

9300

WIRE DRAG

Diag. Cht. Nos. 1116-3, 1117 & 1280.

FORM C&GS-504	
U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	WIRE DRAG
R/H	40-2-73
Field No.	40-2-72
Office No.	40-2-72
#H	9300 WD
#H	9341 WD
#H	49242 WD
LOCALITY	
State	TEXAS
General locality	GULF OF MEXICO SAFETY FAIRWAYS
Locality	GALVESTON
1973	
CHIEF OF PARTY	
CDR. LEONARD E. PICKENS	
LIBRARY & ARCHIVES	
DATE	May 15, 1978

Only H-9300 has been processed

9300

WIRE DRAG

AREA-4

CLONE

411-1007

1130-1117

11332-1280

11340-1114

HYDROGRAPHIC TITLE SHEET

R/H 40-2-73 - #H9300WD
~~40-2-72 - #H9341WD~~
~~40-3-72 - #H9342WD~~

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. R/H 40-2-73
R/H 40-2-72
R/H 40-3-72

State TEXAS

General locality GULF OF MEXICO - SAFETY FAIRWAYS

Locality GALVESTON

Scale 1-40,000 Date of survey 11 JUNE, 1973 - 22 June 1973

Instructions dated 26 JAN., 1973 Project No. OPR - 479

Vessel NOAA SHIPS RUDE & HECK

Chief of party CDR LEONARD E. PICKENS

Surveyed by SHIPS PERSONNEL

Soundings taken by echo sounder, hand lead, ~~pot~~

Graphic record scaled by _____

Graphic record checked by _____

Protracted by _____ Automated plot by _____

Soundings penciled by _____

Soundings in fathoms feet at MLW ~~XXXXX~~ BASED ON PREDICTED TIDES

HDEG Cont. 1 survey

REMARKS: Verification to survey H-9300WD. was limited, no further processing is
planned, reference should be made to the attached Verifier's Report/
Addendum for data on limitations, modifications, corrections,
and recommendations. This report pertains to H-9300WD only.

*App'd. To St'ds. 5-19-78
WJT*

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94
+
30

94
+
00
29
20

PROGRESS SKETCH

OPR-479-R/H-73

WIRE DRAG: SHEET 40-2-73

GULF OF MEXICO

NOAA SHIPS RUDE & HECK

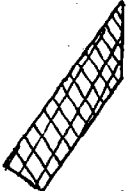
L.E. PICKENS, CHIEF OF PARTY


JUNE 1973

SCALE 1:460,732

+

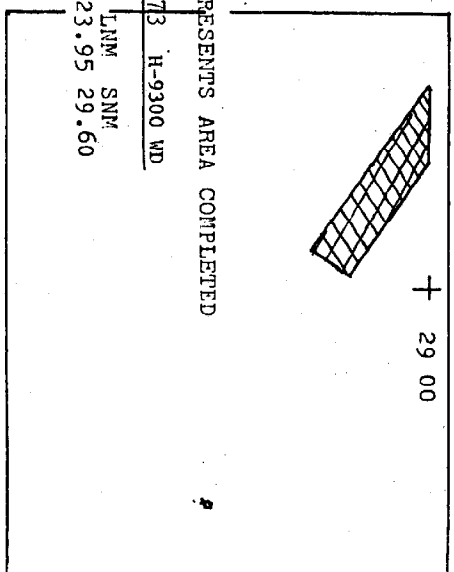
+ 29 00



 REPRESENTS AREA COMPLETED

SHEET 40-2-73 H-9300 WD

STATISTICS LNM SNM
23.95 29.60



A. AUTHORITY

The authority for this survey was Project Instructions OPR 479-RU/HE-73 Safety Fairways, Gulf of Mexico dated 26 January, 1973. Investigation of a reported grounding was added to the instructions via radio message received on 5 June, 1973. (See enclosed copy under Project Instructions.)

B. CHARACTER AND LIMITS OF WORK

The purpose of the survey was to prove or disprove the existence of under-water hazards to navigation in the Safety Approach Fairways to Galveston Bay, to investigate a reported obstruction near the tip of the Galveston South jetty, and to investigate a reported grounding west of the Southeast Fairway.

The boat sheet layouts were:

Sheet 40-2-73	LAT. 28°41'30"N to 29°04'00"N	
	LONG. 93°38'40"W to 94°13'30"W	H-9300
Sheet 40-3-72	LAT. 28°59'30"N to 29°27'30"N	
	LONG. 94°00'00"W to 94°25'50"W	H-9342
Sheet 40-2-72	LAT. 28°31'30"N to 29°01'00"N	
	LONG. 94°11'10"W to 94°36'50"W	H-9341

The entire survey was done on a 1:40,000 scale.

C. CONTROL AND SHORELINE

Raydist DR-S Range-Range Control was used during all the fairway operations; the frequency was 3300.4 KHz resulting in a lane width of 45.39904 meters. No shoreline existed on any boatsheet.

One drag was done south of Galveston's South jetty to locate a reported

obstruction; combined electronic - visual control was used. *(Not on H-9300)*

The "Green" Raydist station was "MOORE" located in south Galveston, and the "Red" station was "HANT", approximately 50 miles northeast of Galveston. Upon completion of operations "HANT" became the sight of the "Green" station and the "Red" station was moved to the Sabine Pass area; both stations are recoverable. A listing of all signals used is given in Attachment I.

D. DATE OF SURVEY

Operations began on OPR 479, Galveston, Sheet ^{H-9300} 40-2-73 on 11 June and terminated on 22 June. Work on boat sheet ^{H-9342} 40-3-72 began on 25 June and ended on 11 July, 1973; work on sheet ^{H-9341} 40-2-72 began on 10 July and terminated on 11 July, 1973.

E. TIDE REDUCERS

The preliminary reduction of each days data was based on predicted tides; the actual tide data will be supplied by the Rockville office based on the tide gauge at the Galveston Pleasure pier.

F. JUNCTIONS

All sheets junction satisfactorily. *H-9342 W.D. (1973) joins H-9300 W.D. on the North West*

G. SPLITS

No splits exist. *on H-9300 W.D.*

H. GROUNDINGS AND HANGS.

Occasionally the wire was deliberately set out aground and towed off the shoal areas; these areas were later covered by another drag. No significant

groundings were observed. ^{not on H-9300 W.D.} Only one hang was encountered: it was an I-beam near the Galveston South jetty. Divers buoyed the obstruction so the Corps of Engineers could remove it immediately.

Location: 29°19'08"N - 94°41'48"W

Effective depth: 20'

I. GENERAL NOTES

Morning and evening calibrations were done by steering range #2 and observing left angle to the Galveston South Jetty Light. Numerous lane checks were taken at various navigational buoys.

Towlines of 800 ft. and 1000 ft. were used the majority of the time thus putting the end buoys 265m and 326m respectively from the Raydist antennae. One exception exists; due to a weakened section of wire, the end vessel's towline during the drag on E-day (Sheet 40-3-72) ^{H-9342} was 235m long. For plotting purposes it was considered to be the standard 265m length. The shortened towline apparently increased the strain on the ground wire sufficiently to cause excessive lift in the end section (11-F). Because of the lift and because that section fell in an area of excessive overlap, it was rejected throughout the entire strip. The elimination of the section 11-F still left the strip with more than the specified 600 ft. overlap.

On C day (Sheet ^{H-9341} 40-2-72), strip 1, section 7-8 was only 900' long rather than the usual 1000'.

A small drag was done to hang a reported obstruction 0.6NM and bearing 329° to the Galveston South Jetty Light. The control was combined Raydist and visual. An I-beam was located and then buoyed by divers for future

reference. Three point visual fixes were taken to establish the charted position, and the appropriate agencies and departments were notified. This unofficial drag was not recorded because the Corps of Engineers planned immediate removal of the I-beam. See Corps of Engineers Report on Hologing of Dredge McKenzie in Attachment VI.

J. CURRENTS

Generally the current was from the NNW in the morning and rotated clockwise through ENE by evening. Occasionally a west to east current was encountered. Current tests were taken before the majority of drags by tracking a float connected to a vaned drogue suspended at the depth of the anticipated drag. Velocities were consistently less than 1 knot.

K. DISCREPANCIES WITH CHARTS — *See the attached Verifier's Report/Adendum*

Charted depths over the flat bottomed areas was found to be accurate; the shoal areas were often 1 to 1 1/2 ft. shoaler than charted. Wire dragging of shoal areas was preceded by ship Reconnaissance Hydrography. *Not included with the survey records.*

L. EQUIPMENT

The RUDE acted as Guide vessel; the HECK as End vessel. The launches and skiffs were used as tenders. Ship Hydrography was done with Raytheon DE-723 fathometers. ^(See section K above) Standard wire drag equipment was utilized throughout the survey.

M. MISCELLANEOUS

Early in June daily thundershowers resulted in tenuous Raydist transmission; frequent lane checks at navigational buoys were necessary to insure the desired accuracy. Numerous launch and skiff breakdowns hampered

progress. Leaky hydraulic lines to the drag winches of both ships caused minor delays. A one week in-port period was observed in late June for repairs and maintenance.

N. SUMMARY

not on H-9300
An obstruction was located at 29°19'08"N Latitude, 94°41'48"W Longitude with an effective depth of 20 ft. The Army Corps of Engineers planned immediate removal.

A reported 37 ft. shoal at 29°03'56"N Latitude, 94°18'04"W Longitude was cleared to a depth of 41 ft. — *Not on H-9300*

The safety fairways have been cleared at various depths to the 10 fathom curve.

O. RECOMMENDATIONS

Neither the obstruction near the Galveston South Jetty nor the reported 37 foot shoal area are recommended for charting. *Not applicable to H-9300.*

P. APPROVAL SHEET

All records of this survey prior to smooth plotting are hereby approved. The field work was personally supervised by the undersigned and the boatsheet and records were inspected daily. The survey is considered complete and adequate for charting.

L E Pickens

CDR. L.E. Pickens

Commanding Officer

NOAA Ships RUDE & HECK

LIST OF ATTACHMENTS

- I.. A) RAYDIST CONTROL STATIONS
B) VISUAL CONTROL SIGNALS
- II. LIST OF GROUNDINGS & HANGS
- III. A) DAILY RAYDIST CORRECTORS
B) ELECTRONIC CALIBRATION INFORMATION
- IV. STATISTICS
- V. AIDS TO NAVIGATION
- VI. PROJECT INSTRUCTION
A) CHANGE #1
B) CHANGE #2
C) CHANGE #3
- VII. RAYDIST STATION DESCRIPTIONS
- VIII. A) TIDES, SMOOTH (~~NOT RECEIVED FROM ROCKVILLE~~)
B) REPORT, TIDE STATION
- IX. BOAT SHEET & ELECTRONIC CONTROL PARAMETER SHEETS

ATTACHMENT I

A. RAYDIST CONTROL STATIONS

<u>STATION</u>	<u>LAT.</u>	<u>LONG.</u>	<u>REMARKS</u>
MOORE 1971	29°14'03.520"N	94°52'54.136"W	Green
HANT 1973	29°40'03.0909"N	94°04'20.73.56"W	Red

B. VISUAL CONTROL STATIONS

CALIBRATION RANGE #1

<u>SIGNAL</u>	<u>LAT.</u>	<u>LONG.</u>	<u>REMARKS</u>
Texas City Cut A			
Outer Rr. Range Lt.	29°19'55.804"N	94°44'45.322"W	Front Range
Bolivar Pt. Lighthouse	29°21'59.597"N	94°46'00.263"W	Rear Range
Galveston South Jetty Lt.	29°19'39.258"N	94°41'32.887"W	Right Obj.

CALIBRATION RANGE #2

<u>SIGNAL</u>	<u>LAT.</u>	<u>LONG.</u>	<u>REMARKS</u>
Galveston Bay	29°22'18.334"N	94°44'53.326"W	Rear Range
Ent. Ch. Rear			
Gal. Bay			
Ent. Ch. Front	29°21'16.821"N	94°42'56.635"W	Front Range
Gal. South			
Jetty Lt.	29°19'39.258"N	94°41'32.887"W	Left Object

ATTACHMENT II

LIST OF GROUNDINGS AND HANGS

See Appendix I of the Verifier's Report/Reckendum

POSITION No. & Davitletter	Bouy No.	Latitude	Longitude	Grounded Effective Depth	Cleared by Day & Strip No.	Cleared Effective Depth	Charted Depth	Remarks
		29°19'08"N	94°41'48"W	20'				Unofficial drag Corps of Engineers planned immediate removal of I-beam that was found.
		29°03'56"N	94°18'04"W	37' (reported)	F1	41'	42'	Reported grounding 37' depth

ATTACHMENT III A.
DAILY RAYDIST CORRECTORS

SHEET #	DATE	DAY LETTER	VOL. NO.	RED CORR.	^{RUDE} GREEN CORR.	RED CORR.	^{HECK} GREEN CORR.
40-2-73	11 June, 73	A	I	-0.2	+0.3	+0.1	-0.2
	18 June, 73	B	I	+0.1	-0.4	0.0	0.0
	19 June, 73	C	I	+0.1	-0.4	0.0	0.0
	20 June, 73	D	I	+0.1	-0.4	0.0	0.0
	21 June, 73	E	I	+0.2	+1.0	+0.2	+1.6
	22 June, 73	F	II	+0.2	+1.0	+0.2	+1.6
40-3-72	25 June, 73	B	I	+0.2	-0.4	+0.3	+0.2
	26 June, 73	C	I		ANCHORED OUT,		
	27 June, 73	D	I		NO CALIBRATION		
	28 June, 73	E	I & II	+0.2	-0.3	+0.3	+0.4
	11 July, 73	F	II	+0.1	-2.0	-0.1	-0.1
40-2-72	10 July, 73	B	I & I HYDRO	-0.1	0.0	-0.7	+0.2
	11 July, 73	C	I	+0.1	-2.0	-0.1	-0.1

H-9300

H-9300

ATTACHMENT IV
SHEET STATISTICS

DATE	DAY LETTER	STRIP NO.	VOL. NO.	POSITIONS	L.N.M.	S.N.M.
SHEET 40-2-73 H-9300						
11 June, 73	A	1	I	1-4	REJECTED	
"	A	2	I	5-20	2.80	3.36
18 June, 73	B	1	I	1-13	1.70	2.04
19 June, 73	C	1	I	6-23	2.50	3.50
20 June, 73	D	1	I	5-36	5.55	6.94
"	D	2	I	37-52	2.75	3.85
21 June, 73	E	1	I	1-12	2.20	2.56
"	E	2	I	13-28	3.10	4.34
22 June, 73	F	1	II	1-10	2.15	1.83
"	F	2	II	11-17	1.20	1.08
SHEET 40-3-72 H-9342						
25 June, 73	B	1	I	1-31	5.36	7.24
26 June, 73	C	1	I	1-31	5.36	7.24
"	C	2	I	35-47 1/2	2.55	3.44
27 June, 73	D	1	I	1-26	5.02	6.22
"	D	2	I	27-39	2.76	4.17
"	D	3	I	40-54	2.33	3.19
28 June, 73	E	1	I & II	1-22	4.50	6.75
11 July, 73	F	1	II	1-11	1.70	2.15

ATTACHMENT IV CONT'D

DATE	DAY LETTER	STRIP NO.	VOL. NO.	POSITIONS	L.N.M.	S.N.M.
SHEET						
40-2-72 H-9341						
10 July, 73	B	*	--	1-31	--	--
"	B	1	I	1-16	3.20	6.08
11 July, 73	C	1	I	1-14	3.12	3.59

* Hydrography

ATTACHMENT V

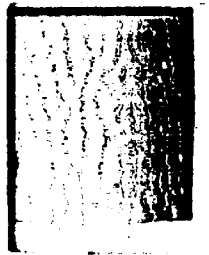
AIDS TO NAVIGATION

No aids to Nav. on H-9300

NAME	LAT.	LONG.	REMARKS
R "2"	29°05'00"N	94°13'42"W	Used to check lane count.
FIG 6s	28°58'12"N	94°18'42"W	"
HU-HI	29°06'24"N	94°23'48"W	"

— Note —

Smooth Tides for all 3 surveys (H-9300WD, H-9341^{WD}, H-9342WD) were computed using a time difference of -1.4 hours which is an average of the four zoning areas. This is considered satisfactory due to the height of MHW above datum being only 2.1 feet and the interval required for Wire Drag surveys being 0.5 feet.



CAM22-6
8/6/73

TO: Director, Atlantic Marine Center DATE: 17 Aug 1973
ATTN: CAM22
FROM: Paul A. Hove

SUBJECT: Request for Smooth Tide Correctors

1. Enclosed is the logged hourly heights tape for the period July 1 - 31, 1973 (from Form 362, Hourly Heights at Tide Station _____ (place) Lat: _____ ° _____ ' Long: _____ ° _____ ' (position) Tidal datum is _____ feet/fathoms below MLW/MLLW

2. Tidal differences and other constants for A7741 (place) Lat: _____ ° _____ ' Long: _____ ° _____ ' (position)

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

3. Tidal differences and other constants for A7817 (place) Lat: _____ ° _____ ' Long: _____ ° _____ ' (position)

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

4. Please furnish smooth tide corrections on 0700 (Time Meridian)

in the following units: (check one) and in the following unit interval: (check one)

Feet

.1

.5

Fathoms

.2

1.0

Meters

JRH

11/26/73

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center

Hourly heights are approved for

Tide Station Used (NOAA form 77-12): Galveston Pleasure Pier

Period: June-July 1973

HYDROGRAPHIC SHEET:

— OPR: 479

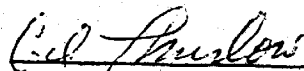
Locality: Offshore, Galveston, Texas

Plane of reference (mean lower low water): 2.5 feet
 which is feet on tide staff.

Height of Mean High Water above Plane of Reference is 2.1 feet

Remarks:

Zoning	Time Difference	Lat.	Long.	
Area 1	-1.0 hr.	29°09'N	94°23'W	
Area 2	-1.5 hr.	} -14 29°03'N	94°11'W	
Area 3	-1.8 hr.		28°56'N	94°01'W
Area 4	-1.3 hr.		28°55'N	94°25'W



Chief, Tides Branch

ELECTRONIC CONTROL PARAMETERS

RN AND
 RN 40-1-71
 RN 40-1-72
 RN 40-2-72,
 RN 40-3-72,
 RN 40-4-72

1. Project # OPR-479 2. Reg. # H- 3. Field # _____
 4. Type of Control RayDist (Hi-Fix, Raydist, EPI, etc.)
 5. Frequency 3300.4 (for conversion of electronic lanes to meters)
 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R₁)
 Station I.D. NANT 1973
 Range Two (R₂)
 Station I.D. MeoRF 1971

Lat.	<u>29</u> °	<u>40</u>	<u>03.0909</u> "
Long.	<u>94</u> °	<u>04</u>	<u>30.7256</u> "
Lat.	<u>29</u> °	<u>14</u>	<u>02.820</u> "
Long.	<u>94</u> °	<u>52</u>	<u>54.186</u> "

Hyperbolic (3-station)

Hyper-Visual

Slave One
 Station I.D. _____
 Master
 Station I.D. _____
 Slave Two
 Station I.D. _____

Lat.	_____ °	_____	_____ "
Long.	_____ °	_____	_____ "
Lat.	_____ °	_____	_____ "
Long.	_____ °	_____	_____ "
Lat.	_____ °	_____	_____ "
Long.	_____ °	_____	_____ "

7. Location of Survey:

Range-Range

Imagine an observer is standing at R₁ Station and looking directly at R₂ (check one):

Survey area is to observer's Right A=0

Survey area is to observer's Left A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left.

Slave Two must be to observer's Right.

8. This form is submitted as an aid in preparing a boat sheet.
 This form applies to all data on this survey.
 This form applies to part of the data on this survey.

Vessel	From	To	Position Numbers
EDP #	Time Day	Time Day	(inclusive)
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____

9. Remarks: MAKE R₁ ARCS Red ; R₂ ARCS BLUE

CFN3-1
4-6-71

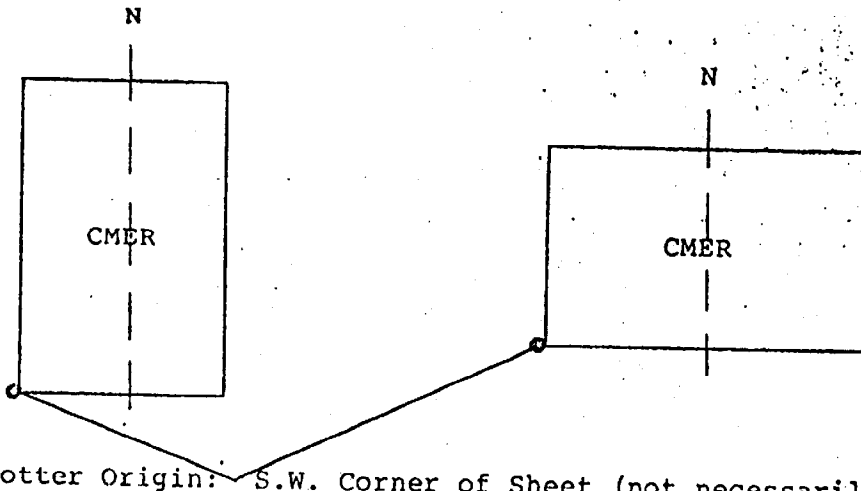
ATLANTIC MARINE CENTER
PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

1. Project No. OPR 479 4. Requested By CO. Rude/Heck TRN AMC
2. Reg. No. _____ 5. Ship or Office Rude/Heck
3. Field No. ~~AP 40-2-73~~ RI 40-2-73 6. Date Required ~~4-30-71~~ 6 JUNE 1971
7. Polyconic Modified Transverse Mercator
8. Central Meridian of Projection 93° 56' 00" W
9. Survey Scale: 1: 40,000
10. Size of Sheet (check one):
36 x 54 36 x 60 Other Specify 42 x 54
11. Sheet Orientation (check one):

NYX = 1

NYX = 0



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)
Latitude 28° 41' 30"
Longitude 94° 13' 30"

13. G.P.'s of triangulation and/or signals attached.

14. Material Desired: Tracing Paper Mylar
Smooth Sheet Other Specify _____

15. Remarks: 4 EACH ~~Request~~ Request ~~LONGITUDE~~ LONGITUDE ~~VALUES BE PRINTED OUT ALONG CENTRAL~~ VALUES BE PRINTED OUT ALONG CENTRAL
LATITUDE (28° 02') IN ADDITION TO TOP & BOTTOM OF EACH SHEET.
93° 56'

GEOGRAPHIC NAMES

H-9300 WD

Name on Survey											
	A	B	C	D	E	F	G	H	K		
											1
											2
											3
											4
											5
											6
											7
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											22
											23
											24
											25

Wire Drag
HYDROGRAPHIC SURVEY STATISTICS

H-9300 WD

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		3	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		1	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACT SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1-with printouts & misc. data					
VOLUMES	3					
BOXES				1		
T-SHEET PRINTS (List)		2-Chart mark-ups (11332 and 11340)				
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTAL
POSITIONS ON SHEET			288
POSITIONS CHECKED	18	39	57
POSITIONS REVISED	7	14	21
SOUNDINGS REVISED	NA	NA	NA
SOUNDINGS ERRONEOUSLY SPACED	NA	NA	NA
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED	0	0	0
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2	0	2
VERIFICATION OF CONTROL	4	2	6
VERIFICATION OF POSITIONS	4	2	6
VERIFICATION OF SOUNDINGS		17	
COMPILATION OF SMOOTH SHEET		23	
APPLICATION OF TOPOGRAPHY		13	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		0	
COMPARISON WITH PRIOR SURVEYS & CHARTS		11	
VERIFIER'S REPORT		16	
OTHER	34	7	41
TOTALS	44	91	135

Pre-Verification by J. Griffin	Beginning Date 12/14/74	Ending Date 02/15/75
Verification by M. B. Hickson	Beginning Date 05/31/77	Ending Date 09/02/77
Verification Check by R. D. Sanocki (cursor) <i>R. D. Sanocki</i>	Time (Hours) 8	Date 03/29/78
Marine Center Inspection by	Time (Hours)	Date
Quality Control Inspection by	Time (Hours)	Date
Requirements Evaluation by	Time (Hours)	Date

ATLANTIC MARINE CENTER
VERIFIER'S REPORT/ADDENDUM TO THE DESCRIPTIVE REPORT

REGISTRY NO. H-9300 WD

FIELD NO. R/H-40-2-73

Gulf of Mexico, Texas, Galveston Safety Fairways

SURVEYED: June 11 through June 22, 1973

SCALE: 1:40,000

PROJECT NO.: OPR-479

SOUNDINGS: Wire Drag

CONTROL: Raydist
(Range-Range)

Chief of Party L. E. Pickens
Surveyed by Ship's Personnel
Automated Plot of Preliminary
Plotter Strips by CALCOMP-618 Plotter (AMC)
Verified and Inked by M. B. Hickson
September 2, 1977

1. Introduction

The concern of this survey is to clear a portion of the Safety Approach Fairway to Galveston Bay, Texas. The general boundaries are from latitude 28° 55'N to 29° 03'N and longitude 94° 01'W to 94° 11'W.

2. Control and Shoreline

a. The control is adequately described in the Descriptive Report. Raydist in the Range-Range mode was used for position control throughout the survey.

b. There is no shoreline on this survey.

3. Condition of the Survey

a. Field Work

The field work is satisfactory, except as noted on the wire-drag tests in Section 9 of this report.

b. Records

The records are complete and comprehensive for this survey, with the exception of the tender tester records which were poor.

c. Descriptive Report

The Descriptive Report is complete and comprehensive, except as noted below.

(1) Three separate, registered surveys are included under this one Descriptive Report. It is difficult and confusing to separate the report data into the individual surveys as much of the data was not noted to which survey or surveys were applicable.

(2) The listing of hangs and groundings is incomplete and inaccurate. Appendix I of this report replaces this data for this survey.

(3) Although there were no Presurvey Review items on this survey, a statement to that effect should have been made in the Descriptive Report.

(4) Junctional surveys were not listed.

(5) Neither charts used for comparison nor individual discrepancies were listed.

(6) The data contained in Attachments II, III, and IV are not separated for each survey.

d. Field Plotting

Field plotting was not satisfactory.

(1) The field plotted each strip on individual mylar overlays but failed to transfer these strips to the boat sheet.

(2) The field A & D Sheet was not constructed in accordance with the Wire Drag Manual (i.e. - no colors, no marginal notes, none or improper symbols, etc.).

(3) The boat sheet did not cover the entire survey area.

e. Office Plotting (Smooth)

The survey was accurately and neatly smooth plotted in accordance with instructions outlined in the letter of Richard H. Houlder, Associate Director, Office of Marine Surveys and Maps; dated February 23, 1977; titled "Processing Wire Drag Surveys on Safety Fairways".

4. Junctions

This survey junctions with H-9342 WD (1973), R/H-40-2-72 on the northwest. This junction has not been accomplished, as this junctional survey has not been processed and it is expected to be several months before processing is started.

5. Comparison With Hydrographic Surveys

Comparison with hydrographic surveys was not accomplished during verification.

6. Comparison With Charts 11332 (14th Edition, February 12, 1977)
11340 (35th Edition, April 16, 1977)
11300 (19th Edition, October 23, 1976)

a. Hydrography

Except as listed below, there is no conflict between wire-drag effective depths and the charted soundings. However, harmony between the survey and chart cannot be claimed due to the numerous conflicts and insufficient bottom clearances in areas not in conflict. See Section 8 of this report for recommendations.

(1) The charted sounding of 51 feet, located at latitude $28^{\circ} 59' 44''$, longitude $94^{\circ} 05' 29''$, was cleared by an effective depth of 59 feet.

(2) The charted sounding of 50 feet, located at latitude $28^{\circ} 59' 32''$, longitude $94^{\circ} 06' 12''$, was cleared by an effective depth of 51 feet.

(3) The charted sounding of 47 feet, located at latitude $28^{\circ} 59' 26''$, longitude $94^{\circ} 05' 54''$, was cleared by an effective depth of 51 feet.

(4) The charted sounding of 54 feet, located latitude $28^{\circ} 58' 48''$, longitude $94^{\circ} 05' 54''$, was cleared by an effective depth of 57 feet.

(5) The charted sounding of 55 feet, located at latitude $28^{\circ} 58' 46''$, longitude $94^{\circ} 05' 35''$, was cleared by an effective depth of 57 feet.

(6) The charted sounding of 54 feet, located at latitude $28^{\circ} 58' 26''$, longitude $94^{\circ} 05' 35''$, was cleared by an effective depth of 57 feet.

(7) The charted sounding of 53 feet, located at latitude $28^{\circ} 57' 56''$, longitude $94^{\circ} 05' 33''$, was cleared by an effective depth of 58 feet.

(8) The charted sounding of 54 feet, located at latitude $28^{\circ} 58' 30''$, longitude $94^{\circ} 05' 10''$, was cleared by an effective depth of 57 feet.

(9) The charted sounding of 56 feet, located at latitude $28^{\circ} 58' 23''$, longitude $94^{\circ} 04' 53''$, was cleared by an effective depth of 57 feet.

(10) The charted sounding of 57 feet, located at latitude $28^{\circ} 58' 37''$, longitude $94^{\circ} 04' 33''$, was cleared by an effective depth of 59 feet.

(11) The charted sounding of 56 feet, located at latitude $28^{\circ} 58' 18''$, longitude $94^{\circ} 04' 30''$, was cleared by an effective depth of 57 feet.

(12) The charted sounding of 58 feet, located at latitude $28^{\circ} 58' 15''$, longitude $94^{\circ} 04' 08''$, was cleared by an effective depth of 59 feet.

(13) The charted sounding of 58 feet, located at latitude $28^{\circ} 58' 17''$, longitude $94^{\circ} 03' 30''$, was cleared by an effective depth of 59 feet.

(14) The charted sounding of 58 feet, located at latitude $28^{\circ} 58' 02''$, longitude $94^{\circ} 03' 08''$, was cleared by an effective depth of 59 feet.

(15) The charted sounding of 57 feet, located at latitude $28^{\circ} 57' 34''$, longitude $94^{\circ} 02' 06''$, was cleared by an effective depth of 58 feet.

(16) The charted sounding of 57 feet, located at latitude $28^{\circ} 57' 02''$, longitude $94^{\circ} 02' 28''$, was cleared by an effective depth of 59 feet.

(17) The charted sounding of 54 feet, located at latitude $28^{\circ} 57' 02''$, longitude $94^{\circ} 01' 26''$, was cleared by an effective depth of 57 feet.

b. Aids to Navigation

No aids to navigation were located by this survey.

7. Compliance With Project Instructions

Except as noted below, the survey adequately complies with the project instructions OPR-479-RU/HE-73.

a. Buoy groundings and their clearances were not within the required limits and were not listed, reference Section 2.12 of the project instructions.

b. Survey effective depths generally do not comply with bottom clearance specifications, reference Section 2.14 of the project instructions.

c. As stated in Sections K and L of the Descriptive Report, ship reconnaissance hydrography was conducted. However, no record of any hydrography was included in the survey records. Reference Section 2.17 of the project instructions.

8. Additional Field Work

Due to the discrepancies and differences between the survey and the chart, it is recommended that this area be resurveyed by both hydrography and wire drag. Due to the poor tests this survey can only be considered as supplemental. (See Section 9b of this report.)

9. Miscellaneous

a. There are no splits within the survey.

b. Testing of the wire drag was grossly inadequate. Often sections were not tested during a drag or once a good (low lift) test was obtained the section was never retested. Generally only one, occasionally two tests were performed per section per drag. Almost all tests throughout the survey were "Tester on Bottom" (TOB) tests. Due to this crucial inadequacy of the tests, this survey can only be, at best, considered supplemental.

c. There were ten wire drag strips run on this survey; none were rejected and all strips were used in smooth plotting.

d. It was necessary to plot all strips on rough plotting overlays so that each strip could be properly evaluated. The rough overlays contain notes of the smooth plotter/verifier listing the problems encountered and the disposition of these problems. Other notes, comments, corrections, and evaluations may be found in the survey's volumes and in the Descriptive Report.

e. The ten wire drag strips plotted on the smooth sheets cover four buoy groundings with maximum clearances of these groundings. There were no hangs on this survey.

f. The plotting of individual strips was aided by the automated plot of both vessels' positions, the "N" and the "F" buoys' positions, and latitude and longitude grid ticks. The projections, control arcs, distortion points, and stamp on the smooth position number/control overlay and the smooth A & D Sheet were also automated plots. All other work was accomplished manually.

g. This survey has been processed in accordance with the letter referenced in paragraph 3e of this report. With the aforementioned exceptions, modifications, and recommendations, this survey is considered complete and no further processing is planned.

h. The smooth tides listed in the Descriptive Report were not used. Those tides were computed for Area One and none of the four tide zones are defined in either the Descriptive Report or the project instructions. Therefore, smooth tides were recomputed using a time difference of -1.4 hours which is an average of the four zoning areas. This is considered satisfactory due to the height of mean high water (MHW) above datum being only 2.1 feet and the interval for wire drag being 0.5 feet. These new smooth tides will apply to all three surveys (H-9300 WD, H-9341 WD, and H-9342 WD).

W.A. Rawson
CDR NOAA.

H-9300 U.D. R/H-40-2-73
 Abstract of Groundings

Addendum Appendix # I

Long/W/Grounding(s)	Strip No.	Position No.	Section/Buoy No.	Latitude	Longitude	Hang/Grounding E.P.P. Depth	Clearing Strip	Cleared E.P.P. Depth	Charted Depth	Direction of Strip	Remarks
G	D-1	23D	N	28°58'44"	94°06'02"	57'			54'	NW	Area of conflict between chart & survey
							E-2	57'		NW	Clearing Strip
G	E-1	5E	N	28°58'51"	94°06'06"	58'			54'	WSW	Area of conflict between chart & survey
							E-2	57'		NW	Clearing Strip
G	E-2	25E	N	28°58'40"	94°06'21"	57'			55'	NW	Area of conflict between chart & survey
							D-1	52'		NW	Clearing Strip
G	E-2	27E	F	29°00'00"	94°05'45"	59'			55'	NW	Area of conflict between chart & survey
							E-1	55'		WSW	Clearing Strip

