9868

Diagram Number 1117

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-40-2-80

Office No. H-9868

LOCALITY

State ..... Texas

General Locality ..... Gulf of Mexico

Locality ..... Offshore South of Freeport

1981

CHIEF OF PARTY
Capt. J.S. Midgley & Capt. R.A. Trauschke

LIBRARY & ARCHIVES

DATE ..... May 27, 1981

☆U.S. GOV. PRINTING OFFICE: 1980—668-537

FORM C&GS-537 (8-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

H-9868

HYDROGRAPHIC TITLE SHEET

FIELD NO.

MI-40-2-80

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

State: Texas

General locality: ~~North Western~~ Gulf of Mexico

Locality: Offshore South of Freeport, ~~Texas~~.

Scale: 1:40,000 Date of survey: 14 March - 21 May 1980

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

Vessel: NOAA SHIP MT MITCHELL (2220)

Chief of party: and Captain Robert A. Trauschke ~~and~~ Captain James S. Midgley

Surveyed by: See Remarks

Soundings taken by echo sounder, hand lead, pole: Ross Model 5000 Fineline

Graphic record scaled by: F.S., R.W., E.M., U.G., M.M., 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) Xynetics 1201 Plotter (AMC)

Soundings ~~penciled~~ Verified by: N/A J. Scott Bradford 13 April 1981

Soundings in fathoms feet at ~~****~~ ~~*****~~ GCLWD

REMARKS: LCDR R.W. Jones, LTJG J. Wilder, LTJG A.N. Shepard, LTJG J.L. Long, LTJG R.K. Dutton, ENS. M. Mozgala, ENS. D. Williams, ENS. J. Zabitchuck

DIGITAL RECORDS COMPLETE AT AMC

All times recorded in this survey are Greenwich Mean Time

APPLIED TO STANDARDS 3-18-82

A. PROJECT

This survey was carried out in accordance with Project Instructions OPR-K104-MI-80 issued 30 January 1980 and ammended 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:

28°16.6'N	28° 19.0'	94°48.8'W	95° 20.2'
28°16.6'N	28° 34.6'	95°22.5'W	95° 20.2'
28°36.0'N	28° 34.6'	95°22.5'W	94° 56.0'
28°36.0'N	28° 19.0'	94°48.8'W	94° 56.0'

The survey was conducted between 14 March 1980 (Julian Day 074) and 21 May 1980 (Julian Day 142).

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

The following equipment was aboard the ship during this survey:

Equipment (VESNO 2220)	Serial Number
Ross Model 5000 Fineline Depth Recorder	1050
" " " " " "	1089
Ross Model 4000 Transceiver	1039
Ross Digitizer	1087

On JD 113, a faulty belt drive motor in recorder #1050 necessitated a switch of depth recorders. Recorder #1089 was used until JD 126 whereupon #1050 was reinstalled.

All soundings were taken with a skeg mounted transducer (antenna distance +32.0 m). 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 due to sea action 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.

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

Cast Number	Latitude	Longitude	Date
2	27°59'48"N	95°05'30"W	March 28, 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.

The following corrections were applied for the indicated survey periods:

Date(s)	Draft Corrector
14 March (JD 74)	Bottom Samples
18 March (JD 78)	Bottom Samples
7 April - 9 April (JD 98-100)	-0.1
10 April - 13 April (JD 101-104)	-0.3
14 April - 17 April (JD 105-108)	-0.5
23 April - 28 April (JD 114-119)	+0.1
6 May - 8 May (JD 127-129)	+0.1
20 May - 21 May (JD 141-142)	+0.1

Settlement and squat correctors for the ship were determined on June 12, 1978 (JD 163), at Galveston (Inner Bar Channel), Texas. No significant equipment changes which might have altered the 1978 results were made from June 12, 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 (#3290), 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 area is included in Appendix B of this report.

E. HYDROGRAPHIC SHEETS:

This survey was plotted on 7 paper field sheets by the MT. MITCHELL HYDRO-

E. (continued)

PLOT System.

Number of Sheets	Type	Skew
6	Basic Survey	90, 21, 36
1	Developments	90, 21, 36

This survey was plotted off-line using an electronic corrector tape. Soundings on the field sheets are corrected for draft, predicted tides, initial and 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
TC/TI Tapes
ASCII Signal 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:

Signal Number and Name	Latitude	Longitude
100 (H-82-TX) 1979	28°35'53.645"N	095°58'42.593"W
200 (CAPTAIN) 1978	28°56'05.032"N	095°17'58.364"W

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:

Number	Signal Name	Latitude	Longitude
190	BLK-310-L-1	28°50'26.536"N	095°14'23.619"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.

Number	Signal Name	Latitude	Longitude
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.

Visual calibration stations used for this survey were:

Number	Signal Name	Latitude	Longitude
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 1718.590KHz in range-range mode was used to provide positioning control for this survey. The equipment serial numbers used are as follows:

Vessel or Shore Station		Serial Number
VESNO 2220	Master Drive Unit	122
	Linear Transmitter	537
	Receiver Model 700	327
		328
	Coupler	134
	Sawtooth Recorder	A-175
	Interface	102
Station 100	Slave Drive Unit	226
		215
	Linear Transmitter	536
	Coupler	133
	Power Supply	752

G. (continued)

Station 200	Slave Drive Unit	215
		214
		227
	Linear Transmitter	539
	Coupler	131
	Power Supply	751

HYDROTRAC calibration was accomplished 8 times off Galveston, Texas using three point sextant fixes and comparing observed HYDROTRAC range values with computed values obtained from the Hydroplot Calibration Program RK 561. Only those fixes with an inverse distance of less than 5.0 meters were used on these calibrations. Initial calibrations were also done by the circling method, described on page 4-28 of the Hydrographic Manual, 4 times using platform "SU-BR-A1A" (signal #195) and 3 times using wellhead "BLK-310-L-1" (signal #190).

Numerous HYDROTRAC equipment failures occurred during the second and third cruises of the survey. On the second cruise, JD 98-108, the partial lane correctors from visual calibration off Galveston, Texas on JD 96 were used for hydrography until JD 98 (pos. 054, GMT 184320) at which time P1 gained 3 lanes (station 100). The new corrector was applied on-line and verified by a subsequent circle calibration. On JD 99 (0208 GMT) station 100 (P1) went off the air. Platform SU-BR-A1A was circled for the initial calibration, following approximately 10 hours of down time, as a visual calibration was not possible off Freeport, Texas. These correctors were used until JD 100 (0552 GMT) when a number of lane jumps took place on station 200 (P2). These lane jumps took place during a turn, so that the hydrography run after the turn and prior to the next calibration was discarded.

Recalibration took place using platform SU-BR-A1A after installation of a new receiver on the ship. Resultant correctors were used until JD 101 (1011 GMT) when station 200 (P2) went off the air. No hydrography was run preceding this malfunction until after the next calibration. Following the installation of a new card in the ship's receiver by a HYDROTRAC technical representative, initial calibration was done by circling wellhead BLK-310-L-1. Hydrography was run with these correctors until JD 103 (1800 GMT), when P2 again went off the air. Again, no hydrography was run until after the following equipment change and recalibration. A new slave drive unit was installed at station 200 (P2), and initial calibration took place at well head BLK-310-L-1. Resultant correctors were used until JD 104 (1550 GMT) when P2 went down again. As before, no hydro was run until after another slave drive unit was installed at station 200 and an initial calibration was done at wellhead BLK-310-L-1.

These correctors were applied until JD 106 (2153 GMT), at which time P1 went off the air while running main scheme. Position 1457 was rejected.

No equipment alterations were made, and initial calibration was done at platform SU-BR-A1A on JD 106 (2330 GMT). Resultant correctors were used until JD 107 (1802 GMT) when P1 again went off the air. Positions 1671-1673 were rejected. After alteration of the slave drive unit at station 100 (P1), initial calibration was again performed at platform SU-BR-A1A. These correctors were applied until the end of the cruise and visual calibration off Galveston, Texas on JD 108 (1500 GMT). During the subsequent inport (JD 109-112), slave drive unit changes were made at both shore stations.

Partial lane correctors for the third cruise, JD 113-119, were obtained by visual calibration off Galveston. On JD 117 (0800 GMT), lane jumps occurred on the P1 rate during the turn after position 2947. The wrong whole lane correction was input on-line and hydrography was run until 1234 GMT the same day. The correct whole lane count was then arrived at by a circle calibration at platform SU-BR-A1A. Positions 2948-3005 were rejected and rerun with the proper correctors. Final visual calibration for the trip was done off Galveston, Texas on JD 119 (1030 GMT).

For cruise #4 (JD 126-129) and cruise #5 (JD 141-142), visual calibrations off Galveston, Texas were used for initial and final correctors. No lane jumps or equipment failures took place on these final two trips.

The following table is a summary of change dates, equipment involved, and location of the equipment changes made during this survey:

Location	Equipment	Serial No.	Dates (JD) In Service
Station 100	Slave Drive Unit	226	74 - 112
		215	112 - 142
Station 200	Slave Drive Unit	215	74 - 98
		214	98 - 103
		215	103 - 105
		227	105 - 109
		214	109 - 142
Vesno 2220	Receiver	327	74 - 100
		328	100 - 142

In addition to the calibrations described above, the whole lane count was checked 11 times at platform SU-BR-A1A, one time at wellhead BLK-310-L-1, and one time at wellhead VIC-PET-245 using the circling technique.

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. Lane jumps which occurred during this survey are described above. An abstract of all calibration data is included with the records accompanying this report.

H. SHORELINE

There was no shoreline within the limits of this survey.

I. CROSSLINES

Crosslines were run between approximately 45 degrees to 90 degrees to the main scheme sounding lines. Crossline mileage amounted to 6.9% of the main scheme lines. All crossline soundings agree with mainscheme soundings within 0-2 feet.

J. JUNCTIONS See Section 5 of Verification Report

This survey junctions with the following surveys:

Survey Number	Date	Scale
H-9867	1980	1:40,000
MI-40-3-80	1980	1:40,000
MI-40-4-80	1980	1:40,000

The junction with H-9867 is to the south, MI-40-3-80 to the north and west, and MI-40-4-80 to the north and east. The latter two surveys were without registry numbers and not yet submitted as of this report. 99.3% of the soundings agreed within 0-3 feet between this survey and H-9867. The remaining soundings agreed to within 4 feet. Neither of these surveys had smooth tides applied at the time of comparison, which will resolve the differences.

K. COMPARISON WITH PRIOR SURVEYS See Section 6 of Verification Report

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

Survey Number	Date	Scale
H-6404	1938	1:80,000
H-6291	1937	1:80,000
H-6398a	1938	1:40,000

Comparison with these surveys is good, with all of the soundings agreeing to within ±1-2 feet

L. COMPARISON WITH THE CHART See Section 7 of Verification Report

Chart Number	Edition	Date	Scale
11300	22	June 2, 1979	1:460,732

Soundings on 11300 are in fathoms, this survey was done in feet. Comparison with the chart was good, with all soundings agreeing to within ±0.5 fathoms. The following items were investigated for comparison:

The following positions are corners of an area investigated for numerous spikes and deeps:

28°28'24"N	95°08'30"W
28°28'24"N	95°06'36"W
28°31'12"N	95°06'36"W
28°31'12"N	95°08'30"W

This area was investigated with 100 meter North - South line spacing (Development #1) and the following developments:

Development #2 was a star pattern centered on a series of shoal features found while running main scheme (Pos. 3311, 2232+1, 3282+1 and 2203). Each showed a ~~depth of 107 feet while~~ rising of about 6-8 feet above the general surrounding depths. A corrected least depth of 10½ feet was found on Development #1 (Pos. 3520; Lat. 28°30'01"N; Long. 95°07'25"W). It is recommended that these be charted as a narrow ridge with a least depth of 10½ feet. This depth was transferred to the main scheme plot. ~~chart as shown on~~ present survey

Developments #3 and #9 were star patterns over a spike feature found while running main scheme (Pos. 3239+3; Lat. 28°30'28"N; Long. 95°07"58"W). It rose 10 feet above the surrounding depths and had a corrected least depth of 10½3 feet. No shoaler depths were found during development. It is recommended that this feature be charted as an isolated peak as found on the main scheme plot.

Development #5 began as a single star pattern over a shoal feature found while running 100 meter splits (Pos. 3523+½). This spike was found at the edge of a scoured area with a corrected least depth of 10½ feet while rising 8 feet above the surrounding depths (Pos. 4599+3; Lat. 28°30'18"N; Long. 95°07"10"W). During the development, a shoaler spike was found ¼nm. north on the northern edge of the same scour. A second star pattern determined that this second spike rose 10 feet above the surrounding depths to a corrected least depth of 10½ feet (Pos. 4590+½; Lat. 28°30'32"N; Long. 95°07'10"W). Due to the close proximity of these two features only the shoaler second spike was transferred to the main scheme plot. It is recommended that the shoaler peak be charted as an isolated peak.

Development #6 was a star pattern over a shoal feature found on main scheme (Pos. 3491). The spike was found to rise 7 feet above the surrounding depths to a corrected least depth of 10½ feet (Pos. 4602+½; Lat. 28°30'06"N; Long. 95°07'17"W). This depth has been transferred to the main scheme plot. It is recommended that it be charted as an isolated peak.

Development #7 was a star pattern over a shoal feature found while running 100 meter splits (Pos. 3516+2). The feature rose 20 feet above the surrounding depths to a corrected least depth of 92 feet (Pos. 4633+3; Lat. 28°30'38"N; Long. 95°07'39"W). This depth has been transferred to the main scheme plot. It is recommended that it be charted as an isolated peak. ✓ concur

pos 4633 + 3 raw depth 77.4

Development #10, like development #5, was two star patterns over spikes found on developments #5 and #7 (Pos. 4599+3 and Pos. 4613+2 respectively). No shoaler depth was found on the former spike. The latter spike was found to rise 11 feet above the surrounding depths to a corrected least depth of 93 feet (Pos. 4651+3; Lat. 28°30'38"N; Long. 95°07'31"W). It is recommended that this feature be charted as an isolated shoal feature. This least depth was not transferred to the main scheme plot due to its close proximity to the 20 foot spike of Development #7. 93 ft depth shown on smooth sheet from development #7

A 1:10,000 scale sheet of this development area has been included with this survey for the sake of clarity. Only the least depths obtained from each development were plotted with the main scheme lines in this area.

Other items that were developed on this survey are:

Development #4 was a star pattern run over a scoured area with a peak in the center (Pos. 2407+6; Lat. 28°33'24"N; Long. 95°09'09"W). No shoaler depth was found during development and the peak does not rise above the surrounding depths outside the scour. The least depth was 100 feet as found on the main scheme plot. It is recommended that this area be charted as contoured on the main scheme plot.

Development #8 consisted of a star pattern and axis line run over a trough-like feature (Lat. 28°32.7'N; Long. 95°14.9'W). The development was run to further delineate the irregular nature of the bottom and to check for any possible shoaling which may have been associated with the scour. No shoal features were encountered and it is recommended that the area be charted as contoured on the main scheme sheet. ✓ concur

Development #11 was a series of 2 east-west axis lines and 1 north-south section line run over a trough feature (Lat. 28°25.2'N; Long. 95°05.8'W). No significant shoal feature was found and it is recommended that the area be charted as plotted on the main scheme sheet. ✓ concur

Development #12 was a star pattern over a shoal indication found on main scheme (Pos. 2214+2). When developed, it was found to rise 3 feet above the surrounding depths to a corrected least depth of 11 feet (Pos. 4677+3; Lat. 28°21'18"N; Long. 95°07'35"W). It is recommended that it be charted as an isolated peak. The least depth was transferred to the main scheme plot. smooth plotted at pos. 2214+3. ✓ concur

Development #13 was a star pattern over an irregular trough with a shoal feature at its edge. During development, a group of spikes was found, the shoalest of which rose 9 feet above the trough and 3 feet above the depths outside the trough. The corrected least depth was 11 feet (Pos. 4682+2; Lat. 28°20'34"N; Long. 95°09'30"W). It is recommended that it be charted as an isolated peak as transferred to the main scheme plot. ✓ concur

Development #14 consisted of an axis line and a radial line over a ridge that ran in an E.N.E. - W.S.W. direction. This shoal rose 4 feet above the surrounding 119 foot depths to a corrected least depth of 115 feet (Pos. 2507+4; Lat. 28°21.1'N; Long. 95°01.9'W). No shoaler depths were found during development. It is recommended that this shoal area be charted as found on the main scheme plot. ✓ concur

Development #15 was a single line run over a 2 feet shoal feature found in 124 feet of water (Pos. 3736+2; Lat. 28°20.9'N; Long. 95°01.1'W). No shoaler depth was found. It is recommended that this item be charted as an isolated peak with a corrected least depth of 122 feet as found on the main scheme plot. Minor bottom irregularity

Development #16 consisted of 3 axis lines over an east-west ridge that rose 2-4 feet above the surrounding depths to a corrected least depth of 119 feet (Lat. 28°22.8'N; Long. 95°00.3'W). No shoaler depths were found. It is recommended that this area be charted as found and contoured on the main scheme plot. ✓ concur

Development #17 was a star pattern run over a small scour area (Lat. 28°23.5'N; 95°57.5'W). No shoal features were found. It is recommended that this area be charted as found on the main scheme plot. 94°? ✓ concur

Development #18 was a star pattern over a 7 foot mound that rose to a corrected least depth of 121 feet (Pos. 4111+4; Lat. 28°24.8'N; Long. 94°56.5'W). No shoaler depths were found. It is recommended that this feature be charted as found on the main scheme plot.

Development #19 consisted of 3 axis lines and 1 radial line over a N.E. - S.W. ridge that rose 3 feet above the surrounding depths to a least depth of 124 feet (~~Pos. 4317+2~~; Lat. 28°24.2'N; Long. 94°58.6'W). No shoaler depths were found. It is recommended that this area be charted as found and contoured on the main scheme plot. ✓ concur

Two 125 foot sdgs plotted on smooth sheet fall in vicinity.

Development #20 consisted of 2 axis lines and 1 radial line over a N.E. - S.W. ridge that rose 5 feet above the surrounding depths to a least depth of 120 feet (~~Pos. 4442+2~~; Lat. 28°25.3'N; Long. 95°00.4'W). No shoaler depths were found. It is recommended that this area be charted as found and contoured on the main scheme plot. ✓ concur

Development #21 was single line over a possible 7 feet obstruction detected in 113 feet of water (Pos. 3956+2; Lat. 28°29.8'N; 94°58.4'W). The development was run over the same main scheme line where the item was originally found. No further evidence of the item was detected and it is believed to be marine life. It is recommended that this item <u>not</u> be charted. ✓ concur

Should requirements of the Texas Offshore Oil Platform mandate further development, it is recommended this be accomplished by wire drag survey. The MT. MITCHELL plans no further development.

The position of charted platform ("SUPCO-BRAZOS BLK-AIA") was verified on JD 078 using the circling technique. The calculated position was (pos.5017 Fieldnal7) 28°20'29.232"N and 95°18'15.420"W. The platform's charted position (published in the Coast Guard Listing of Offshore Oil Structures) is 28°20'29"N and 95°18'15"W. It is recommended that this item be retained as charted. The designation given to this platform and used elsewhere in this report is platform "SU-BR-AIA". ✓ concur

The charted position approximate wreck (Lat. 28°24'N; Long. 95°18'W) was not a pre-survey review item. No indication of an obstruction was observed on the fathogram in the immediate area and thus no further development was performed. It is recommended that this item not be retained for charting. do not concur See Verification Report Section #7

M. ADEQUACY OF THE SURVEY

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

N. AIDS TO NAVIGATION

There were no fixed or floating aids to navigation within the limits of this survey. ✓

O. STATISTICS

Linear nautical miles of hydrography	3077.1
Linear nautical miles of crosslines	211.5
Linear nautical miles of development	123.0
Total linear miles of hydrography	3411.6
Total miscellaneous miles	786.8
Total miles run	4198.4
Square miles of hydrography	307.0
Total number of positions	4751
Nasen casts	1
Bottom Samples	15

P. MISCELLANEOUS

The electronic control failures experienced in the slave drive units (SDU) and the ship's receiver were apparently the result of incomplete modifications introduced during the equipment's winter overhaul by Odom Offshore. The problems were:

1. New automatic phase control (APC) boards were installed in the SDU's. Each APC utilized a particular integrated circuit which failed to function as designed. Replacement with another brand of chip remedied the problem.

2. The receiver's discriminator board was also replaced with one which contained the same faulty IC. Resistor changes were made to restore normal operation.

3. The receiver's existing digitizer boards were apparently incompatible with the other modifications made. Replacement with new boards solved this problem.

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	2-5-76
RK 330 Data Reformat and Check	5-4-76
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,

Andrew N. Shepard 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.

R A Smith CHAP NOAA
Commanding Officer

MASTER SIGNAL NAMES LISTING

MI-40-2-80 H-9868

100	H-82-TX	AMC OPS FIELD COMP
190	MOBIL BLK-310-L-1	MM/TRAVERSE 1980
195	~~SU-BR-A1A~~	~~MM/GIGLE 1980~~
200	CAPTAIN	FIELD PARTY G18
202	~~FREEPORT MUN. TANK~~	~~AMC OPS FIELD COMP~~
204	~~DOW CHEM PLT 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 S.W. MUN. TANK~~	~~AMC OPS FIELD COMP~~
230	~~MOODY METH. CH. SPIRE~~	~~AMC OPS FIELD COMP~~
236	~~SW WELLHEAD~~	~~MM/TRAV 790628~~
237	~~CTR WELLHEAD~~	~~MM/TRAV 790628~~
238	~~NE WELLHEAD~~	~~MM/TRAV 790628~~
240	~~MOODY PRESS FLATTOP~~ TANK	~~290943 1082~~
245	~~USPHS STACK~~	~~290943 1086~~
250	~~PIER 34 TANK~~	~~290943 1088~~
260	~~GALVESTON MUN. TANK~~	~~290943 1083~~
265	~~USCG RADIO MAST~~	~~290943 1063~~
271	~~SH-GA-288-NE/4-5~~	~~8TH USCGD~~
272	~~SH-GA-288-SE/4-3~~	~~8TH USCGD~~
273	~~SH-GA-295-NW/4-1~~	~~8TH USCGD~~
270	~~SOUTH JETTY LIGHT~~	~~290943 1101~~
275	~~BOLIVAR LIGHTHOUSE USE~~	~~290943 1050~~
290	~~BOLIVAR RADIO TOWER~~	~~AMC OPS FIELD COMP~~
300	~~H-27-TX-78~~	~~AMC OPS FIELD COMP~~

MASTER SIGNAL TAPE LISTING

MI-40-2-80 H-9868

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	20	39232	095	18	15420	139	0000	000000
200	4	28	56	05032	095	17	58364	250	0000	171859
202	4	28	57	05770	095	21	13267	139	0000	000000
204	4	28	56	47542	095	18	51873	139	0000	000000
206	4	28	58	22387	095	15	58710	139	0000	000000
210	4	29	14	02316	094	54	34712	139	0000	000000
212	4	29	02	58772	094	55	43654	139	0000	000000
215	4	29	16	01065	094	50	57460	139	0000	000000
230	4	29	16	29659	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	34041	094	49	16628	139	0000	000000
245	4	29	17	24980	094	48	53200	139	0000	000000
250	4	29	18	19254	094	48	28897	139	0000	000000
260	4	29	18	49346	094	46	23523	139	0000	000000
265	4	29	20	01985	094	46	05559	139	0000	000000
270	4	29	19	39258	094	41	32887	139	0000	000000
271	4	28	54	00577	094	41	16506	139	0000	000000
272	4	28	53	26920	094	41	10042	139	0000	000000
273	4	28	52	19470	094	40	57866	139	0000	000000
275	4	29	21	59597	094	46	00263	139	0000	000000
290	4	29	23	48360	094	44	13479	139	0000	000000
300	4	29	35	12670	094	17	18380	250	0000	171859

VELOCITY TAPE LISTING

MI-40-2-80 H-9868

```
000140 0 0000 0002 000 222000 040280
000250 0 0002
000375 0 0007
000480 0 0012
000580 0 0017
000725 0 0022
000845 0 0027
000965 0 0032
001085 0 0037
001190 0 0042
001315 0 0047
001430 0 0052
001550 0 0057
999999 0 0000
```

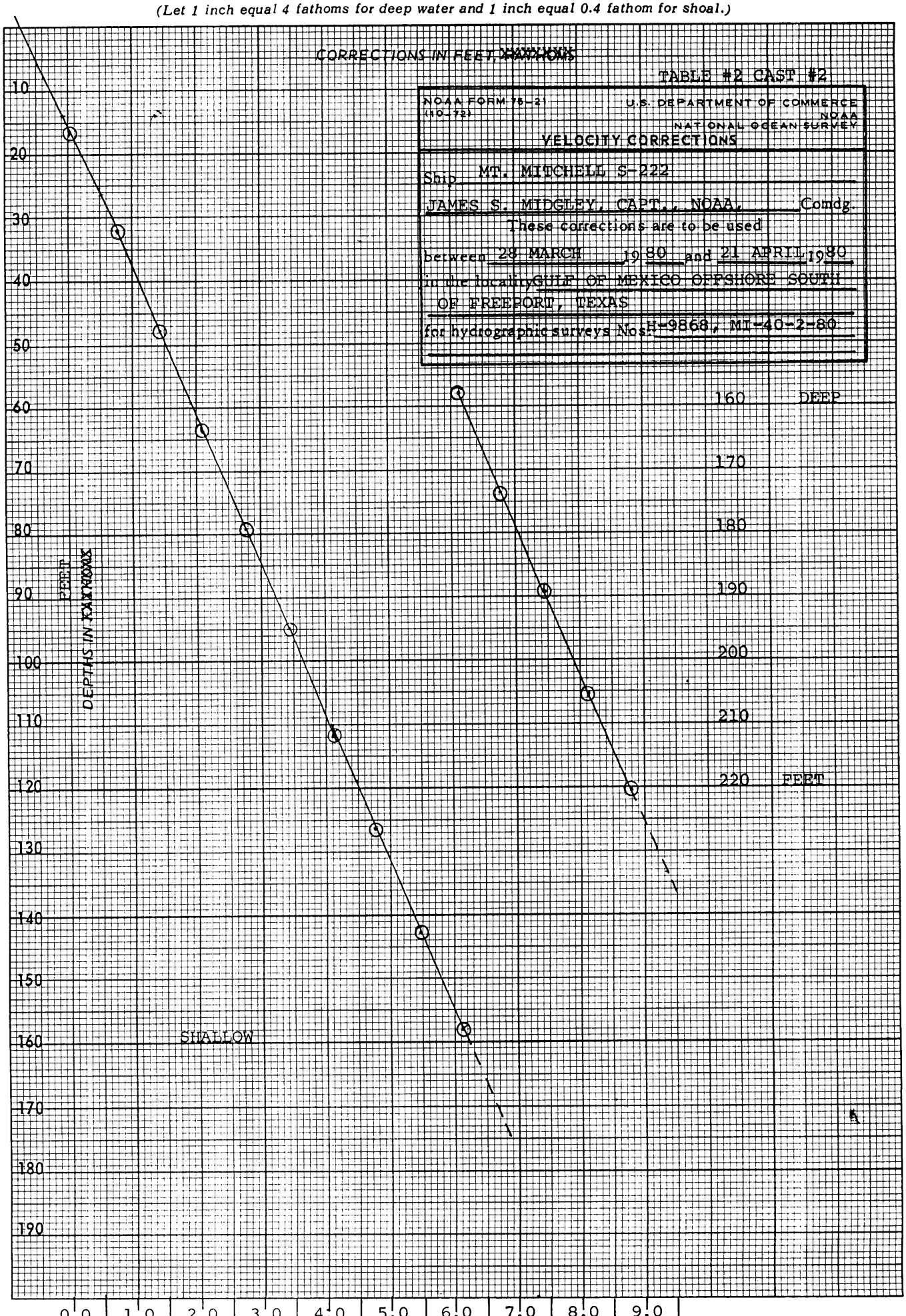
```
000175  0  0000
000220  0  0002
000260  0  0004
000300  0  0006
000350  0  0008
000400  0  0010
000445  0  0012
000492  0  0014
000540  0  0016
000590  0  0018
000635  0  0020
000680  0  0022
000727  0  0024
000775  0  0026
000820  0  0028
000869  0  0030
000913  0  0032
000969  0  0034
001011  0  0036
001060  0  0038
001120  0  0040
001150  0  0042
001195  0  0044
001242  0  0046
001290  0  0048
001337  0  0050
001382  0  0052
001430  0  0054
001480  0  0056
001525  0  0058
```

Tab RLK

✓ by GFT

12/15/80

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



(For deep water add a 0 to these figures)

46 1240

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

☆ U.S. GOV. PRINTING OFFICE: 1977—767-

(2)

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

FIELD TIDE NOTE

TIDE GAGE REPORT

NOS TIDE TABLE NUMBER: _____ TIME MERIDIAN 090° W

GEOGRAPHIC LOCALE: Freeport, Texas Surfside Beach

NAME: Surfside Fishing Pier STATION NUMBER: 877-2481

LATITUDE: 28 57.4' N , LONGITUDE: 95 16.4' W

TYPE OF GAGE: ___ADR, X BUBBLER, ___OTHER (_____)

PLANE OF REFERENCE: ___MLW, ___MLLW, X GCLWD, ___OTHER, CORRESPONDS

TO _____ FEET ON THE TIDE STAFF FOR THE PERIOD _____ TO _____

DATED INSTALLED: 3/14/80 BY: MT. MITCHELL Personnel

DATE REMOVED: N/A BY: _____

DATE LEVELED: 3/14 & 3/15/80 BY: MT. MITCHELL Personnel

REMARKS: This is a tertiary gage installed for the duration of the Hydrographic operations in this area this season (approximately three months).

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

September 9, 1980

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: April 6 - May 22, 1980

HYDROGRAPHIC SHEET: H-9868

OPR: K104

Locality: Gulf of Mexico, Texas

Plane of reference (Gulf Coast Low Water Datum): 5.7 ft.

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

REMARKS: Zone direct.

Chief, Datums and Information Branch

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9868

GEOGRAPHIC NAMES

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	✓									1
FREEPORT (TITLE)										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					Approved:					18
										19
					Chas. E. Harrington					20
					Chief Geographer					21
					28 OCT. 1981					22
										23
										24
										25

APPROVAL SHEET
FOR
SURVEY H-9868

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 Verification Report.

Date: April 13, 1981

Signed: R. D. Samuelsen

Chief, Verification Branch

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9868

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	one	BOAT SHEETS & PRELIMINARY OVERLAYS	2 (rolls)
DESCRIPTIVE REPORT	one	SMOOTH OVERLAYS: POS. ARC, EXCESS	three

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	one					
CAHIERS			one			
VOLUMES	three					
BOXES						

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			4766
POSITIONS CHECKED	41		
POSITIONS REVISED		0	
SOUNDINGS REVISED		107	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	8		
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS		54	
VERIFICATION OF SOUNDINGS		324	
COMPILATION OF SMOOTH SHEET		56	
APPLICATION OF TOPOGRAPHY			
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		8	
COMPARISON WITH PRIOR SURVEYS & CHARTS		8	
VERIFIER'S REPORT		16	
OTHER		18	
TOTALS	8	484	492

Pre-Verification by: JBW	Beginning Date: 6/24/80	Ending Date: 6/25/80
Verification by: JBW, RLK, JSB	Beginning Date: 8/06/80	Ending Date: 4/13/81
Verification Check by: RDS	Time (Hours): 1	Date: 4/13/81
Marine Center Inspection by: HIT (AMC)	Time (Hours): 3	Date: 4/13/81
Quality Control Inspection by: D R Baumgardner	Time (Hours): 51	Date: 7/20/81
Requirements Evaluation by: Joseph J. Perry	Time (Hours): 2	Date: 1/26/82

R. K. Mayer 11/1/81

REGISTRY NO. H-9868

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_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

No additional completion of digital records required SRB

ATLANTIC MARINE CENTER
VERIFICATION REPORT

REGISTRY NO.: H-9868 FIELD NO: MI-40-2-80

Texas, Gulf of Mexico, Offshore South of Freeport

SURVEYED: March 14 through May 21, 1980

SCALE: 1:40,000 PROJECT NO.: OPR-K104

SOUNDINGS: Ross Digital Echo Sounder CONTROL: Hydrotrac (Range/Range)

Chief of Party	R. A. Trauschke, J.S.Midgley
Survey by	R. W. Jones
	J. Wilder
	A. N. Shepard
	J. L. Long
	R.K. Dutton
	D. Williams
	J. Zabitchuck
Automated Plot by	Xynetics 1201 Plotter (AMC)
Verified by	J. Scott Bradford
Date	13 April 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 section 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 original velocity correctors were changed at the Atlantic Marine Center from a 0.5-foot interval to a 0.2-foot interval. This is more desirable from a processing standpoint, considering the gently sloping bottom of H-9868.

b. Weather information was not applied to graphic records as required in section 1.5.3 of the Hydrographic Manual.

c. A diver's investigation on Development #7 (lat. 28°30'30", long. 95°07'39") would have been beneficial. Considering the uniform bottom configuration, this being a shoal feature as stated is doubtful. It is likely to be an obstruction or wreck. Attached to the end of this report is a copy of the echogram record of the most prominent object.
Echogram filed in sounding records.

5. JUNCTIONS

Adequate junction was made with the following surveys.

H-9881	(1980) to the west and north
H-9885	(1980) to the north and east
H-9867	(1980) to the south

These junctions are complete and require no further work.

6. COMPARISON WITH PRIOR SURVEYS

H-6291	(1937) 1:80,000
H-6398a	(1938) 1:40,000
H-6404	(1938) 1:80,000

The above listed surveys are the most recent prior surveys in this area that provide complete coverage.

In general, the present survey is as much as 4 feet deeper than these prior surveys. These differences may be attributed to differences in sounding equipment used on the prior surveys. Also, these differences may be attributed to subsidence in this area due to the withdrawal of oil and gas.

Several pronounced spikes up to 20 feet shoaler than surrounding depths were found in the vicinity of latitude 28°30.5', Longitude 95°07.6' on the present survey. No indication of such features are shown on the prior survey. These features are probably sunken wrecks or obstructions from oil exploration activities in the area and not natural bottom features.

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

7. COMPARISON WITH CHART 11300 (22th Ed., June 2, 1979)
Chart 11321 (19th Ed., May 26, 1979

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and requires no further consideration. Attention is directed to the following:

non-dangerous

The sunken wreck, PA, charted in latitude 28°24', Longitude 95°18' originates with an unascertainable source. The hydrographer did not conduct an investigation ~~sufficient~~ to disprove the existence of this wreck. It is recommended that the non-dangerous sunken wreck, PA, be retained as charted. concur

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

b. Aid to Navigation

There are no aids to navigation within the limits of this survey.

8. COMPLIANCE WITH INSTRUCTIONS

This survey complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an excellent basic survey. No additional work is recommended on this survey. However, it may be desirable to wire drag the indications of wrecks or obstructions located in the vicinity of latitude 28°30.5, Longitude 95°07.6 if the area is to be used by deep draft vessels.

Attachment:

Copy of Echogram (Inserted in sounding records)

INSPECTION REPORT
H-9868

The completed survey has been inspected by the Hydrographic Inspection Team with regard to survey coverage, delineation of depth contours, 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. 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

Karl Wm. Kieninger, CDR, NOAA
Chief, Processing Division

Ronald W. Jones, LCDR, NOAA
Operations Division

R. D. Sanocki
Chief, Verification Branch
Processing Division

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

Approved/Forwarded
April 15, 1981

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:SRB

July 20, 1981

TO: Glen R. Schaefer
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch
S R Baumgardner

FROM: S. R. Baumgardner
Quality Evaluator

SUBJECT: Quality Control Report for H-9868 (1980), Texas, Gulf of Mexico, Offshore South of Freeport

A quality control inspection of H-9868 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. Revisions and additions to the smooth sheet, plus helpful comments, are identified on a one-half scale copy of the survey which will be furnished to the verifier. In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report.

cc:
OA/C351

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

FEB 18 1982

OA/C351:SJV

TO: OA/CAM - Richard H. Houlder

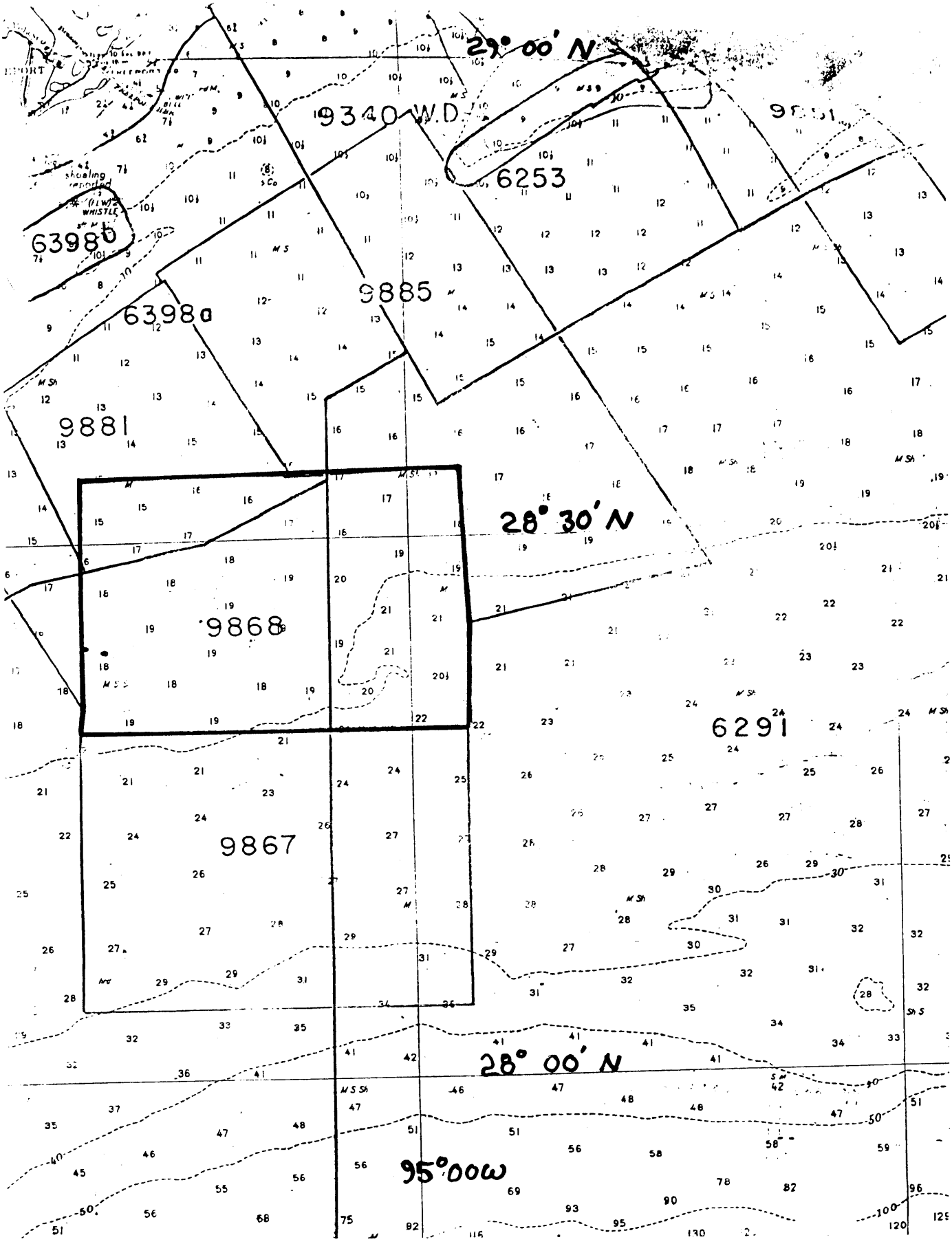
FROM: OA/C3 - Roger F. Lanier

SUBJECT: H-9868 (1980), Texas, Gulf of Mexico, Offshore South 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 July 20, 1981 (copy attached), and the Hydrographic Survey Inspection Team Report, dated April 15, 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.


29° 00' N
9340 W.D.
6253
63980
9885
6398a
9881
28° 30' N
9868
6291
9867
28° 00' N
95°00W

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9868

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
11321	4/16/82	WILLS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 29
11330	4/19/82	WILLS	
			Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 1
11300	4/20/82	WILLS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing ~~No.~~ AID Proof #39
411	4/21/82	WILLS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing ~~No.~~ 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.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-8352