

9885

DIAGRAM CHART NUMBER 1117 & 1283

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. MI-40-4-80
Office No. H-9885

LOCALITY

State TEXAS
General Locality GULF OF MEXICO
Locality OFFSHORE SOUTHEAST OF FREEPORT

1980

CHIEF OF PARTY
..... CAPT. ROBERT A. TRAUSCHKE

LIBRARY & ARCHIVES

DATE APRIL 3, 1981

Ch...
11351 ✓
11352 ✓
11353 ✓
11340 ✓
411
11330 ✓

HYDROGRAPHIC TITLE SHEET

H-9885

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-40-4-80

State Texas

General locality North Western Gulf of Mexico

Locality South East of Offshore Freeport, Texas

Scale 1:40,000 Date of survey JP 143 163 May 22 - June 11, 1980

Instructions dated 30 January 1980 Project No. OPR-K104-MI-80

Vessel NOAA Ship Mt. Mitchell S-222 (VESNO 2220)

Chief of party Robert A. Trauschke, CAPT., NOAA

Surveyed by See Remarks

Soundings taken by echo sounder, ~~and lead, etc~~ Ross Model 5000 Finline

Graphic record scaled by F.S., R.W., E.M., U.G., F.M.F

Graphic record checked by A.S., R.W., E.M., F.S.,

Protracted by N/A Automated plot by Hydroplot System (field)
Smooth Plot Xynetics 1201 (AM)

Soundings penciled by N/A

Soundings in ~~feet~~ meters feet at MKW MLW GCLWD

REMARKS: LCDR R. W. Jones, LTJG A. Shepard, LTJG J.L. Long, LTJG R.K. Dutton,

ENS. M. Mozgala, ENS. D. Williams, ENS. J. Zabitchuck

notes in red by verifier

Digital Data Completed by AMC

Time meridian - GMT

Applied to Standards

3-25-82 cwy

A. PROJECT

This survey was carried out in accordance with Project Instructions OPR-K104-MI-80 issued 30 January 1980 and amended by change 1 dated 5 February 1980, and change 2 dated 19 February 1980.

B. AREA SURVEYED

This survey was conducted in the Gulf of Mexico offshore of Freeport, Texas. The limits of the survey are roughly described by lines connecting the following points in a clockwise manner:

		1. 28° 44.7'	95° 15.0'
		2. 28° 33.8'	95° 07.8'
28°27.5'N	94°38.6'W	3. 28° 33.8'	94° 56.8'
28°16.7'N	94°57.2'W	4. 28° 25.5'	94° 56.0'
28°44.3'N	95°17.0'W	5. 28° 28.0'	94° 41.1'
28°55.0'N	94°58.0'W	6. 28° 28.5'	94° 59.0'

The survey was conducted between 22 May 1980 (Julian Day 143) and 11 June 1980 (Julian Day 163).

C. SOUNDING VESSEL

Soundings for the survey were obtained by the NOAA Ship MT. MITCHELL (VESNO 2220).

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS See Verification Report

The following equipment was aboard the ship during this survey:

<u>Equipment</u>	<u>VESNO 2220</u>	<u>Serial Number</u>
Ross Model 5000 Fineline Depth Recorder		1050
Ross Model 4000 Transceiver		1030
Ross Digitizer		1087

All survey records were scanned by trained Survey Department personnel and checked by the officer in charge. Peaks and deeps considered significant that occurred between soundings were inserted, and digitizing errors were corrected on the electronic corrector tape.

Phase calibration checks were made at frequent intervals. Any necessary adjustments were made and noted in the sounding volume and on the fathograms. Any departures of the trace from the calibration due to phase differences were corrected during the scanning process.

D. (Continued)

Velocity corrections were obtained from a Nansen cast at the following location:

<u>Cast Number</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Date</u>
5	28°21.3'N	94°43.7'W	4 June 1980

Transducer depths as a function of draft readings were verified during the 1979-80 drydocking. A copy of this report is included in the survey support data.

A draft of 14.0 feet was applied to all soundings taken by the MT. MITCHELL during the on-line process. With the skeg transducer being 17.5 feet forward of the after draft marks, the transducer corrections were determined from draft readings which were taken at the beginning and end of each trip. For the trip beginning 19 May 1980 (JD 140) and ending 29 May 1980 (JD 150) the draft corrector was determined to be +0.1. For hydrography acquired 2 June 1980 (JD 154) through 6 June 1980 (JD 158), the corrector is 0.0. All remaining hydrography up to completion of this survey on 11 June 1980 (JD 163) has a corrector of -0.2.

Settlement and squat correctors for the ship were determined on 12 June 1978 (JD 163), at Galveston (Inner Bar Channel), Texas. No significant equipment changes which might have altered the 1978 results were made from 12 June 1978 to the time of this survey. A copy of the field data and the settlement and squat correctors versus vessel rpm's is included in the survey support data. These correctors, along with the draft corrections, are incorporated in the TC/TI tapes with printout of these tapes included in Appendix D.

This survey was conducted using predicted tides based on daily predictions of the reference station, Galveston, Texas (#3277), and applied to off-line data only. The on-line survey was run without tide correctors. It should be noted that predicted tides do not, historically, correspond well with actual tides in this area; thus, all junctions should be re-evaluated after smooth tides are applied. A copy of the request for actual tides in the survey areas is included in Appendix B of this report.

E. HYDROGRAPHIC SHEETS

This survey was plotted on 4 paper field sheets by the MT. MITCHELL HYDRO-PLOT System.

E. (Continued)

<u>Number of Sheets</u>	<u>Type</u>	<u>Skew</u>
2	Basic Survey	122, 21, 60
2	Developments	122, 21, 60

This survey was plotted off-line using an electronic corrector tape. Soundings on the field sheets are corrected for draft, predicted tides, initial digitizing errors, and sound velocity. Sheets are not corrected for smooth tides or settlement and squat. The final smooth sheet will be plotted at the Atlantic Marine Center, Norfolk, VA. All field records and the following tapes have been forwarded to the Atlantic Marine Center:

- Master Range/Range Data Tapes
- Electronic Corrector Tapes
- Velocity Correction Tapes
- Parameter Tapes
- ASCII Signal Tapes
- TC/TI Tapes

F. CONTROL STATIONS

For purposes of this report, a platform is a large, multilegged structure rising from the ocean bottom that is usually inhabited and/or contains production equipment. A wellhead is a small structure that terminates a well. It usually consists of only one or two vertical pipes with a helicopter pad or a walkway on top of it.

HYDROTRAC electronic control stations used for this survey were:

<u>Signal Number and Name</u>	<u>Latitude</u>	<u>Longitude</u>	
100 (H-82-TX) 1979	28°35'53.645"N unadj	095°58'42.593"W	<i>Stat unadj GPS for Sta. 200. These were used to plot hydro.</i>
200 (CAPTAIN) 1978	28°56'08.022"N unadj 4.990 adj NGS	095°17'58.364"W unadj .399 adj	

Station 100 was located by personnel from the Operations Division, Atlantic Marine Center, with assistance from MT. MITCHELL personnel. Station 200 was located by Field Party G18 of NGS. Electronic control stations were erected and maintained by ship's personnel.

Circle calibration stations used for this survey were:

<u>Number</u>	<u>Signal Name</u>	<u>Latitude</u>	<u>Longitude</u>
190	BLK-310-L-1	28°50'26.199"N	095°14'22.751"W
212	VIC-PET-2454-1	29°02'58.772"N	094°55'43.654"W

F. (Continued)

These wellheads were located using the T-2 intersection method by MT. MITCHELL officers and Photo Party 63 respectively.

<u>Number</u>	<u>Signal Name</u>	<u>Latitude</u>	<u>Longitude</u>
195	SU-BR-A1A	28°20'39.000"N	095°18'15.000"W

This platform's position was verified by circling, following sextant calibration of ship's HYDROTRAC. The position from the U.S. Coast Guard Listing of Offshore Oil Well Structures was used ~~for all calibration purposes.~~ to obtain whole lane counts. Visual calibration stations used for this survey were:

<u>Number</u>	<u>Signal Name</u>	<u>Latitude</u>	<u>Longitude</u>
	Mun S.W. Tank, 1978		
215	Galveston S.W. Municipal Tank	29°16'01.065"N	94°50'57.460"W
236	S.W. Wellhead	29°15'08.316"N	94°48'10.028"W
237	Center Wellhead	29°15'29.591"N	94°47'34.245"W
238	N.E. Wellhead	29°15'51.418"N	94°46'57.729"W

The tank (#215) was located by personnel from the Operations Division, Atlantic Marine Center. The three wellheads were located using the T-2 intersection method by MT. MITCHELL officers.

G. HYDROGRAPHIC POSITION CONTROL

An Odum Offshore HYDROTRAC system operating at a frequency of 1718.590 KHz in range-range mode was used to provide positioning control for this survey. The equipment serial numbers used aboard the ship are as follows:

<u>Vessel</u>	<u>Equipment</u>	<u>Serial Number</u>
2220	Master Drive Unit	122
	Master Linear Transmitter	537
	Sawtooth Recorder	A-175
	Interface Model 900	102
	Power Supply	101

The equipment serial numbers used at the shore stations are as follows:

<u>Station</u>	<u>Equipment</u>	<u>Serial Number</u>
100	Slave Drive Unit Model 701	215 (226 as of 5/27/80)
	Linear Transmitter	536
	Power Supply	752
	Coupler	133

G. (Continued)

<u>Station</u>	<u>Equipment</u>	<u>Serial Number</u>
200	Slave Drive Unit Model 701	214
	Linear Transmitter	538
	Power Supply	751
	Coupler	131

While using HYDROTRAC, the whole lane counting was constantly monitored by comparing the navigation interface readout with a running count on the sawtooth recorder and annotating the sawtooth record. All lane jumps detected on-line were corrected by entering the appropriate whole lane correctors into the HYDROPLOT controller as soon as possible. Off-line, the correctors were applied to all affected soundings via the electronic corrector tape. An abstract of all calibration data is included with the records accompanying this report.

On JD 148 a lane jump occurred on-line, causing P₁ to lose one lane. The appropriate whole lane was added and hydrography continued for 3 more positions. HYDROTRAC then failed completely when the SDU at Station 100 would not lock with the Master Unit. Positions 1564+1 to 1566 were rejected and hydrography discontinued for 15 hours until the SDU at Station 100 could be replaced. When the SDU was replaced (S/N 226), hydrography resumed after circle calibration at Wellhead #190. It should be noted that after changing SDU's and calibrating at Wellhead #190, the partial corrector for P₁ had changed from -0.43 to +0.06. At the final visual calibration for work period ending JD 150, partial corrector for P₁ was calculated to be -0.16. The partial correctors from this final visual calibration are used in the off-line smooth plot of data beginning with Position 1569 (JD 148) and ending with Position 2239 (JD 150).

During a Nansen cast on 4 June 1980 (JD 156), Station 100 went off the air due to complete loss of electric service. Power was restored approximately 6 hours after the failure and hydrography continued following a whole lane count at Wellhead #195. Since equipment had not been changed, partial correctors from the initial visual calibration (JD 154) were applied and verified by close-out calibration.

H. SHORELINE

There was no shoreline within the limits of this survey.

I. CROSSLINES

Crosslines were run approximately 45° to 90° to the main scheme sounding lines. Crossline mileage amounted to 6.0% of the main scheme lines. All crossline soundings agree with main scheme soundings within 1-2 feet.

V

J. JUNCTIONS See Verification Report

This survey junctions with the following surveys:

<u>Survey</u>	<u>Survey Number</u>	<u>Scale</u>	<u>Date</u>	
MI-40-2-80	East southwest H-9868	1:40,000	1980	MT. MITCHELL
MI-40-3-80	East west H-9881	1:40,000	1980	MT. MITCHELL

Soundings from this survey junctioned well with soundings from both surveys MI-40-2-80 (H-9868) and MI-40-3-80 (H-9881). All depths agreed to within ± 2 feet.

K. COMPARISON WITH PRIOR SURVEYS See Verification Report

The following prior surveys were within the area of this survey:

<u>Survey Number</u>	<u>Date</u>	<u>Scale</u>
H-6291	1937	1:80,000
H-6253	1937	1:40,000
H-6398A	1938	1:40,000

Comparison with these surveys is good, with all of the soundings agreeing to within ± 2 feet. The present survey is 0-3 ft deeper

L. COMPARISON WITH THE CHART See Verification Report

<u>Chart Number</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>
11321	19	26 May 1979	1:80,000
11300	21	6 May 1978	1:460,732
11323	41	2 Dec 1978	1:80,000

Comparison with the charts were good, with all soundings agreeing to within ± 2 feet. The following items were investigated for comparison:

- AW Presurvey Review (PSR) Item #85 is a ^{dangerous PA} wreck, charted at ^{43'} 28°42.8'N and 95°06.0'W in 75 feet of water. No indication of an obstruction was found on the fathogram while sounding in the immediate area. Being an information item only, no further development was required or performed. 11300
concur
 - AW Presurvey Review (PSR) Item #53 is a ^{dangerous PA} wreck, charted at 28°37.4'N and 94°53.8'W in 90 feet of water. No indication of an obstruction was found on the fathogram while sounding in the immediate area. Being an information item only, no further development was required or performed. 11300
concur
- Originates with Nm 48 (1961)
- Items 85 & 53 above should be retained as charted

AW L. (Continued)

11300
Development #1 was a star pattern centered over a charted obstruction (fish haven) at 28°35.2'N and 94°48.9'W. After investigation on JD 161 the least depth noted on the fathogram was 64 feet in 101 feet of water (Positions 4380+3 to 4380+4; Latitude 28°35'35.144"N, Longitude 94°48'47.278"W). On JD 163, two divers determined the least depth over this fish haven by using two calibrated depth gauges and a CO₂ marker with attached line. The least depth was measured at 75 feet by gauge and 76.9 feet by buoy marker. Visibility at depth was 30-50 feet and the divers made a complete circumference inspection of the obstruction which is metal wreckage believed to be from an oil platform. Large schools of fish were also observed which accounted for the shoaler depths indicated by the fathogram. Subsequent examination of the fathogram indicated that the scanned least depth included approximately 10 feet of solid fish return. Large schools of fish were recorded in close proximity to the obstruction ✓concur on the other passes of the development. See Verification Report

A privately maintained buoy (RB 17 IQkF1 Horn) charted with this obstruction was not present, but a yellow can buoy approximately 3 feet in diameter was observed in its place. This yellow buoy was used by the divers to descend to the obstruction which was found to be anchored to the metal wreckage. It is recommended that this item be charted as an obstruction (fish haven) but that the buoy's description be changed to ✓concur Y (See Aids to Navigation).

AW Development #2 was a star pattern centered over a deep that seemed to be associated with the fish haven in Development #1 (Position 4996+3; Latitude 28°35'46"N, Longitude 94°48'41"W). No indication of any obstruction was found. It is recommended that this item be charted as found on the main scheme plot, smooth sheet.

Development #3 is a single line run over a suspected obstruction noted on the fathogram on JD 147 (Position 1210+2; Latitude 28°37'54"N, Longitude 95°00'22"W). The development line was run over the main scheme line where the spike was initially detected. With no further indication obtained, it is believed to be marine life. It is recommended ✓concur that this item not be charted.

Development #4 was a star pattern centered over a submerged wellhead in 96 feet of water at Latitude 28°35'57.595"N and Longitude 95°04'05.080"W. See QC
A spike was first noted on the fathogram on JD 144 (Position 410) and later investigated on JD 162 (Position 5008^{uncorrected}-5013) for least depth of 94 feet. This area is marked by a privately maintained black lighted buoy "HO 391 #1" (See Aids to Navigation). It is recommended that this item be charted as a submerged wellhead as found on the main scheme plot. See Verification Report

Recommend revising the PA charted in lat. 38°36.0' long. 95°03.0' to subm well carto code 05C

86 ft depth found - This may not be the shoalest depth on the obstructions at lat. 7 38° 35' 57" long 95° 04' 07"

L. - (Continued)

Development #5 is a combination star pattern and two axis lines centered over a trough that was noted on the fathogram on JD 143 (Position 128; Latitude $28^{\circ}33'56''$ N, Longitude $95^{\circ}06'59''$ W). This feature was later investigated on JD 162 (Position 5012-5020) with no indication of any obstruction found. It is recommended that this item be charted as found on the main scheme plot. + -9868
✓concur

Development #6 is a double line with 10-meter line spacing run over a 2-foot spike noted on the fathogram on JD 158 (Position 3399+5; Latitude $28^{\circ}28'26''$ N, Longitude $94^{\circ}49'16''$ W). These development lines were run on JD 163 (Position 5021-5024). With no indication of an obstruction found, it is believed to be marine life. It is recommended that this item not be charted. ✓concur

Development #7 is a double line with 10-meter line spacing run over a 2-foot spike noted on the fathogram on JD 157 (Position 3184+5; Latitude $28^{\circ}30'12''$ N, Longitude $94^{\circ}48'46''$ W). These development lines were run on JD 163 (Position 5025-5029). With no indication of an obstruction found, it is believed to be marine life. It is recommended that this item not be charted. ✓concur

Development #8 is a double line with 10-meter line spacing run over a 2-foot spike noted on the fathogram on JD 159 (Position 3889; Latitude $28^{\circ}30'46''$ N, Longitude $94^{\circ}47'17''$ W). These development lines were run on JD 163 (Position 5030-5034). With no indication of an obstruction found, it is believed to be marine life. It is recommended that this item not be charted. ✓concur

Development #9 is a star pattern centered over a deep that was noted on the fathogram on JD 160 (Position 4305+2; Latitude $28^{\circ}28'04''$ N, Longitude $94^{\circ}44'23''$ W). This feature was investigated on JD 163 (Position 5035-5042) and no indication of any obstruction was found. It is recommended that this item be charted as found on the main scheme plot. ✓concur

M. ADEQUACY OF THE SURVEY

This survey is considered complete and adequate to supersede prior surveys for charting.

N. AIDS TO NAVIGATION

On JD 148 a floating aid to navigation was located (Detached Position 1601; Latitude $28^{\circ}35'52''$ N, Longitude $95^{\circ}04'12''$ W). The aid is a black lighted

*chart 11321, dated Apr. 19, 1980
does not show aid. However
surveyor's observation confirms
statement in LNM 25/79.*

N. (Continued)

buoy marked "HO 391 #1", anchored over the previous site of a jack-up rig, in 98 feet of water. Although this buoy was equipped with a white light, it was observed to be inoperative during the entire survey. *Temp.*
recommend to be charted & added to light list.

On JD 160 a floating aid to navigation was located (Detached Position 4369; Latitude 28°35'30"N, Longitude 94°48'48"W). The aid is a yellow unlighted can buoy approximately 3 feet in diameter anchored over a charted obstruction (fish haven). It was not marked with any identification.

*Color and Character of aid different than
charted item.*

O. STATISTICS

Linear nautical miles of hydrography	3545.75
Linear nautical miles of crosslines	225.00
Linear nautical miles of developments	42.00
Total linear miles of hydrography	3812.75
Total miscellaneous miles	501.75
Total miles run	4314.50
Square miles of hydrography	366.00
Total number of positions	5157
Nansen casts	1
Bottom samples	19

P. MISCELLANEOUS

None

Q. RECOMMENDATIONS

None

R. AUTOMATED DATA PROCESSING

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

RK 111	Range/Range Real Time Plot	1/30/76
RK 201	Grid, Signal, and Lattice Plot	4/18/75
RK 211	Range/Range Non-Real Time Plot	1/15/76
RK 300	Utility Computations	2/05/76
RK 330	Data Reformat and Check	5/04/76
RK 360	Electronic Corrector Tape Abstract	2/20/76
RK 530	Velocity Correction Computations	5/10/76
RK 561	IH/R Geodetic Calibration	5/19/75
RK 602	Extended Line Oriented Editor	5/20/75

S. REFERENCE TO REPORTS

Horizontal Control Report.

APPROVAL SHEET

Respectfully Submitted,

Ronald K. Dutton Jr
Sheet Manager

The field work on this Hydrographic Survey was under my daily supervision. The boat sheet and records have been reviewed and approved by me.


Commanding Officer CAPT USN

100	H-82-TX, 1979 (field pos)	AMC OPS FIELD COMP
190	MOBIL BLK-310-L-1, 1980 (field pos)	MM/TRVERSE 1980
195	SU BR A1A	MM/CICLE 1980
200	CAPTAIN, 1978	FIELD PARTY G18 (NGS)
202	FREEMONT MUN. TANK	AMC OPS FIELD COMP
204	ROW CHEM BLT A TANK	AMC OPS FIELD COMP
206	SURFSIDE RADIO MAST	AMC OPS FIELD COMP
210	GABLE T.V. MAST	AMC OPS FIELD COMP
212	VIC-PET-CO-GA-245L-1	AMC PHOTO PARTY 1979
215	GALVESTON ^{MUN. SW} S.W. MUN. TANK, 1978	AMC OPS FIELD COMP
230	MOODY METH. CH. SPIRE	AMC OPS FIELD COMP
236	GALVESTON SW WELLHEAD LIGHT, 1979 (field pos)	MM/TRAV 790628 (TRANVERSE Verified)
237	GALVESTON CTR WELLHEAD LIGHT, 1979 (field pos)	MM/TRAV 790628 (TRANVERSE Verified)
238	GALVESTON NE WELLHEAD LIGHT, 1979 (field pos)	MM/TRAV 790628 (TRANVERSE Verified)
240	MOODY PRESS FLATTOP TANK	290943 1838
245	WSPHS STACK	290943 1836
250	PIER 34 TANK	290943 1838
260	GALVESTON MUN TANK	290943 1833
265	USCG RADIO MAST	290943 1863
271	SH GA 888 NE/4 5	6TH USCGD
272	SH GA 888 SE/4 3	6TH USCGD
273	SH GA 295 NW/4 1	6TH USCGD
270	SOUTH JETTY LIGHT	290940 1144
275	BOLIVAR LIGHTHOUSE USE	290940 1850
290	BOLIVAR RADIO TOWER	AMC OPS FIELD COMP
300	H-27 TX 78	AMC OPS FIELD COMP

100	4	28	35	53645	095	58	42593	250	0000	171859	
190	4	28	50	26536	095	14	23619	139	0000	000000	
195	4	28	23	39232	095	18	15420	139	0000	000000	
200	4	28	56	⁴⁹⁹⁰ 05032	095	17	⁹⁹ 58364	250	0000	171859	adj (Nes)
202	4	28	57	05770	095	01	13067	139	0000	000000	
204	4	28	56	47542	095	10	51070	139	0000	000000	
206	4	28	58	22387	095	15	58710	139	0000	000000	
210	4	29	14	02016	094	54	34710	139	0000	000000	
212	4	29	02	58772	094	55	43654	139	0200	000000	
215	4	29	16	01065	094	50	57460	139	0000	000000	
230	4	29	16	09659	094	49	17194	139	0000	000000	
236	4	29	15	08316	094	48	10028	139	0000	000000	
237	4	29	15	29591	094	47	34245	139	0000	000000	
238	4	29	15	51418	094	46	57729	139	0000	000000	
240	4	29	17	34741	094	49	16600	139	0000	000000	
245	4	29	17	04900	094	48	50200	139	0000	000000	
251	4	29	18	19254	094	48	08097	139	0000	000000	
260	4	29	18	49346	094	46	23523	139	0000	000000	
265	4	29	20	01905	094	46	05559	139	0000	000000	
270	4	29	19	39258	094	41	32337	139	0000	000000	
271	4	29	54	08577	094	41	16506	139	0000	000000	
272	4	28	50	06900	094	41	10042	139	0000	000000	
273	4	28	52	19470	094	40	57066	139	0000	000000	
275	4	29	01	59597	094	46	08260	139	0000	000000	
290	4	29	03	48360	094	44	10479	139	0000	000000	
300	4	29	05	12670	094	17	18300	250	0000	171859	

VELOCITY TABLE LISTING
OPR-K104-MI-80
MI-40-4-80

000140	0	0000	0004	000	222000	040480
000230	0	0003				
000360	0	0008				
000460	0	0013				
000570	0	0018				
000680	0	0023				
000790	0	0028				
000900	0	0033				
001005	0	0038				
001125	0	0043				
001260	0	0048				
001370	0	0053				
999999	0	0000				

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

CORRECTIONS IN FEET, FATHOMS

TABLE #4 CAST #5

NOAA FORM 75-21
(10-72)

U.S. DEPARTMENT OF COMMERCE
NOAA
NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship	MT. MITCHELL S-222
	R. A. TRAUSCHKE, CAPT., NOAA
	Comdg.
These corrections are to be used	
between 21 MAY 1980 and 12 JUNE 1980	
in the locality GULF OF MEXICO, OFFSHORE	
SOUTH OF FREEPORT, TEXAS	
for hydrographic surveys Nos. XXXXXX 30X	
H-9885, MI-40-4-80	

(For deep water add a 0 to these figures)

FEET
DEPTHS IN FATHOMS

10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

-1.0 | 0 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0
-0.5 | 0.5 | 1.5 | 2.5 | 3.5 | 4.5 | 5.5

46 1240

K&E
20 X 20 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

TRA/DRAFT CORRECTOR VERIFICATION

Measurements to verify transducer depths for the MT. MITCHELL were taken on February 1, 1980 while the ship was up on blocks during drydock repairs. The MT. MITCHELL has three groups of transducers that approximate to forward, amidships, and aft in location. Fixed points on the handrail above each group, port and starboard, were used as reference to determine the distance to support stringers of the drydock floor. Likewise the distance was measured from the actual transducer groups to the same support stringers. Therefore, the difference between these measurements is equal to the distance between a known point on deck and each transducer group below that point.

Since the MT. MITCHELL at drydock was not on an even keel, the port and starboard readings were averaged together to give a theoretical height at the center line. The support stringers of the drydock were observed to be straight. On February 21, 1980 after being refloated, the distance from each known point on the handrails to the water line under it was measured and used to calculate the transducer depths for each group forward, amidships, and aft. By subtraction of the second measurements from the first, a direct measurement of transducer depth was obtained.

At the same time, the draft was measured as accurately as possible (± 0.1 ft.) at all draft marks. By knowing the distance between the draft marks and each transducer, each transducer's depth was calculated. A comparison of the results for each method of determining transducer depth follows:

	<u>DIRECT MEASUREMENT</u>	<u>FM DRAFT READINGS</u>
D-SKEG	13.31	13.43
D-SR 2	12.90	12.93
D-SR 1	12.67	12.80

As the two methods compare closely, the use of transducer depths calculated from draft readings is verified as accurate.

SETTLEMENT AND SQUAT

MT MITCHELL 1978 FIELD SEASON

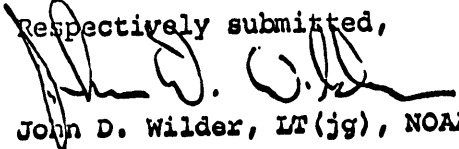
The settlement and squat test for the MT MITCHELL (S-222) was conducted June 12, 1978 in the Galveston Inner Bar Channel, approximately one-half mile east of the Coast Guard Base at Galveston, Texas, using a Zeiss Ni-2 Level (s/n 142936) positioned on the southern breakwater. To determine possible water level changes during the test, the height of water was measured before, during and after the level sightings; no change was observed.

A tower on the northern side of the channel was used as a range, and the readings were taken as the ship aligned with the tower. Passes with the ship were made at idle, half, and standard speeds with a heading of 100 on each pass. An initial reading was taken with the ship dead in the water. A portable tide staff (graduated in tenths of feet), was positioned on the center of the fan-tail cargo hatch located amidships to allow a clear line of sight to the onshore observer. The displacement of the staff from the skeg transducer was approximately 3 feet aft. Since all hydrography for OPR-K104-MI-78 was to be recorded using this transducer, the settlement and squat correctors were only determined at one location.

A draft reading of 14.7 feet was taken before the test. The ship was carrying four launches--two Pacific Plastics launches in davits #3 and #4, and two Jensen launches in davits #5 and #6. Settlement and squat was run using both engines and various pitch combinations as determined from a speed curve established May 1977, offshore Cape Henry, Virginia. The ship carried a full load of fuel during the test.

Included is an abstract of the data obtained, suggested correctors versus ship speed, the graph of ship speed versus settlement and squat correctors, the "C" shot determination of instrument error, and the ship's speed curve.

Respectively submitted,

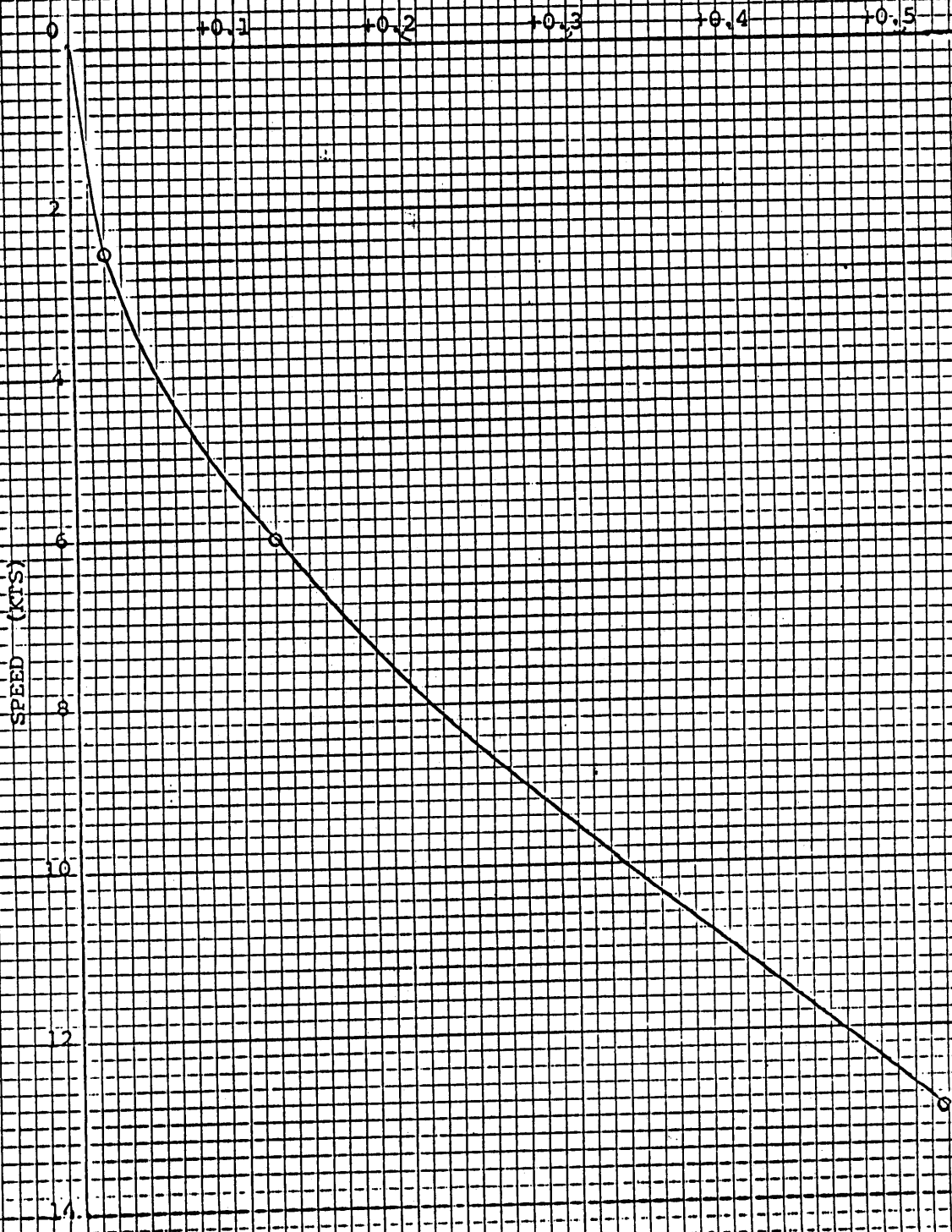

John D. Wilder, LT(jg), NOAA

SETTLEMENT AND SQUAT CORRECTORS

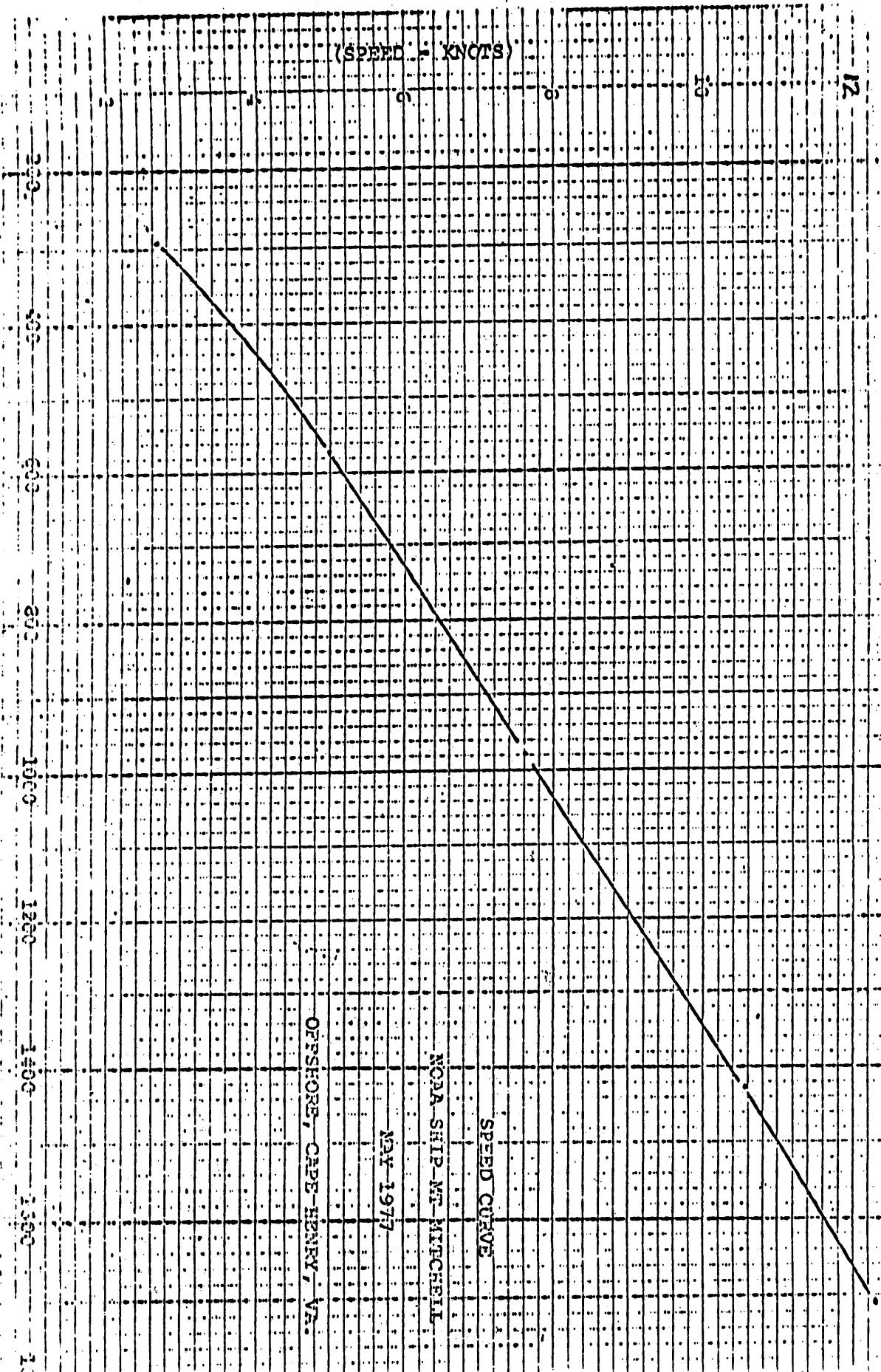
June 12, 1978

SPEED (KTS)	CORRECTION (FT)
1	0
2	0
3	0
4	0
5	0.1
6	0.1
7	0.2
8	0.2
9	0.3
10	0.3
11	0.4
12	0.5
13	0.5

SETTLEMENT AND SQUAT, 1978
Corrections (ft)



WITH UNE HEAVY



SPEED CURVE

NOA SHIP-WF MITCHELL

MAY 1977

OFFSHORE, CAPE HENRY, VA.

NOA X P 1100 (22)

VESNO 2220

SOUNDING CORRECTION ABSTRACT

REGISTRY NO. H-9885
FIELD NO. MI-40-4-80 WEST

JD	GMT TIME		VELOCITY TABLE NO.	(NOTE: TRA CORR. IS THE ALGEBRAIC SUM OF THESE COLUMNS)						REMARKS
	FROM	TO		DRAFT	INSTR.	INITIAL	S&S	TRA CORR. FT/PM		
143	131600	235955	4	+0.1	0.0	0.0	+0.5	+0.6	160/10 12knts	
144	000030	041810	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
144	041840	042955	4	+0.1	0.0	0.0	+0.1	+0.2	160/4 6knts	
144	043020	235958	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
145	001730	235955	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
146	000029	235955	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
147	000030	053230	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
147	053600	055000	4	+0.1	0.0	0.0	0.0	+0.1	160/2 4knts	
147	055100	235955	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
148	000040	235958	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
149	000035	235600	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
150	000430	093320	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	
150	093400	093620	4	+0.1	0.0	0.0	+0.1	+0.2	160/4	
150	093700	121339	4	+0.1	0.0	0.0	+0.5	+0.6	160/10	

VESNO 2220

SOUNDING CORRECTION ABSTRACT

REGISTRY NO. H-9885
FIELD NO. MI-40-A-80 EAST

JD	GMT TIME		VELOCITY TABLE NO.	(NOTE: TRA CORR. IS THE ALGEBRAIC SUM OF THESE COLUMNS)							REMARKS
	FROM	TO		DRAFT	INSTR.	INITIAL	SES	TRA CORR. FT/EM			
150	123801	145451	4	+0.1	0.0	0.0	+0.5	+0.6	160/10		
154	200500	235930	4	0.0	0.0	0.0	+0.5	+0.5	160/10		
155	000010	055440	4	0.0	0.0	0.0	+0.5	+0.5	160/10		
155	055520	055620	4	0.0	0.0	0.0	+0.1	+0.1	160/4		
155	055720	060020	4	0.0	0.0	0.0	0.0	0.0	160/2		
155	060100	235910	4	0.0	0.0	0.0	+0.5	+0.5	160/10		
156	000010	235950	4	0.0	0.0	0.0	+0.5	+0.5	160/10		
157	000030	170140	4	0.0	0.0	0.0	+0.5	+0.5	160/10		
157	170220	235940	4	0.0	0.0	0.0	+0.5	+0.5	170/10		
158	000020	062200	4	0.0	0.0	0.0	+0.5	+0.5	170/10		
158	062240	062320	4	0.0	0.0	0.0	+0.2	+0.2	170/6 8 knots		
158	062400	161840	4	0.0	0.0	0.0	+0.5	+0.5	170/10		
158	161920	162520	4	0.0	0.0	0.0	+0.3	+0.3	Port 135/4 310 170/10		
158	162620	163430	4	0.0	0.0	0.0	+0.2	+0.2	0/0 170/10		
158	163540	235950	4	0.0	0.0	0.0	+0.5	+0.5	170/10		

FIELD TIDE NOTE

Field tide reduction of soundings were based on predicted tides from Pleasure Pier, Galveston, TX, corrected to area per Project Instructions, and were interpolated on a PDP8/E Computer utilizing program AM500. All times of both predicted and recorded tides are GMT.

The number and type of tide gages installed, thier geographic locations, dates of installation/removal, leveling, plane of reference and period of operation are appended to this note, along with a copy of a letter to C331 requesting verified hourly heights of tides from gages listed in this report.

Contact with respective tide gage observers was made in person by Mt: Mitchell personnel upon arrival in the project area, There after, observers were contacted during inport periods to ascertain the status of the respective gages.

The respective gages reportedly operated properly during this project, with any exceptions listed under "Remarks" on the appended tide gage sheets.

APPROVAL SHEET
FOR
SURVEY H-9885

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 4 March 1981

Signed: R. D. Sander

Title: Chief, Verification Branch

U.S. DEPARTMENT OF COMMERCE
September 9, 1980 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
877-1510 Galveston Pleasure Pier, Texas

Period: May 21 - June 13, 1980

HYDROGRAPHIC SHEET: H-9885

OPR: K104


Locality: Gulf of Mexico, Texas

(Gulf Coast Low Water Datum): 5.7 ft. Surfside
Plane of reference ~~(Gulf Coast Low Water Datum)~~ 2.86 ft. Galveston Pleasure Pier

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

REMARKS: Zone direct on Surfside.

Note: After June 5, 1500 hours, the gage at Surfside was overdamped and the data is invalid. From this time to June 13 zone direct on Galveston Pleasure Pier.


Chief, Datums and Information Branch

GEOGRAPHIC NAMES

H-9885

Name on Survey

A ON CHART NO. 11300
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

Gulf of Mexico }
Freeport }

TITLE

- 1
- 2
- 3
- 4
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- 6
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- 19
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- 21
- 22
- 23
- 24
- 25

Approved:

Chas. E. Harrington
Chief Geographer - C3x5

18 Dec 1981

HYDROGRAPHIC SURVEY STATISTICS

H-9885

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION			AMOUNT
SMOOTH SHEET		one	BOAT SHEETS & PRELIMINARY OVERLAYS <i>6</i>			six
DESCRIPTIVE REPORT		<i>one</i>	SMOOTH OVERLAYS: POS. ARC, EXCESS <i>1 2</i>			three
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			one			
CAHIERS	two		one			
VOLUMES	two					
BOXES (2)			2 smooth			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) *7 bundles sawtooth rec. tapes, 1 chart markup*

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			5176
POSITIONS CHECKED		51	
POSITIONS REVISED		16	
SOUNDINGS REVISED		69	
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			
TIME - HOURS			
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	8		
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS		66	
VERIFICATION OF SOUNDINGS		72	
COMPILATION OF SMOOTH SHEET		69	
APPLICATION OF TOPOGRAPHY			
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		6	
COMPARISON WITH PRIOR SURVEYS & CHARTS		10	
VERIFIER'S REPORT		20	
OTHER			
TOTALS	8	243	251
Pre-Verification by <i>C.M.</i>	Beginning Date <i>6/26/80</i>	Ending Date <i>6/27/80</i>	
Verification by <i>M.W.H., J.L., J.S.B.</i>	Beginning Date <i>7/15/80</i>	Ending Date <i>2/26/81</i>	
Verification Check by <i>H.R.S.</i>	Time (Hours) <i>4</i>	Date <i>2/23/81</i>	
Marine Center Inspection by <i>H.I.T.</i>	Time (Hours) <i>12</i>	Date <i>2/25/81</i>	
Quality Control Inspection by <i>OK Myer</i>	Time (Hours) <i>29</i>	Date <i>5-26-81</i>	
Requirements Evaluation by <i>OK Myer</i>	Time (Hours) <i>4</i>	Date <i>1/28/82</i>	

OK Myer 1 hr 12/30/81

REGISTRY NO. _____

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

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

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. H-9885

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

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

MAGNETIC TAPE CORRECTED

DATE 18 Aug 83 TIME REQUIRED _____ INITIALS 29

REMARKS:

ATLANTIC MARINE CENTER
VERIFICATION REPORT

REGISTRY: H-9885

FIELD NO: MI-40-4-80

Texas, Gulf of Mexico, Offshore, Southeast of Freeport

SURVEYED: May 22 through June 11, 1980

SCALE: 1:40,000

PROJECT NO: OPR-K104

SOUNDINGS: Ross Digital
Echo Sounder
Diver's Depth Gauge

CONTROL: Hydrotrac
(Range/Range)

Chief of Party	R. A. Trauschke
Surveyed by	R. W. Jones
.....	A. N. Shepard
.....	J. L. Long
.....	R. K. Dutton
.....	M. Mozgala
.....	D. Williams
.....	J. Zabitchuck
Automated Plot by	Xynetics 1201 Plotter (AMC)
Verified by	J. Scott Bradford
Date	19 February 1981

1. INTRODUCTION

- a. There were no unusual problems encountered on this survey.
- b. Notes and changes in red found in the Descriptive Report were made by the verifier during verification.

2. CONTROL AND SHORELINE

- a. The source of control is adequately described in sections F and G of the Descriptive Report.
- b. There is no shoreline within the limits of this survey.

3. HYDROGRAPHY

- a. The agreement of soundings at crossings on this survey is adequate; depths agree within the limits prescribed by the Hydrographic Manual.
- b. Depth curves could be adequately drawn.
- c. The delineation of the bottom configuration and the investigation of least depths is considered adequate.

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports comply with the requirements of the Hydrographic Manual with the following exceptions:

- a. The aids to navigation were not adequately located as prescribed in section 3.4 of the Project Instructions which addresses section 4.5.13.2 of the Hydrographic Manual. The method of locating a buoy by distance only from one line of hydrography necessitated the notation "position approximate" (PA) to be put on the smooth sheet. A detached position at the aids is desirable.
- b. The original velocity correctors were changed at the Atlantic Marine Center from 0.2 and 0.5 intervals to a continuous 0.2 interval. This is more desirable from a processing standpoint, considering the gently sloping bottom of H-9885.
- c. Weather information was not applied to graphic records as required in Section 1.5.3 of Hydrographic Manual.

5. JUNCTIONS

Adequate junctions were made with the following surveys:

H-9868 (1980) to the southwest
H-9881 (1980) to the west

These junctions are complete and require no further work.

No other contemporary surveys join H-9885.

6. COMPARISON WITH PRIOR SURVEYS

H-6253 (1937) 1:40,000
H-6291 (1937) 1:80,000
H-6398_a (1938) 1:40,000

These are the most recent prior surveys in this area that provide complete coverage.

In general, the present survey is from 0 to 3 feet deeper than these prior surveys. These differences may be attributed to differences in sounding equipment used on the prior surveys. ~~As to~~ these differences may be attributed to subsidence in this area due to the withdrawal of oil and gas.

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

7. COMPARISON WITH CHARTS 11300 (21st Ed., 6 May 197~~8~~⁸)

11321 (19th Ed., 26 May 1979)

11323 (41st Ed., 2 Dec 1978)

mw a. Hydrography

The charted hydrography originates with the previously discussed prior surveys supplemented by miscellaneous charting sources such as Chart Letters and Notices to Mariners and requires no further consideration except as follows:

1) Development #1a (fish haven) in latitude $28^{\circ}35.2'$, longitude $94^{\circ}48.9'$ with a least depth of 75 ft. found was located by the hydrographer. This may not necessarily be the least depth over the charted information of wrecks in the fish haven. It is recommended that the chart compiler evaluate the source of the charted note: (Wks rep cov 11 fms) against the findings of the hydrographer in this area. If there is information to indicate there are sunken wrecks in addition to the obstruction found by the hydrographer then it is recommended that the note (Wks rep cov 11 fms) be retained as charted in the location. *concur*

2) Non-dangerous sunken wreck, PA, in latitude $28^{\circ}36.0'$, longitude $95^{\circ}03.0'$ is apparently (the chart source of this item was unknown at the time of this report) a submerged well described by the hydrographer in section "L", Development No. 4 in the Descriptive Report. The chart compiler should evaluate the source of this charted wreck. If it can be ascertained that the wreck is a submerged well, it is recommended that the charted sunken wreck be revised to a submerged well in latitude $28^{\circ}35'57''$, longitude $95^{\circ}04'07''$. The least depth found by the present survey was 86 feet. This may not be the shoalest depth on the obstruction. *LNMM 10/21/65 55 ✓ 1/29/62 See QC*

3) The dangerous sunken wreck in latitude $28^{\circ}30.0'$, longitude $94^{\circ}54.0'$ was not investigated by the hydrographer. No indication of this wreck was found. It is recommended that this wreck be retained as charted. *concur and in Sec. L of Descriptive Report*

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

b. Aids to Navigation

The aids to navigation appear to adequately mark the intended features on this survey. (See Section N. "Aids to Navigation" in the Descriptive Report)

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the Project Instructions.


9. ADDITIONAL FIELD WORK

This is an excellent basic survey. No additional work is recommended on this survey.

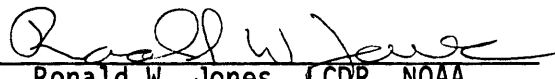
INSPECTION REPORT
H-9885

The completed survey has been inspected by the Hydrographic Inspection Team with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The Verification Report has presented the facts accurately and properly, the procedures used were appropriate, and the recommendations are logical and justifiable. The survey complies with National Ocean Survey requirements as noted in the Verification Report. The survey records comply with NOS requirements except where noted in the Verification Report. The Hydrographic Inspection Team concurs with the verifier's findings, actions, and recommendations.

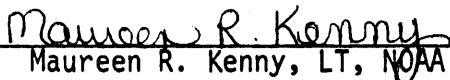
Examined and Approved
Hydrographic Inspection Team
Date: 24 February 1981



R. D. Sanocki
Acting Chief, Processing Division



Ronald W. Jones, LCDR, NOAA
Field Procedures Officer
Operations Division



Maureen R. Kenny, LT, NOAA
Chief, EDP Branch
Processing Division



H. R. Smith
Team Leader
Verification Branch

Prepared/Forwarded



Richard H. Houlder, RADM, NOAA
Director, Atlantic Marine Center



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

OA/C352:GKM

May 26, 1981

TO: Glen R. Schaefer *G*
Chief, Hydrographic Surveys Division

FROM: *George K. Myers*
George K. Myers
Chief, Quality Control Branch

SUBJECT: Quality Control Report for H-9885 (1980), Texas, Gulf of Mexico,
Offshore Southeast of Freeport

A quality control inspection of H-9885 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report and as follows:

1. Two of the three prescribed charts as indicated in the project instructions were not used by the hydrographer or verifier for comparison purposes with the present survey. (See Hydrographic Survey Guideline No. 3.) A comparison with the appropriate chart editions was made during quality control and include:

chart 11321, dated May 26, 1979
chart 11300, dated June 2, 1979
chart 11323, dated April 28, 1979

2. The submerged wellhead addressed in section L of the Descriptive Report and section 7 of the Verifier's Report originates with Local Notice to Mariners 25 of 1979. This structure appears on only the latest edition of chart 11321, dated April 19, 1980. It should be retained as presently charted.

3. The nondangerous sunken wreck, PA, charted in latitude 28°36'N, longitude 95°03'W was reported in Local Notice to Mariners 68 of 1965 as a 22-foot boat which burned and sank in 96 feet of water.

It is not known whether the verifier consulted the results of OPR-479-R/H-77 (not yet processed by the Marine Center) before drawing certain conclusions in the Verifier's Report.

However, there is no evidence that this charted wreck is associated with the wellhead found on the present survey in latitude 28°35'57"N, longitude 95°04'07"W. It is recommended that the wreck be retained on the chart as presently depicted.

cc:
OA/C351





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

MAR 2 1982

OA/C351:SV

TO: OA/CAM - Richard H. Houlder,

FROM: ~~OA/C3~~ - Roger F. Lanier

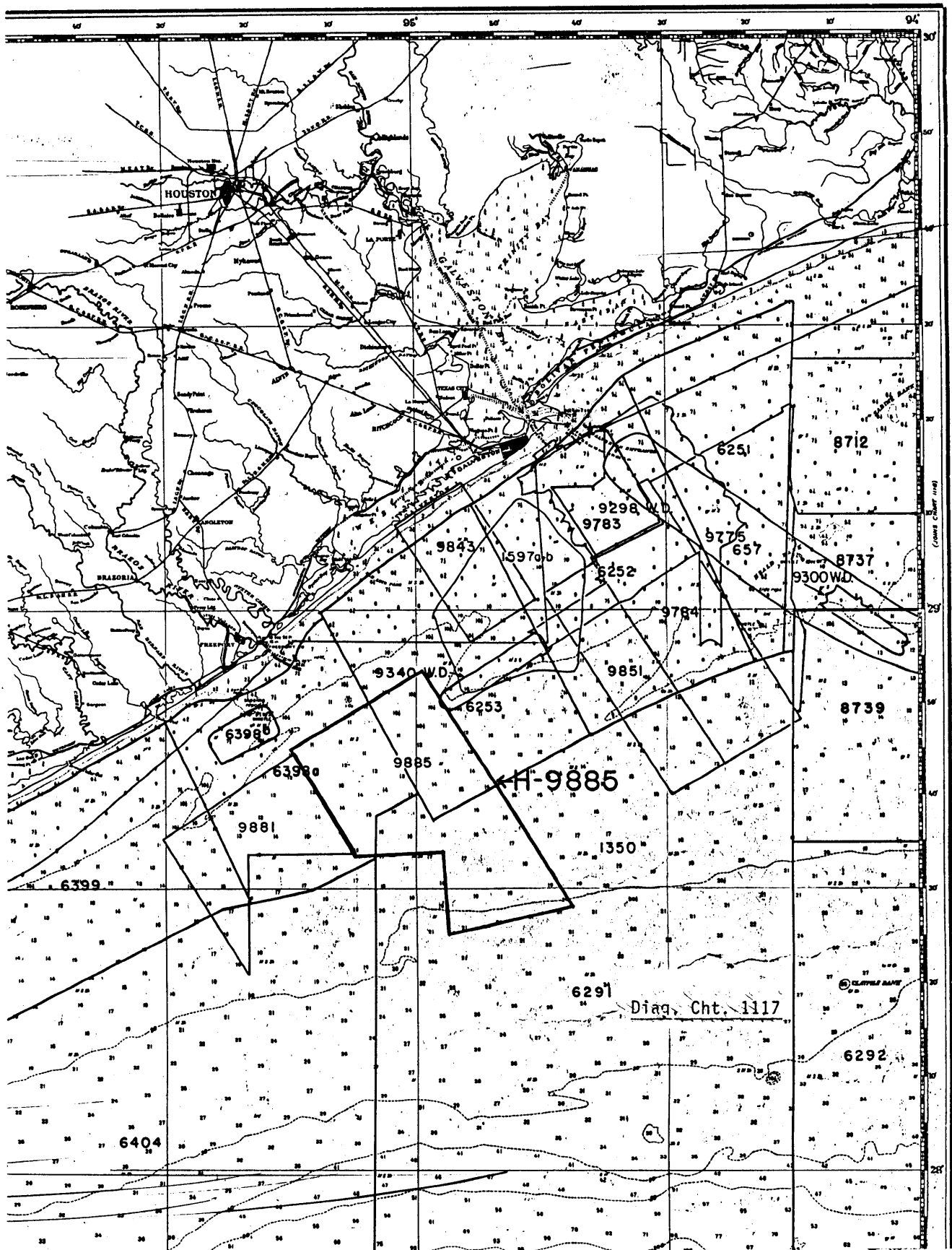
SUBJECT: H-9885 (1980), Texas, Gulf of Mexico, Offshore Southeast of Freeport,
Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated May 26, 1981 (copy attached), and the Hydrographic Survey Inspection Team Report, dated February 25, 1981, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-K104-MI-80, dated January 30, 1980.

Attachment

cc:
OA/C352 w/o att.





Diag. Cht. 1117

Copyright 1988

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9885

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
11322	4/9/82	DAK WILLS	Full Part Before After Verification Review Inspection Signed Via Drawing No. 29 Aid Proof
11323	4/9/82	DAK WILLS	Full Part Before After Verification Review Inspection Signed Via Drawing No. 62 (Applied ^{PARTLY} THRU 11321) Aid Proof
11330	4/12/82	DAK WILLS	Full Part Before After Verification Review Inspection Signed Via Drawing No. 1 Aid Proof
11340	4/19/82	DAK WILLS	Full Part Before After Verification Review Inspection Signed Via Drawing No. 62 Aid Proof
11300	4/19/82	DAK WILLS	Full Part Before After Verification Review Inspection Signed Via Drawing No. 39 Aid Proof
411	4/19/82	DAK WILLS	Full Part Before After Verification Review Inspection Signed Via Drawing Aid Proof #57
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.