9774

Diag. Cht. No. 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-20-3-78

Office No. ... H-9774

LOCALITY

State ... Texas

General Locality ... Gulf of Mexico

Locality ... Offshore Galveston

1978

CHIEF OF PARTY
J.S. Midgley

LIBRARY & ARCHIVES

DATE ... March 14, 1980

☆ U.S. GOV. PRINTING OFFICE: 1978—666-172

9774

11323
11332

CM 7702
TP 00230

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-9774

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-20-3-78

State TEXAS

General locality ~~WESTERN~~ GULF OF MEXICO

Locality ~~East of Galveston, Texas~~ OFFSHORE GALVESTON

Scale 1:20,000 Date of survey 17 June - 8 August 1978

Instructions dated 9 December, 1977 Project No. OPR-K104-MI-78

Vessel NOAA SHIP MT. MITCHELL (2220), Launches MI-5 (2225) and MI-6 (2226)

Chief of party Captain James S. Midgley, NOAA

Surveyed by See Remarks

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

Graphic record scaled by L.C., F.S., P.S., E.M., M.H., J.W.

Graphic record checked by

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

Verification by R. Roberson

Soundings in fathoms feet at ~~MEAN~~ ~~LOW~~ GCLWD

REMARKS: Lt.Cdr. Gerald Mills, Lt.Cdr. Lowell Goodman, Lt.(jg) Michael Henderson, Lt.(jg) Paul Daugherty, Lt.(jg) Timothy Rulon, Ens. William Pringle, Ens. Terri Bainbridge

All notes in red by the verifier.

Years in parenthesis for field examinations annotated in this report depict the year of actual field work.

GKH (gmw)
8/11/80

Letters along margin of pages 12-16 are cross-referenced with features annotated in legend of sheet for all structure designations.

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

☆ U.S. G.P.O. 1972-769-565/519 REG.#6

DESCRIPTIVE REPORT

TO

ACCOMPANY

HYDROGRAPHIC SURVEY H-9774

MI-20-3-78

1:20,000 SCALE

GALVESTON, TEXAS

JULIAN DAY 168 TO JULIAN DAY 220

NOAA SHIP MT. MITCHELL S-222

JAMES L. MIDGLEY

CAPTAIN, NOAA

COMMANDING OFFICER

A. PROJECT

This survey was carried out in accordance with project instructions OPR-K104-MI-78 issued 9 December, 1977 and amended by changes 1 through 5 dated 24 February, 1978, 3 April, 1978, 6 April, 1978, 15 June, 1978.

B. AREA SURVEYED

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

1) 29°17.3'N 94°23.3'W
2) 29°12.2'N 94°32.6'W
3) 29°15.8'N 94°42.6'W
4) 29°12.2'N 94°32.6'W

This survey was conducted between 17 June, 1978 (Julian Day 168 and 8 August , 1978 (Julian Day 220).

C. SOUNDING VESSEL

Soundings for the survey were obtained by the NOAA Ship MT. MITCHELL S-222 (vessel number 2220) and the following launches:

Launch 1002 (VESNO 2225)
Launch 1004 (VESNO 2226)

Launch 1207 (VESNO 2223) was used only for presurvey review item investigation and chain drag operations. No soundings from this vessel were processed. Launch 1204 (VESNO 2224) was also used for the above tasks in addition to collecting bottom samples, and no depths were processed. Pole soundings were taken on Julian Day 192 and 193 with VESNO 2223.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

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

Equipment	Serial Number
(VESNO 2225)	
Ross Model 5000 Fineline Depth Recorder	1053
Ross Model 4000 Transceiver	1053
Ross Digitizer	1039-2
(VESNO 2226)	
Ross Model 200 C Fineline Depth Recorder	1039 change to
Ross Model 5000 Fineline Depth Recorder	1089 JD 163
Ross Model 400 Transceiver	1039-1
Ross Digitizer	
(VESNO 2220)	
Ross Model 5000 Fineline Depth Recorder	1050
Ross Model 4000 Transceiver	1050
Ross Digitizer	1050

Soundings for the MT. MITCHELL were taken with a skeg mounted transducer (antenna distance +32.0 m). The antenna distance for all launches was zero. 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 fathogram. Any departures of the trace from the calibration due to phase differences were corrected during the scanning process.

Velocity corrections were obtained from 2 Nansen casts at the following locations and dates:

CAST NUMBER	LATITUDE	LONGITUDE	DATE
3	29°16.2'N	94°24.0'W	22 June 1978 (JD 173)
4	29°18.0'N	94°22.0'W	20 July 1978 (JD 201)

Good bar checks were very difficult to obtain with the Ross fathometer even under ideal conditions. Nevertheless, 17 bar checks were taken showing agreement with the nansen cast velocities of less than .1 feet. Because of these poor barchecks and the greater accuracy of the nansen casts, all velocity correctors were derived from the above ~~three~~ two casts. An explanation of how sound velocities were derived along with all tables and printouts of velocity tapes is included in Appendix 4.

A draft of 14.0 feet was applied to all soundings collected by the MT. MITCHELL during the on-line process. To determine actual drafts for this survey, a straight line plot was constructed using the after draft from the beginning and ending dates of each trip. A draft correction was determined every 0.1 feet. The draft varied from .4 feet to .5 feet for this survey. Settlement and squat correctors for the ship were determined on 12 June 1978 ((JD 163) at Galveston (Inner Bar Channel), Texas. A draft of 1.6 feet was applied to all soundings taken by the launches during the on-line process. Changes in draft for all launches was insignificant. Settlement and squat correctors for the launches 5 and 6 were determined on 15 May 1978 (JD 135) at Galveston Coast Guard Base Pier. A copy of the field data and settlement and squat correctors versus ship speed and launch RPM's is included in the survey support data. The change in the ship's draft along with settlement and squat correctors for all survey vessels is incorportated into the TC/TI tape which is included in the survey data. A printout of this tape is included in Appendix 4.

A vertical cast was conducted on 16 May 1978 (JD 136) at 29°31.3'N and 94°17.9'W to determine fathometer instrument error for the ship. The results are included in this report. The error was -0.08 feet and was considered to be zero due to the accuracy of the cast. Bar checks agreed with Hansen cast derived velocities within 0.1 feet. This residual is believed to be due to the poor quality of bar checks with the narrow beam Ross fathometer. This instrument errors for both Ross fathometer was therefore considered to be zero for this survey.

This survey was conducted using predicted tides based on daily predictions at Galveston, Texas, from the Tide Tables, 1978. Prezoned tide correctors were supplied by the Rockville Tides Branch in a letter dated 6 April 1978 (change #3). Tide correctors were applied to on-line data as follows: One hour and zero minutes were subtracted from the high water times, and 50 minutes were subtracted from low water times; the high and low water heights were multiplied by a factor of 1.50.

It should be noted that predicted tides did not correspond well with real tides. On JD 140 near predicted high tide (+1.0 at 1100 CDT) the water level was observed to be near low water by a shore party and verified by local residents to be very low. This discrepancy is possibly due to the local effects of the wind on the water level. A copy of the request for the actual tides in the survey area is included in Appendix 2.

E. HYDROGRAPHIC SHEETS

This survey was plotted on 4 mylar complot roll plotter sheets by the MT. MITCHELL Hydroplot System with a skew of 122, 21, 60. In addition a 1:2500 scale sheet was drawn up to delineate work on PSR item numbers 121 and 154. 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. They are not corrected for smooth tides, settlement and squat, and instrument error. 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
Electronic Corrector Tapes
Velocity Correction Tape
Parameter Tapes
ASC II Signal Tapes

F. CONTROL STATIONS

Hydrotrac electronic control stations used for this survey were:

Signal Number and Signal Name		Latitude	Longitude
STATION 200	H-1-TX-77	29°14'33.046"N	94°52'08.369"W
STATION 300	H-27-TX-78	29°35'12.670"N	94°17'18.380"W

Del Norte control stations used for this survey were:

Number	Signal Name	Latitude	Longitude
247	H-3A-TX-78	29°26'21.046"N	094°39'23.502"W
248	H-4A-TX-78	29°26'48.174"N	094°38'32.057"W
255	H-1-TX-78	29°25'21.807"N	094°41'04.677"W
261	H-5-TX-78	29°27'16.439"N	094°37'33.952"W
262	TS-HUNGER	29°27'29.397"N	094°37'07.150"W
263	H-6-TX-78	29°27'41.486"N	094°36'40.051"W
264	H-7-TX-78	29°28'03.603"N	094°35'48.862"W
265	H-8-TX-78	29°28'28.039"N	094°34'52.883"W
266	H-9-TX-78	29°28'52.370"N	094°33'51.860"W
269	H-10-TX-78	29°29'14.185"N	094°32'56.506"W

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 ship hydrography (vessel number 2220) on this survey, from 14 July (JD 195) to 8 August (JD 220). The equipment serial numbers used are as follows:

Vessel or Shore Station	Equipment	Serial Number
VESNO 2220	Master Drive Unit Model 702	121
	Linear Amplifier 74-87	538
	Receiver Model 700	327
	Coupler	135
	Sawtooth Recorder Model 8085	8502
	Interface	102
STATION 200	Slave Drive Unit Model 701	214
	Linear Amplifier	537
	Coupler	133
	Sola Power Supply	753
STATION 300	Slave Drive Unit Model 701	215
	Linear Amplifier	536
	Coupler	131
	Sola Power Supply	752

Hydrotrac calibration was accomplished using three point sextant fixes and comparing observed Hydrotrac range values with computed values obtained from the Hydroplot Calibration Program RK 561. A check fix was also used on each calibration. Only those fixes with an inverse distance of less than 5.0 meters were used on these calibrations.

Visual calibration was accomplished four times off High Island, Texas during the survey. The resultant correctors were used until a new calibration was obtained (partial correctors varied by less than 0.1 lanes for both P1 and P2).

In addition, the whole lane count was checked 4 times at offshore pipestand "C-18" and wellhead "B-6" using the circling technique on page 4-28 of the Hydro Manual.

While using Hydrotrac positioning, the lane count was constantly monitored by the Survey Department, by comparing the navigation interface readout with a running count on the sawtooth recorder. No lane jumps occurred during this survey. An abstract of the calibration data is included with the records accompanying this report.

Del Norte positioning was used for vessel numbers 2226, 2224, and 2223 from 17 June 1978 (JD 168) to 14 July 1978 (JD 195). The following equipment was used in the launches.

		Serial No.	360° Antenna	Dates
LAUNCH 1207 (VESNO 2223)	DMU	395	SN 002	7/17-8/14/78
	Master	185		
	Parallel Buffer	None		
LAUNCH 1204 (VESNO 2224)	DMU	180	SN 175	7/17-8/14/78
	Master	169		
	Parallel Buffer	None		
LAUNCH 1002 (VESNO 2225)	DMU	190	SN 053	7/17-8/14/78
	Master	1068		
	Parallel Buffer	128		
LAUNCH 1004 (VESNO 2226)	DMU	162	SN 146	7/17-8/14/78
	Master	1066		
	Parallel Buffer	123		

Numerous moves were made with the various Del Norte remotes. AMC OPORDERS states that switching antennas with remotes will have no effect on the measured range and field experience has shown this to be true. The antennas used on this survey were as follows:

ANTENNA TYPE AND SERIAL NUMBER

90° (SN 0003)
90° (SN 1134)
180°(SN 126)
180°(SN 0001)
180°(SN 0002)

The following table shows the location of the various Del Norte remotes used for this survey by day:

Date	Julian Day	Series 72 S/N (218)	Series 74 S/N (220)	Series 76 S/N (1322)	Series 78 S/N (253)	Series 74 S/N (220)
17 June	(168)	269			262	275
19 June	(170)	269	279	287	262	
20 June	(171)	269	279	287	261	
10 July	(191)	269			261	
11 July	(192)	269	266	265	261	
Change @			264			
Change @				263		
12 July	(193)	255	263	263	261	
13 July	(194)	255	263	248	261	
Change @	1000				247	
14 July	(195)	255	263			

Each Del Norte Master/DMU pair was calibrated with each remote over a baseline of 5999.743 meters between stations JACINTO and TS-01. These stations are on either side of Bolivar Roads (all water path) at the following locations:

STATION	LATITUDE	LONGITUDE
TS-01	29°22'57.710"N	94°43'28.528"W
JACINTO	29°20'03.945"N	94°45'09.213"W

These baseline calibrations took place on May 1 (JD 121) May 26 (JD 146). June 26 (JD 177) and July 24 (JD 205). The results of the calibrations are in the calibration volume. Maximum drift observed from these calibrations was 6 meters except from May 1 to May 26 with DMU/Master 39[redacted] when indicated drift was as great as 12 meters. Large correctors also occurred for 395/185 and 180/169 on July 24 due to repairs that were made to the units in the field after the previous baseline calibrations.

In addition, positions were determined for various wellheads within the limits of this survey to be used to check Del Norte correctors and Hydrotrac lane count. They are listed below with their position and method of location. Not in accordance w/ requirements of section 1.3.1 of the Hydrographic Manual

DESIGNATION and NAME

B-6	Wellhead	29°21'31.776"N	94°28'14.493"W	Del Norte Rates
*B-7	Station 268	29°28'18.316"N	94°31'43.548"W	T-2 Intersection
C-18	Wellhead	29°17'20.031"N	94°33'31.914"W	Hydrotrac Rates
C-3	Wellhead	29°25'24.132"N	94°34'34.529"W	Del Norte Rates

See V.R. pg 3.

*B7 classified as Triangulation Station.

In reference to launch calibrations, rates were checked at one of the above locations by pulling alongside the Wellhead both in the morning and afternoon. Final correctors for each unit used were derived by averaging these morning and afternoon calibrations. Results of these daily calibrations showed changes in correctors of up to 10 meters from day to day and up to 10 meters from morning to afternoon.

H. SHORELINE

Sounding lines were run parallel to the shore at the inshore limit of safe navigation of the sounding vessels. A second line was run offshore of this to allow a safe turning margin for launches running mainscheme lines toward the shore.

Shoreline details were transferred to the field sheet in blue from TP-00230. ~~and TP-0231~~. A field edit was performed by Atlantic Marine Center personnel inshore of the surf zone and no changes were found. Because ship personnel did not do the field edit the shoreline was not inked in black.

I. CROSSLINES

Crosslines were run at least 45 degrees to the main scheme sounding lines. Crossline mileage amounted to about 7.3 percent of the launch regular sounding lines and 7.1 percent of the ship mainscheme lines. Crossline soundings generally agreed within 1.0 feet of the regular lines, with some discrepancies of 2 feet, due primarily to tidal variations.

J. ~~JUCTIONS~~ JUNCTIONS

This survey junctions with the following surveys:

East	MI-20-2-78	9765	1:20000	1978	MT. MITCHELL
West	ECFP-20-2-62	8752	1:20000	1962	
South	MI-40-1-78	~~1775~~ 9775	1:20000	1978	MT. MITCHELL

Soundings from this survey junctioned well in reference to MI-20-2-78 (H-9765), MI-40-1-78 (H-9775) and ECFP 20-2-62 (H-8752) with depths agreeing to within 1-2 feet. In reference to launch-launch and launch-ship junctions, there were descrepancies evident in some cases and explanations will follow. On the east sheet where Launch 2225 ran shoreline to junction with the mainscheme, there is a consistent 1-2 foot difference in the junctions. It should be noted that the majority of launch hydrography on the east sheet was acquired under marginal sea conditions with strong landward wind which could have created water pile-up. The shoreline, however was run under calm conditions. On the west sheet where shoreline and mainscheme were run under the same weather conditions, junctions were excellent.

In reference to launch-ship junctions there was a 2-3 foot difference on the east sheet and a 1-2 foot difference on the west sheet. Again, on the east sheet launch hydrography was run during strong landward winds, whereas ship work was accomplished under calm conditions. The remaining descrepancies between launch-ship junctions should be resolved when final settlement and squat and draft corrections are applied.

K. COMPARISONS WITH PRIOR SURVEYS

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

Survey Number	Date	Scale
H-5511	1933	1:20000
H-6252	1937	1:40000
H-6251	1937	1:40000

Comparison with all these prior surveys was good with most soundings agreeing within 1-2 feet.

The following are findings regarding presurvey review items for OPR-K104-MI-78. The item numbers are labeled on the 1:2500 development sheet for ease in identification.

Due to the close proximity of PSR items ∠1 121 and ∠2 154, both were investigated at the same time utilizing wire drag operations and divers for verification and identification. The operations were carried out for three days (JD 192, 193, 194), and Launch 2226 also ran a developement in the area of JD 195.

∠1 PSR 121 Source H-5511 (1933) CL 656 (1948) *F.E. No. 1, 1965 W.D.
∠2 PSR 154 Source LNM 53 (1977)

PSR 121 is a *dangerous submerged wreck awash at MLW charted at 29° 26'56.4"N and 94°37'19.2"W. PSR 154 is an obstruction awash at MLW charted at 29°26'54"N and 94°37'06"W. The following information was obtained regarding these PSR items. *Wreck determined to not exist at charted position. This feature should be expunged from the chart.

1) D.P. 4045 (VESNO 2224, JD 192) was found to be an obstruction awash at 29°26'52"N, 94°37'14"W and considered to be extremely dangerous. For a complete description and drawing of the obstruction, refer to sounding volume 4 (VESNO 2223), page 4.

2) D.P. 9021 (VESNO 2223, JD 193) was found to be a marine environment encrusted 6 foot high mound, 12 feet in diameter with a least depth of ~~8~~ 7 feet verified by sounding pole at 29°26'55"N and 94°37' 15"W.

3) D.P. 9025 (VESNO 2223, JD 193) was found to be two pieces of steel 2 feet above the bottom with a least depth of 12.3 feet verified by sounding pole at 29°26'54"N, 94°37'15"W.

[illegible] charted as submerged wreck (dangerous). Wreck carried forward from F.E. No. 1, 1965 WD.

It is recommended that D.P. 9021 and D.P. 9025 be charted as a submerged obstruction due to the closeness of the two positions. It is recommended that D.P. 4045 be charted as a dangerous obstruction awash at MLW.

A 1:2500 scale sheet with the track of the drag operations and the developement accomplished by launch 2226 is included. It should be noted that the vessel with control (VESNO 2223) was always to the right of the drag with the other vessel (VESNO 2224) on launch 2223's port side, and the conservative distance between the two vessels averaged 35 meters. (the length of chain was actually 65 meters.)

*F.E. No. 1, 1965 W.D. for reference purposes is FE-198 (1964) WD.

As the drag and development sheet shows, no indication of a wreck was found in the area covering both the 1933 and 1965 wreck positions. Based on the field work and discussions with investigating Coast Guard personnel, the hydrographer has determined that the obstructions at detached position 4045 is the same obstruction which the Coast Guard reported via the 8th Coast Guard District December 1977, Notice To Mariners, Number 53.

Addendum

After considerable investigation both ashore and at the sight, there still exists room for doubt as to whether either of the objects discovered is the 1933/1967 wreck. The divers preliminary assumption that detached position 4045 (VESNO 2224, JD 192) is platform ruins may have been premature. After detailed discussions of the divers descriptions, it is the concensus of opinion of those involved in the operations that the obstruction could also be the remains of a large steel boiler, thus supporting the wreck theory.

Given the description of the 1965 wreck investigation and the relative proximity of the three objects located, it is plausible that the 1965 position was in error and detached positions 9021 and 9025 are items previously not found. It is possible that they could be debris from the original wreck since all three objects are within 90 meters of each other. * Field work of F.E. No. 1, 1965 W.D. done in 1964.

These hypotheses are included merely as backgound information for possible use in any future investigations. For charting purposes the recommendation in the paragraph following detached position 9025 stands.

L. COMPARISON WITH THE CHART

This area is covered by the following NOAA charts:

Chart Number	Edition	Date	Scale
11332	15th	31 December 77	1:80K
11323	39th	09 April 77	1:80K

Charted depths generally agree with this survey within 1 to 2 feet.

Items investigated for comparison with these charts follow. The term platform is used for all multi-leg structures and wellhead is used for single vertical pipes.

A wellhead ("C-1") charted at 29°25'58.8"N, 94°33'51.0"W was verified by Launch 2226 (JD 168), pos. 2001) with the calculated position being at 29°25'58.560"N, 94°33'53.008"W. Being 3.0 feet in diameter and baring approximately 30 feet, the wellhead has a sign reading "MITCHELL ENERGY OFFSHORE CORPORATION." It is recommended that the wellhead be retained on the chart.

A wellhead ("C-3") charted at 29°25'23.4"N, 94°34'35.4"W was verified by Launch 2226 (JD 168, pos 2002) with the calculated position being at 29°25'24.132"N, 94°34'34.529"W. The wellhead is identical to the previously described wellhead ("C-1", pos. 2001) in size and markings. It is recommended that the wellhead be retained on the chart.

A wellhead ("C-4") charted at 29°24'43.8"N, 94°35'17.4"W was verified by Launch 2226 (JD 168, pos. 2009) with the calculated position being at 29°24'45.153"N and 94°35'17.101"W. This wellhead is also identical to "C-1", and it is recommended that it be retained on the chart.

A wellhead ("C-6") charted at 29°25'00"N, 94°35'18"W was verified by Launch 2226 (JD 168, position 2012) with the calculated position being at 29°24'57.078"N, 94°35'12.005"W. This wellhead is also identical to wellhead "C-1" (position 2001), and it is recommended that it be retained on the chart. C-6 uncharted

An uncharted wellhead ("C-2A") was located by Launch 2226 (JD 168, position 2007) with the calculated position being at 29°24'58.347"N, 94°35'19.213"W. The wellhead is identical to wellhead "C-1" (position 2001), and it is recommended that it be added to the chart. C-2A charted at L

An uncharted wellhead ("C-5") was located by Launch 2226 (JD 168, position 2010) with the calculated position being at 29°24'18.778"N, 94°34'51.716"W. Being identical to wellhead "C-1" (position 2001), it is recommended that wellhead "C-5" be added to the chart.

A platform ("C-2") charted at 29°25'05.4"N, 94°35'03.414"W was verified by Launch 2226 (JD 168 positions 2003-2006) with the center being calculated at 29°25'03.471"N, 94°35'03.414"W. This position was derived from the following D.P's and G.P's obtained on the fourcorners of the platform:

Positions	Corner	Latitude	Longitude
2003	NE	29°25'03.435"N	94°35'03.205"W
2004	NW	29°25'03.779"N	94°35'03.360"W
2005	SE	29°25'03.383"N	94°35'03.347"W
2006	SW	29°25'03.288"N	94°35'03.743"W

The platform measures 15 meters (length) x 10 meters (width) x 30 meters height, carries a sign reading "MEOC GAL ~~1765 PLT~~", and it is recommended that it be retained on the chart. -176-S-PLT

c

The following are identical 4 legged structures that measure approximately 10 meters x 10 meters x 20 meters. All detached positions were gathered by VESNO 2225 on JD 194. Listed will be the detached positions and G.P. along with any markings or identification.

PLATFORM (C-7)

Center	Latitude	Longitude	Markings (identification)
Charted At	29°25'12.0"N	94°38'27.0"W	"HOM-GA-173S-A", Horn and
Computed At	29°25'16.202"N	94°38'26.580"W	White Light

b

Position	Latitude	Longitude	Corner
703	29°25'16.014"N	94°38'26.463"W	SE
705	29°25'16.416"N	94°38'26.415"W	NE
706	29°25'16.345"N	94°38'26.824"W	NW
707	29°25'16.032"N	94°38'26.619"W	SW

PLATFORM (C-9)

Center	Latitude	Longitude	Markings (identification)
Charted At	29°24'42"N	94°38'20.4"W	"HOM-GA-173S No. 2", Horn
Computed At	29°24'43.976"N	94°38'21.032"W	and Light

f

Position	Latitude	Longitude	Corner
713	29°24'44.146"N	94°38'20.896"W	NE
714	29°24'44.114"N	94°38'21.187"W	NW
716	29°24'43.835"N	94°38'21.147"W	SW
717	29°24'43.809"N	94°38'20.897"W	SE

Geographic positions carried out to .001" of latitude and longitude for detached positions on pages 12-16 imply an accuracy that was not obtained and should be disregarded.

PLATFORM (C-10)

Center	Latitude	Longitude	Identification
Charted At	29°24'07.8"N	94°38'01.8"W	"HOM-GA-182 5 No 1"
Computed At	29°24'09.324"N	94°38'~~11~~02.195"W	Horn and Light

(LEGS)

Position	Latitude	Longitude	Corner
718	29°24'09.473"N	94°38'02.211"W	NW
719	29°24'09.300"N	94°38'02.419"W	SW
721	29°24'09.130"N	94°38'02.077"W	SE
722	92°24'09.391"N	94°38'02.071"W	NE

PLATFORM (C-13)

Center	Latitude	Longitude	Identification
Charted At	29°24'03.0"N	94°37'46.8"W	No Markings
Computed At	29°24'03.515"N	94°37'46.563"W	

(LEGS)

Position	Latitude	Longitude	Corner
713	29°24'03.605"N	94°37'46.414"W	NE
732	29°24'03.377"N	94°37'46.412"W	SE
733	29°24'03.423"N	94°37'46.680"W	SW
734	29°24'03.654"N	94°37'46.747"W	NW

PLATFORM (C-14)

Center	Latitude	Longitude	Identification
Charted At	29°23'39.0"N	94°37'57.0"W	"HOM-GA-101L-1"
Computed At	29°23'38.962"N	94°37'55.781"W	Horn and Light

(LEGS)

Position	Latitude	Longitude	Corner
735	29°23'39.108"N	94°37'55.560"W	NE
736	29°23'38.915"N	94°37'55.592"W	SE
737	29°23'38.816"N	94°37'56.003"W	SW
738	29°23'39.010"N	94°37'55.970"W	NW

PLATFORM (C-15)

Center	Latitude	Longitude	Identification
Charted At	29°23'35.6"N	94°37'12.0"W	"HOM-GA-101-No. 4"
Computed At	~~92~~ 29°23'35.962"W	94°37'12.690"W	Horn and Light

(LEGS)

Position	Latitude	Longitude	Corner
739	29°23'35.833"N	94°37'12.561"W	SE
740	29°23'35.880"N	94°37'12.809"W	SW
741	29°23'36.034"N	94°37'12.491"W	NE
742	29°23'36.101"N	94°37'12.900"W	NW

PLATFORM (C-16)

Center	Latitude	Longitude	Identification
Charted At	29°24'37.2"N	94°37'14.4"W	"HOM-GA-174S-A"
Computed At	29°24'41.373"N	94°37'12.830"W	Horn and Light

Position	Latitude	Longitude	Corner
743	29°24'41.504"N	94°37'12.675"W	NE
744	29°24'41.283"N	94°37'12.600"W	SE
745	29°24'41.458"N	94°37'13.114"W	NW
746	28"24'41.249"N	94°37'12.929"W	SW

PLATFORM (C-17)

Center	Latitude	Longitude	Identification
Charted At	(Not on Chart)	(Not on Chart)	"HOM-GA-174S-B"
Computed At	29°24'45.712"N	94°37'36.192"W	Horn and Light

Position	Latitude	Longitude	Corner
748	29°24'45.888"N	94°37'35.975"W	NE
750	29°24'45.596"N	94°37'35.996"W	SE
751	29°24'45.502"N	94°37'36.368"W	SW
752	29°24'45.860"N	94°37'36.429"W	NW

PLATFORM (C-8)

Center	Latitude	Longitude	Identification
Charted At	29°25'15"N ~~(Not on Chart)~~	94°38'29"W ~~(Not on Chart)~~	(No Markings)
Computed At	29°25'15.439"N	94°38'29.266"W	Horn and Light

Position	Latitude	Longitude	Corner
708	29°25'15.308"N	94°38'29.092"W	SE
709	29°25'15.335"N	94°38'29.367"W	NE
711	29°25'15.544"N	94°38'29.164"W	SE
712	29°25'15.570"N	94°38'29.439"W	NW

a

charted platform symbol overlaps platform symbol designated for structure C-7, See page 12

The following platform is larger (12 meters x 80 meters x 40 meters) than those previously described, appearing to be a processing platform.

PLATFORM (C-11)
(LEGS)

Center	Latitude	Longitude	Identification
Charted At	29°24'~~28.8~~30"N	94°37'51.0"W	"HOM-GA-182-B-A"
Computed At	29°24'31.030"N	94°37'51.777"W	Horn and Light

h

Position	Latitude	Longitude	Corner
723	29°24'29.738"N	94°37'51.233"W	SE
724	29°24'29.745"N	94°37'51.728"W	SW
727	29°24'32.364"N	94°37'51.846"W	NE
728	29°24'32.272"N	94°37'52.301"W	NW

The following single wellhead appears to be a gas blow off well for (C-7)-(C-17) due to the flame observed periodically.

Wellhead (C-12)

	Latitude	Longitude	Identification
Charted At	(Not on Chart)	(Not on Chart)	None
Computed At	29°24'20.706"N	94°37'33.630"W	No Horn, No Light

k

It is recommended that all platforms and wellheads located by VESNO 2226~~5~~ on JD 194 be charted in their computed position. Position 729 ~~their~~

The following objects were located by the MT. MITCHELL (VESNO 2220) using a circling technique as prescribed by Section 4.4.3.3 of the NOS HYDROGRAPHIC MANUAL (Fourth Edition).

WELLHEAD (C-18)

	Latitude	Longitude
Charted At	(Not on Chart)	(Not on Chart)
Computed At	29°17'20.031"N	94°33'31.914"W

Identification - 3 pipes - each 3 feet in diameter, approximately 40 feet above water surface, quick flashing light, horn, and sign "ROC-GA-104-L" Position 6335

W

WELLHEAD (C-19)

	Latitude	Longitude
Charted At	29°19'36.0"N	94°32'23.4"W
Computed At	29°19'37.532"N	94°32'24.364"W

V

Identification - 6 legs - each 8 inches in diameter, sign "FLUOR DRILLING" Position ~~6339~~ 6340

PLATFORM (C-20)

	Latitude	Longitude
Charted At	(Not on Chart)	(Not on Chart)
Computed At	29°16'~~32.974~~ 38.2"N	94°31'~~22.446~~ 28.62"W

Identification - 4 legs - each 1.5 feet in diameter, all around 5 pipes - also 1.5 feet in diameter, approximately 40 feet high, sigh "OXY-GAL-144-LA" Position 6361

X

It is recommended that all of these objects located by VESNO 2220 be charted in their computed position.

M. ADEQUACY OF THE SURVEY

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

N. AIDS TO NAVIGATION

There are no fixed or floating aids to navigation within the survey area.

O. STATISTICS

	Ship	Launch	Total
Linear nautical miles of hydrography	473	515.5	988.5
Linear nautical miles of crosslines	33.5	38.0	71.5
Linear nautical miles of development		11.0	11.0
Total linear miles of hydrography	506.5	564.5	1071.0
Total miscellaneous miles	233.0	215.0	488.0
Total miles run	739.5	779.5	1519.0
Square miles of hydrography	51.6	44.4	96.0
Total number of positions	1404	2007	3411
Nansen cast	2	0	2
Bottom samples	25	57	82

P. MISCELLANEOUS

Due to the scanning requirement allowing a ± .5 foot between the digital and analog record and the extremely gradual slope of the bottom in the area, depth contours were irregular with individual soundings sometimes appearing to be out of place in reference to contour. Scanning was done in accordance to the 4th Edition of the Hydrographic Manual.

Hydrography in the west sheet area was accomplished with the presence of many large anchored ships. These ships were the cause of the irregular line spacing, but splits were run where necessary.

Numerous punch problems caused the need for editing many master tapes. A malfunctioning gyro repeater also contributed to the volume of master tapes edited.

The depths acquired with the bottom samples obtained by Launch 2224 are to be ignored. The reason being that no bar checks were taken by Launch 2224 during the time of the survey, therefore the instrument error for the Raytheon DE 723 fathometer could not be resolved. The depths were accidentally plotted on the ~~smooth~~ final field sheet, but they were deleted later on the corrector tape.

Tapes resulting from the investigation of PSR 121 and 154 were boxed together, because the work was plotted on the same larger scale sheet. None of this work was plotted on the smooth 1:20,000 scale boat sheets.

On J.D. 168, vesno 2224 experienced large correctors (-88 R1, -98 R2) which were due to an unmatched master and DMU pair. This particular DMU was unadjustable, and it was not possible to "tweek" the unit in with the master unit.

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 Computions	2/05/76
RK 330 Data Reformat and Check	5/04/76
PM 360 Electronic Corrector Tape Abstract	2/02/76
RK 530 Velocity Corrections Computations	5/10/76
RK 561 H/R Geodetic Calibration	5/19/75
RK 602 Extended Line Oriented Editor	5/20/75

S. REFERENCE TO REPORTS

Horizontal Control Report

APPROVAL SHEET

MI-20-3-78

H-9774

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

James S. Midgley

Captain, NOAA

Commanding Officer

DETERMINATION OF VELOCITY CORRECTIONS

Two Nansen Casts were used to compute velocity corrections for work on MI-20-3-78. Nansen Cast number 3 taken on Julian Day 173, is to be used for all launch hydrography. It is this third cast that yields the data for velocity table number 1. The fourth Nansen Cast, taken on Julian Day 201, yields velocity table number 2. This last cast is to be used for all ship hydrography.

CAST	LATITUDE	LONGITUDE	DATE
#3	29°16.2'N	94°24.0'W	JD 173 June-22
#4	29°18.0'N	94°22.0'W	JD 201 July-20

Salinities for these corrections were obtained by use of a Beckman Salinometer. There were no XBT's taken due to the shallow water.

SIGNAL TAPE LISTING

MI-20-3-78

OFR-K104-MI-78

H-9774

001												
002												
003												
004												
005												
006												
007												
008												
009												
010												
011	100	4	28	56	05032	095	17	58364	250	0000	171859	
012	200	4	29	14	33046	094	52	08369	250	0000	000000	
013	247	4	29	26	21046	094	39	23582	~~139~~	0000	000000	- 250
014	248	4	29	26	48174	094	38	32057	~~139~~	0000	000000	- 250
015	250	4	29	23	48360	094	44	13479	139	0000	000000	
016	251	4	29	22	57710	094	43	28528	139	0000	000000	
017	252	4	29	24	34615	094	42	08887	139	0000	000000	
018	255	4	29	25	21807	094	41	04677	139	0000	000000	
019	256	4	29	25	51794	094	40	17828	139	0000	000000	
020	257	4	29	26	19696	094	39	26559	139	0000	000000	
021	258	4	29	26	47867	094	38	33110	139	0000	000000	
022	259	4	29	24	32217	094	37	51884	~~139~~	0000	000000	~~250~~
023	260	4	29	27	27086	094	38	10814	139	0000	000000	
024	261	4	29	27	16439	094	37	33952	~~139~~	0000	000000	250
025	262	4	29	27	29397	094	37	07150	~~139~~	0000	000000	250
026	263	4	29	27	41486	094	36	40051	~~139~~	0000	000000	250
027	264	4	29	28	03603	094	35	48862	~~139~~	0000	000000	250
028	265	4	29	28	28039	094	34	52883	~~139~~	0000	000000	250
029	266	4	29	28	52370	094	33	51860	~~139~~	0000	000000	250
030	267	4	29	28	37181	094	33	09652	139	0000	000000	
031	268	4	29	28	13316	094	31	43548	139	0000	000000	
032	269	4	29	29	14185	094	32	56506	139	0000	000000	250
033	300	4	29	35	12670	094	17	18380	250	0000	171859	

VELOCITY TABLE LISTING
MI-20-3-78
OPR-K104-MI-78
H-9774
TABLE 1

```
001
002
003
004
005
006
007
008
009
010
011 000036 0 0000 0001 000 222500 020378
012 000115 0 0002
013 000154 0 0004
014 000193 0 0006
015 000232 0 0008
016 000271 0 0010
017 000310 0 0012
018 000350 0 0016
019 000388 0 0018
020 000426 0 0020
021 000455 0 0022
022 999999 0 0022
```

```
001                                VELOCITY TABLE LISTING
002                                     MI-20-3-78
003                                  OPR-K104-MI-78
004                                      H-9774
005                                      TABLE 2
006
007
008
009
010
011 000036 0 0000 0002 000 222600 020378
012 000115 0 0002
013 000154 0 0004
014 000193 0 0006
015 000232 0 0008
016 000271 0 0010
017 000310 0 0012
018 000350 0 0016
019 000388 0 0018
020 000426 0 0020
021 000455 0 0022
022 999999 0 0022
```

VELOCITY TABLE LISTING
MI-20-3-78
OPR-K104-MI-78
H-9774
TABLE #3

```
001
002
003
004
005
006
007
008
009
010
011 000155 0 0000 0003 000 222000 020378
012 000187 0 0002
013 000223 0 0004
014 000255 0 0006
015 000290 0 0008
016 000324 0 0010
017 000356 0 0012
018 000392 0 0014
019 000426 0 0016
020 000460 0 0018
021 000496 0 0020
022 000530 0 0022
023 000567 0 0024
024 000602 0 0026
025 999999 0 0026
```

SETTLEMENT AND SQUAT

MT MITCHELL 1978 FIELD SEASON

The settlement and squat test for the MT MITCHELL (S-~~222~~ 2220) 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 fantail 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 1978, 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.

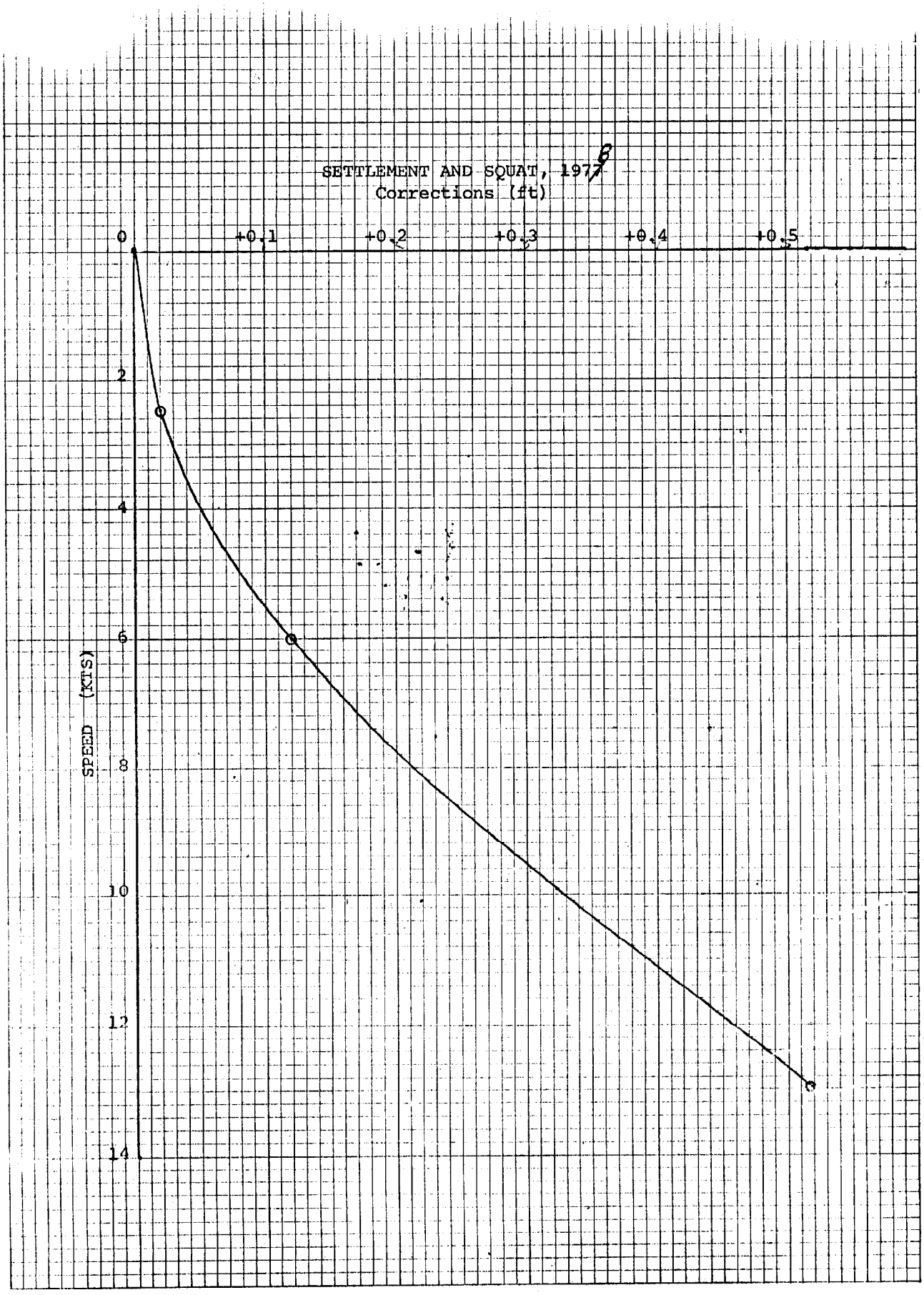
Respectively submitted,

John D. Wilder, LT(jg), NOAA

SETTLEMENT AND SQUAT CORRECTORS

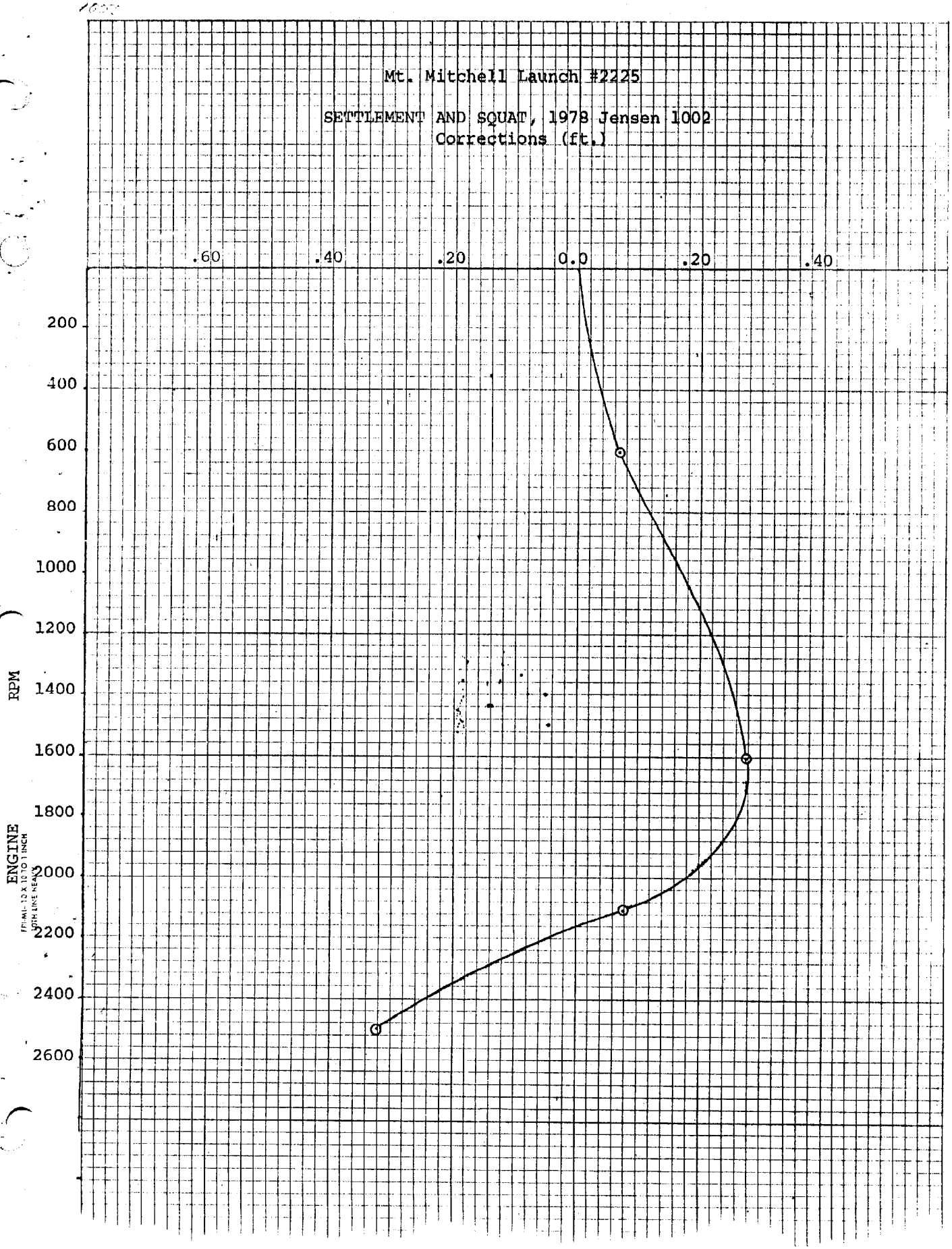
June 12, 1978

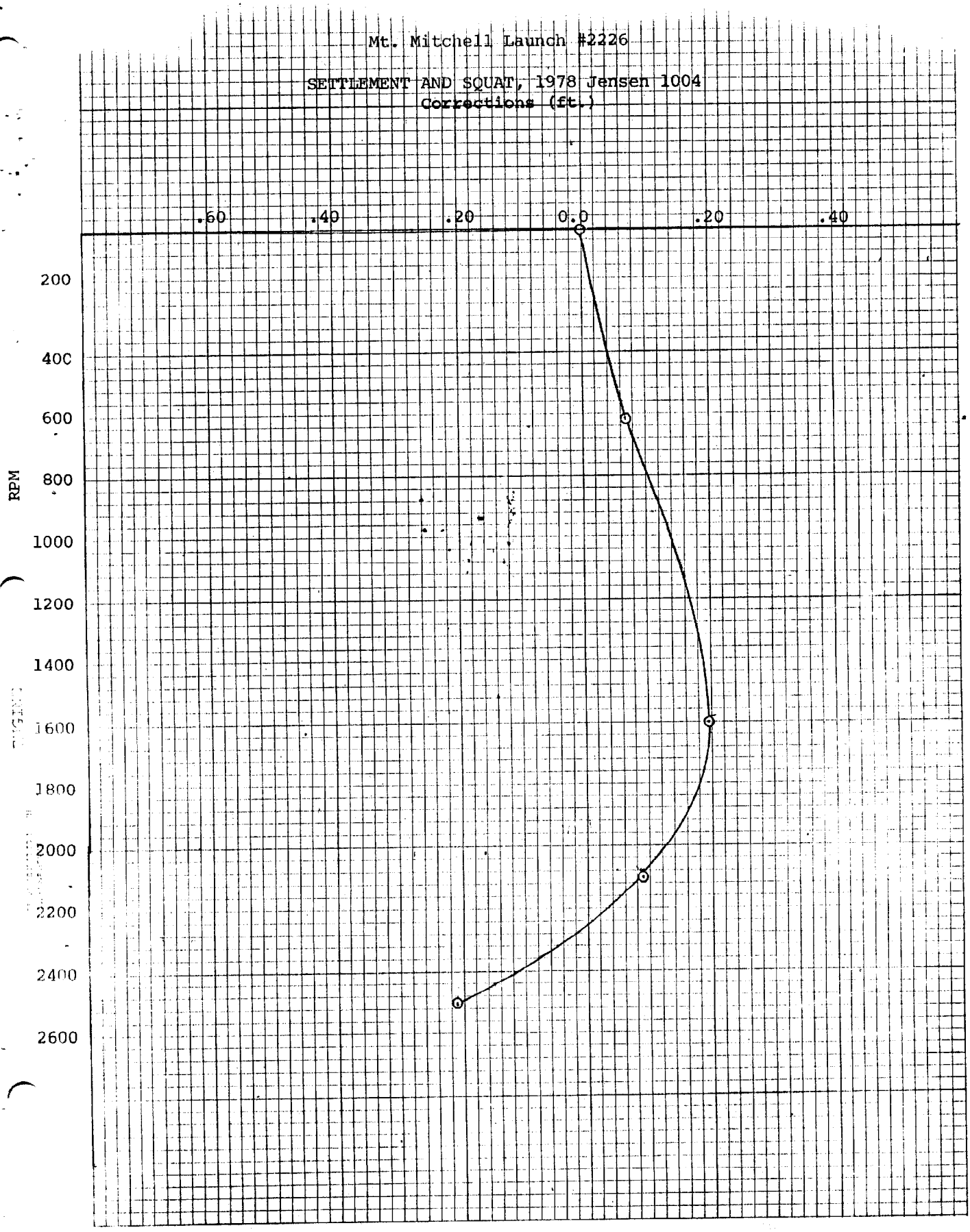
SPEED (KTS)	CORRECTION (FT)
1	0
2	0
3	0
4	0
5	0.1
6	0.1
7	0.2
8	0.2
9	0.3
10	0.3
11	0.4
12	0.5
13	0.5


SETTLEMENT AND SQUAT, 1977
Corrections (ft)
0
+0.1
+0.2
+0.3
+0.4
+0.5
2
4
6
8
10
12
14
SPEED (KTS)

SETTLEMENT AND SQUAT CORRECTORS
MT MITCHELL 1978 FIELD SEASON

RPM	JENSEN #1002 VESNO 2225	JENSEN #1004 VESNO 2226
0	----	----
500	+.05	+.05
600	+.07	+.07
700	+.09	+.08
800	+.12	+.10
900	+.13	+.12
1000	+.17	+.14
1100	+.19	+.15
1200	+.22	+.17
1300	+.24	+.18
1400	+.25	+.19
1500	+.27	+.19
1600	+.27	+.20
1700	+.27	+.19
1800	+.26	+.18
1900	+.24	+.16
2000	+.18	+.13
2100	+.08	+.09
2200	-.02	+.03
2300	-.18	-.03
2400	-.24	-.11
2500	-.32	-.21


Mt. Mitchell Launch #2225
SETTLEMENT AND SQUAT, 1978 Jensen 1002
Corrections (ft.)
.60
.40
.20
0.0
.20
.40
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
RPM
ENGINE


Mt. Mitchell Launch #2226
SETTLEMENT AND SQUAT, 1978 Jensen 1004
Corrections (ft.)
.60
.40
.20
0.0
.20
.40
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
RPM

FIELD TIDE NOTE

Field tide reduction of soundings was based on predicted tides from Galveston (Pier 21), Texas and were interpolated by a PDP8/E computer utilizing AM 500. All times of both predicted and recorded tides are GMT.

Four tide gages were installed at four locations in the project area. Location and peried of operation is as follows:

SITE	LOCATION	PERIOD
Galveston (Pier 21), TX (877-1450)	29°18.6' N 94°47.2' W	July 1977 to present
Galveston (Pleasure Pier), TX (877-1510)	29°17.2' N 94°47.4' W	July 1977 to present
Freeport, TX (877-2440)	28°56.8' N 95°18.5' W	September 1977 to present
Sabine Pass, TX (877-0590)	29°42.3' N 93°51.2' W	January 1970 to present

GALVESTON (PIER 21), TX

An ADR gage was installed and began operation in July 1977. East Coast Tides Party 753 serviced the gage and ran levels on 8 March 1978.

GALVESTON (PLEASURE PIER), TX

An ADR gage was installed and began operation in July 1977. East Coast Tides Party 753 seviced the gage and ran levels on 8 March 1978.

FREEPORT, TX

An ADR gage was installed and began operation in September 1977. East Coast Tides Party 753 serviced the gage and ran levels on 14 March 1978.

SABINE PASS, TX

A bubbler gage was installed and began operation in January 1970. East Coast

Tides Party 753 serviced and ran levels on 16 February 1978.

Contact with the respective gage observers was made in person by MT MITCHELL personnel upon arrival in the project area. Observers were contacted during inport periods, and the respective gages reportedly worked very good throughout the survey.

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

TIDE NOTE FOR HYDROGRAPHIC SHEET October 10, 1979

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

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

Period: June 17 - August 9, 1978

HYDROGRAPHIC SHEET: H-9774

OPR: K104

Locality: Texas coast, vicinity of Galveston

Plane of reference (Gulf coast Low Water Datum): 2.86 ft. - Pleasure Pier

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

REMARKS: Zone direct.

James C Hubbard
Chief, Datums and Information Branch

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9774

Name on Survey	A ON CHART NO. 11323	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	
Bolivar Peninsula	x									1
Gulf of Mexico	x									2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
					Approved:					15
										16
					Chas E. Hammond					17
					Chief Geographer - C3x5					18
					13 Aug 1980					19
										20
										21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

APPROVAL SHEET
FOR
SURVEY H- 9774

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: 2-12-80

Signed: [signature]

Title: Chief, Verification Branch

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER H-9774

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	5
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS, ARC, EXCESS	2

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						1-with misc. data
CAHIERS	2-with printouts					
VOLUMES	5					
BOXES			1-Smooth			

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)* 1-Cht. blow-up

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			3493
POSITIONS CHECKED		3493	
POSITIONS REVISED			
SOUNDINGS REVISED			
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2		
VERIFICATION OF CONTROL		3	
VERIFICATION OF POSITIONS		42	
VERIFICATION OF SOUNDINGS		181	
COMPILATION OF SMOOTH SHEET		32	
APPLICATION OF TOPOGRAPHY		3	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		5	
COMPARISON WITH PRIOR SURVEYS & CHARTS		10	
VERIFIER'S REPORT		10	
OTHER		0	
TOTALS	2	286	288

Pre-Verification by S. Kelley	*Beginning Date* 11/03/78	*Ending Date* 11/03/78
Verification by P. Niland, R. Keene, S. Bradford, R. Roberson	*Beginning Date* 11/05/78	*Ending Date* 12/27/79
Verification Check by G.F. Trefethen	*Time (Hours)* 8	*Date* 02/01/80
Marine Center Inspection by Hydrographic Inspection Team (AMC)	*Time (Hours)* 12	*Date* 02/04/80
Quality Control Inspection by G.K. Myers	*Time (Hours)* 66	*Date* 8/11/80
Requirements Evaluation by J. Dawn Faulkner	*Time (Hours)* 15	*Date* 2/27/81

app. G. Meyers Thru 8/27/80

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-9774

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:

std - 7-27-82

MAGNETIC TAPE CORRECTED

DATE 12-7-82 TIME REQUIRED_____ INITIALS JBC

REMARKS:

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO: H-9774 FIELD NO: MI 20-3-78

Texas, ~~Western~~ Gulf of Mexico, Offshore Galveston

SURVEYED: 17 June through 8 August 1978

SCALE: 1:20,000 PROJECT NO.: OPR-K104-MI-78

SOUNDINGS: Ross Model 5000
Fineline Recorder,
Ross Model 200C
Fineline Recorder, Pole

CONTROL: Odum Offshore Hydrotrac System (range-range)

Chief of Party . . . . . J. S. Midgley
Surveyed by . . . . . G. Mills
. . . . . L. Goodman
. . . . . M. Henderson
. . . . . P. Daugherty
. . . . . T. Rulon
. . . . . W. Pringle
. . . . . T. Bainbridge

Automated Plot by . . . . . Xynetics 1201 Plotter (AMC)
Verified and Inked by . . . . . R. Roberson
27 December 1979

1. Introduction

a. No unusual problems were encountered during verification.

b. All red notes in the Descriptive Report were made by the verifier.

c. Projection parameters were revised during verification.

2. Control and Shoreline

Control is adequately discussed in sections "F" and "G" of the Descriptive Report.

Shoreline was taken from final reviewed photogrammetric manuscript TP-00230 of 1977-78. Shoreline was applied in black to the smooth sheet.

3. Hydrography

a. Sounding agreement at crossings is adequate.

b. The standard depth curves are adequately delineated.

c. Developments run were adequate to delineate the bottom configuration and least depths.

4. Condition of Survey

The smooth sheet and accompanying overlays, hydrographic records and reports are adequate to conform to the Hydrographic Manual except the following:

a. Annotations on hydrographic data were complete with the exception of weather and sea conditions as per Section 1.5.3 of the Hydrographic Manual.

b. Vertical cast data for this survey was obtained on day 136. Survey data was taken between days 167 and 221. This is not an acceptable practice.

Disagree as the Hydrographic Manual does not indicate this to be an unacceptable practice — that is the H.M. does not specify that a VC is required during survey dates.

c. A comment was made in section D of the Descriptive Report concerning predicted tide data not corresponding with observed data. The report mentions day 140 - this is some time prior to the time the survey was run. The report should reflect observations conducted during the survey.

Delete

d. Three stations used for launch and ship calibrations of electronic control systems were not located in accordance with the basic requirements for horizontal control which is described in section 1.3.1 of the Hydrographic Manual.

See DR. pg 7.

e. Several potential landmarks are shown on the shoreline manuscript and one landmark is charted. The hydrographer did not evaluate any of these landmarks with respect to suitability for charting or continued charting with regard to this survey.

f. On day 168, launch 2224, the Del Norte corrector was approximately 100 meters. Then on day 170, launch 2224, the correctors were only a few meters. It was concluded that the rates for day 168 were read in error, resulting in correctors of approximately 100 meters. The data acquired on these days consisted solely of bottom samples; therefore, the positions were not moved. After discussing the final paragraph of section P of the Descriptive Report with personnel of Electronics Engineering Division it was concluded that the paragraph is in error. The "unmatched" pair is a result of no calibration on a baseline.

g. The final paragraph of section P of the Descriptive Report was added after copies of the Descriptive Report were made. The revised page was not included with the copies. This can be confirmed by a close examination of the lower portion of page 17 of the Descriptive Report.

5. Junctions

Adequate junctions were affected with the following surveys:

H-9765	(1978)	to the east
H-9775	(1978)	to the south

See Quality Control Report

There is no contemporary survey to the west.

6. Comparison with Prior Survey

H-5511	(1933)	1:20,000
H-6251	(1937)	1:40,000
H-6252	(1937)	1:40,000

See Note 1 on page 9, Descriptive Report

A comparison with the above prior surveys reveals that the present survey is one (1) to two (2) feet shoaler. This trend exists for all three prior surveys.

These changes may be attributed to natural changes in the bottom.

The present survey is adequate to supersede the prior suveys in the common areas.

7. Comparison with Charts: 11323 (39th Edition, April 9, 1977)
11332 (15th Edition, December 31, 1977)

a. Hydrography

Charted hydrography in the common area originates with the previously discussed prior surveys. No further discussion is necessary.

The charted wellheads, platforms, and pipestands agree with their charted positions except for the following:

Three charted platforms in the vicinity of Latitude 29°21'00", Longitude 94°28'45" were not located on the survey.

Uncharted wellheads, platforms and pipestands are adequately discussed in Section "L" of the Descriptive Report.

The white and orange privately maintained buoy "F" at approximately Latitude 29°21'00", Longitude 94°29'00" was not located on the present survey.

The present survey is adequate to supersede the charted hydrography in the common area.

b. Wire Drag

F.E. No. 1, 1965 (1964) WD revised to FE-198(1964)WD 1:80,000 See page 9, D.R.

F.E. No. 1, 1966 (1965) WD 1:80,000

Rev: FE-203(1965)WD

H-9298 WD (1971-72) 1:40,000

There were no conflicts with the above mentioned wire drag surveys.

Three charted wire drag items originated with ~~the~~ two of the above mentioned three surveys.

c. Aids to Navigation

No aids to navigation were located on the present survey.

8. Compliance with Project Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

This is a good basic survey; no additional field work is recommended.

Inspection Report
H- 9774

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. HIT 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: 4-February-1980

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

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

R.D. Sanocki
Technical Assistant
Processing Division

Maureen 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

August 11, 1980

TO: Glen R. Schaefer
Chief, Hydrographic Surveys Division

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

SUBJECT: Quality Control Report for H-9774 (1978), Texas, Gulf of Mexico, Offshore Galveston

A quality control inspection of H-9774 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, shoreline transfer, smooth plotting, decisions and actions by the verifier, and 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. Electronic control stations that fall on the smooth sheet were properly shown during quality control. (See table B-1 of the Hydrographic Manual.) The appropriate red circle was added to basic and supplemental (recoverable) control symbols to show Del Norte positioning system antenna sites that were used to control hydrography.

2. The dangerous submerged wreck, PD, charted at latitude 29°28.0'N, longitude 94°33.3'W originating from a miscellaneous source was neither proved nor disproved on the present survey. This wreck should be retained on the chart.

A discussion of the aforementioned item should have been included under the appropriate heading "Comparison with Charts" in the Verifier's Report. (See sections 6.3.10 and 6.6, item 12a, of the Hydrographic Manual; also, C35x2 memorandum, March 21, 1977, "Verifier's Report Format.")

3. Statements concerning wire-drag survey comparisons should be included under the heading "Comparison with Prior Surveys" instead of under the heading "Comparison with Charts" as indicated in the Verifier's Report. (See section 6.6, item 11, of the Hydrographic Manual; also, "Verifier's Report Format.")

4. Adequate junctions were made with H-9784 (1978) on the southwest and H-9783 (1978) on the west. A partial butt junction was made with H-9751 (1962-65) on the northwest, where differences of 1 to 3 feet were noted. These differences are considered to have been caused by the shifting of sand due to current activity during storms.

Data from these surveys which join the present survey were available for junctions during verification; however, a discussion pertaining to these sources is not mentioned in the Verifier's Report.

5. Labels prefixed by the letter "C" noted in the legend for designation of oil well structures on the verified smooth sheet were deleted during quality control. This nomenclature was used to mark recorded data for reference purposes only; and do not describe the name of the structure located. In three cases, no structure markings were observed by the hydrographer.

6. The platform located at latitude 29°24'45.8"N, longitude 94°37'36.19"W was misplotted on the smooth sheet at latitude 29°24'36"N, longitude 94°37'36"W during verification. This structure identified by position 748 and the platform at detached position 743 in the final listings were not referenced on the final position overlay. These errors were corrected during quality control.

cc:
OA/C351

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

MAR 27 1981

OA/C351:SRB

TO: OA/CAM - Richard H. Houlder

FROM: OA/C3 - Roger F. Lanier

SUBJECT: H-9774 (1978), OPR-K104-MI-78, Texas, Gulf of Mexico, Offshore Galveston, Report of Compliance with Project Instructions

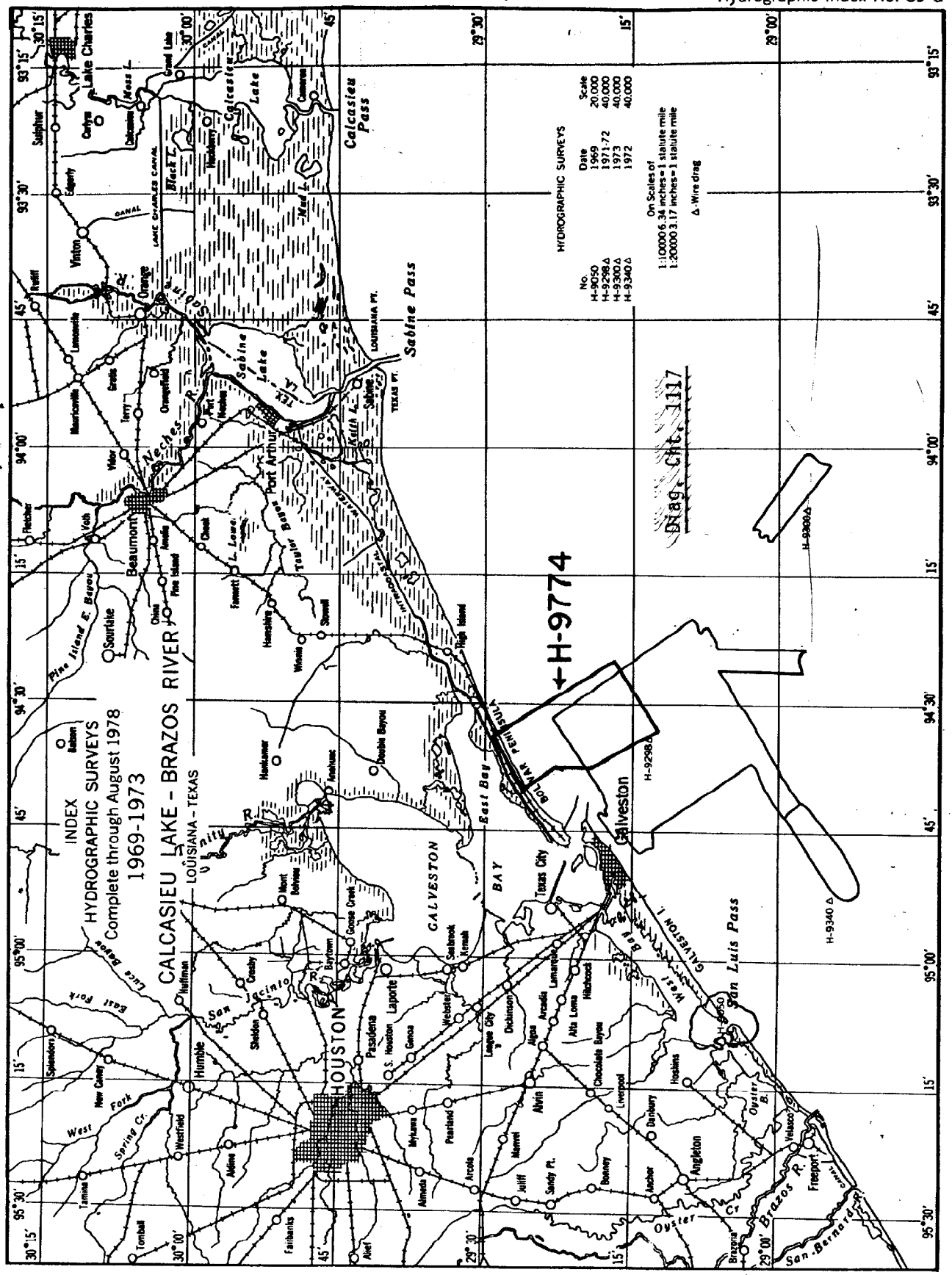
The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated August 11, 1980 (copy attached), is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-K104-MI-78, dated December 9, 1977.

Attachment

cc:
OA/C352 w/o att.

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

Hydrographic Index No. 89 G



FORM C&GS-8352
(9-28-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9774

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
11332	5-19-81	O. Williams	Full ~~Part Before~~ After Verification Review Inspection Signed Via
DC			Drawing No. 24
11324	4-29-81	O. Williams	Full ~~Part Before~~ After Verification Review Inspection Signed Via
DC			Drawing No. 19
11323	6-19-81	O. Williams	Full ~~Part Before~~ After Verification Review Inspection Signed Via
DC			Drawing No. 62
11340	6-25-81	O. Williams	Full ~~Part Before~~ After Verification Review Inspection Signed Via
~~1350~~			Drawing No. 61
11300	6-25-81	O. Williams	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 38
11326	8-6-81	O. Williams	Full ~~Part Before~~ After Verification Review Inspection Signed Via
J.O.			Drawing No. 19
			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-975.

USCOMM-DC 8558-P63