

9851

Diag. Cht. No. 1282-2. 1117

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey ... Hydrographic.....
Field No. MI-40-1-79.....
Office No..... H-9851.....

LOCALITY

State Texas.....
General Locality . Gulf. of Mexico.....
Locality Offshore Galveston.....

1979

CHIEF OF PARTY
..... Capt. James S. Midgley.....

LIBRARY & ARCHIVES

DATE April 24, 1980.....

9851

Area 4

cht

11340

411

11380

11323. Applied 10-28-80 West

HYDROGRAPHIC TITLE SHEET

H-9851

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-40-1-79

State TEXAS

General locality ~~WESTERN~~ GULF OF MEXICO

Locality OFFSHORE GALVESTON

Scale 1:40,000 Date of survey AUG. 27⁹, 1979-SEPT. 26, 1979

Instructions dated FEB. 22, 1979 Project No. OPR-K104-MI-79

Vessel NOAA SHIP MT. MITCHELL (2220) LAUNCHES 1004 (2223) AND 1002 (2225)

Chief of party CAPTAIN JAMES S. MIDGLEY, NOAA

Surveyed by See Remarks

Soundings taken by echo sounder, ~~and lead, etc.~~ ROSS MODEL 5000

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

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

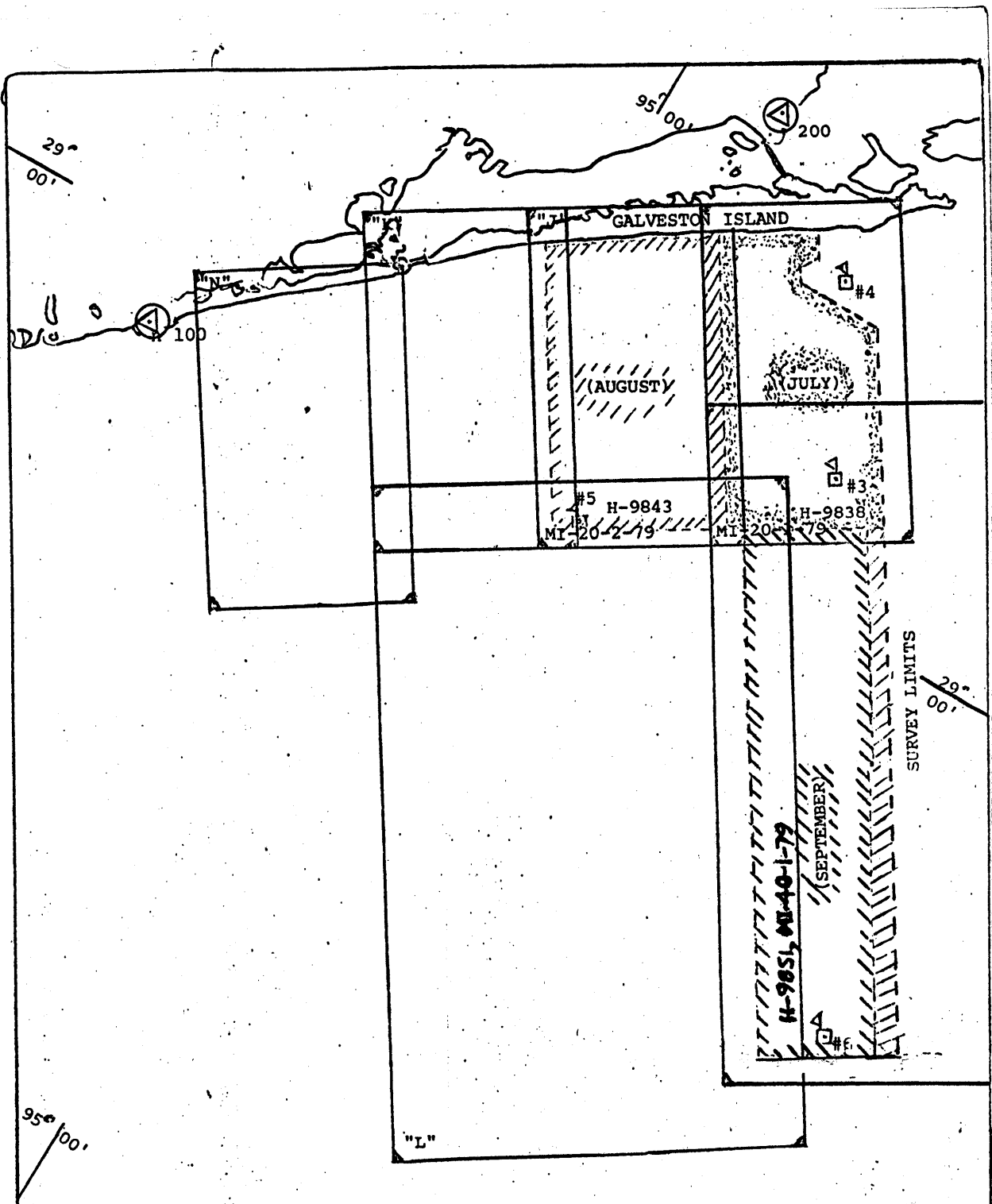
Protracted by N/A Automated plot by HYDROPLOT SYSTEM (Ship)
XYNETICS 1201 AMC

Verification by J. Scott Bradford

Soundings in ~~XXXXXX~~ feet at ~~MLW~~ ~~MLW~~ GCLWD

REMARKS: LT. CDR. RONALD JONES, LT. C. DOUGLAS MASON, LT. (jg) JOHN D. WILDER,
LT. (jg) WILLIAM G. PRINGLE, ENS. ANDREW N. SHEPARD, ENS. PAUL S. MORTON,
ENS. JAMES L. LONG, ENS. RONALD K. DUTTON

Applied to std 9/22/80
MS



OPR-K104-MI-79

PROGRESS SKETCH
 HYDROGRAPHIC OPERATIONS
 NOAA SHIP MT. MITCHELL S-222
 JAMES S. MIDGLEY, CAPT., NOAA
 COMMANDING

SCALE OF CHART 11300

DESCRIPTIVE REPORT

TO

HYDROGRAPHIC SURVEY H-9851

MI-40-1-79

1:40,000 SCALE

GALVESTON, TEXAS

27 AUGUST 1979 TO 26 SEPTEMBER 1979

NOAA SHIP MT. MITCHELL S-222

JAMES S. MIDGLEY

CAPTAIN, NOAA

COMMANDING OFFICER

A. PROJECT:

This survey was carried out in accordance with Project Instructions OPR-K104-MI-79 issued February 22, 1979 and ammended by Changes No. 1 through 3 dated March 2, 1979, March 29, 1979, and June 18, 1979.

This survey was the continuation of a partial survey, ^{Processed as} ~~seperate survey~~ from last year that would normally have been done by the ship. However, budget restrictions necessitated the use of launches in an effort to reduce fuel consumption. After running a portion of this survey with launches, deteriorating weather conditions dictated utilizing the ship in order to complete the survey by the end of the field season.

B. AREA SURVEYED:

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

29° 01.6'	28° 38.0'	N	94° 44.6'	94° 30.6'	W
29° 05.0'	29° 05.7'	N	94° 38.5'	94° 49.7'	W
28° 40.1'	29° 10.0'	N	94° 29.4'	94° 41.4'	W
28° 43.2'	28° 42.2'	N	94° 23.2'	94° 22.8'	W

C. SOUNDING VESSELS:

Soundings for the survey were obtained by the NOAA Ship MT MITCHELL (VESNO 2220) and the following launches:

Launch 1002 (VESNO 2225)
Launch 1004 (VESNO 2223)

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS:

The following equipment was aboard the respective vessels during this survey:

<u>Equipment, VESNO 2220</u>	<u>Serial Number</u>
Ross Model 5000 Fineline Depth Recorder	1050
Ross Model 4000 Transceiver	1039
Ross Digitizer	1050

<u>Equipment, VESNO 2225</u>	<u>Serial Number</u>
Ross Model 5000 Fineline Depth Recorder	3780
Ross Model 4000 Transceiver	1050
Ross Digitizer	1039-2

Equipment, VESNO 2223Serial Numer

Ross Model 5000 Fineline Depth Recorder	1089
Ross Model 4000 Transceiver	1039
Ross Digitizer	1050

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.

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>
6	28°22'54"N	94°26'54"W	August 28 1979

All velocity correctors were derived from this cast. Bar checks were taken as often as possible and show a depth dependent variation with respect to the Nansen cast velocities. The Nansen cast velocities are assumed to be the more accurate and hence were used for generating the velocity correctors. Tables and printouts of velocity tapes explaining how sound velocities were derived are included in Appendix D.

A draft of 14.0 feet was applied to all soundings taken by the ship, while 1.6 feet was applied to all launch work, during the on-line process and the smooth plotting. Changes in draft for the launches (VESNOS 2223, 2225) were considered insignificant. On September 17 (Julian Day 260), the draft of the ship was noted at 14.0' forward and 14.3' aft, while at the end of the survey, on September 26 (JD 269), the draft was noted as 13.3' forward and 14.7' aft. As the transducer was only 17.5 feet forward of the aft draft marks, it was decided that the change in draft for the entire period would be applied as the mean of the before and after readings from that location. This results in a constant draft corrector of +0.5 feet.

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. Settlement and squat correctors for Vessels 2223 and 2225 were determined

on June 21, 1979 at the Galveston Corps of Engineers Dredge Dock. 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 did not correspond well with real tides, as junctions varied as much as 2 feet from day to day. The request for actual tides in the survey area is included in Appendix B.

E. HYDROGRAPHIC SHEETS:

This survey was plotted on 5 paper field sheets by the MT MITCHELL Hydroplot System:

<u>Number of Sheets</u>	<u>Type</u>	<u>Skew</u>
4	Basic Survey	122, 21, 60
1	Developments	0, 21, 45

The 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, Virginia. All field records and the following tapes have been forwarded to the Atlantic Marine Center:

- Master Range/Range Data Tapes
- Master Hyperbolic 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 Jack-Up platform is used for exploratory drilling. It is a highly mobile structure as it can be floated into position and elevated out of the water on its legs. 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; Captain (Slave 1)	28°56'05.032"N	95°17'58.364"W	} <i>off limits of smooth sheet.</i>
200; H-66-TX-79 (Master)	29°19'48.169"N	94°54'07.649"W	
300; H-27-TX-78 (Slave 2)	29°35'12.670"N	94°17'18.380"W	

All the above stations were located by personnel from the Operations Division, Atlantic Marine Center, with assistance from MT MITCHELL personnel. Electronic Control Stations were erected and maintained by ship's personnel.

Calibration stations used for this survey were:

<u>Number</u>	<u>Signal Name</u>	<u>Latitude</u>	<u>Longitude</u>	
237	CTR Wellhead	29°15'29.591"N	94°47'34.245"W	} <i>off limits of smooth sheet</i>
238	NE Wellhead	29°15'51.418"N	94°46'57.729"W	

These ^{above} wellheads were located using the T-2 intersection method by MT MITCHELL officers.

<u>Number</u>	<u>Signal Name</u>	<u>Latitude</u>	<u>Longitude</u>	
271	SH-288-GA-NE/4-5	28°54'00.577"N	94°41'16.506"W	not plotted
272	SH-288-GA-SE/4-3	28°53'26.920"N	94°41'10.042"W	on smooth sheet
273	SH- 288 -GA-NW/4-1	28°52'19.470"N	94°40'57.866"W	sheet

These ^{above 295} wellheads were located by the circling method after a sextant calibration of the ship's HYDROTRAC. *QC plot on smooth sheet.*

Wellheads identified as platforms in survey records and
HYDROTRAC lane values were calibrated at one of the *Coast Guard* above locations, with the launches, by circling the wellhead *source.* both in the morning and afternoon. Whole lane values were set into the receiver and partial lane correctors were calculated by comparing the average observed lane count to the actual lane count of the wellhead. For plotting all launch work, the final partial correctors were derived by averaging these morning and afternoon partials. The initial calibration for the ship on JD 264, a check calibration on JD 266, and a final calibration on JD 268 were performed at station 271. The change in partials that occurred over the period JD 264 - JD 268 was considered insignificant at the scale of the survey so all plotting for this period was done using the initial correctors with adjustments made for whole lane jumps only.

A third (check) angle had been observed to these wellheads and their positions were adjusted slightly as listed below.

However, all smooth^{field} plotting and calibrations were done with the unadjusted positions listed above. This adjustment resulted in a 0.01 lane (or less) shift and is considered negligible.

<u>Number</u>	<u>Signal Name</u>	<u>Latitude</u>	<u>Longitude</u>
237	CTR Wellead	29°15'29.585"N	94°47'34.248"W
238	NE Wellhead	29°15'51.409"N	94°46'57.731"W

*off limits
of smooth
sheet*

G. HYDROGRAPHIC POSITION CONTROL

An Odum Offshore HYDROTRAC System operating at a frequency of 1718.590KHz in hyperbolic mode was used to provide positioning control for launch hydrography on this survey, from August 27, 1979 to September 13, 1979. The equipment serial numbers used in the launches are as follows:

<u>Vessel</u>	<u>Equipment</u>	<u>Serial Number</u>
2225	Receiver Model 700 (changed to 328 on 8/29/79)	326
	Sawtooth Recorder	8501
	Interface Model 900	101
	Sola Power Supply	103
2223	Receiver Model 700	327
	Sawtooth Recorder	9299
	Interface Model 900	103
	Sola Power Suply	107

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	226
	Linear Transmitter	539
	Coupler	131
	Power Supply	752

<u>Station</u>	<u>Equipment</u>	<u>Serial Number</u>
200	Master Drive Unit	121
	Master Linear Transmitter	538
	Power Supply	104
	Coupler	722
300	Slave Drive Unit Model 701 (changed to 215 on 9/7/79)	214

Linear Transmitter (changed to 536 on 9/4/79)	537
Coupler	133
Power Supply	753

With the onslaught of hurricane Frederic on September 13, the subsequent high winds and heavy rains resulted in Station 100 ceasing transmission. With continued bad weather and the field season coming to an end, the decision was made on September 20 (JD 263) to finish the survey by running the ship while operating the remaining shore stations (200, 300) in the range/range mode. 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	121
	Master Linear Transmitter	538
	Sawtooth Recorder	8502
	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>
200	Slave Drive Unit Model 701	214
	Linear Transmitter	537
	Power Supply	752
	Coupler	131
300	Slave Drive Unit Model 701	215
	Linear Transmitter	536
	Power Supply	753
	Coupler	133

Maintenance problems with some of the HYDROTRAC equipment resulted in changing units as noted. A shift of 0.6 to 0.7 lane in the average partial corresponding to Station 300 on JD 247 was caused by changing linear transmitters at that station. The passage of storms also affected the partial lane correctors, possibly due to the saturation of the land mass and the unstable atmospheric conditions.

While using HYDROTRAC, the whole lane counting was constantly monitored by comparing the navigation interface read-out 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.

During the period that range/range control was in operation (JD 264-269), a total of 8 lane jumps occurred at the following positions:

<u>Julian Day</u>	<u>Position Number</u>	<u>Lane Jump</u>
264	6084+1	P ₂ G ₁
265	6183+3	P ₂ G ₁
	6387+1	P ₂ G ₁
	6409	P ₂ G ₁
266	6547+6	P ₂ G ₁
	6595+2	P ₂ G ₁
	6612+1	P ₂ G ₁
269	7478	P ₂ L ₁

Seven of the lane jumps were corrected on-line immediately after occurring. The last jump was not detected on-line but was applied during off-line plotting.

H. SHORELINE

There was no shoreline within the limits of this survey.

I. CROSSLINES

Crosslines were run approximately 60° and 90° to the main scheme sounding lines. Crossline mileage amounted to 12% of the main scheme lines. All but one of the crosslines were run by the launches (VESNO 2223, 2225) prior to the ship hydro starting on JD 264. Agreement with the launch work is good, with 80% falling within a one foot difference. The remainder indicate that the crossline soundings were 2 feet deeper than the main scheme. Agreement with the ship's work is more varied. Approximately 30% fall within a 1-2 foot agreement, 65% within a 2-3 foot range and the remainder to within a 4 foot difference. The crossline soundings were deeper in all instances. This disparity cannot be completely resolved until the smooth tides are applied to the final smooth plot. Disagreements were resolved during smooth plotting at AMC.

J. JUNCTIONS

see Verifier's Report

This survey junctions with the following surveys:

North:	MI-20-1-79	H-9838	1:20,000	1979, MT MITCHELL
East:	MI-40-2-78	H-9784	1:40,000	1978, MT MITCHELL

Soundings from this survey junctioned well with soundings from MI-20-1-79 (H-9838), with all depths agreeing to within 1-2 feet.

Soundings from this survey junctioned well with soundings from MI-40-2-78 (H-9784) with all depths agreeing to within 1-2 feet. This agreement occurs only when H-9784 is plotted with smooth tides. All existing discrepancies between the field sheet and H-9784 were resolved 7 during smooth plotting of this survey (H-9851).

K. COMPARISON WITH PRIOR SURVEYS

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

H-6252 1:40,000 1937
H-6291 1:80,000 1937

Comparison with these surveys is good, with 90% of the soundings agreeing to within 1-2 feet. The remaining percentage show this survey sounding 3 feet deeper.

L. COMPARISON WITH THE CHART

<u>Chart Number</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>
11300	21st	May 6, 1978	1:460,732
11323	39th	April 9, 1977	1:80,000

Comparison with the chart was good, with all soundings agreeing to within 1-2 feet. Items investigated for comparison are as follows:

Presurvey, review (PSR) ITEM #88 is a wreck charted at $28^{\circ}55.5'N$ and $94^{\circ}39.0'W$ in 55 feet of water. This was an information item only and nothing was detected by any notation of the fathogram while sounding in the immediate area, so no further development was required or performed.

ITEM #1

A 17-foot spike in 76 feet of water was noted on the fathogram at $28^{\circ}48.6'N$ and $94^{\circ}29.5'W$ (Pos: 4611+1, JD 256, VESNO 2223). VESNO 2220 investigated this area on JD 268 and developed it for least depth. No indication of an obstruction was found on the fathogram and it is recommended that this item not be charted. *Concur*

ITEM #2

A seven (7) foot spike in 78 feet of water was noted on the fathogram at $28^{\circ}44.9'N$ and $94^{\circ}27.5'W$ (Pos: 4594+4, JD 256, VESNO 2223). VESNO 2220 investigated this area on JD 268 and developed it for a least depth. No indication of an obstruction was found on the fathogram and it is recommended that this item not be charted. *Concur*

ITEM #3

A five foot spike in 52 feet of water was noted on the fathogram at $28^{\circ}48.6'N$ and $94^{\circ}35.0'W$ (Pos: 6717+2, JD 266, VESNO 2220). VESNO 2220 investigated this area

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on JD 268 and developed it for a least depth. No indication of an obstruction was found and it is recommended that this item not be charted. *Concur*

ITEM #4

An axis line was run over a submarine ridge consisting of a vertical rise from 60 to 54 feet. It was situated between 28°49.0'N; 94°36.2'W and 28°52.8'N; 94°34.2'W, and ran approximately perpendicular to the main scheme lines. No evidence of further shoaling was detected and no further development was attempted.

The lane jump that occurred near position 7478 (JD 269) was not detected in time to apply on-line correctors. Consequently, the last portion of the work done on ITEM 3 and all of ITEM 4 were affected. In ITEM 3, only the last 3 lines were affected by the lane jump. Since the majority of this development's lines were run parallel to the main scheme lines and were unaffected, coverage of the spike's calculated position was adequate. In ITEM 4, the jump did not shift the sounding line into deeper or shallower water, but only slightly northeast along the line's axis. Soundings along the line were considered adequate in representing this feature.

Two of the three spikes noted on the fathograms were from VESNO 2223 records. These spikes merged solidly with the bottom in only one instance, which happened to be the smallest of the spikes (5 feet in 42 feet of water). The spikes were developed with 20 meter line spacing and a star pattern but no further indication of obstruction was noted. The same problem occurred in VESNO 2223 on the previous two surveys where later developments failed to detect signs of an obstruction. It was concluded that they were the result of electronic noise or fish and should be disregarded.

M. ADEQUACY OF THE SURVEY

This survey is considered completed and adequate to supersede prior surveys for charting, but not including wire-drag survey.

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	1571.3
Linear nautical miles of crosslines	190.6
Linear nautical miles of development	35.0

Total linear miles of hydrography	1796.9
Total miscellaneous miles	789.5
Total miles run	2586.4
Square miles of hydrography	140.3
Total number of positions	2915
Nansen casts	1
Bottom samples	30

P. MISCELLANEOUS

Numerous punch problems in both the launches and ship resulted in the large number of edited master tapes.

Data obtained from the fathometer developments, ITEMS 1-3, are plotted on a separate larger-scale field sheet. None of this work was plotted on the smooth 1:40,000 field sheets. ITEM #4 was plotted on the smooth crossline sheet with a 0° rotation in relation to the crosslines. The fathometer records for ITEMS 1-3 were not adjusted for wave action or missed soundings. ITEM #4 was adjusted, but predicted tides were not used for smooth plotting purposes.

As previously discussed, the ship's work (VESNO 2220) was not plotted using day to day averages of the partials. For smooth plotting purposes, the partials were not changed from the initial calibration because the final calibration showed a change in the partials that would not be discernable at the scale of the sheet.

The poor junction between launch hydro and ship work based on predicted tides needs to be evaluated carefully after all smooth tides are applied.

this was resolved during smooth tides processing of the AMC

The stormy weather with possible abnormal tides may resolve the disparity. The actual position of the transducer to the draft marks will be verified in dry dock this year in order to determine if that is a source of error.

Q. RECOMMENDATIONS

None.

R. AUTOMATED DATA PROCESSING

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

RK 110	Hyperbolic Real Time Plot	1/30/76
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
PM	360	Electronic Corrector Tape Abstract	2/02/76
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.

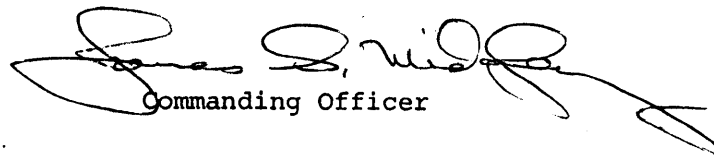
Respectfully submitted,



Ronald W. Jones
LCDR/NOAA

APPROVAL SHEET

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

APPENDIX F

STATION NAMES TAPE LISTING

MI-40-1-79
OPR-K104-MI-79

100	CAPTAIN (SLAVE 1)	FIELD PARTY G18
200	H-66-TX (MASTER)	AMC OPS FIELD COMP
236	SW WELLHEAD	MM/TRAV 790628
237	CTR WELLHEAD	MM/TRAV 790628
238	NE WELLHEAD	MM/TRAV 790628
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
300	H-27-TX-78 (SLAVE 2)	AMC OPS FIELD COMP

SIGNAL TAPE LISTING

MI-40-1-79
OPR-K104-MI-79

100	4	28	56	05032	095	17	58364	250	0000	171859
200	4	29	19	48169	094	54	07649	250	0000	171859
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
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
300	4	29	35	12670	094	17	18380	250	0000	171859

243



VELOCITY TABLE LISTING

MI-40-1-79
OPR-K104-MI-79
VESNO 2220

CAST #6
TABLE #2

000160	0	0000	0002	000	222000	040179
000195	0	0002				
000230	0	0004				
000266	0	0006				
000301	0	0008				
000337	0	0010				
000372	0	0012				
000407	0	0014				
000443	0	0016				
000478	0	0018				
000514	0	0020				
000549	0	0022				
000584	0	0024				
000620	0	0026				
000655	0	0028				
000691	0	0030				
000726	0	0032				
000761	0	0034				
000797	0	0036				
000832	0	0038				
000868	0	0040				
000903	0	0042				
000938	0	0044				
000974	0	0046				
001009	0	0048				
001044	0	0050				
999999	0	1000				

VESNO 2220

SOUNDING CORRECTION ABSTRACT

REGISTRY NO. H-9851
FIELD NO. MI-40-1-79

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/FM		
240	162700	231300	II	0.5	0.0	0.0	0.0	0.5	Bottom samples	
241	141900	192100					0.0	0.5	Bottom samples	
264	173000	235930					0.5	1.0	186 gm / FULL	
265	000000	104000					0.5	1.0	186 gm / FULL	
265	104100	104300					0.1	0.6	130 gm / 6' pipe	
265	104415	104800					0.0	0.5	130 gm / 2' pipe	
265	105900	235930					0.5	1.0	186 gm / FULL	
266	000000	033145					0.5	1.0	186 gm / FULL	
266	033225	032835					0.4	0.9	160 gm / FULL	
266	035100	235631					0.5	1.0	186 gm / FULL	
267	000230	091801					0.5	1.0	186 gm / FULL	
267	091936	092201					0.2	0.7	150 gm / 6' pipe	
267	092301	181315					0.5	1.0	186 gm / FULL	
267	181347	235932					0.4	0.9	160 gm / FULL	
268	000005	104542					0.4	0.9	160 gm / FULL	

VESNO 2225

SOUNDING CORRECTION ABSTRACT

REGISTRY NO. H-9851
FIELD NO. MI-40-1-79

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/EM		
239	175355	204536	I	0.0	0.0	0.0	-0.16	-0.16	2300 RPM	
240	144508	185330					-0.16	-0.16	2300 RPM	
241	142113	201914					-0.25	-0.25	2400 RPM	
242	143111	162135					-0.16	-0.16	2300 RPM	
247	163350	194133					-0.25	-0.25	2400 RPM	
248	140524	204249					-0.25	-0.25	2400 RPM	
249	142740	162042					-0.25	-0.25	2400 RPM	
249	162110	162646					-0.16	-0.16	2300 RPM	
249	162714	163222					-0.07	-0.07	2200 RPM	
249	163240	164344					+0.01	+0.01	2100 RPM	
249	164419	171219					+0.09	+0.09	2000 RPM	
249	171254	195620					-0.07	-0.07	2200 RPM	
249	201356	204416					-0.25	-0.25	2400 RPM	
253	165002	190914					+0.09	+0.09	2000 RPM	
253	190946	194707	Y	Y	Y		-0.07	-0.07	2200 RPM	

FIELD TIDE NOTE

Field tide reduction of soundings were based on predicted tides from GALVESTON , TEXAS, 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, their 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.

FIELD TIDE NOTE

TIDE GAGE REPORT

NOS TIDE TABLE NUMBER: 3290 TIME MERIDIAN 90° W

GEOGRAPHIC LOCALE: Galveston, Tx. - Pleasure Pier

NAME: Galveston, Tx. - Pleasure Pier STATION NUMBER: 877-1510

LATITUDE: 29° 17.2 N, LONGITUDE: 94° 47.4 W

TYPE OF GAGE: ADR, BUBBLER, OTHER ()

PLANE OF REFERENCE: MLW, MLLW, GCLWD, OTHER, CORRESPONDS

TO 50 FEET ON THE TIDE STAFF FOR THE PERIOD J.D. 238 - J.D. 269

DATED INSTALLED: 7/5/77 BY: TP 753

DATE REMOVED: N/A BY: N/A

DATE LEVELED: 3/8/78 BY: TP 753

REMARKS: An additional gage (bubbler) was installed in tide house 8-78 by MH. Mitchell personnel.

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

December 14, 1979

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 877-1510 Galveston Pleasure Pier, Tx.

Period: August 26-September 26, 1979

HYDROGRAPHIC SHEET: H-9851

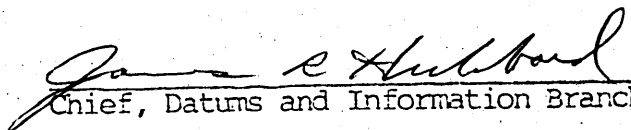
OPR: K104

Locality: Offshore, south of Galveston, Texas

Plane of reference (~~mean-lower-low-water~~): (Gulf Coast Low Water Datum): 2.86 ft.

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

REMARKS: Zone direct.


Chief, Datums and Information Branch

APPROVAL SHEET
FOR
SURVEY H- 9851

- 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: 3/24/80

Signed:



Title:

Chief, Verification Branch

GEOGRAPHIC NAMES

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST			
GULF OF MEXICO											1
											2
											3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25

Approved:

Charles E. Hammond
Chief Geographer - (3x5)

30 JUNE 1980

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		540	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		3	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						1-misc.
CAHIERS	2-with raw printouts					
VOLUMES	3					
BOXES			2-Smooth & 2 bundles of Sawtooth rec.			

T-SHEET PRINTS (L10)

SPECIAL REPORTS (L10) 1- Cht. mark-up, 1- reduced Sndg. plot (80,000)

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			2945
POSITIONS CHECKED	67	20	
POSITIONS REVISED		2	
SOUNDINGS REVISED		69	
SOUNDINGS ERRONEOUSLY SPACED		-	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		-	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2		
VERIFICATION OF CONTROL		4	
VERIFICATION OF POSITIONS		16	
VERIFICATION OF SOUNDINGS	6	68	
COMPILATION OF SMOOTH SHEET		20	
APPLICATION OF TOPOGRAPHY		-	
APPLICATION OF PHOTOBATHYMETRY		-	
JUNCTIONS		5	
COMPARISON WITH PRIOR SURVEYS & CHARTS		5	
VERIFIER'S REPORT		5	
OTHER			
TOTALS	8	123	131

Pre-Verification by F. L. Saunders	Beginning Date 11-23-79	Ending Date 11-23-79
Verification by J. S. Bradford	Beginning Date 11-26-79	Ending Date 3-06-80
Verification Check by R. G. Robertson	Time (Hours) 4	Date 3-20-80
Marine Center Inspection by Atlantic Marine Center #11	Time (Hours) 4	Date 3-21-80
Quality Control Inspection by G. K. Myers	Time (Hours) 9	Date 6-24-80
Requirements Evaluation by D. J. Hill	Time (Hours) 1	Date 8/13/80

J. Myers 1400 6/25/80

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-9851

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 12-6-82 TIME REQUIRED _____ INITIALS JRC

REMARKS:

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO.: H-9851

FIELD NO.: MI-40-1-79

Texas, Gulf of Mexico, Offshore Galveston

SURVEYED: August 9 through September 26, 1979

SCALE: 1:40,000

PROJECT NO.: K104

SOUNDINGS: Ross Digital
Echo Sounder

CONTROL: HYDROTRAC
(Range/Range and
Hyperbolic)

Chief of Party James S. Midgley
Surveyed by Ronald Jones
. C. Douglas Mason
. John D. Wilder
. William G. Pringle
. Andrew A. Shepard
. Paul S. Morton
. James L. Long
. Ronald K. Dutton

Automated Plot by Xynetics 1201 Plotter (AMC)

Verified and Inked by Scott Bradford
March 5, 1980

1. Introduction

- a. No unusual problems were encountered during verification.
- b. The red changes in the Descriptive Report were made by the verifier. The projection parameters have been revised and inserted in the Descriptive Report.

2. Control and Shoreline

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

3. Hydrography

- a. Depths at crossings are in good agreement.
- b. The standard depth curves were adequately delineated with the addition of several brown-curves added to delineate certain features.

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

4. Condition of Survey

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

5. Junctions

An adequate junction was effected with H-9784 (1978) to the east, except in the area of Latitude $28^{\circ}54'0''$, Longitude $94^{\circ}31'0''$. *This adjustment should be made in Rockville to H-9784 (1978).

* *Adjustment made in quality control; adequate junction with H-9784 completed.*

The junction with H-9838 (1979) to the north is discussed with that survey.

No other contemporary surveys join H-9851; however, charted depths are in substantial agreement with survey depths to the west and south.

6. Comparison with Prior Surveys

- a. H-6252 (1937) 1:40,000
H-6291 (1937) 1:80,000

These surveys, taken together, cover the common area of the present survey. A comparison of the present survey with the prior surveys reveals a similar bottom configuration with the prior surveys being 1-3 feet shoaler.

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

- b. H-9298WD (1971)
F.E. No. 1, 1965 WD

There were no conflicts with the effective depths of these surveys and the present survey.

7. Comparison with Charts 11300 (21st Edition, May 6, 1978)
 11323 (41st Edition, December 2, 1978)

- a. Hydrography

All of the charted hydrography originates with previously discussed prior surveys.

PSI Item 88, Notice to Mariner #35 (1966) "subm wreck PA" located at Latitude $28^{\circ}55.5'$, Longitude $94^{\circ}39.0''$ was not investigated by the hydrographer. No mention of the status of this wreck was found in the hydrographic records. It is recommended that this feature remain as charted until verified or disproved by wire drag. *Concur*

With the exception of the above feature the present survey is adequate to supersede the charted hydrography within the common area.

b. Aids to Navigation

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

8. Compliance with Instructions

This survey complies with the Project Instructions dated February 22, 1979, Change Number 1 dated March 2, 1979, Change Number 2 dated March 29, 1979, Change Number 3 dated June 18, 1979 with the following exception:

Project Instructions, dated February 22, 1979, Section 4.11 state that "chart to be used during this survey shall be 11323-41st Edition." The field used the 39th Edition.

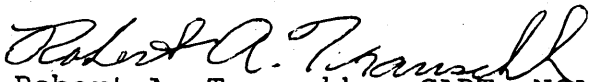
9. Additional Field Work

This is an excellent basic survey with no additional field work required.

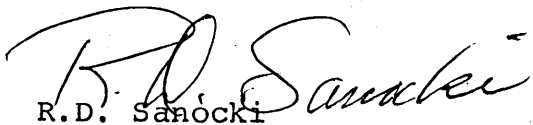
Inspection Report
H-9851

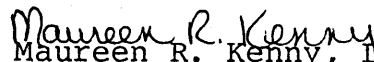
Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. Inspection comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.

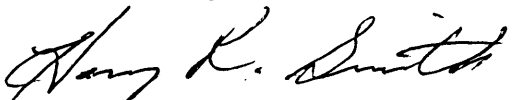
Examined and Approved:
Hydrographic Inspection Team
Date: 21 March 1980


Robert A. Trauschke, CAPT, NOAA
Chief, Processing Division


ABSENT
David W. Yeager, Lt. Cdr., NOAA
Field Procedures Officer
Operations Division


R.D. Sanocki
Technical Assistant
Processing Division


Maureen R. Kenny, LT, NOAA
Chief, Electronic Data
Processing Branch


Harry R. Smith
Team Leader
Verification Branch

Approved/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

June 23, 1980

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

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

SUBJECT: Quality Control Report for H-9851 (1979), Texas, Gulf of Mexico,
Offshore Galveston

A quality control inspection of H-9851 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, junctions, sounding line crossings, smooth plotting, decisions and actions by the verifier, and cartographic presentation of data.

An adequate junction was made with H-9784 (1978) on the east during quality control in accordance with the Verifier's Report.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as discussed in the Verifier's Report and as follows.

Calibration points identified by Station Numbers 271, 272, and 273 on the present survey were added to the smooth sheet during quality control. Locations of these signals mark oil platforms in the vicinity of latitude 28°53.0'N, longitude 94°41.0'W.

cc:
OA/C35
OA/C351





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

AUG 25 1980

OA/C351:DC

TO: OA/CAM - Richard H. Houlder

FROM: F/ OA/CS  Roger F. Lanier

SUBJECT: H-9851 (1979), OPR-K104, Texas, Gulf of Mexico, Offshore Galveston,
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 June 23, 1980 (copy attached), and the Verifier's Report is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-K104-MI-79, dated February 22, 1979.

Attachment

cc:
OA/C352 w/o att.



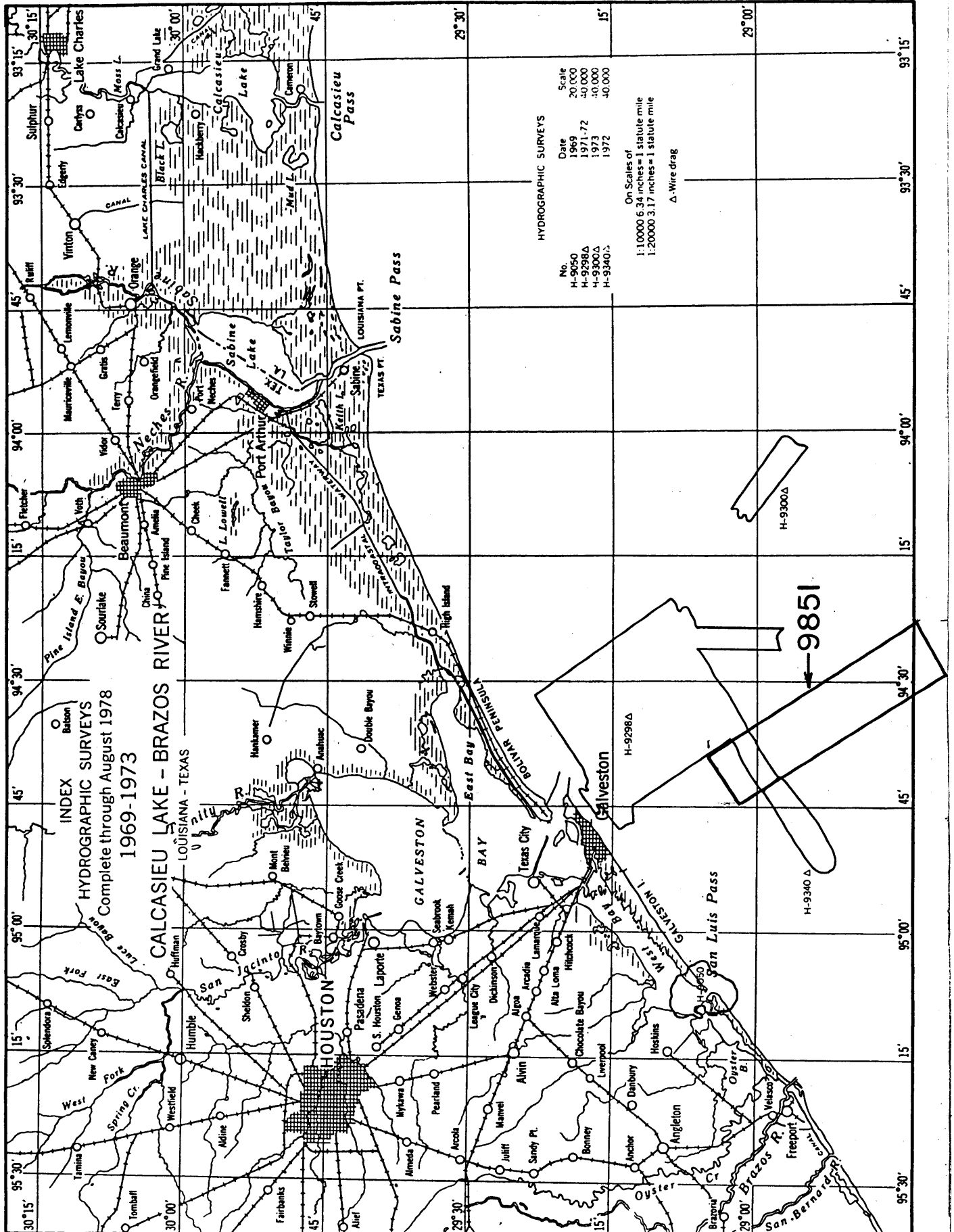
10TH ANNIVERSARY 1970-1980

National Oceanic and Atmospheric Administration

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tradition of service to the Nation

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

Hydrographic Index No. 89 G



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9851

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 Revi

CHART	DATE	CARTOGRAPHER	REMARKS
11323	10-28-80	Weston Revised by <i>D</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. <u>61</u>
11340	12-1-80	O. Williams Part 9	Full Part Before After Verification Review Inspection Signed Via Drawing No. <u>60</u>
11300	1-13-81	G. W. News <i>D</i>	Full Part Before After Verification Review Inspection Signed Via Drawing No. <u>38</u>
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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