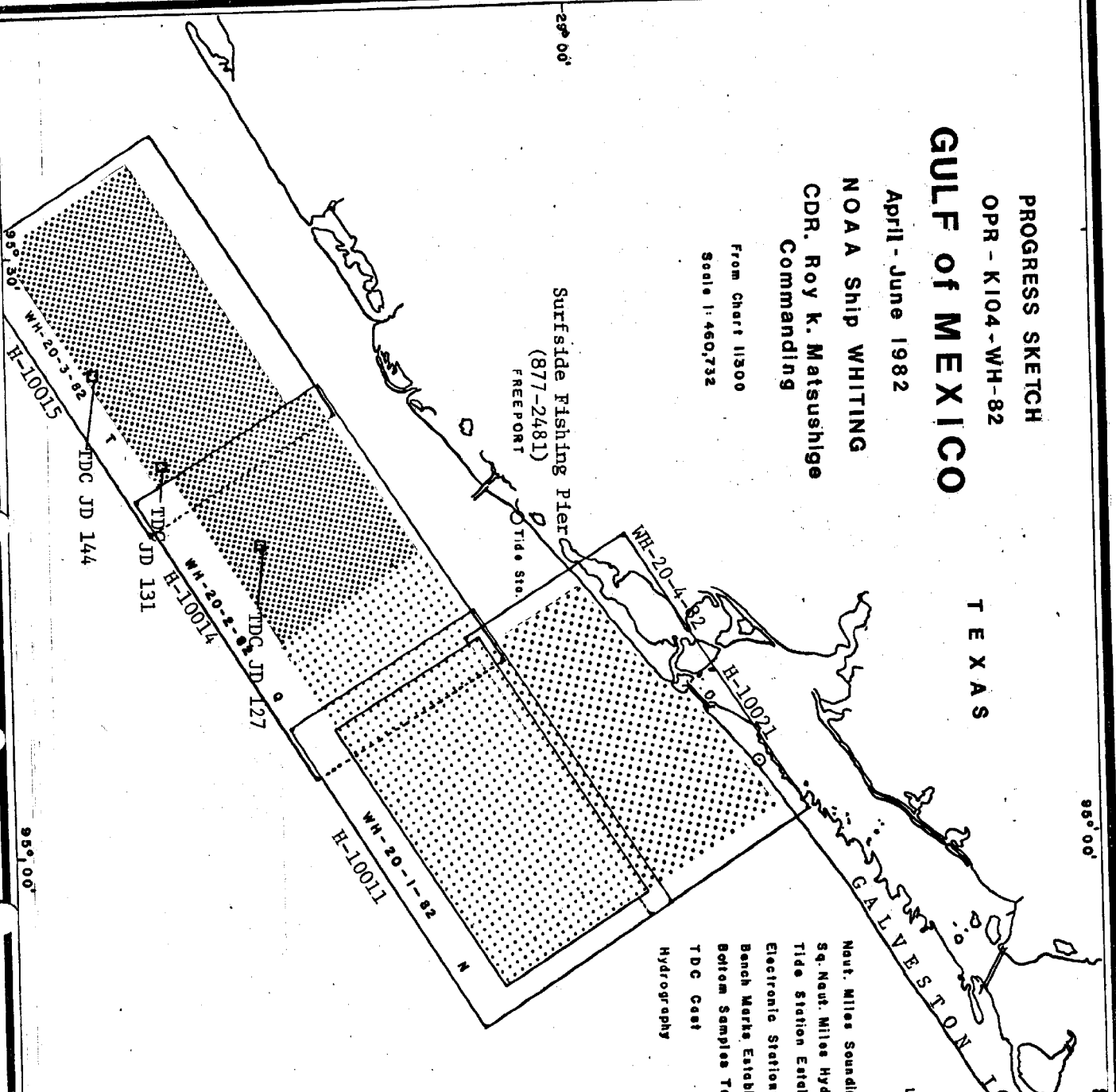
NOAA Ship WHITING

CDR. Roy K. Matsushige  
Commanding




From Chart 11300  
Scale 1:460,732

TEXAS

Tide Station  
Galveston Pleasure Pier  
(877-1510)



### LEGEND

	April	May	June
Naut. Miles Sounding Lines	1920	1776	866
Sq. Naut Miles Hydrography	1567	176	82
Tide Station Established	1	0	0
Electronic Stations	2	0	7
Bench Marks Established	5	0	0
Bottom Samples Taken	61	99	57
TDC Cast	3	3	3
Hydrography			

95° 00'

29° 00'

DESCRIPTIVE REPORT  
TO ACCOMPANY  
BASIC HYDROGRAPHIC SURVEY  
WH-20-3-82  
SCALE: 1:20,000  
SURVEYED 10 MAY TO 28 MAY 1982  
BY NOAA SHIP WHITING S-329  
CDR ROY K. MATSUSHIGE  
COMMANDING OFFICER

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A. PROJECT

Hydrographic survey H-10015 was conducted as per Project Instructions OPR-K104-WH-82, Gulf of Mexico, dated 22 December 1981, and amended by Change No. 1, dated 17 February 1982.

B. AREA SURVEYED

The area surveyed was located southwest of Freeport, Texas, in the Gulf of Mexico. The sheet was laid out approximately parallel to the shoreline, and was bounded by the following points:

<del>28° 49' 48" N</del>	<del>95° 22' 00" W</del>	<del>28° 41' 52.6φN</del>	<del>95° 17' 38.39"W</del>
<del>28° 41' 24" N</del>	<del>95° 15' 54" W</del>	<del>28° 35' 44.61N</del>	<del>95° 34' 28.86"W</del>
<del>28° 33' 33" N</del>	<del>95° 29' 54" W</del>	<del>28° 44' 39.6φN</del>	<del>95° 34' 28.95"W</del>
<del>28° 42' 00" N</del>	<del>95° 36' 00" W</del>	<del>28° 47' 44.23N</del>	<del>95° 21' 47.9φW</del>

The sea floor can generally be described as a gently sloping sandy or muddy bottom with two shoal areas. The survey was conducted from 10 May to 28 May 1982, Julian Days 130-148. ✓

C. SOUNDING VESSELS

The NOAA Ship WHITING S-329, EDP number 2930, was the vessel used in this survey. The WHITING utilized the Hydrotrac electronic positioning system ✓ in conjunction with Ross 5000 echo sounders. No unusual problems were encountered with any of the equipment used during this survey.

D. SOUNDING EQUIPMENT & CORRECTIONS TO ECHO SOUNDINGS

The sounding equipment used during the survey was a Ross Model 5000 Fine-Line echo sounder. Echo sounder serial number 1053 was used on JD's 130-131 and serial number 1049 was used on JD's 141-148. Throughout survey operations the blanking remained at 20 feet in order to ensure that the phase and initial traces were correctly adjusted. The following is a summary of the methods used to determine the corrections to the echo soundings:

Velocity of Sound:

TDC casts were taken on JD's 127, 131, 144 using a Martek TDC Model 167 (s/n 127), which was calibrated February 1982. The velocity correctors determined from the TDC casts taken on JD's 127 and 131 were applied to data from JD's 130-131 while the TDC cast taken on JD 144 was used to calculate velocity correctors for data obtained during JD's 141-148. Positions of all casts are shown on the progress sketch included with

this report. A printout of the velocity tapes <sup>is</sup> ~~is~~ included in Appendix IV.

#### TRA Correctors:

Fore and aft readings were recorded at the beginning and end of each of two periods - JD's 125-134 and JD's 138-148. These readings were averaged to obtain the mean draft for each working period. Two sets of leadline measurements were taken on JD's 071 and 074, during the Pensacola project OPR-J-217-WH-82 to determine the instrument error. The instrument error, defined by the difference between the digital and echo sounder recorded depths, is considered insignificant. The echo sounder initial error was negligible, since the blanking setting was set at 20 feet throughout the survey, and the initial was monitored by a survey technician to observe and adjust any discrepancies while the data was being collected.

Settlement and squat trials were run on 26 April 1982 in approximately 67 feet of water near the southern limit of the survey area of OPR-K104-WH-82, H-10014. Ross Model 5000 Echo Sounder (s/n 1053) was used.

#### Predicted Tides:

The smooth field sheets for this project were plotted using predicted tides from the reference gage at Galveston Pleasure Pier (877-1510). Lat. 29° 17.2' N, Long. 94° 57.4' W. Logger tapes were provided by CAM3, Processing Division, AMC, and were converted to predicted tide tapes by WHITING personnel using AM 500 (Predicted Tide Generator).

A listing of the TC/TI tapes and printout is included in Appendix IV. Further descriptions of all methods used to determine the corrections to echo soundings and supporting data are included under a separate cover included with the report. All TRA corrections will be applied during final processing by OA/CAM3, Processing Division, via TC/TI tapes.

#### E. HYDROGRAPHIC SHEETS

All field sheets were prepared on board the WHITING using Houston Instrument DP-3 Roll Plotters. The survey was divided into east, central and west sheets, each with a skew of 122° and the following origins:

<u>East</u>	<u>Central</u>	<u>West</u>
28° 41' 54" N	28° 39' 36" N	28° 37' 18" N
95° 16' 54" W	95° 21' 00" N	95° 25' 06" W

A total of six plotter sheets were submitted with this survey; three boat sheets containing mainscheme, crosslines, bottom samples, and five developments, and three smooth field sheets containing mainscheme, crosslines, bottom samples and developments. The five developments consisted of two shoal areas and three wreck investigations.

All plotter sheets and field records have been transferred to OA/CAM3, Processing Division, for verification.

#### F. CONTROL STATIONS

The following signals were used for electronic positioning sites or for calibration signals:

<u>Signal No.</u>	<u>Name</u>	<u>Year Established</u>
001	H/82+TX	1979
002	Terramar	1982
007	Well Use	1912
008	Dow Chemical Co	-
010	Captain	1978
011	CCO <sup>and</sup> Gas Co	1982
<del>012</del>	H-78 TX	<del>1979</del>
<del>006</del>	SL-18 USE	<del>1979</del>
<del>009</del>	Freeport Coast Guard Beacon	<del>1978</del>

Station numbers 002 and 011 were established to Third Order. Class I standards by Mr. Gary Fredrick, AMC Operations Division, between 28 March and 10 April 1982. Positions for all other stations were obtained from NGS published data.

Stations 001 and 002 were used as Hydrotrac control sites. Stations 007, 008, 010, 011 and 012 were used as calibration signals for visual sextant calibrations. The CCO and Gas Co oil rig (sta. #011) was used for circle calibrations as a check on whole lane count for the positioning system.

#### G. HYDROGRAPHIC POSITION CONTROL

Range-range control was used for this survey. The Hydrotrac positioning system was utilized for all mainscheme, crosslines, bottom samples, and developments. The following components were used aboard the WHITING as the master unit:

- Receiver s/n 327
- Power Amplifier s/n 539
- Master Drive Unit s/n 122
- ALU s/n JH 101206
- Strip Chart Recorder s/n 1914

A one-hundred foot tower was erected at H/82+TX (the left station), and the following equipment was used:

- Power Amplifier s/n 536
- Slave Drive Unit s/n 214
- Coupler s/n JH 101206



At Terramar, 1982 (the right station), a 36-foot whip antenna was used, along with the following units:

Power Amplifier s/n 537  
 Slave Drive Unit s/n 226  
 Coupler s/n JH 101206

The left and right stations were chosen to insure an intersection of rates greater than  $30^{\circ}$  and less than  $150^{\circ}$  throughout the survey area. Calibration of the Hydrotrac system was conducted in accordance with the Hydrographic Manual. Visual calibrations using three-point sextant fixes with check angles were performed at the beginning and end of each working trip, and whenever a loss or gain of lanes was suspected. The partial lane correctors were determined from these calibrations, and were applied for plotting on-line with RK112 and smooth plotting off-line with RK211.

Hydrography was halted for a short time at 1500Z JD147 (27 May 1982) when power to Terramar 1982 was interrupted. The situation was remedied when the back-up battery units were replaced. Hydrography was resumed after visual calibration was completed. All data collected between the visual calibration on JD141 at 1340Z and the failure of the station is adequate since no problems were observed which may have affected the calibration values during this period.

An ANDIST of 5 meters was used with RK561 during visual calibrations to correct for the difference in position between the observers and the Hydrotrac antenna. An ANDIST of 5.5 meters and the digital gyrocompass input were used for on and off-line plotting to correct for the distance between the transducer and the Hydrotrac antenna.

All calibration data for this survey was adequate, and no problems were encountered which degraded the positional accuracy of the survey. An abstract of correctors is included in Appendix V. All calibration data computations are submitted in a separate folder. A corrector of +0.69 was mistakenly applied to Pattern 1 values for positions 674-336. The correction of +0.67 determined from the visual calibration of JD141 should be applied on the final plot.

#### H. SHORELINE

There was no shoreline within the area of this survey. ✓

#### I. CROSSLINES

Eighty-seven nautical miles of crosslines were run, which was 10.3% of the mainscheme. Agreement with mainscheme is as follows: 97% agreed within one foot of the mainscheme soundings, and 100% agreed within two

3%  
 100%

feet. This meets the suggested criterion for comparison stated in Section 1.1.2, Part B.II.1 of the Hydrographic Manual.

J. JUNCTIONS - See also Evaluation Report

The southwest boundary of this survey junctioned with H-9881. H-9881 is a 1:40,000 scale survey conducted in 1980. Agreement is such that 87% of the junctioned soundings agreed within one foot, <sup>100%</sup> 97% agreed within two feet, and <sup>100%</sup> 100% agreed within three feet. This meets the suggested criterion for comparisons.

K. COMPARISONS WITH PRIOR SURVEYS - See also Evaluation Report

Prior survey H-6399, a 1:40,000 scale survey completed in 1938, was compared with the western portion of this survey. Generally the soundings from the two surveys agreed within one to two feet. A shoal area was developed during survey H-6399. This shoal was centered at Lat. 28° 39' 48" N, Long. 95° 30' 00" W with a reported least depth of 42 feet. The shoal area was developed during H-10015 using 90 meter line spacing. The previous soundings do not compare with the recent survey. Soundings in this area were from two to five feet deeper than last surveyed. The eastern edge of this area no longer shows any evidence of shoaling.

The following three PSR investigation items were within the area of this survey: - All three (3) are information items

<u>Item</u>	<u>Description</u>	<u>Charted Position</u>	<u>Source</u>
64	wreck, PA	28° 40' N 95° 26' W	LNM 41 (1965) M/V MIDCO IX
65	wreck, PD	28° 41' N 95° 24' W	LNM 83 (1972) P/N ST LAURENT I
277	wreck, PA	28° 44.5' N 95° 21.5' W	LNM 42 (1980) 22 Ft pleasure craft

A limited investigation with reduced sounding line spacing (90 meters) was conducted for each PSR item in an area approximately 600 meters by 1200 meters covering the charted positions of PSR items 64 and 65, and the reported position of PSR 277.

Item #65 is the wreck of the fishing vessel "St. Laurent I" which was considered hazardous. No trace of the wreck was found on the fathogram. The hydrographer recommends that PSR Item 65 remain charted as PD, position doubtful. - retain as charted

Item #277 was described as a 22-foot pleasure craft reported sunk with no plans at the time for salvage or removal. No trace of the wreck was found on the fathogram. Considering the size of the vessel, the hydrographer recommends that the charted symbol be changed from PA, position approximate to PD, position doubtful. - retain as charted

Item #64 was not described in the PSR Review documentation. No trace of the wreck was found on the fathogram. The hydrographer recommends that the charted symbol be revised from PA, position approximate, to PD, position doubtful. - source NTH 41/65 - M/V M. DCO IX - reported sunk in 12 fathoms - retain as charted

#### L. COMPARISON WITH THE CHART - See also Evaluation Report

Survey H-10015 was compared with NOS Chart 11321, 20th Ed., April 1980, at a scale of 1:80,000. Agreement with the chart is as follows: 68% of the charted depths agreed within one foot, ~~96%~~ <sup>91%</sup> agreed within two feet, ~~91%~~ <sup>91%</sup> agreed within three feet. Nine percent of the soundings did not agree within three feet of the charted depths. It was found that the largest discrepancy was located in the shoaler inshore area. Depths were found to be as much as 9 feet deeper in the H-10015 survey. A depth of 51 feet was noted at sounding position 2311 (Lat. 28° 39.7'N, Long. 95° 30.0'W). This compared to the charted depth of 42 feet on NOS Chart 11321. The hydrographer interprets this difference to be a result of natural erosion processes in the inshore area.

Two shoal areas were surveyed during this project. One has already been addressed in Section K. The second shoal area was located on the northern part of the western limits of survey H-10014. The least depth of the shoal on H-10015 is 42 feet located at 28° 46' 22.8" N and 95° 21' 04.8" W. On the western part of this shoal a least depth of 47 feet was located at 28° 45' 53.6" N and 95° 22' 38.4" W. The least depth of Chart 11321 for these positions are 44 and 45 feet, respectively.

47 ft @ 28° 45' 59.3" N, 95° 22' 31.2" W and 28° 46' 42.7" N, 95° 22' 25.7" W  
Two structures were found in the survey area which were not located on Chart 11321. A wellhead was located at 28° 45' 27.2" N and 95° 25' 25.8" W. A drilling platform was located at 28° 44' 47.5" N and 95° 25' 13.7" W. This structure did not appear to be permanent. However, the hydrographer recommends that both positions be noted on the revised chart.

#### M. ADEQUACY OF THE SURVEY

This survey is sufficiently complete and adequate to supercede prior surveys for charting purposes. The following areas are the only ones where hydrography is below standards set forth in the Hydrographic Manual:

There are several holes located around the oil rig structures. The soundings were missed while attempting to safely navigate the ship through the area. The gaps are larger in areas where several rigs were located in close proximity because it was considered unsafe to attempt to navigate between them. The surveyed rig locations are listed in Section N. These are the positions where gaps will appear on the hydrographic sheets.

N. AIDS TO NAVIGATION - See also Evaluation Report

There were twelve fixed structures within the survey area. Positions determined during the survey were compared to positions scaled from NOS Chart 11321, 20th Ed. Two rigs were found which were not located on the chart.

The procedure for positioning the structures was similar to a circle calibration. Each position was computed from a specific set of Hydro-trac lane values. These sets of lane values were observed from opposite sides of the rigs and equidistant from the structures. The averages were calculated and used to compute the rig positions in terms of lane values. The patterns were then converted to latitude and longitude using RK300 (Utility Computations). A conspicuous point near the approximate center of each rig was used to sight the alidade while the ship was circling the structures.

Rig No. 9 was positioned by recording three positions in such a manner as to produce an intersection of 120 degrees when bearings were taken on the structure from these positions. The procedure involved circling the rig and noting the positions when the structure was at bearings of 60°, 180°, and 300° abeam of the WHITING. The positions were then converted to latitude and longitude using RK300. The position was determined graphically by plotting the three positions and drawing the three lines of intersection using the observed bearings. The computations and graphical solution are included in Appendix X.

Rig No. 2 is a drilling platform and it is not known if this will be a permanent structure. The following is a table of surveyed positions and positions scaled from Chart 11321, 20th Ed.:

<u>Rig</u>	<u>Name of Rig</u>	<u>Surveyed Position</u>	<u>Scaled Position</u>
1	none	28° 45' 27. <sup>933</sup> N 95° 25' 25.8" W 26.928	not charted wellhead
2	none	28° 44' 47. <sup>447</sup> N 95° 25' 13.4" W	not charted
3	Kirby Expl. Co.	28° 44' 53. <sup>375</sup> N 95° 24' 47. <sup>234</sup> W 845	28° 44' 54" N 95° 24' 48" W 52

Rig	Name of Rig	Surveyed Position	Scaled Position from the chart
5	ROC-BA-366L No. 6 Position # 3498	28° 43' 05. <sup>565</sup> N 95° 25' 52. <sup>649</sup> W	28° 43' 0 <sup>5</sup> " W 95° 26' 0 <sup>52</sup> " W
6	none Position # 3499	28° 42' 11. <sup>234</sup> N 95° 27' 04. <sup>781</sup> W	28° 42' 1 <sup>11</sup> " N 95° 27' 0 <sup>65</sup> " W
7	none Position # 3544	28° 41' 56. <sup>511</sup> N 95° 25' 39. <sup>132</sup> W	28° 4 <sup>41</sup> 2' 0 <sup>58</sup> " N 95° 25' 4 <sup>44</sup> 5" W
8	ROC-BA-336L No. 4 Position # 3541	28° 42' 17. <sup>415</sup> N 95° 24' 55. <sup>523</sup> W	28° 42' 2 <sup>16</sup> 4" N 95° 24' 5 <sup>53</sup> 4" W
9	none Position # 3542	28° 42' 15.0" N 95° 31' 38.3" W	28° 42' 1 <sup>15</sup> 8" N 95° 31' 3 <sup>36</sup> 7" W
10	none Position 3543	28° 39' 06. <sup>882</sup> N 95° 31' 37. <sup>497</sup> W	28° 39' 1 <sup>12</sup> 0" N NM 2/82 95° 31' 3 <sup>49</sup> 8" W
11	none Position 3544	28° 39' 14. <sup>449</sup> N 95° 30' 54. <sup>495</sup> W	28° 39' 1 <sup>17</sup> 5" N NM 49/80 95° 30' 5 <sup>56</sup> 5" W
12	none Position 3545	28° 38' 39. <sup>123</sup> N 95° 31' 29. <sup>44</sup> W	28° 38' 4 <sup>44</sup> 3" N NM 35/80 95° 31' 2 <sup>34</sup> 8" W

All circle calibration data is included with the transmitted data in a separate folder. The G.P.'s for the rigs were computed at AMC using TRK 344

#### O. STATISTICS

VESNO: 2930  
 Total Number of Positions: 3492 3363  
 Total Hydro Miles: 1148 nautical miles  
 Total Square Miles of Hydro: 85 square miles  
 Bottom Samples: 25  
 Tide Stations: 4  
 TDC Casts: 3

#### P. MISCELLANEOUS

~~The inshore boundary limits of the survey area were shifted approximately 1.25 miles farther offshore with the approval of CAML. The shift was required so that the angle of intersection between the two lines of~~

P. MISCELLANEOUS

The inshore boundary limits of the survey were shifted approximately 1.25 miles farther offshore with the approval of CAM1. The shift was required so that the angle of intersection between the two lines of position from Terramar 1982 and H#82+TX antennas remained less than 150 degrees. This will require a shift in the offshore limits of Sheet R.

Q. RECOMMENDATIONS

Survey H-10015 is adequate except as noted in the approval letter and no further field work is recommended in the area surveyed. See recommendations in Sections K and L.

R. AUTOMATED DATA PROCESSING

<u>Program Number</u>	<u>Description</u>	<u>Version Date</u>
RK112	R/R Real Time Hydroplot	08/04/81
RK201	Grid, Signal and Lattice plot	04/18/75
RK211	R/R Non-Real Time Plot	02/18/75
RK300	Utility Computations	10/21/80
RK330	Data Reformat and Check	05/04/76
AM500	Predicted Tide Generator	11/10/72
AM530	Layer Corrections for Velocities	05/10/76
RK561	R/R Geodetic Calibration	05/26/81
AM602	Extended Line Oriented Editor	05/21/75
RK612	Line Printer Listing	03/22/78

S. REFERRAL TO REPORTS

Tide Station Report sent to OA/C231 Tidal Requirements and Acquisitions Branch, 23 June 1982.

Recovery Notes, Horizontal Control, submitted to OA/CAM1, Operations Division, AMC, 19 April 1982.

Dead Reckoning Abstracts for LORAN-C Comparisons sent to OA/CAM1, Operations Division, AMC, 29 May 1982.

Bottom Sample Descriptions submitted to OA/C353 and Smithsonian Institute, 29 May 1982.

Respectfully Submitted:

*Philip Kenul*

Ensign Philip Kenul, NOAA

APPENDICES

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II. FIELD TIDE NOTE

During the entire period of hydrography the primary tide station at Galveston, Pleasure Pier (877-1510) served as control for datum determination. The following subordinate stations were also in operation during the period of hydrography:

<u>Station Number</u>	<u>Station Name</u>	<u>Location</u>
877-5270	Port Aransas. Horace Caldwell Pier	27° 49.6' N, 97° 03.1' W
877-1450	Galveston, Pier 21	29° 18.8' N, 94° 47.2' W
877-2481	Surfside Fishing Pier	28° 57.4' N, 95° 16.4' W

Stations 877-5270 and 877-1450 are under operation and maintenance contract by Chapin Associates Inc. of Tallahassee, Florida. Station 877-2481, Surfside Fishing Pier, was installed on 8 April 1982 and maintained by WHITING personnel, and was removed 12 June 1982.

Weekly tide reports are being submitted monthly to OA/C231, Tides and Water Levels Branch. Tide installation package was also submitted to OA/C231 on 4 May 1982. Tide removal package was submitted 23 June 1982 to OA/C231.



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SURVEY  
NOAA Ship WHITING  
439 W. York St.  
Norfolk, Va. 23510

24 June 1982

TO: Chief,  
Tides and Water Levels Branch, OA/C231

FROM: *Roy K. Matsushige*  
CDR. Roy K. Matsushige, NOAA  
Commanding Officer, NOAA Ship WHITING

SUBJECT: Smooth Tide Data for Survey H-10015

Please forward smooth tide data for the southeastern coast of Texas from tide station numbers 877-1510, 877-5270, 877-1450, and 877-2481 to Chief, Processing Division, CAM 3, Atlantic Marine Center, Norfolk, Virginia. Smooth tide data is needed for the following dates and times:

JD 130 010000 Z - JD 131 150000 Z  
JD 141 230000 Z - JD 148 060000 Z



III. GEOGRAPHIC NAMES LIST

GEOGRAPHIC NAMES (FIELD)

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO. 11321	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	RAND McNALLY ATLAS	U.S. LIGHT LIST			
Gulf of Mexico											1
											2
											3
											4
											5
											6
											7
											8
											9
											10
											11
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											23
											24
											25

IV. ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS



## DIGITAL - LEADLINE COMPARISON

VESSEL Ship WHITING DATE 12 March JD 071  
 FATHOMETER TYPE Ross 5000 SERIAL NO. 1053 Lat. 30° 16' 30"  
 DIGITAL DRAFT 0 Long. 87° 17' 10"  
 FATHOGRAM INITIAL 0 Locality Pensacola, FL  
 LEADLINES No. Markings Length Wind 7 kts  
 1. Port 1 fm 20 fm Sea 0-1 ft  
 2. Stbd 2 ft 60 ft Ship Draft Fore 9' 7"  
 Velocity Correction +1.1 ft Mean Draft 10.2 ft Aft 10' 9"

	1	2	3	4	5	6
LEADLINE PORT	44.4	44.9	44.7	44.5	44.5	44.2
STBD	45.0	44.5	44.5	44.0	44.0	44.0
MEAN	44.7	44.7	44.6	44.2	44.2	44.1
Velocity Corr. + DIGITAL RDG+ Draft	43.8	44.2	44.2	44.0	43.9	43.8
DIFFERENCE	0.9	0.5	0.4	0.2	0.3	0.3
					MEAN	0.4
DIGITAL READING	32.5	32.9	32.9	32.7	32.6	32.5
FATHOGRAM RDG	32.5	32.7	32.7	32.8	32.5	32.2
DIGITAL - FATHO RDG	0.0	0.2	0.2	-0.1	0.1	0.3
					MEAN	0.1



## DIGITAL - LEADLINE COMPARISON

VESSEL Ship WHITINGDATE 15 March JD 074FATHOMETER TYPE Ross 5000 SERIAL NO. 1053Lat. 30° 20' 48"DIGITAL DRAFT 0Long. 87° 15' 54"FATHOGRAM INITIAL 0Locality Pensacola, FL

LEADLINES

Wind 5 kts1. Port 1Markings fmLength 20 fmSea 0 ft2. Stbd 2ft60 ftShip Draft Fore 10' 6"Velocity Correction +0.5 ftMean Draft 10.6' Aft 10' 8"

	1	2	3	4	5	6
LEADLINE PORT	27.2	27.3	27.4	27.5	27.2	27.0
STBD	27.2	27.2	27.2	27.2	27.2	27.2
MEAN	27.2	27.2	27.3	27.3	27.2	27.1
Velocity Corr. + DIGITAL RDG+ Draft	27.0	27.0	27.0	27.0	27.0	27.0
DIFFERENCE	0.2	0.2	0.3	0.3	0.2	0.1
					MEAN	0.2
DIGITAL READING	15.9	15.9	15.9	15.9	15.9	15.9
FATHOGRAM RDG	15.9	15.9	16.0	15.9	15.9	15.9
DIGITAL - FATHO RDG	0.0	0.0	-0.1	0.0	0.0	0.0
					MEAN	0.0

SETTLEMENT AND SQUAT  
NOAA SHIP WHITING  
1982 Field Season

A settlement and squat test was run for the NOAA Ship WHITING on 26 April 1982 in the working area for OPR K104-WH-82, near Freeport, Texas.

A buoy was set in approximately 67 feet of water and the depth recorded with the ship at rest when the buoy was deployed. The ship was then steered on a line past the buoy at different speeds, and a D.P. taken each time the buoy was abeam. Five passes were made at each speed, and the depths averaged to determine the correction.

This test was conducted at the mid-point of an 11-day work period. The ship carried all normal equipment and both Jensen launches.

Following is a table of depths and corrections, and the resulting graph of speed (RPM x pitch) vs. draft corrections.

23  
 SETTLEMENT AND SQUAT  
 NOAA SHIP WHITING  
1982 Field Season

<u>SPEED</u>	<u>POS. #</u>	<u>ANALOG DEPTH</u>	<u>AVE. DEPTH</u>	<u>CORRECTION (ft)</u>
At Rest		55.6		0.0
240/2	662	55.3		
	663	55.7		
	665	55.4		
	666	55.2		
	668	55.3	55.4	+0.2
240/4	669	54.9		
	670	55.1		
	671	54.8		
	672	54.7		
	673	54.9	54.9	+0.7
260/4	674	54.7		
	675	54.7		
	676	55.0		
	677	54.6		
	678	54.3	54.7	+0.9
280/6	679	54.4		
	680	53.9		
	681	54.3		
	682	54.3		
	683	54.4	54.3	+1.3

✓ NS

Fuel Load = 25,465 gallons

CORRECTIONS IN FEET

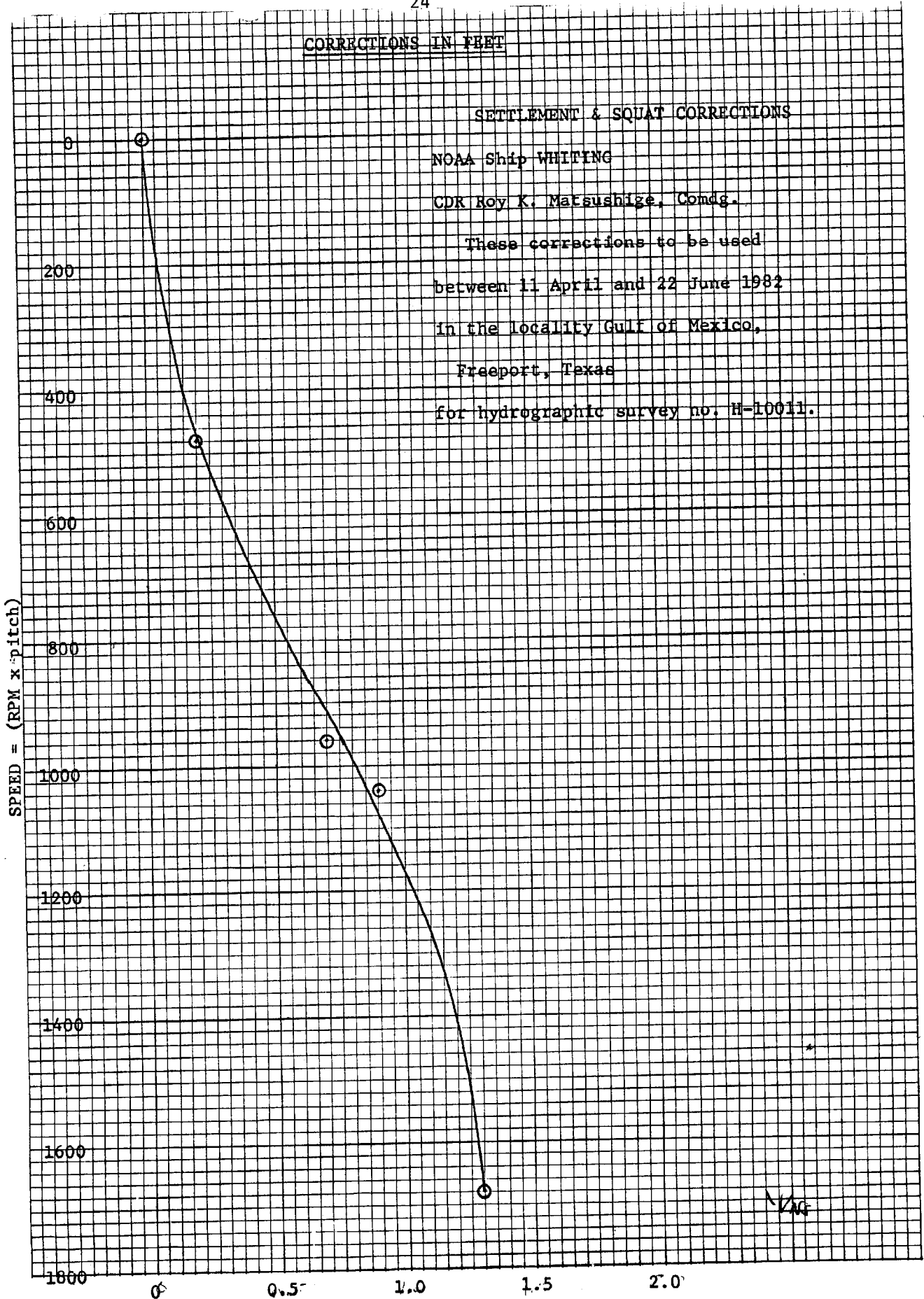
SETTLEMENT & SQUAT CORRECTIONS

NOAA Ship WHITING

CDR Roy K. Matsushige, Comdg.

These corrections to be used  
between 11 April and 22 June 1982  
in the locality Gulf of Mexico,  
Freeport, Texas  
for hydrographic survey no. H-10011.

SPEED = (RPM x pitch)



FRAM-10 X 10 TO 1 INCH  
10TH LINE HEAVY

✓/NG

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

TABLE 7

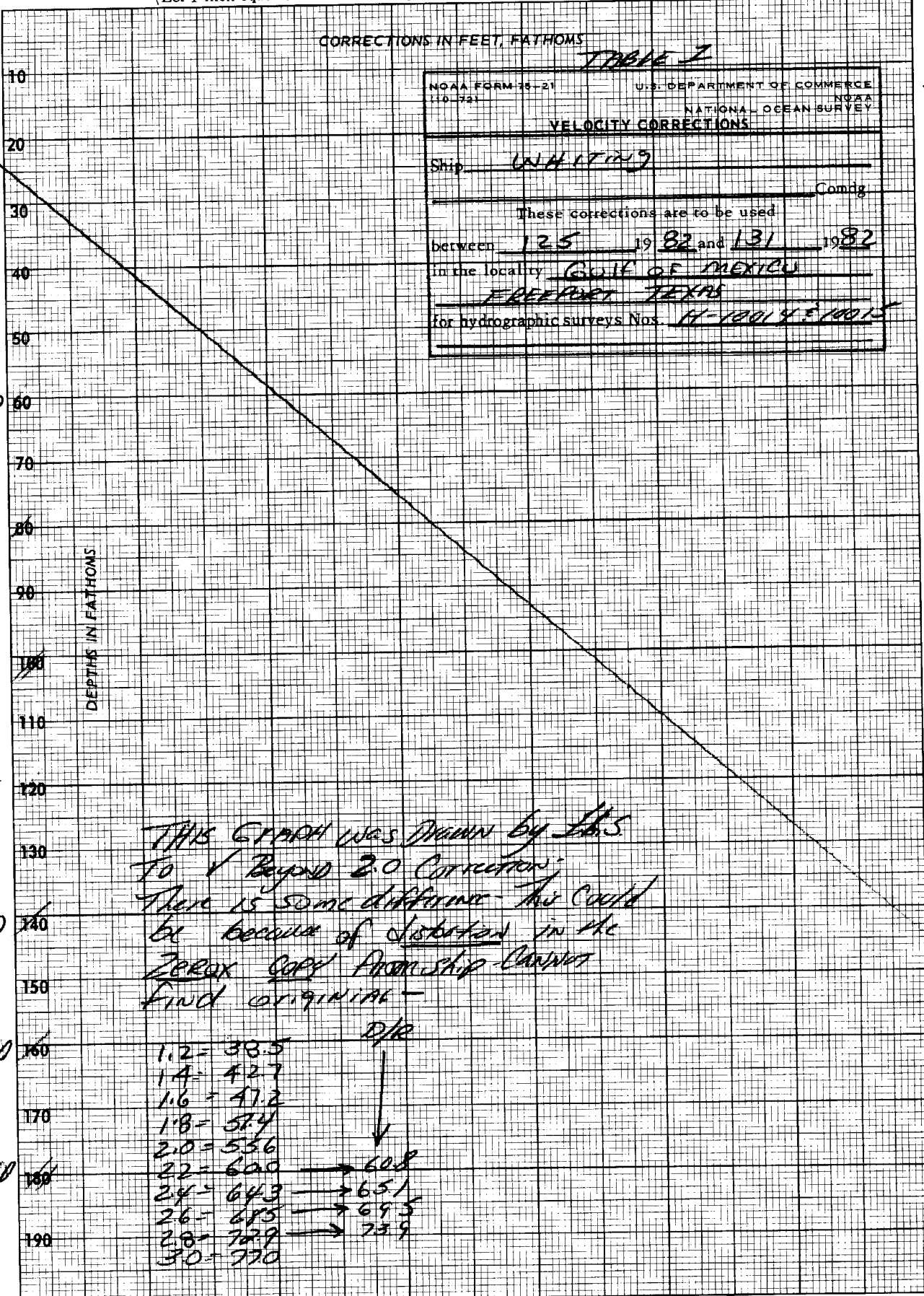
NOAA FORM 26-21  
110-721

U.S. DEPARTMENT OF COMMERCE  
NOAA  
NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship UNHATTING Comdg \_\_\_\_\_

These corrections are to be used  
between 125 1982 and 131 1982  
in the locality GULF OF MEXICO  
FREERPORT TEXAS  
for hydrographic surveys Nos. H-12014 & 12015



K&E 20 X 20 TO THE INCH 7 X 10 INCHES REUFFEL & ESSER C MADE IN U.S.A.

46 1240  
40  
50  
60  
70  
80  
90  
100  
110

(For deep water add a 0 to these figures)

THIS GRAPH WAS DRAWN BY L.H.S.  
TO 1 BEYOND 2.0 CORRECTIONS.  
THERE IS SOME DIFFERENCE THIS COULD  
BE BECAUSE OF DISTORTION IN THE  
ZEREX COPY PROOF-SHIP COMMANDER  
FIND ORIGINAL -

1.2 = 38.5	
1.4 = 42.7	
1.6 = 47.2	
1.8 = 51.4	
2.0 = 55.6	
2.2 = 60.0	→ 60.8
2.4 = 64.3	→ 65.1
2.6 = 68.5	→ 69.5
2.8 = 72.9	→ 73.9
3.0 = 77.0	

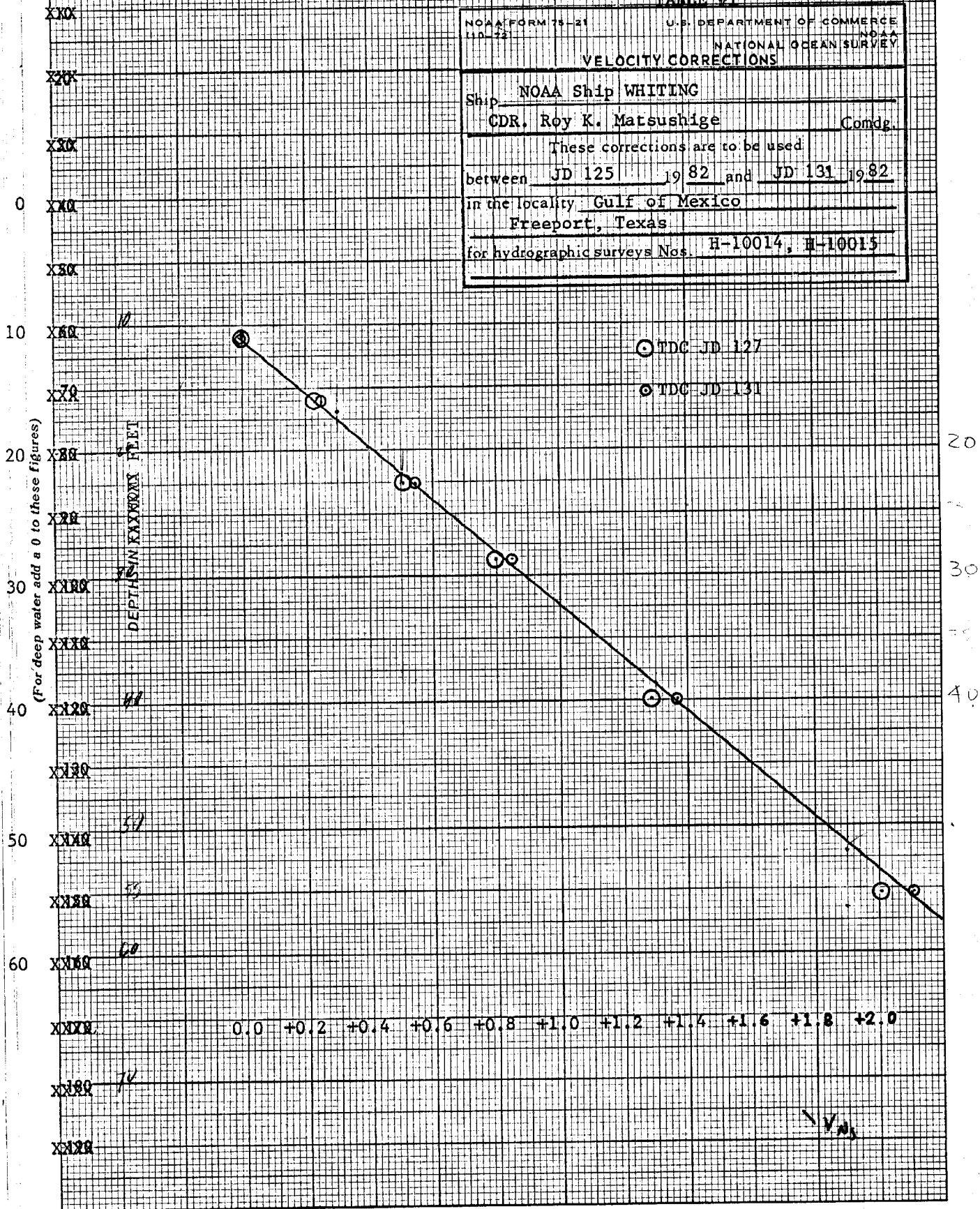
1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

TABLE #1

NOAA FORM 75-21 11D-73	U.S. DEPARTMENT OF COMMERCE NOAA NATIONAL OCEAN SURVEY
<b>VELOCITY CORRECTIONS</b>	
Ship <u>NOAA Ship WHITING</u>	
CDR, Roy K. Matsushige Comdg.	
These corrections are to be used	
between <u>JD 125</u> 19 <u>82</u> and <u>JD 131</u> 19 <u>82</u>	
in the locality <u>Gulf of Mexico</u>	
<u>Freeport, Texas</u>	
for hydrographic surveys Nos. <u>H-10014, H-10015</u>	



240

20 X 20 TO THE INCH • KEUFFEL & ESSER CO. MA

(For deep water add a 0 to these figures)

DEPTH IN FATHOMS FEET

0.0 +0.2 +0.4 +0.6 +0.8 +1.0 +1.2 +1.4 +1.6 +1.8 +2.0

V<sub>W</sub>

VELOCITY TAPE #1

H-10015

VESNO 2930 JD 125-131

000171 0 0002 0001 000 293000 010015  
000215 0 0004  
000258 0 0006  
000302 0 0008  
000346 0 0010  
000389 0 0012  
000433 0 0014  
000477 0 0016  
000520 0 0018  
000564 0 0020  
000608 0 0022  
000651 0 0024  
000695 0 0026  
000739 0 0028  
999999 0 0030

VNS

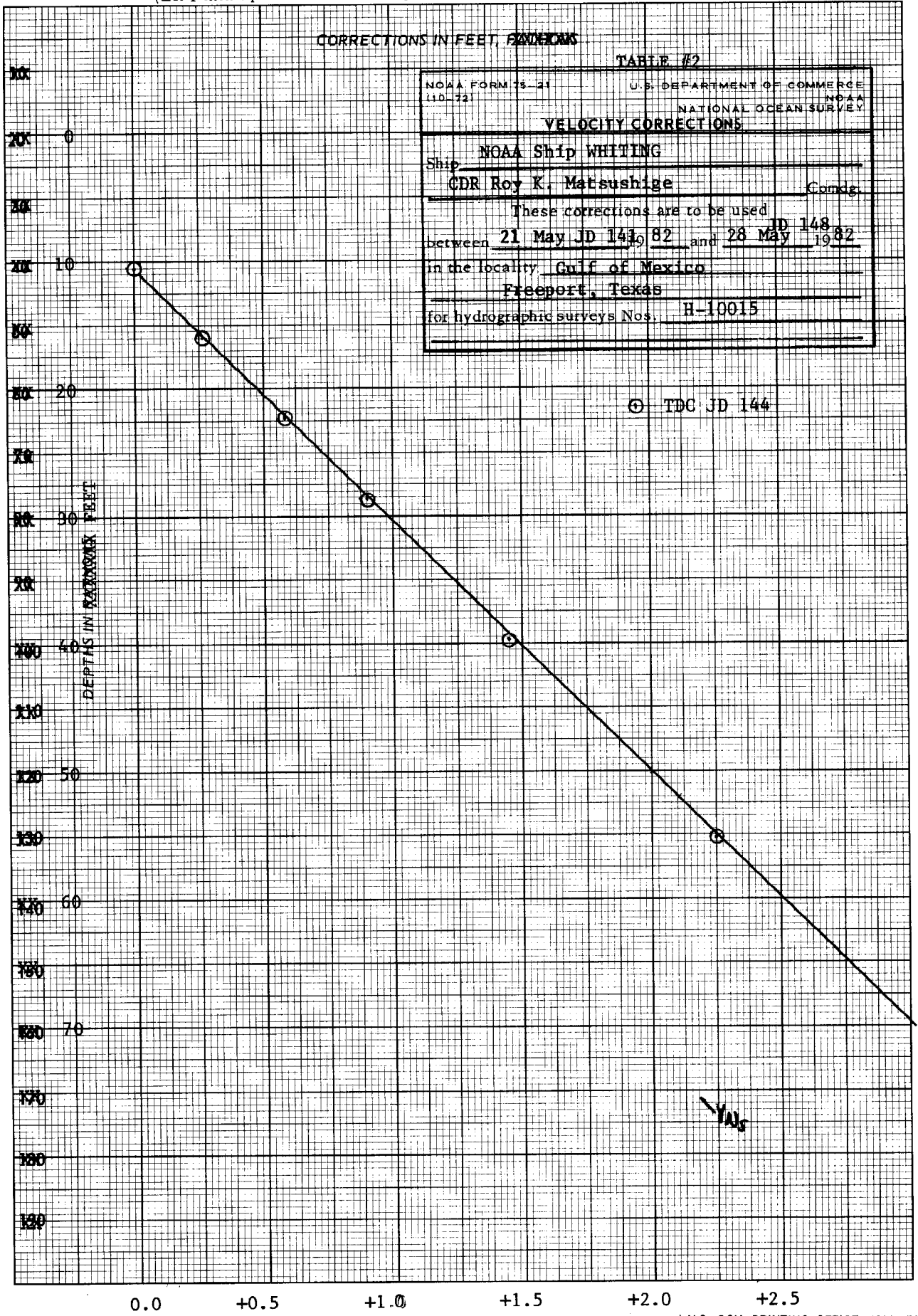
(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

TABLE #2

NOAA FORM 75-21 (10-72)	U.S. DEPARTMENT OF COMMERCE NOAA NATIONAL OCEAN SURVEY
<b>VELOCITY CORRECTIONS</b>	
Ship <u>NOAA Ship WHITING</u>	
<u>CDR Roy K. Matsushige</u>	Comdg.
These corrections are to be used	
between <u>21 May JD 144, 82</u>	and <u>28 May JD 148, 82</u>
in the locality <u>Gulf of Mexico</u>	
<u>Freeport, Texas</u>	
for hydrographic surveys Nos. <u>H-10015</u>	

(For deep water add a 0 to these figures)



46 1240

20 X 20 TO THE INCHES KEUFEL & ESSER CO. OF IN U.S.A.



## VELOCITY TAPE #2

H-10015

VESNO 2930 JD 141-148

000145 0 0001 0002 000 293000 010015  
000185 0 0003  
000225 0 0005  
000265 0 0007  
000305 0 0009  
000335 0 0011  
000385 0 0013  
000425 0 0015  
000464 0 0017  
000504 0 0019  
000544 0 0021  
000584 0 0023  
000624 0 0025  
000664 0 0027  
000704 0 0029  
000744 0 0031  
999999 0 0033

*Was*

VI. LIST OF STATIONS

## MASTER SIGNAL TAPE LISTING

OPR K104-WH-82

WH-20-3-82

OCTANT PLOTTING POS.	STATION NUMBER	LATITUDE	LONGITUDE	CARTO CODE	ANTENNA ELEVATION	FREQUENCY	STATION NAME AND YEAR ESTABLISHED
021 6	28 35	53645 095 58	42593	250 0003	171870	H-82-TX 1979	
022 6	29 07	34403 295 03	43158	250 0000	171870	Terramar 1982	
023 6	29 21	35911 295 11	17926	139 0002	000000	Pugh 1978	
024 6	28 58	44064 295 15	09268	139 0002	000000	Skeet 1933	
025 6	28 58	22387 295 15	58710	139 0000	000000	Surfside Radio Mast 1979	
026 6	28 57	26703 295 16	53537	139 0001	000002	SL 18 USE 1979	
027 6	28 57	08294 295 17	10027	139 0002	000000	Well USE 1912	
028 6	28 56	47542 295 18	51873	139 0000	000000	Dow Chem CO Plt A Organic Tank	
029 6	28 56	27392 295 18	02969	139 0000	000000	Freeport Coast Gaurd Beacon 1978	
010 6	28 56	04991 295 17	58399	139 0003	000000	Captain 1978	
011 6	28 55	39424 295 12	16223	139 0002	000000	CCO & Gas Co GA 278L NW 2 1982	
012 6	28 58	22633 295 15	40246	139 0000	000000	H-78-TX 1979	

IX. LANDMARKS FOR CHARTS

There were no landmarks or Coast Guard aids to navigation within the area of this survey. Oil rigs were discussed in Section N (Aids to Navigation).

XI. PHOTOGRAPHS OF RIG No. 2 and 3

XI. APPROVAL SHEET

The twelve oil rigs within this project area were located by hydrographic methods instead of Third Order, Class I standards because it was felt that a hydrographic position was adequate for the final scale of the chart and that it would not be economical to locate the rigs by Third Order, Class I standards. It was estimated that six to ten months would be required to obtain permission to go onto the rigs (the rigs could not be located from shore and in some cases were not visible to each other). Helicopter services for two to three weeks and a stand alone positioning system that would meet Third Order, Class I standards must be available. It is recommended that the positions obtained for these rigs be considered adequate.

The "holidays" of various sizes around the oil rigs were due to my decision that 0.3 nautical miles were to be the limit of safe navigation about the various rig structures. Variations from this limit are due to the OOD's conning ability, size of the rigs, and what we judged were safe distances after carefully observing the structure.

Soundings were taken during turns to cover as much of the holidays as possible. The depth sounder was monitored carefully and comparisons of overlaps showed excellent agreement. It was noted that this ordinarily is not a good practice.

Although this survey was not completed per the Project Instructions and the Hydrographic Manual due to the above discrepancies, it is recommended that no further field work be done in this area and the work completed considered adequate for charting.

Approved/forwarded

*Roy K. Matsushige*  
Roy K. Matsushige, Cdr., NOAA  
Commanding Officer, NOAA Ship WHITING S-329



DATE: September 1, 1982

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 877-2481 Surfside Fishing Pier, Texas

Period: May 10-28, 1982

HYDROGRAPHIC SHEET: H-10015

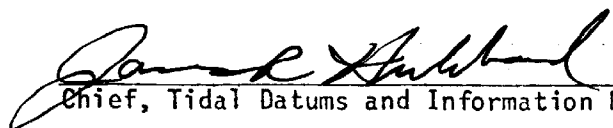
OPR: K104

Locality: Offshore Freeport, Texas, Gulf of Mexico

Plane of reference (mean lower low water): 5.05 ft.

Height of Mean High Water above Plane of Reference is 1.83 ft.

REMARKS: Recommended Zoning:  
Zone Direct.

  
Chief, Tidal Datums and Information Branch

GEOGRAPHIC NAMES

H-10015

Name on Survey	A	B	C	D	E	F	G	H	K
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP ATLAS	GRAND MCNALLY	U.S. LIGHT LIST	

FREEPORT (title)										1
GULF OF MEXICO (title)										2
TEXAS (title)										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

Approved:

*Charles E. Harrington*

Chief Geographer - N/CG2x5

10 JAN. 1984

## HYDROGRAPHIC SURVEY STATISTICS

H-10015

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION			AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS., ARC, EXCESS			3
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS			6
DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS	
ACCORDIAN FILES						
ENVELOPES					1	
VOLUMES					2	
CANERS	2 3					
BOXES				2		

## SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): 11300, 11321

## OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			3363
POSITIONS REVISED	0	0	0
SOUNDINGS REVISED	125	12	137
CONTROL STATIONS REVISED	0	0	0
	TIME - HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION	9	15	24
VERIFICATION OF CONTROL	10		10
VERIFICATION OF POSITIONS	94		94
VERIFICATION OF SOUNDINGS	130	11	141
VERIFICATION OF JUNCTIONS	5	2	7
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	110	3	113
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDESCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		40	40
OTHER			
DIGITIZING	16		
TOTALS	374	79	453
Pre-processing Examination by C. D. Meador, R. R. Hill, Jr., J. B. Wilson	Beginning Date 07 SEP 82	Ending Date 16 OCT 82	
Verification of Field Data by J. S. Bradford, F. L. Saunders, R. W. Blevins, M. W. Holloway	Time (Hours) 374	Ending Date 23 DEC 83	
Verification Check by L. G. Cram, R. G. Roberson	Time (Hours) 63	Ending Date 22 DEC 83	
Evaluation and Analysis by R. G. Roberson, C. D. Meador	Time (Hours) 79	Ending Date 17 JAN 84	
Inspection by C. D. Meador	Time (Hours) 23	Ending Date 13 JAN 84	

ATLANTIC MARINE CENTER  
EVALUATION REPORT

REGISTRY NO.: H-10015

FIELD NO.: WH-20-3-82

Texas, Gulf of Mexico, Southwest of Freeport

SURVEYED: May 10 through May 28, 1982

SCALE: 1:20,000

PROJECT NO.: OPR-K104-WH-82

SOUNDINGS: Ross Digital  
Echo Sounder

CONTROL: Odom Offshore  
HYDROTRAC (range/range)

Chief of Party .....R. K. Matsushige

Surveyed by .....A. N. Fior  
.....V. N. Shaffer  
.....M. E. Henderson  
.....E. A. Steigerwald  
.....P. J. Ruiz  
.....P. M. Kenul  
.....T. A. Wolf

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

1. INTRODUCTION

- a. No unusual problems were encountered during verification of the survey.
- b. Notes in the Descriptive Report were made in red during verification.

2. CONTROL AND SHORELINE

- a. Control is adequately discussed in sections F., G., and S. of the Descriptive Report.
- b. There is no shoreline in the area surveyed.

3. HYDROGRAPHY

- a. Soundings at crossings are in excellent agreement. Depths are generally within one (1) foot.
- b. The standard depth curves are adequately delineated. Brown and dashed

curves were added to show additional bottom relief.

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

(1) The sixty (60) foot curve was not adequately delineated from approximately Latitude 28°41'54"N, Longitude 95°25'24"W to Latitude 28°41'48"N, Longitude 95°25'48"W. This is one (1) of the areas close to an oil rig where the captain of the survey vessel did not transit the area for safety reasons.

(2) The sixty (60) foot curve was not adequately delineated from approximately Latitude 25°38'54"N, Longitude 95°30'18"W to Latitude 25°38'06"N, Longitude 95°31'36"W. The mainscheme lines of hydrography in this area were run parallel to the depth curve.

(3) A charted 44-ft. sounding in Latitude 28°40'39"N, Longitude 95°28'15"W originating with H-6399 (1938) was not developed by the hydrographer. The soundings on adjacent lines of hydrography on the present survey are sixty (60) feet.

#### 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 vertical casts for the ship (VESNO 2830) taken on days-of-the-year 071 and 074 were performed using and compared against the echo soundings from Ross echo sounder S/N 1053. When this echo sounder was replaced by Ross echo sounder S/N 1049 and used for the hydrography on days-of-the-year 141 through 147, another vertical cast should have been performed to determine instrument error for Ross echo sounder S/N 1049.

b. The TC/TI tapes and listings were incomplete. Several vessel speed changes were not applied. This was corrected during verification.

c. The corrector tapes submitted to AMC used a draft of eleven (11.0) feet. A tabulation of draft correctors for each trip can be found on page 19 of the Descriptive Report. The values on page 19 were applied to the survey data during verification.

d. The hydrographer did not compare the present survey with FE-198WD (1964), H-6398a (1938), or H-6398b (1938). These surveys were listed in the Project Instructions.

e. Of the eleven (11) oil rigs and one wellhead located in the survey area, descriptions of only seven (7) structures were found in the survey package.

f. The presentation of descriptive and positional information for the oil rigs in the sounding volumes made it difficult to correlate each description with the proper rig and to check the locations. Further confusion was caused when the oil rig located in Latitude 20°42'11.2"N, Longitude

95°27'04.8"W was called wellhead No. 4 on the preliminary field sheet.

g. The two (2) uncharted oil rigs located by the hydrographer were not reported to the appropriate U.S. Coast Guard District as required by section 6.12 of the Project Instructions and sections 1.6.4 and 5.9 of the Hydrographic Manual. A letter dated 1 October 1982 was sent by the Hydrographic Surveys Branch, AMC to the Chart Information Branch informing them of these uncharted oil rigs. This letter also pointed out the substantial disagreement between the charted and surveyed positions for three (3) of the oil rigs.

h. There was no opening calibration for the first day of hydrography for this survey, day-of-the-year 130. A calibration was performed on day-of-the-year 125 and the correctors for that day were used for day 130. No final calibration was taken on day-of-the-year 148, the last day of hydrography for this survey. Section 1.3.3.2.4 of the Hydrographic Manual states "... medium range systems shall, at a minimum, be calibrated at the beginning and end of each cruise."

i. The NOAA Forms 77-44 "SOUNDINGS" submitted by the hydrographer were not recorded chronologically as required by section 4.8.3.1 of the Hydrographic Manual.

j. Velocity graphs were not drawn to the maximum depth shown in the velocity tape listings, i.e. Table I goes to 75.3 feet and the graph was only drawn to approximately fifty-six (56) feet.

k. Bottom samples were not taken on the shoal areas found and developed in approximate Latitude 28°46'30"N, Longitude 95°21'00"W, Latitude 28°46'00"N, Longitude 95°22'30"W, and Latitude 28°40'00"N, Longitude 95°30'00"W. Section 4.5.9.2 of the Hydrographic Manual outlines this requirement.

l. Total coverage of the area surveyed was not achieved in the areas around the oil rigs. The hydrographer cites safe vessel navigation for these holidays.

m. The chart enlargement forwarded with the survey data did not cover the survey area.

n. A single floating aid to navigation is charted in approximate Latitude 28°42'00"N, Longitude 95°25'42"W. The hydrographer did not locate this aid or mention its existence as required by section 4.2.3.4 of the Project Instructions.

o. The hydrographer did not submit a report on currents or a negative report as required by section 8.2 of the Project Instructions.

p. The hydrographer should have contacted the appropriate district or local offices of the U.S. Army Corps of Engineers or U.S. Coast Guard concerning the possible salvage of Presurvey Review Items #64 and #65 as recommended in section 6.11 of the Project Instructions.

q. Even though section 6.10.2 of the Project Instructions lists chart 11321 (20th Edition, APR 19/80) for comparison purposes, it is apparent that the field used a later edition; there are three (3) additional charted platforms on the 21st edition not shown on the 20th edition.

## 5. JUNCTIONS

H-9881 (1980) to the south

H-10014 (1982) to the east

An adequate junction was effected with H-10014 (1982) to the east.

The smooth sheet and accompanying survey data for H-9881 (1980) is archived at headquarters and a standard junction was not effected. The comparison between a copy of H-9881 (1980) and the present survey smooth sheet shows adequate agreement between soundings in the junctional area. The standard depth curves can be completed in the junctional area. The junctional soundings on H-9881 (1980) are one (1) to three (3) feet shoaler than present survey depths. It is recommended that the soundings from H-9881 (1980) in this junctional area be charted.

There are no contemporary surveys to the north or west of the present survey, and present survey depths are not in complete harmony with the charted depths. Along the western edge of the present survey depths are in good agreement with the charted depths; however, along the northern edge present survey depths are as much as six (6) feet deeper than the charted depths.

## 6. COMPARISON WITH PRIOR SURVEYS

a. H-6398a (1:40,000) 1938

H-6398b (1:20,000) 1938

H-6399 (1:40,000) 1938

The above prior surveys cover the entire area of the present survey.

H-6398a (1938) shows a general trend of being one (1) to four (4) feet shoaler than the present survey; however, along the northern edge of the present survey, the prior survey is four (4) to six (6) feet deeper.

H-6398b (1938) is generally one (1) to three (3) feet shoaler than the present survey west of Latitude  $95^{\circ}22'00''W$  and one (1) to two (2) feet deeper than the present survey east of Latitude  $95^{\circ}22'00''W$ . This prior survey developed three (3) bottom features. The western most feature falls on the present survey; the two (2) easterly features fall on junctional survey H-10014 (1982).

H-6399 (1938) shows a general trend of being one (1) to three (3) feet shoaler than the present survey depths. The area developed on this prior survey in the vicinity of Latitude  $28^{\circ}40'00''N$ , Longitude  $95^{\circ}30'00''W$  was also developed on the present survey. Prior survey least depths were forty-two (42) feet in

Latitude 28°39'48"N, Longitude 95°30'00"W and Latitude 28°39'17"N, Longitude 95°30'12"W and are ten (10) feet shoaler than present survey depths. The present survey found shoal depths of forty-six (46) feet in (1) Latitude 28°40'00"N, Longitude 95°29'21"W, Latitude (2) 28°39'48"N, Longitude 95°29'42"W, (3) Latitude 28°39'36"N, Longitude 95°29'54"W and (4) Latitude 28°39'39"N, Longitude 95°30'06"W. Although none of these positions coincide with prior survey positions, the present survey control is more accurate, and the Descriptive Report for H-6399 (1938) cites control problems on the eastern portion of that survey. A forty-four (44) foot least depth in Latitude 28°40'39"N, Longitude 95°28'15"W on the prior survey is surrounded by depths of sixty (60) feet from the present survey. Close examination of the present survey records show no indication of a shoal and the prior survey's Descriptive Report discusses the leadsman's confidence in the forty-four (44) foot sounding, a "triple echo" on the Dorsey echo sounder, and control problems on the eastern portion of the survey. The final disposition made during processing of the prior survey was retention of the forty-four (44) foot depth. It is felt that the present survey depths are correct.

The overall present survey deeper depths may be attributable to the withdrawal of gas and oil in the area.

Selected prior survey soundings that were brought forward to the present survey were one (1) to three (3) feet shoaler than present survey depths. These soundings were brought forward as the most conservative approach to charting information. Because of the generally flat bottom in the survey area and the one (1) to three (3) foot disparity between the present and prior surveys, no prior survey soundings were brought forward in the holidays around oil rigs.

The present survey is adequate to supercede the prior surveys except as noted above.

b. Wire Drag Survey  
FE-198WD (1964) 1:80,000

Only one of the wire drag investigations on FE-198WD (1964), previously numbered as F.E. No. 1, 1965 WD, falls in the present survey limits.

FE 198WD (1964)

A wire-drag investigation of a dangerous sunken wreck, (F/V VIVIAN TILEMAN), in Latitude 28°40.95'N, Longitude 95°27.69'W was performed with a cleared depth of fifty-three (53) feet. Present survey depths are fifty-nine (59) to sixty (60) feet, and do not conflict with wire-drag effective depths. A charted 8-3/4-fathom cleared depth in the above location is shown on Chart 11300. No change to the presently charted information is recommended.

7. COMPARISON WITH CHARTS 11300 (23rd Edition, JUL 5/80)  
11321 (20th Edition, APR 19/80)

a. Hydrography

The charted hydrography originates with the previously discussed prior



surveys. Refer to section L of the Descriptive Report for discussion of Presurvey Review Items.

The present survey is adequate to supercede the charted hydrography in the common area except as supplemented.

b. AIDS TO NAVIGATION

There is a single floating aid to navigation charted in approximate Latitude 28°41'57"N, Longitude 95°25'42"W. This aid is found on Chart 11321 (20 the Edition, APR 19/80).


Two (2) uncharted and nine (9) charted structures were located by the hydrographer. The two (2) uncharted structures, a wellhead and jack up oil rig, were located in Latitude 28°45'27.93"N, Longitude 95°25'26.92"W and Latitude 28°44'47.44"N, Longitude 95°25'13.37"W, respectively.

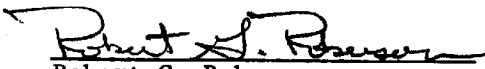
8. COMPLIANCE WITH PROJECT INSTRUCTIONS

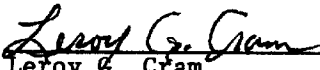
This survey adequately complies with the Project Instructions except as noted in section 4 of this report.

9. ADDITIONAL WORK

This is a good basic survey; additional work is recommended to adequately verify or disprove the existence of Presurvey Review Items #64 and #65 using wire drag/side scan sonar methods.

  
Maurice W. Holloway  
Cartographic Technician  
Verification of Field Data

  
Robert G. Roberson  
Cartographer  
Evaluation and Analysis

  
Leroy G. Cram  
Supervisory Cartographic Technician  
Verification Check

INSPECTION REPORT  
H-10015

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

Charles D. Meador

Charles D. Meador  
Chief, Evaluation and Analysis Group  
Hydrographic Surveys Branch

Karl Wm. Kieninger

Karl Wm. Kieninger, CDR, NOAA  
Chief, Hydrographic Surveys Branch

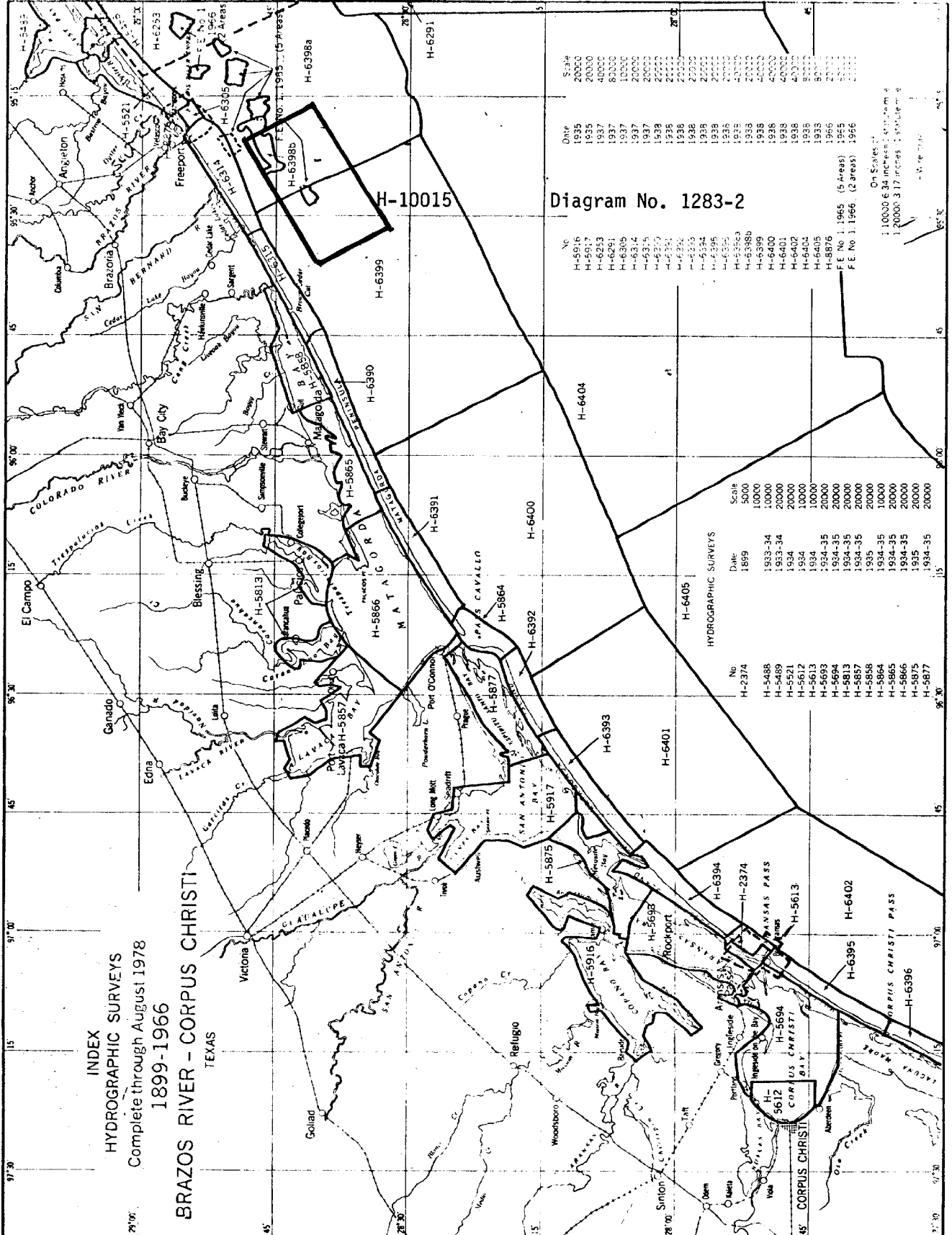
Approved 17 January 1984

Wesley W. Hull

Wesley W. Hull, RADM, NOAA  
Director, Atlantic Marine Center

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

Hydrographic Index No. 90 C



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10015

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
11330	6/26/84	BARTHEL	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 1 CRITICALLY APPLIED DR ONLY
11321	3/31/88	Cartto WW	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. 31 23 <sup>rd</sup> Ed.
11330	4/7/88	Cartto WW	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. 4 4 <sup>th</sup> Ed.
11300	4/8/88	Cartto WW	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. 42 27 <sup>th</sup> Ed.
411	4/8/88	Cartto WW	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. 61 39 <sup>th</sup> Ed.
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