8737

Diag. Cht. No. 1116-3.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HY-40-2-62 *Office No.* H-8737

LOCALITY

State Texas

General locality Sabine Bank

Locality Heald Bank

1962-63

CHIEF OF PARTY

R. M. Stone

LIBRARY & ARCHIVES

DATE February 12, 1964

USCOMM-DC 5087

8737

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

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

/

HYDROGRAPHIC TITLE SHEET

First survey machine plotted & reviewed

H-8737

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.

HY-40-2-62

State Texas ~~— Louisiana~~

General locality ~~Gulf of Mexico~~ Sabine Bank

Locality ~~Sabine Bank~~ Heald Bank

Scale 1:40,000 Date of survey 1, 2 & 4 August 1962 19 - 30 Sept. 1963

Instructions dated 15 May 1962, 15 July 1963, 9 August 1963 Project No. OPR-427

Vessel HYDROGRAPHER

Chief of party CDR Raymond M. Stone (1962), CDR. W.E. Randall (1963)

Surveyed by 1962: P. A. Stark, J. F. Guth F. D. Moran 1963: W. E. Randall, C. D. Upham, S. C. Miller, D. G. Popejoy, J. H. Allred, N. A. Barnes, T. J. McConnell

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

Graphic record scaled by Ship's personnel.

Graphic record checked by Ship's personnel.

Protracted by N/A

Soundings penciled by N/A

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS: This survey is an offshore survey, controlled by Raydist. The 1962 data was recorded in sounding volumes and also by the automatic digital system. The 1963 data was recorded by the automatic digital system exclusively. After all fathograms had been check-scanned, Raydist corrections determined, and all errors rectified, a punch tape for automatic processing and plotting of this survey was cut by ship's personnel, including both 1962 and 1963 field work.

USCOMM-DC 8272-P62

H- 8737 (FILE WITH Desc. Report)
Field No.- HY 40-2-62

AUTOMATED SURVEY CONTROL FORM 24
Experimental C&GS 8505

PARAMETER CARD No. 1

FIELD ENTRY - HEADER

Entered WM DATE 19 Feb CHECKED

FIELD ENTRY	OFFICE ENTRY		Geo. Position DEGREE	MIN	SECONDS	Program Identity	CONVERSIONS: Machine words	PUNCHED OFF MACHINE CODE COMMENTS: COLUMN
✓		MASTER R1 HYDRO NAME BELA 1962 LAT	28	58	41.138	RPD	ONE 10432.1138	1 2 3 4 5 6 7 8 9 10 : 1 0 4 3 2 1 1 4 0 6
✓		LONG	95	15	15.023	RBD	TWO 34291.5023	11 12 13 14 15 16 17 18 19 20 : 3 4 2 9 1 5 0 2 0 6
✓		SLAVE R2 Hydro Name GREEN 1962 LAT	29	40	04.2287		ONE	1 2 3 4 5 6 7 8 9 10 :
✓		LONG	94	04	27.0409		TWO	11 12 13 14 15 16 17 18 19 20 :
✓		AZIMUTH from R1 to R2	236	00	34.799	RAD	THREE 84963.4.799	21 22 23 24 25 26 27 28 29 30 : 8 4 9 6 3 4 9 0 0 6
✓		AZIMUTH from R2 to R1					THREE	21 22 23 24 25 26 27 28 29 30 :
✓		Baseline distance in meters	137,775.051 meters			SMP	FOUR +	31 32 33 34 35 36 37 38 39 40 : 1 3 7 7 7 5 0 5 0 6
✓		Sounding reducers (ECHO) 0 = No correction to be applied by computer 1 = Velocity Corr to be added 2 = Velocity factor is multiplied				IVL	FIVE	41 : 2
✓		Arc of DISTANCE MEASUREMENT (METERS) Frequency of arc for S/S 1 - LANE 2	45.399000			CNV	SIX	42 43 44 45 46 47 48 49 50 51 : 4 5 3 9 9 0 0 0 0 2
	✓		—			DBS	SEVEN	52 53 54 : 0 0 0
✓		Tide Base entered into tape	60.0			TBS	EIGHT	55 56 57 : 6 0 0
✓		H- identification Number	8737			JN	NINE	58 59 60 61 62 : 0 8 7 3 7
✓	✓	Location of survey in respect to the electronic Baseline. -A or +A	+A			AAA	TEN	63 : 0

PARAMETER CARD No. 2

OFFICE		Semi-major axis of the earth	637.8206.40 (meters)
		X constant added to adjust zero origin of plotter	32,480.2 (meters)
		Y constant subtracted to adjust zero origin of plotter	319,8933.812 (meters)
FIELD		Central Meridian of projection: 94° 00' 00"	convert to seconds: 338,400.
		Plotter scale ÷ survey scale	10498.6876 / 1:40,000
		Code to adjust X or Y of Plotter to NORTH of survey sheet. (See reverse side) Short Longitude: 8 Long Longitude: 1	LAT 28° 54.5' LONG 94° 20.0'

Program Identity	CONVERSIONS: Machine words	PUNCHED OFF MACHINE CODE COMMENTS: COLUMN
RDA	ONE 6378206.40	1 2 3 4 5 6 7 8 9 10 : 6 3 7 8 2 0 6 4 0 7
XKN	TWO 32480.2	11 12 13 14 15 16 17 18 19 20 : 3 2 4 8 0 2 0 0 0 5
YKN	THREE 319893381.2	21 22 23 24 25 26 27 28 29 30 : 3 1 9 8 9 3 3 8 0 7
CMR	FOUR 338400.	31 32 33 34 35 36 37 38 39 40 : 3 3 8 4 0 0 0 0 0 6
SCA	FIVE 10498.6876	41 42 43 44 45 46 47 48 49 50 : 2 6 2 4 6 7 1 9 0 0
NYX	SIX	51 : 0

Punched : WM
Entered :
Checked :
DATE :

COMPUTATIONS: WM WM
Entered
checked
Date

EXPLANATION ON BACK SIDE

0 pdl. 94 20

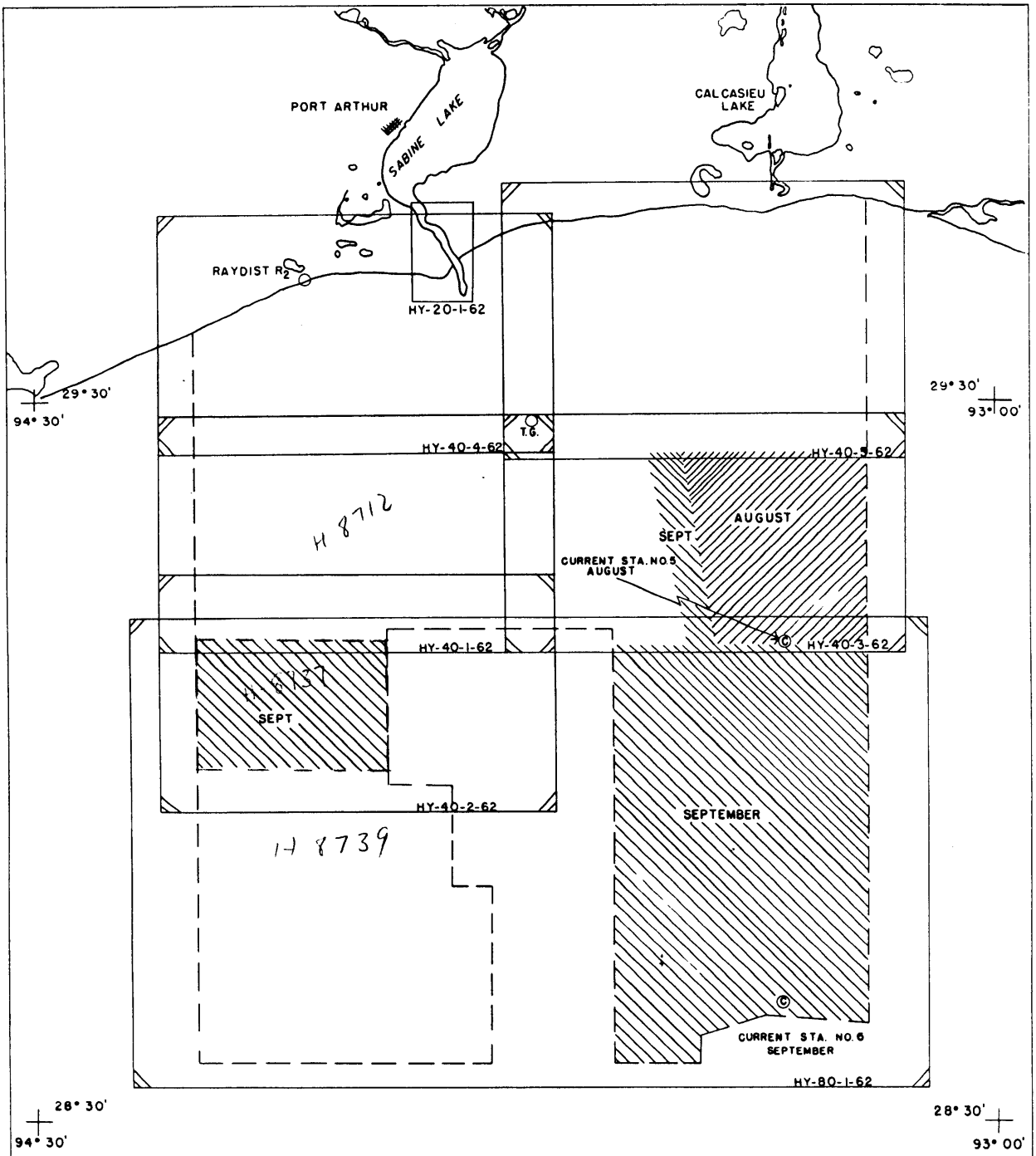
28 54 30

28 54 = 3,198,010.232
30 · 30 = 923,580
95 80 = 3190933.812

93 42
3600 60
55800 2520
279
2520
337320,0006

20 56 21 1809
3600 60 60
16800 3360 120.
84
3360

104,160.0006 1200000 1809



1963 PROGRESS SKETCH

USC & GSS HYDROGRAPHER

GULF OF MEXICO

PROJECT OPR- 427

COMBINED OPERATION

TEXAS-LOUISIANA

SCALE OF C&GS CHART NO. 1116

23 AUGUST — 30 SEPTEMBER

CDR R.M. STONE, COMD'G.

DESCRIPTIVE REPORT

to accompany

Hydrographic Survey H-8737 (HY-40-2-62)

1962 - 1963

SHIP HYDROGRAPHER — Scale: 1:40,000

Raymond M. Stone, CDR, USC&GS — Chief of Party

A. PROJECT

This survey was accomplished under Project OPR-427, Sabine Bank, Texas - Louisiana; original instructions dated 15 May 1962; supplemental instructions dated 15 July 1963; revised instructions dated 9 August 1963.

B. AREA SURVEYED

Field work on this survey during the 1962 field season consisted of a few sounding lines run by the ship on A, B and C days (1, 2 and 4 Aug. 1962) while enroute between sheet HY-80-1-62 and inshore hydrographic sheets being surveyed by the launch.

The field work on this survey was completed during the 1963 field season. All hydrography was accomplished during the period August 1 through August 4, 1962 and September 19 through September 30, 1963.

This survey is an offshore survey. It covers an area of approximately 192 square nautical miles in the northwestern Gulf of Mexico south of Sabine Pass between latitudes 28°59' N and 29°11' N and between longitudes 93°57' W and 94°16' W. This survey overlaps prior survey H-4333 (1:80,000, 1923). It is bounded on the west by H-6251 (1:80,000, 1937); on the east by H-6294 (1:80,000, 1937); on the north by H-8712 (1:40,000, 1962); and on the south by H-8739 (1:80,000, 1962).

The survey was made with the ship basing temporarily at Galveston, Texas, the home port being St. Petersburg, Florida.

C. SOUNDING VESSEL

All hydrography was accomplished by the USC&GS SHIP HYDROGRAPHER.

D. SOUNDING EQUIPMENT

(1) 1962 Season:

Raytheon Survey Fathometer DE-723 #61-29 calibrated at 800 fm/sec was used for all soundings. This instrument was provided with an encoder for use with the DATEX automatic recording system.

Depths encountered by the ship ranged from 35 to 61 feet.

The following corrections were applied to all soundings:

1. Tide Correction.
2. Velocity correction.
3. Final instrument correction consisting of:
   (a) Initial or index correction
   (b) Draft correction
   (c) Settlement and squat correction
   (d) Phase correction

Temperature and salinity as well as velocimeter observations were taken to determine fathometer velocity corrections. Velocity corrections were entered as an independent item under the echo correction column in sounding volumes. The algebraic sum of the instrumental correction, settlement and squat correction, draft correction, and phase correction were entered in the sounding volumes under one correction (instrument) and are tabulated at the end of this report.

For a detailed description of methods used in the determination of these corrections refer to 1962 Fathometer Report, Project OPR-427.

The fathometer initial correction, which was also entered as a separate item in the sounding records, was determined during check scanning of the fathograms.

The instrument correction was determined from simultaneous comparisons (vertical casts) made during the course of field work.

Ship draft corrections for the transducers were determined from measurements taken at the beginning and end of each trip.

The settlement and squat corrections for the ship were derived from tests made on September 13 and October 24, 1950. There have been no structural changes on board since 1950, which would have affected these corrections.

For a more detailed discussion on the determination of corrections, refer to Report on Corrections to Echo Soundings, Project OPR-427, Sabine Bank, Texas - Louisiana, July - Sept. 1962, USC&GSS HYDROGRAPHER, which was submitted to the Washington Office 3/8/63.

(2) 1963 SEASON

Raytheon Survey Fathometers Type DE-723 Nos. 61-29 and 216 calibrated at 800

fm/sec. were used for all soundings.

Depths encountered by the ship ranged from ~~29~~ 27 to ~~69~~ 70 feet.

The following corrections were applied to all soundings:

1. Tide correction.
2. Velocity correction.
3. Final instrument correction consisting of:
   (a) Initial or index correction.
   (b) Draft correction.
   (c) Settlement and squat correction.
   (d) Phase correction.

The velocity correction, instrument correction, ship draft correction, phase correction, and fathometer initial correction were determined by the same methods used in 1962.

The settlement and squat corrections for the ship were derived from tests made on August 20, 1963.

For methods of applying these corrections refer to section "O" of this report.

E. SMOOTH SHEET

The smooth sheet ~~will be~~ was mechanically plotted in the Washington Office from a smooth punch tape to be supplied by this ship. Minor corrections were applied to this tape by the Wash. Office computer center.

F. CONTROL

Hydrography on this sheet was controlled entirely by the Raydist electronic system.

The R^1 (Red) Raydist station was established by the East Coast Field Party during June, 1962, by occupying triangulation station SKEET 1933, and measuring an angle and distance to the R^1 station. This station was originally described as HUB "A", 1962, by the East Coast Field Party, and later described as station BELA 1962 by the Ship HYDROGRAPHER. Station BELA 1962 was marked with a standard triangulation disk at the close of the 1962 season.

The R^2 (Green) Raydist station was located by personnel from the Ship HYDROGRAPHER during July 1962 by third order triangulation and short traverse, tying into stations REBECCA-2, 1934, and FADDEN, 1934. The R^2 station was described and marked as "GREEN 1962".

The Raydist station locations are as follows:

R^1 (Red) station (BELA 1962), Freeport, Texas. Latitude 28°58'41"138 N, Longitude 95°15'15"023 W.

R^2 (Green) station (GREEN 1962), Sabine Pass, Texas. Latitude 29°40'04"228 N, Longitude 94°04'27"040 W.

For the 1962 season: A Raydist calibration sheet (scale 1:20,000) of the Sabine Pass, Texas area, furnished by the Washington Office, was used to set the Raydist dials correctly prior to the survey. Numerous offshore oil well structures and various buoys were also used as calibration points, after they were once located by Raydist. This was accomplished by circling the object with the ship on a radius of approximately 100 meters and observing reciprocal bearings when crossing the tangents of the two Raydist arcs. For a complete discussion of the methods used in determining Raydist corrections, refer to Raydist Report, OPR-427, 1962, which was submitted to the Washington Office on December 19, 1962.

For the 1963 season: Prior to commencing hydrography, Triangulation Party 603 had established geodetic control on five offshore oil well structures in the project area. Calibrations were accomplished by the following method: With the vessel at reduced speed, a structure was circled at a distance of approximately 100 meters. Bearings to the structure were observed to determine when the vessel crossed the tangents of the two Raydist arcs defining the position of the structure. Readings of the appropriate Raydist arcs were recorded as the tangents were crossed. Thus, for each complete circle of the structure, two independent determinations were made of the value of each Raydist arc. The mean of the two reciprocal observations on each tangent was accepted as the position value for that determination. Calibrations usually consisted of at least two complete circles of the structures.

G. SHORELINE

There is no shoreline within the area covered by this survey.

H. CROSSLINES

Of the 801.9 nautical miles of hydrography accomplished, 71 miles (or 8.8 per cent of all sounding lines) were run as crosslines.

All crosslines are in good agreement with no discrepancies in excess of one foot except the crossline from position 10B to 17B where the discrepancy in a few instances is slightly in excess of one foot. These discrepancies do not affect the depth curve. All 1962 work adjusted by adding 1 ft. to all soundings. See Review Par. 3(A.).

I. JUNCTIONS

Junctions were made with all prior surveys listed in Section "B" of this report. On the eastern junction with H-6294 (1937) ~~numerous discrepancies ranging from 1 to 5 feet were discovered. This is possibly due to inadequate control and/or inaccurate depth finding methods used on the 1937 survey~~ agreement is good. On the western junction with H-6251 (1937) good general agreement was found with a few scattered discrepancies up to 5 feet. On the southern junction with H-8739 (1962) and on the northern junction with H-8712 (1962) good general agreement was found with discrepancies ranging from 1 to 2 feet.

J. COMPARISON WITH PRIOR SURVEYS

Reasonably good agreement was found to exist between this survey and all

prior surveys listed in Section "B" of this report, except for Survey H-4333, 1:80,000, 1923, which exhibited random differences ranging from 1 to 4 feet; ~~and H-6294, 1:80,000, 1937, which exhibited numerous differences ranging from 1 to 5 feet.~~

K. COMPARISON WITH CHART

Comparison of this survey with Chart 1280 (6th Ed., 4/16/62, corrected through Notice to Mariners #31, 8/3/63) indicated good general agreement; soundings from this survey being generally 1 to 3 feet shoaler than the charted soundings. Charted depth Heald Bank 25 ft., 27-ft. obtained on present survey.

L. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting. See Par. 6 Review

M. AIDS TO NAVIGATION

Two buoys were located within the survey area. One of these buoys is charted, the other is not.

(a) Charted buoy: Light List No. 6463, Heald Bank Lighted Whistle Buoy "2". Light List position Lat. 29°05.0' N, Long. 94°13.7' W; the actual position was Lat. 29°05.18' N, Long. 94°13.29' W.

(b) Uncharted buoy: Unlighted Nun "2" found to be in position Lat. 29°05.29' N, Long. 94°13.24' W. This is a marker buoy for the whistle buoy above.

N. STATISTICS

Statistics for this survey are as follows:

Survey Vessel	Year	Total No. Positions	Naut. Miles Sdg. Lines
SHIP HYDROGRAPHER	1962	61	42.6
SHIP HYDROGRAPHER	1963	1061	759.3
TOTAL		1122	801.9

Total area of survey: 192 square nautical miles
Number of bottom samples obtained: 35

O. MISCELLANEOUS

Recording of survey information in 1962 was in standard sounding volumes. The DATEX Automatic Hydrographic Digital Recording System was used experimentally during this period.

In 1963 the DATEX system was used exclusively. Its record consists of a digital and literal printout and a coded punched tape to be used in automatic processing and mechanical plotting of the smooth sheet.

For the 1963 work all DATEX records were in the following format:

Time	Phase	Sounding	Pos. No.	Draft	Tide	Velocity Factor	Ft/Fms.	R^1	R^2	Ship's Heading	Day No.
161723	04	0282	1262	022	600	1048	1	025782	017844	182	219

The day number indicates the day of the year and position numbers are consecutive for the entire sheet.

After all corrections have been entered and checked on the original printout and all soundings have been reduced for phase (i.e. 40.0 added to all "B" scale soundings, 80.0 added to all "C" scale soundings, etc.) a smooth punch tape will be cut using the following format:

Time	DE-723 Sounding	Pos. No.	Draft	Tide	Velocity Factor	Feet	R^1	R^2	Ship's Heading	Day of Year
184200	01	0148	1262	022	600	1048	1	257820	178440	219	182

On the above format the second item of the long word has been changed to indicate type of echo sounder used (00 for PDR, 01 for DE-723) rather than the phase.

The original DATEX printout serves as the authorized record of the survey. All corrections and supplemental data are shown on it. The final smooth punched tape is made from it, and the verifier must resort to it as his primary source.

Corrections to echo soundings are entered in the sounding record (printout) as follows:

(a) An arbitrary factor of 60.0 was added to the tide reducer to make all tide corrections positive. The 60.0 will be subtracted from the sounding during the computer processing of the survey. Since the tidal data was unavailable during the period of field work, entry of tide correction was delayed until after field work was completed.

(b) Draft Correction: In the automatic recording system it is necessary to combine the echo sounder instrument correction, phase correction (if applicable), initial or index correction, settlement and squat correction, and draft correction and enter the resulting algebraic sum as "Draft" on the parameter board.

(c) Velocity Factor: Sound velocity corrections for this survey were determined from temperature and salinity observations, supplemented by various velocimeter observations. Because of the recording system used it was necessary to compute velocity factors from the velocity corrections. In the

automatic processing of the data, these factors will be applied to each uncorrected sounding by multiplication to determine the true depth below the transducer. See Report on Automatic Hydrographic Digital Recording System, Ship HYDROGRAPHER, 1963, for a more detailed discussion of the DATEX System as used during 1963.

Since the field work for 1962 was recorded in sounding volumes, soundings were reduced in the conventional manner. To adapt this data to automatic smooth sheet plotting it was necessary to make a punched tape. The tape was made in the format of other smooth punched tapes as described above. However, because the soundings are already reduced, it was necessary to show the draft as "000", the tide as"60.0" and the velocity factor as "1.000". This will allow the computer to use the same program throughout the survey for both years.

P. RECOMMENDATIONS:

None

Q. REFERENCES TO REPORTS:

Title of Report	Date Forwarded W/O
Raydist Report, Project OPR-427, USC&GS HYDROGRAPHER (July - September 1962)	12/19/62
Report on Corrections to Echo Soundings (Fathometer Report), Project OPR-427, USC&GSS HYDROGRAPHER (July - September 1962)	3/8/63
Report on Temperature & Salinity Observations and Velocimeter Casts, Project OPR-427, USC&GSS HYDROGRAPHER, 1962	3/8/63
Season's Report, USC&GSS HYDROGRAPHER (1962 Field Season)	3/8/63
Raydist Report, Project OPR-427, USC&GSS HYDROGRAPHER (August - October 1963)	12/5/63
Report on Corrections to Echo Soundings (Fathometer Report),Project OPR-427, USC&GSS HYDROGRAPHER (August 23 - September 30, 1963)-	11/15/63
Report on Temperature & Salinity Observations and Velocimeter Casts, Project OPR-427, USC&GSS HYDROGRAPHER (August 23 - September 30, 1963)-	11/15/63

Title of Report	Date Forwarded W/O
Report on Installation and Operation of Pressure Recording Tide Gage and FM Radio Telemetering Equipment (1963) Project OPR-427, USC&GSS HYDROGRAPHER	11/19/63
Season's Report, USC&GSS HYDROGRAPHER (1963 Field Season)	
Report on Automatic Hydrographic Digital Recording System, USC&GSS HYDROGRAPHER, 1963	

Respectfully submitted:

Joseph T. Smith

Joseph T. Smith, ENS, USC&GS

Approved and Forwarded:

William E. Randall

William E. Randall, CDR, USC&GS
Com'd'g., USC&GS Ship HYDROGRAPHER

TIDE NOTE

SHEET HY-40-2-62
(REGISTRY NO. H-8737)

TIDE STATION: Pleasure Pier, Galveston, Texas (Lat. 29°17.0' N., Long. 94°47.0' W)

PHASE OF REFERENCE: MLW = 2.4' on tide staff

TIME MERIDIAN: 90° West

TIME CORRECTION: Minus one hour (Bureau letter 2221-42-982h, 2/15/63)

AREA COVERED: Entire area of sheet H-8737

During the period of this survey the Sabine Bank Lighthouse Pressure Recording Tide Gage was not in operation; therefore in compliance with Chief, Marine Data Division letter 2221-42-982h dated 2/15/63 tides recorded at the Pleasure Pier, Galveston, Texas Tide Station (corrected for minus one hour time correction and reduced to MLW), were used in the reduction of all soundings on this survey. An abstract of Tide Reducers is appended to this report.

ABSTRACT OF TIDE CORRECTIONS
HY-40-2-62

DATE (1962)	DAY	TIME (90°W)	CORRECTION (FEET)
August 1	"A"	2200 - 2300	0.0
		2301 - 2337	-0.2
		2338 - 2400	-0.4
August 2	"B"	0000 - 0009	-0.4
		0010 - 0034	-0.6
		0035 - 0100	-0.8
		0101 - 0126	-1.0
		0127 - 0155	-1.2
		0156 - 0232	-1.4
		0233 - 0300	-1.6
August 4	"C"	1500 - 1525	-1.4
		1526 - 1722	-1.6
		1723 - 1845	-1.4

JNAB

ABSTRACT OF TIDE CORRECTIONS
HY-40-2-62 - - - - - 1963

Sept. 19	
0000-0040	-2.4
0041-0140	-2.6
0141-0500	-2.8
0501-0535	-2.6
0536-0600	-2.4
0601-0640	-2.2
0641-0800	-2.0
0801-1000	-1.8
1001-1100	-2.0
1101-1200	-2.2
1201-1310	-2.4
1311-1430	-2.6
1431-1635	-2.8
1636-1740	-2.6
1741-1835	-2.4
1836-2000	-2.2
2001-2300	-2.0
2301-2340	-2.2
2341-2400	-2.4

Sept. 20	
0001-0030	-2.4
0031-0500	-2.6
0501-0550	-2.4
0551-0640	-2.2
0641-0750	-2.0
0751-1200	-1.8
1201-1250	-2.0
1251-1340	-2.2
1341-1425	-2.4
1426-1520	-2.6
1521-1750	-2.8
1751-1830	-2.6
1831-1910	-2.4
1911-2100	-2.2
2101-2340	-2.0
2341-2400	-2.2

Sept. 21	
0000-0130	-2.2
0131-0500	-2.4
0501-0540	-2.2
0541-0620	-2.0
0621-0700	-1.8
0701-0740	-1.6
0741-0820	-1.4
0821-1130	-1.2
1131-1220	-1.4
1221-1300	-1.6
1301-1335	-1.8
1336-1415	-2.0
1416-1500	-2.2
1501-1600	-2.4
1601-1800	-2.6
1801-1900	-2.4
1901-2015	-2.2
2016-2400	-2.0

Sept. 22	
0000-0430	-2.0
0431-0550	-1.8
0551-0625	-1.6
0626-0700	-1.4
0701-0740	-1.2
0741-1230	-1.0
1231-1330	-1.2
1331-1420	-1.4
1421-1500	-1.6
1501-1540	-1.8
1541-1625	-2.0
1626-1740	-2.2
1741-2000	-2.4
2001-2150	-2.2
2151-2400	-2.0

Sept. 23	
0000-0400	-2.2
0401-0500	-2.0
0501-0830	-1.8
0831-0940	-1.6
0941-1350	-1.4
1351-1435	-1.6
1436-1520	-1.8
1521-1620	-2.0
1621-1715	-2.2
1716-1810	-2.4
1811-1900	-2.6
1901-2000	-2.8
2001-2110	-3.0
2111-2310	-3.2
2311-2400	-3.0

Sept. 28	
0000-0040	-3.0
0041-0215	-2.8
0216-0600	-2.6
0601-0700	-2.4
0701-1030	-2.2
1031-1120	-2.0
1121-1200	-1.8
1201-1240	-1.6
1241-1320	-1.4
1321-1400	-1.2
1401-1750	-1.0
1751-1855	-1.2
1856-1940	-1.4
1941-2015	-1.6
2016-2050	-1.8
2051-2120	-2.0
2121-2200	-2.2
2201-2235	-2.4
2236-2310	-2.6
2311-2400	-2.8

Sept. 29	
0000-0155	-2.8
0156-0300	-2.6
0301-0400	-2.4
0401-0510	-2.2
0511-0610	-2.0
0611-1135	-1.8
1136-1210	-1.6
1211-1300	-1.4
1301-1335	-1.2
1336-1420	-1.0
1421-1510	-0.8
1511-1600	-0.6
1601-1710	-0.4
1711-1915	-0.2
1916-2000	-0.4
2001-2030	-0.6
2031-2100	-0.8
2101-2130	-1.0
2131-2200	-1.2
2201-2240	-1.4
2241-2310	-1.6
2311-2330	-1.8
2331-2400	-2.0

Sept. 30	
0001-0035	-2.2
0036-0330	-2.4
0331-0420	-2.2
0421-0915	-2.0
0916-1200	-2.2
1201-1310	-2.0
1311-1350	-1.8
1351-1440	-1.6
1441-1520	-1.4
1521-1600	-1.2
1601-1700	-1.0
1701-2010	-0.8
2011 -2045	-1.0
2046-2115	-1.2
2116-2143	-1.4
2144-2210	-1.6
2211-2230	-1.8
2231-2250	-2.0
2251-2300	-2.2

✓ NAB

FINAL INSTRUMENT CORRECTION

(For Conventional Method of Recording in Sounding Volumes)

Ship Hydrography on Sheets: (HY-40-1-62) (HY-40-2-62) (HY-40-3-62) (HY-40-4-62) (HY-40-5-62) (HY-80-1-62)

DE-723 Fathometer No. 61-29 (For Soundings on "A" SCALE Only)

Date (1962)	Draft Corr'n (Ft)	Instr. Corr'n (Ft)	Phase Corr'n (Ft)	Settlement & Squat (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	Settlement & Squat (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	(Fms)	FINAL CORRECTION (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	(Fms)
July 23	∠0.1	-1.7	0.0	0.0	∠0.8	-1.6	-0.3	-0.8	-0.1
July 24	-0.1	1.7	0.0	0.0	0.8	-1.8	-0.3	-1.0	-0.2
July 25	-0.4	1.7	0.0	0.0	0.8	-2.1	-0.4	-1.3	-0.2
July 26	-0.6	1.7	0.0	0.0	0.8	-2.3	-0.4	-1.5	-0.2
July 27	-0.8	1.7	0.0	0.0	0.8	-2.5	-0.4	-1.7	-0.3
Aug 1-2	∠0.2	1.7	0.0	0.0	0.8	-1.5	-0.2	-0.7	-0.1
Aug 3-4	0.0	1.7	0.0	0.0	0.8	-1.7	-0.3	-0.9	-0.2
Aug 5-6	-0.2	1.7	0.0	0.0	0.8	-1.9		-1.1	
Aug 7-8	-0.4	1.7	0.0	0.0	0.8	-2.1		-1.3	
Aug 9-10	-0.6	1.7	0.0	0.0	0.8	-2.3		-1.5	
Aug 14	∠0.3	1.7	0.0	0.0	0.8	-1.4		-0.6	
Aug 15-16	∠0.2	1.7	0.0	0.0	0.8	-1.5		-0.7	
Aug 17-18	0.0	1.7	0.0	0.0	0.8	-1.7		-0.9	
Aug 19-20	-0.2	1.7	0.0	0.0	0.8	-1.9		-1.1	
Aug 21-22	-0.4	1.7	0.0	0.0	0.8	-2.1		-1.3	
Aug 23-24	-0.6	1.7	0.0	0.0	0.8	-2.3		-1.5	
Sept 7-8	∠0.6	1.7	0.0	0.0	0.8	-1.1		-0.3	
Sept 9-10	∠0.4	1.7	0.0	0.0	0.8	-1.3		-0.5	
Sept 11-12	∠0.2	1.7	0.0	0.0	0.8	-1.5		-0.7	
Sept 13-14	0.0	1.7	0.0	0.0	0.8	-1.7		-0.9	
Sept 15-16	-0.2	1.7	0.0	0.0	0.8	-1.9		-1.1	
Sept 24-25	∠0.2	1.7	0.0	0.0	0.8	-1.5		-0.7	
Sept 26-28	0.0	-1.7	0.0	0.0	∠0.8	-1.7		-0.9	

FINAL INSTRUMENT CORRECTION

(For Conventional Method of Recording in Sounding Volumes)

Ship Hydrography on Sheets: (HY-40-1-62)
~~(HY-40-2-62)~~
(HY-40-3-62)
(HY-40-4-62)
(HY-40-5-62)
(HY-80-1-62)

DE-723 Fathometer No. 61-29 (For Soundings on "B" SCALE Only)

Date (1962)	Draft Corr'n (Ft)	Instr. Corr'n (Ft)	Phase Corr'n (Ft)	Settlement & Squat (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	Settlement & Squat (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	(Fms)	FINAL CORRECTION (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	(Fms)
July 23	∔0.1	-1.7	0.0	0.0	∔0.8	-1.6	-0.3	-0.8	-0.1
July 24	-0.1	1.7	0.0	0.0	0.8	-1.8	-0.3	-1.0	-0.2
July 25	-0.4	1.7	0.0	0.0	0.8	-2.1	-0.4	-1.3	-0.2
July 26	-0.6	1.7	0.0	0.0	0.8	-2.3	-0.4	-1.5	-0.2
July 27	-0.8	1.7	0.0	0.0	0.8	-2.5	-0.4	-1.7	-0.3
Aug 1-2	∔0.2	1.7	0.0	0.0	0.8	-1.5	-0.2	-0.7	-0.1
Aug 3-4	0.0	1.7	0.0	0.0	0.8	-1.7	-0.3	-0.9	-0.2
Aug 5-6	-0.2	1.7	0.0	0.0	0.8	-1.9		-1.1	
Aug 7-8	-0.4	1.7	0.0	0.0	0.8	-2.1		-1.3	
Aug 9-10	-0.6	1.7	0.0	0.0	0.8	-2.3		-1.5	
Aug 14	∔0.3	1.7	0.0	0.0	0.8	-1.4		-0.6	
Aug 15-16	∔0.2	1.7	0.0	0.0	0.8	-1.5		-0.7	
Aug 17-18	0.0	1.7	0.0	0.0	0.8	-1.7		-0.9	
Aug 19-20	-0.2	1.7	0.0	0.0	0.8	-1.9		-1.1	
Aug 21-22	-0.4	1.7	0.0	0.0	0.8	-2.1		-1.3	
Aug 23-24	-0.6	1.7	0.0	0.0	0.8	-2.3		-1.5	
Sept 7-8	∔0.6	1.7	0.0	0.0	0.8	-1.1		-0.3	
Sept 9-10	∔0.4	1.7	0.0	0.0	0.8	-1.3		-0.5	
Sept 11-12	∔0.2	1.7	0.0	0.0	0.8	-1.5		-0.7	
Sept 13-14	0.0	1.7	0.0	0.0	0.8	-1.7		-0.9	
Sept 15-16	-0.2	1.7	0.0	0.0	0.8	-1.9		-1.1	
Sept 24-25	∔0.2	1.7	0.0	0.0	0.8	-1.5		-0.7	
Sept 26-28	0.0	-1.7	0.0	0.0	∔0.8	-1.7		-0.9	

FINAL INSTRUMENT CORRECTION

(For Conventional Method of Recording in Sounding Volumes)

Ship Hydrography on Sheets: (HY-40-1-62)
(HY-40-2-62)
(HY-40-3-62)
(HY-40-4-62)
(HY-40-5-62)
(HY-80-1-62)

DE-723 Fathometer No. 216

(For Soundings on "A" SCALE Only)

Date (1962)	Draft Corr'n (Ft)	Instr. Corr'n (Ft)	Phase Corr'n (Ft)	Settlement & Squat (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	Settlement & Squat (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	(Fms)	FINAL CORRECTION (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	(Fms)
July 23	+0.1	-1.0	0.0	0.0	+0.8	-0.9	-0.2	-0.1	0.0
July 24	-0.1	1.0	0.0	0.0	0.8	-1.1	-0.2	-0.3	0.0
July 25	-0.4	1.0	0.0	0.0	0.8	-1.4	-0.2	-0.6	-0.1
July 26	-0.6	1.0	0.0	0.0	0.8	-1.6	-0.3	-0.8	-0.1
July 27	-0.8	1.0	0.0	0.0	0.8	-1.8	-0.3	-1.0	-0.2
Aug 1-2	+0.2	1.0	0.0	0.0	0.8	-0.8	-0.1	0.0	0.0
Aug 3-4	0.0	1.0	0.0	0.0	0.8	-1.0	-0.2	-0.2	0.0
Aug 5-6	-0.2	1.0	0.0	0.0	0.8	-1.2		-0.4	
Aug 7-8	-0.4	1.0	0.0	0.0	0.8	-1.4		-0.6	
Aug 9-10	-0.6	1.0	0.0	0.0	0.8	-1.6		-0.8	
Aug 14	+0.3	1.0	0.0	0.0	0.8	-0.7		+0.1	
Aug 15-16	+0.2	1.0	0.0	0.0	0.8	-0.8		0.0	
Aug 17-18	0.0	1.0	0.0	0.0	0.8	-1.0		-0.2	
Aug 19-20	-0.2	1.0	0.0	0.0	0.8	-1.2		-0.4	
Aug 21-22	-0.4	1.0	0.0	0.0	0.8	-1.4		-0.6	
Aug 23-24	-0.6	1.0	0.0	0.0	0.8	-1.6		-0.8	
Sept 7-8	+0.6	1.0	0.0	0.0	0.8	-0.4		+0.4	
Sept 9-10	+0.4	1.0	0.0	0.0	0.8	-0.6		+0.2	
Sept 11-12	+0.2	1.0	0.0	0.0	0.8	-0.8		0.0	
Sept 13-14	0.0	1.0	0.0	0.0	0.8	-1.0		-0.2	
Sept 15-16	-0.2	1.0	0.0	0.0	0.8	-1.2		-0.4	
Sept 24-25	+0.2	1.0	0.0	0.0	0.8	-0.8		0.0	
Sept 26-28	0.0	-1.0	0.0	0.0	+0.8	-1.0		-0.2	

FINAL INSTRUMENT CORRECTIONS

(For Conventional Method of Recording in Sounding Volumes)

Ship Hydrography on Sheets: (HY-40-1-62)
(HY-40-2-62)
(HY-40-3-62)
(HY-40-4-62)
(HY-40-5-62)
(HY-80-1-62)

DE-723 Fathometer No. 216 (For Soundings on "B" Scale Only)

Date (1962)	Draft Corr'n (Ft)	Instr. Corr'n (Ft)	Phase Corr'n (Ft)	Settlement & Squat (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	Settlement & Squat (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Half Ah) (80 RPM) (Fms)	FINAL CORRECTION (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Full Ah) (120 RPM) (Fms)
July 23	+0.1	-1.0	-0.2	0.0	+0.8	-1.1	-0.2	-0.3	0.0
July 24	-0.1	1.0	0.2	0.0	0.8	-1.3	-0.2	-0.5	-0.1
July 25	-0.4	1.0	0.2	0.0	0.8	-1.6	-0.3	-0.8	-0.1
July 26	-0.6	1.0	0.2	0.0	0.8	-1.8	-0.3	-1.0	-0.2
July 27	-0.8	1.0	0.2	0.0	0.8	-2.0	-0.3	-1.2	-0.2
Aug 1 - 2	+0.2	1.0	0.2	0.0	0.8	-1.0	-0.2	-0.2	0.0
Aug 3 - 4	0.0	1.0	0.2	0.0	0.8	-1.2	-0.2	-0.4	-0.1
Aug 5 - 6	-0.2	1.0	0.2	0.0	0.8	-1.4		-0.6	
Aug 7 - 8	-0.4	1.0	0.2	0.0	0.8	-1.6		-0.8	
Aug 9 - 10	-0.6	1.0	0.2	0.0	0.8	-1.8		-1.0	
Aug 14	+0.3	1.0	0.2	0.0	0.8	-0.9		-0.1	
Aug 15 - 16	+0.2	1.0	0.2	0.0	0.8	-1.0		-0.2	
Aug 17 - 18	0.0	1.0	0.2	0.0	0.8	-1.2		-0.4	
Aug 19 - 20	-0.2	1.0	0.2	0.0	0.8	-1.4		-0.6	
Aug 21 - 22	-0.4	1.0	0.2	0.0	0.8	-1.6		-0.8	
Aug 23 - 24	-0.6	1.0	0.2	0.0	0.8	-1.8		-1.0	
Sept 7 - 8	+0.6	1.0	0.2	0.0	0.8	-0.6		+0.2	
Sept 9 - 10	+0.4	1.0	0.2	0.0	0.8	-0.8		0.0	
Sept 11-12	+0.2	1.0	0.2	0.0	0.8	-1.0		-0.2	
Sept 13-14	0.0	1.0	0.2	0.0	0.8	-1.2		-0.4	
Sept 15-16	-0.2	1.0	0.2	0.0	0.8	-1.4		-0.6	
Sept 24-25	+0.2	1.0	0.2	0.0	0.8	-1.0		-0.2	
Sept 26-28	0.0	-1.0	-0.2	0.0	+0.8	-1.2		-0.4	

FINAL INSTRUMENT CORRECTIONS

(For Digital Method of Recording on Datex Printout)

Ship Hydrography on Sheets: (HY-40-1-62)
(HY-40-2-62)
(HY-40-3-62)
(HY-40-4-62)
(HY-40-5-62)
(HY-80-1-62)

DE-723 Fathometer No. 61-29 (For Soundings on "A" & "B" Scale)

Date (1962)	Draft of Transducer (Ft)	Instr. Corr'n (Ft)	Phase Corr'n (Ft)	Settlement & Squat (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	Settlement & Squat (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Half Ah) (80 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Half Ah) (80 RPM) (Fms)	FINAL CORRECTION (Speed of Vessel) (Full Ah) (120 RPM) (Ft)	FINAL CORRECTION (Speed of Vessel) (Full Ah) (120 RPM) (Fms)
Aug 1 - 2	∠12.2	-1.7	0.0	0.0	∠0.8	∠10.5	∠1.8	∠11.3	∠1.9
Aug 3 - 4	12.0	1.7	0.0	0.0	0.8	10.3	1.7	11.1	1.8
Aug 5 - 6	11.8	1.7	0.0	0.0	0.8	10.1		10.9	
Aug 7 - 8	11.6	1.7	0.0	0.0	0.8	9.9		10.7	
Aug 9 - 10	11.4	1.7	0.0	0.0	0.8	9.7		10.5	
Aug 14	12.3	1.7	0.0	0.0	0.8	10.6		11.4	
Aug 15-16	12.2	1.7	0.0	0.0	0.8	10.5		11.3	
Aug 17-18	12.0	1.7	0.0	0.0	0.8	10.3		11.1	
Aug 19-20	11.8	1.7	0.0	0.0	0.8	10.1		10.9	
Aug 21-22	11.6	1.7	0.0	0.0	0.8	9.9		10.7	
Aug 23-24	11.4	1.7	0.0	0.0	0.8	9.7		10.5	
Sept 7-8	12.6	1.7	0.0	0.0	0.8	10.9		11.7	
Sept 9-10	12.4	1.7	0.0	0.0	0.8	10.7		11.5	
Sept 11-12	12.2	1.7	0.0	0.0	0.8	10.5		11.3	
Sept 13-14	12.0	1.7	0.0	0.0	0.8	10.3		11.1	
Sept 15-16	11.8	1.7	0.0	0.0	0.8	10.1		10.9	
Sept 24-25	12.2	1.7	0.0	0.0	0.8	10.5		11.3	
Sept 26-28	∠12.0	-1.7	0.0	0.0	∠0.8	∠10.3		∠11.1	

FINAL INSTRUMENT CORRECTIONS

(For Digital Method of Recording on Datex Printout)

Ship Hydrography on Sheets: (HY-40-1-62)
(HY-40-2-62)
(HY-40-3-62)
(HY-40-4-62)
(HY-40-5-62)
(HY-80-1-62)

DE-723 Fathometer No. 216 (For Soundings on "A" Scale Only)

Date (1962)	Draft of Transducer (Ft)	Instr. Corr'n (Ft)	Phase Corr'n (Ft)	Settlement & Squat (Speed of Vessel) Half Ah 80 RPM (Ft)	Settlement & Squat (Speed of Vessel) Full Ah 120 RPM (Ft)	FINAL CORRECTION (Speed of Vessel) Half Ah 80 RPM (Ft)	(Fms)	FINAL CORRECTION (Speed of Vessel) Full Ah 120 RPM (Ft)	(Fms)
Aug 1 - 2	∠12.2	-1.0	0.0	0.0	∠0.8	∠11.2	∠1.9	∠12.0	∠2.0
Aug 3 - 4	12.0	1.0	0.0	0.0	0.8	11.0	∠1.8	11.8	∠2.0
Aug 5 - 6	11.8	1.0	0.0	0.0	0.8	10.8		11.6	
Aug 7 - 8	11.6	1.0	0.0	0.0	0.8	10.6		11.4	
Aug 9 - 10	11.4	1.0	0.0	0.0	0.8	10.4		11.2	
Aug 14	12.3	1.0	0.0	0.0	0.8	11.3		12.1	
Aug 15-16	12.2	1.0	0.0	0.0	0.8	11.2		12.0	
Aug 17-18	12.0	1.0	0.0	0.0	0.8	11.0		11.8	
Aug 19-20	11.8	1.0	0.0	0.0	0.8	10.8		11.6	
Aug 21-22	11.6	1.0	0.0	0.0	0.8	10.6		11.4	
Aug 23-24	11.4	1.0	0.0	0.0	0.8	10.4		11.2	
Sept 7-8	12.6	1.0	0.0	0.0	0.8	11.6		12.4	
Sept 9-10	12.4	1.0	0.0	0.0	0.8	11.4		12.2	
Sept 11-12	12.2	1.0	0.0	0.0	0.8	11.2		12.0	
Sept 13-14	12.0	1.0	0.0	0.0	0.8	11.0		11.8	
Sept 15-16	11.8	1.0	0.0	0.0	0.8	10.8		11.6	
Sept 24-25	12.2	1.0	0.0	0.0	0.8	11.2		12.0	
Sept 26-28	∠12.0	-1.0	0.0	0.0	∠0.8	∠11.0		∠11.8	

FINAL INSTRUMENT CORRECTIONS

(For Digital Method of Recording on Datex Printout)

Ship Hydrography on Sheets: (HY-40-1-62), (HY-40-2-62), (HY-40-3-62), (HY-40-4-62), (HY-40-5-62), (HY-80-1-62)

DE-723 Fathometer No. 216 (For Soundings on "B" Scale Only)

Date (1962)	Draft of Transducer (Ft)	Instr. Corr'n (Ft)	Phase Corr'n (Ft)	Settlement & Squat (Speed of Vessel) Half Ah 80 RPM (Ft)	Settlement & Squat (Speed of Vessel) Full Ah 120 RPM (Ft)	FINAL CORRECTION (Speed of Vessel) Half Ah 80 RPM (Ft)	FINAL CORRECTION (Speed of Vessel) Half Ah 80 RPM (Fms)	FINAL CORRECTION (Speed of Vessel) Full Ah 120 RPM (Ft)	FINAL CORRECTION (Speed of Vessel) Full Ah 120 RPM (Fms)
Aug 1 - 2	∕12.2	-1.0	-0.2	0.0	∕0.8	∕11.0	∕1.8	∕11.8	∕2.0
Aug 3 - 4	12.0	1.0	0.2	0.0	0.8	10.8	∕1.8	11.6	∕1.9
Aug 5 - 6	11.8	1.0	0.2	0.0	0.8	10.6		11.4	
Aug 7 - 8	11.6	1.0	0.2	0.0	0.8	10.4		11.2	
Aug 9 - 10	11.4	1.0	0.2	0.0	0.8	10.2		11.0	
Aug 14	12.3	1.0	0.2	0.0	0.8	11.1		11.9	
Aug 15-16	12.2	1.0	0.2	0.0	0.8	11.0		11.8	
Aug 17-18	12.0	1.0	0.2	0.0	0.8	10.8		11.6	
Aug 19-20	11.8	1.0	0.2	0.0	0.8	10.6		11.4	
Aug 21-22	11.6	1.0	0.2	0.0	0.8	10.4		11.2	
Aug 23-24	11.4	1.0	0.2	0.0	0.8	10.2		11.0	
Sept 7-8	12.6	1.0	0.2	0.0	0.8	11.4		12.2	
Sept 9-10	12.4	1.0	0.2	0.0	0.8	11.2		12.0	
Sept 11-12	12.2	1.0	0.2	0.0	0.8	11.0		11.8	
Sept 13-14	12.0	1.0	0.2	0.0	0.8	10.8		11.6	
Sept 15-16	11.8	1.0	0.2	0.0	0.8	10.6		11.4	
Sept 24-25	12.2	1.0	0.2	0.0	0.8	11.0		11.8	
Sept 26-28	∕12.0	-1.0	-0.2	0.0	∕0.8	∕10.8		∕11.6	

1963 season

ABSTRACT OF FINAL INSTRUMENT CORRECTIONS: (In Feet)

For Period (1963)	For DE-723 Fath. #61-29 A-scale (feet)	For DE-723 Fath. #61-29 B-scale (feet)	For DE-723 Fath. #216 A-scale (feet)	For DE-723 Fath. #216 B-scale (feet)
0801 Aug. 23 - 0800 Aug. 24	13.1	12.7	12.8	12.6
0801 " 24 - 0800 " 25	13.0	12.6	12.7	12.5
0801 " 25 - 0800 " 26	12.9	12.5	12.6	12.4
0801 " 26 - 0800 " 27	12.8	12.4	12.5	12.3
0801 " 27 - 0800 " 28	12.6	12.2	12.3	12.1
0801 " 28 - 0800 " 29	12.5	12.1	12.2	12.0
0801 Sept 04 - 0800 Sept 05	13.3	12.9	13.0	12.8
0801 " 05 - 0800 " 06	13.2	12.8	12.9	12.7
0801 " 06 - 0800 " 07	13.1	12.7	12.8	12.6
0801 " 07 - 0800 " 08	13.0	12.6	12.7	12.5
0801 " 08 - 0800 " 09	12.8	12.4	12.5	12.3
0801 " 09 - 0800 " 10	12.7	12.3	12.4	12.2
0801 " 10 - 0800 " 11	12.6	12.2	12.3	12.1
0801 " 11 - 0800 " 12	12.5	12.1	12.2	12.0
0801 " 12 - 0800 " 13	12.4	12.0	12.1	11.9
0001 Sept 19 - 2400 Sept 19	13.4	13.0	13.1	12.9
0001 " 20 - 2400 " 20	13.3	12.9	13.0	12.8
0001 " 21 - 2400 " 21	13.2	12.8	12.9	12.7
0001 " 22 - 2400 " 22	13.1	12.7	12.8	12.6
0001 " 23 - 2400 " 23	13.0	12.6	12.7	12.5
0001 " 24 - 2400 " 24	12.9	12.5	12.6	12.4
0001 " 25 - 2400 " 25	12.8	12.4	12.5	12.3
0001 " 26 - 2400 " 26	12.7	12.3	12.4	12.2
0001 " 27 - 2400 " 27	12.6	12.2	12.3	12.1

* Continued below

(a) When ship's speed is Full Ahead (120 RPM), use above values.

(b) When ship's speed is Half Ahead (80 RPM), subtract 0.6 feet from values shown above.

(c) When ship's speed is Slow Ahead (40 RPM), subtract 1.0 feet from values shown above.

* 0001 Sept 28 - 2400 Sept 28	13.3	12.9	13.0	12.8
0001 " 29 - 2400 " 29	13.2	12.8	12.9	12.7
0001 " 30 - 2400 " 30	13.1	12.7	12.8	12.6
0001 Oct. 1 - 2400 Oct. 1	13.0	12.6	12.7	12.5

1963 season

ABSTRACT OF FINAL INSTRUMENT CORRECTIONS: (In Fathoms)

For Period (1963)	For DE-723 Fath. #61-29 A-scale (Fms)	For DE-723 Fath. #216 A-scale (Fms)
0801 Sept 04 - 0800 Sept 07	2.1	2.1
0801 " 07 - 0800 " 09	2.1	2.0
0801 " 09 - 0800 " 13	2.0	2.0

(a) When ship's speed is Full Ahead (120 RPM), use above values.

(b) When ship's speed is Half Ahead (80 RPM), use above values.

(c) When ship's speed is Slow Ahead (40 RPM), subtract 0.1 fathom from values shown above.

Project OPR-427, Sabine Bank, Texas - Louisiana
USC&GS Ship HYDROGRAPHER - Commander Raymond M. Stone, Commanding

1962 Field Season

RAYDIST CORRECTIONS - SHIP

Date	TIME: From	To	CORRECTIONS: R-1	R-2
July 23	1835	2400	-0.4	∕1.5
24	0001	2400	-0.4	∕1.5
25	0001	2400	-0.4	∕1.5
26	0001	2400	-0.4	∕1.5
27	0001	0429	-0.4	∕0.5
27	0430	1200	-0.4	∕0.5
August 1	1000	2400	-1.2	-0.7
2	0001	2400	-1.2	-0.7
3	0001	2400	-1.2	-0.7
4	0001	2400	-1.2	-0.7
5	0001	2400	-1.2	-0.7
6	0001	2400	-1.2	-0.7
7	0001	2400	-1.2	-0.7
8	0001	2400	-1.2	-0.7
9	0001	2400	-1.2	-0.7
10	0001	1215	-1.2	-0.7
14	1300	1705	-0.3	∕0.2
14	2145	2400	-0.3	∕0.2
15	0001	0145	-0.3	∕0.2
15	0330	0510	-1.3	∕0.8
15	1200	2400	-0.4	∕0.2
16	0001	0825	-0.4	∕0.2
16	2050	2100	-1.3	∕1.0
16	2101	2400	-8.3	∕8.0
17	0001	0030	-8.3	∕8.0
17	0031	0552	-1.5	-0.9
17	2040	2220	-5.6	∕3.0
17	2221	2400	-0.6	0.0
18	0001	1050	-0.6	0.0
18	2105	2400	-0.4	∕0.2
19	0001	0725	-0.4	∕0.2
19	1630	2400	-0.4	∕0.1
20	0001	0538	-0.4	∕0.1
20	1445	1507	-0.3	∕0.1
20	1600	2400	-0.5	∕0.2
21	0001	0700	-0.5	∕0.2
21	0820	1405	-0.4	-1.8
21	2050	2400	-0.4	∕0.1
22	0001	0532	-0.4	∕011

Date	TIME: From	To	CORRECTIONS: R-1	R-2
August 22	1935	2400	-0.4	∕0.2
23	0001	0500	-0.4	∕0.2
23	1830	2400	-0.4	∕0.2
24	0001	0130	-0.4	∕0.2
24	0130	0515	-0.4	∕0.3
24	0600	0830	-0.3	∕0.3
Sept. 7	1745	2400	-0.1	-0.1
8	0001	0055	-0.1	-0.1
8	0300	0708	0.0	0.0
10	0612	0915	-239.8	∕221.9
10	0950	1500	-0.8	-1.1
10	1501	1613	-1.0	∕0.9
10	1614	1649	∕1.0	∕0.9
10	1650	1651	0.0	-0.1
10	1652	1728	-1.0	-1.1
10	1750	2400	0.0	-0.1
11	0001	0240	0.0	-0.1
11	0241	0540	-1.0	∕0.9
11	1006	2052	∕0.2	-0.1
11	2053	2400	-4.8	∕4.9
12	0001	0035	-4.8	∕4.9
12	1925	2400	∕0.1	0.0
13	0001	0540	∕0.1	0.0
13	1850	2400	∕0.2	-0.2
14	0001	0615	∕0.2	-0.2
14	1900	2400	∕0.2	-0.2
15	0001	0652	∕0.2	-0.2
15	1030	1230	∕0.2	-0.2
15	1910	2400	∕0.2	-0.2
16	0001	0640	∕0.2	-0.2
16	1020	-	∕1.2	∕0.6
24	1945	2400	∕0.2	∕0.8
25	0001	0840	∕0.2	∕0.8
25	1725	2400	∕0.3	∕0.7
26	0001	0650	∕0.3	∕0.7
26	1830	2400	-0.8	-2.3
27	0001	2400	-0.8	-2.3
28	0001	0030	-0.8	-2.3

Checked by COL

Continuation of Trip # 1

1963 SEASON

Day	Month	Time	R'	R²
28	AUG.	0001 - 0628	-1.9	+2.6
		0629 - 0634	-2.9	+3.6
		0635 - 0758	-7.9	+8.6
		1337 - 2400	+0.1	+0.6
29	AUG.	0001 - 0324	+0.1	+0.6
	Trip # 2			
4	Sept.	2113 - 2400	+0.1	+0.6
5	Sept.	0216 - 0858	+1.1	-2.4
		1006 - 2400	+0.1	+0.6
6	Sept.	0001 - 2400	+0.1	+0.6
7	Sept.	0001 - 2400	+0.1	+0.6
8	Sept.	0001 - 0435	+0.1	+0.6
		0436 - 1328	+1.1	+1.6
		1420 - 2400	+0.1	+0.6
9	Sept.	0001 - 2400	+0.1	+0.6
10	Sept.	0001 - 2400	+0.1	+0.6
11	Sept.	0001 - 2400	+0.1	+0.6
12	Sept.	0001 - 2400	+0.1	+0.6
13	Sept.	0001 - 0440	+0.1	+0.6
	Trip # 3			
19	Sept.	2125 - 2400	+0.1	+0.6
20	Sept.	0001 - 2400	+0.1	+0.6
21	Sept.	0001 - 2400	+0.1	+0.6
22	Sept.	0001 - 2400	+0.1	+0.6
23	Sept.	0001 - 0850	+0.1	+0.6
	Trip # 4			
28	Sept.	1322 - 2400	+0.1	+0.6
29	Sept.	0001 - 2400	+0.1	+0.6
30	Sept.	0001 - 1137	+0.1	+0.6

VELOCITY CORRECTIONS

(For Conventional Method of Recording in Sounding Volumes)

Ship Hydrography on Sheets: (HY-40-1-62)
(HY-40-2-62)
(HY-40-3-62)
(HY-40-4-62)
(HY-40-5-62)

DE-723 Fathometer Nos. 216 & 61-29

Depth	Velocity Correction	Depth	Velocity Correction
0 to 13.7 ft	0.0 ft*	40.1 to 43.2 ft	± 1.5 ft*
17.3 ft	± 0.2 ft	52.3 ft	2.0 ft
20.9 ft	0.4 ft	61.2 ft	2.5 ft
24.5 ft	0.6 ft	61.3 to 70.0 ft	+ 3.0 ft
28.1 ft	0.8 ft		
31.6 ft	1.0 ft		
35.3 ft	1.2 ft		
38.8 ft	1.4 ft		
38.9 to 40.0 ft	± 1.6 ft		

*Velocity Corrections were applied in the sounding volumes to the nearest 0.2 feet in depths 0 to 40 feet, and to the nearest 0.5 feet in depths over 40 feet.

Ship Hydrography on Sheet: (HY-80-1-62)

DE-723 Fathometer Nos. 216 & 61-29

Depth	Velocity Correction	Depth	Velocity Correction
0 to 2.7 fms	0.0 fms	10.1 to 12.0 fms	± 0.5 fms
4.4 fms	± 0.1 fms	14.0 fms	0.6 fms
6.2 fms	0.2 fms	16.2 fms	0.7 fms
8.1 fms	0.3 fms	18.4 fms	0.8 fms
8.2 to 10.0 fms	± 0.4 fms	over 18.4 fms	+ 0.9 fms

An abstract of Velocity Factors, determined by various observations during the season, is as follows:

Applicable Depth	Depth below Transducer	Determination of Velocity Factor at Depth							Mean Velocity Factor
		July 24	Aug. 2	Aug. 3	Aug. 4	Aug. 5	Aug. 19	Sept. 25	
4 fms.	2 fms	1.055	1.056	1.055	1.056	1.056	1.057	1.056	1.056
6	4	1.055	1.056	1.055	1.056	1.056	1.057	1.056	1.056
8	6	1.055	1.056	1.055	1.055	1.055	1.057	1.056	1.055
10	8	1.054	1.056	1.054	1.055	1.055	1.057	1.056	1.055
12	10	1.054		1.054	1.054	1.055			1.054
14	12	1.054		1.054	1.054	1.054			1.054
16	14			1.053	1.053				1.053
18	16			1.052	1.052				1.052

The following Velocity Factors were used during the season, in connection with recording on the Datex printout:

Hydrographic Sheet	Period (1962)	Velocity Factor	Depth Range
HY-60-1-62	Aug. 2 - Aug. 4	1.054	9 to 20 fathoms
HY-40-1-62	Aug. 1 - Sept. 10	1.055	26 to 61 feet
HY-40-2-62	Aug. 1 - Aug. 4	1.055	35 to 61 feet
HY-40-3-62	Aug. 19 - Sept. 16	1.055	25 to 60 feet
	Sept. 24 - Sept. 28	1.054	25 to 60 feet
HY-40-4-62	Aug. 21 - Aug. 24	1.055	26 to 43 feet
HY-40-5-62	Sept. 24 - Sept. 27	1.054	25 to 43 feet

From time to time, the performance and accuracy of the velocimeter should be checked. This can be done by observing a serial temperature and salinity cast simultaneously with the velocimeter cast, and then computing the velocity factor by both methods. This type of observation should be done at the beginning of the season and at any other time the velocimeter readings appear doubtful.

Page Copy

REPORT ON CORRECTIONS TO ECHO SOUNDINGS (VARIABLE DEPTH RECORD)-PROJECT OPR-127, [redacted] (Cont'd)

An abstract of Velocity Factors, determined by various observations during the 1963 season, is as follows:

Applicable Depth	Depth below Transducer	Determination of Velocity Factor at Depth (via T & S)	(via Velocimeter Casts) Aug. 23	Aug. 23	Sept. 10	Sept. 21	Sept. 22	Mean Velocity Factor
4 fms	2 fms	1.055*	1.056*	1.057	1.055	1.051		1.055
6	4	1.055	1.056	1.057	1.055	1.051		1.055
8	6	1.055	1.056	1.057	1.055	1.052		1.055
10	8	1.055	1.056	1.057	1.055			1.056
12	10	1.055	1.056	1.057	1.053			1.056
14	12	1.055	1.056	1.057	1.055			1.056
16	14	1.055	1.056	1.057	1.055			1.056
18	16	1.054	1.056	1.056				1.055
20	18	1.054	1.055					1.055

* NOTE: On August 23, T & S and Velocimeter Casts were made simultaneously.

The Velocity Factors used during the season, on the Datex printout, are listed as follows for each hydrographic sheet:

Hydrographic Sheet	Period (1963)	Velocity Factor	Depth Range
HX-80-1-62	Sept. 5 - Sept. 13	1.055	8 - 20 (Fathoms)
HX-40-3-62	Aug. 23 - Sept. 23	1.055	23 - 61 (Feet)
HX-[illegible]-2-62	Sept. 19 - Sept. 30	1.056	29 - 69 (Feet)

During the 1963 season, while working on this project, the DE-723 fathometer initial was maintained at Zero. Therefore, in the computer process, the velocity factor is to be applied directly to all soundings as recorded.

Poor Copy

BOTTOM SAMPLES

SHEET HY-40-2-62 - 1963 FIELD SEASON

DATE: (1963)	DAY NUMBER OR DAY LETTER	POSITION
Sept. 19	262 or "D"	0079 plus 3 minutes
Sept. 20	263 or "E"	0113 " 3 "
		0129
		0132
		0152 " 2 "
		0228 " 2 "
		0231
		0253 " 3 "
		0256 " 1 "
		0259 " 1 "
		0330 " 2 "
		0351 " 4 "
		0354 " 2 "
Sept. 21	264 or "F"	0370 plus 2 minutes
		0377 " 4 "
		0456
		0458 " 4 "
		0471 " 1 "
		0495
		0540 " 1 "
		0551 " 2 "
		0554 " 1 "
Sept. 22	265 or "G"	0634 plus 1 minute

(Cont'd)

BOTTOM SAMPLES
(Sheet HY-40-2-62, 1963 Field Season /Cont'd.)

DATE: (1963)	DAY NUMBER OR DAY LETTER	POSITION
Sept. 28	270 or "J"	673 plus 2 minutes
		696 " 1 "
		727 " 3 "
		736 " 4 "
		742 " 1 "
Sept. 29	271 or "K"	836 plus 2 minutes
		873 " 4 "
		898 " 4 "
		908
		911 " 1 "
		953
Sept. 30	272 "L" day	1015 plus 4 minutes

SMOOTH SHEET ADDENDUM

(HY-40-2-62) H-8737

A smooth punch tape was cut by personnel on the HYDROGRAPHER, using the corrected original DATEX printout, for use in machine plotting the smooth sheet in the Washington Office. This smooth tape was proof read and found to contain no errors.

Position #1 through #60, on the smooth tape and literal printout, are positions from the sounding volumes (1962 Field Work) renumbered to run consecutively to conform with the automatic system of numbering. The position numbers, in the sounding volumes, were renumbered also.

Since the positions and data listed above, were recorded in sounding volumes, and all corrections were applied in the conventional manner, the sounding on the smooth tape for this portion of the survey is a completely reduced sounding. Therefore, the draft correction was punched as "000"; the tide correction as"60.0"; and the velocity factor as "1.000". This will allow the computer to use the same program throughout the survey. The sounding on the tape for the remaining portion of the survey is not completely reduced, but will require tide and draft corrections to be applied algebraically, and the velocity factor to be applied by multiplication.

September 27, 1963

APPROVAL SHEET

Field No. HY-40-2-62

The field work accomplished on this survey, during the 1962 and 1963 seasons, (August 1 - August 4, 1962) and (September 19 - September 23, 1963), was under my immediate supervision. Daily inspections of the boat sheet, sounding volumes, Datex printout records, and fathograms were made as the survey progressed.

As of the date of my detachment from the Ship HYDROGRAPHER on September 27, 1963, the survey was still in progress. The boat sheet, all sounding volumes, and Datex printout records on hand have been reviewed, and are approved by me.

Raymond M. Stone

Raymond M. Stone,
CDR, USC&GS
Commanding Officer,
USC&GS Ship HYDROGRAPHER

FORM C&GS-712
(4-62)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Nautical Chart Division: R.H.Carstens 1/21/64

Plane of reference approved ~~in values of sounding records~~ for

HYDROGRAPHIC SHEET H-8737 (HY-40-2-62)

Locality Sabine Bank, Louisiana - Texas

Chief of Party: W.E.Randall in 1962-63

Plane of reference is mean low water

ft. on tide staff at

ft. below B. M.

Height of mean high water above plane of reference at the working grounds is: 2.1 ft.

Condition of records satisfactory except as noted below:

J. M. Symons
Chief, Tides and Currents Branch

USCOMM-DC 16543-P62

H-8737
(1962-63)

Corrections Made to Survey During Review

✓Pos. 622 changed 60 to 61 - Recomputed correction

✓Pos. 582-1 changed 61 to 60-Arbitrary 0.1 ft. correction

✓Pos. 42 and 42-1 changed 61 to 60-Rescanned fathogram

✓Pos. 132-2 added 58 to smooth sheet manually-Card omitted erroneously

✓Pos. 882 changed 28 to 27-Rescanned fathogram for least depth. ↖27 NOT PLOTTED

CARRIED FORWARD FROM PRIOR SURVEYS

SDG. (FT.)	SOURCE	LAT.	LONG.
✓ 25	H-4333 (1923)	29° 07.65	94° 11.30
✓ 26	H-6251 (1937)	29° 07.55	94° 11.00

✓ One bottom characteristic also carried forward from H-6251 (1937).

Listed by Stew
Check by GAK

H-8737 (1962-63)

Some Corrections Made During Verification

During verification of the preliminary smooth plot some errors were found to exist. These errors were found to be machine errors and human errors.

Machine errors

Position 367 - Correct on edited copy but omitted from Gerber copy so did not plot on sheet.

Position 441 and 444. - Did not print on preliminary copy but cards were correct and printed on subsequent plots.

Position 60. - Soundings were present after position 60 (five) but all printed on the position. Position 61 is the start of 1963 work (60 was 62 work) and since the clock time was not progressive, the soundings did not print between but all on 60. (If they had plotted between, this would have been in error).

The subsequent position "~~18~~ 16 from H-8712 (1962)" was added as position 5,000 and the soundings plotted correctly.

Human errors

Positions 277, 612, 670 and 860 misplotted because the Raydist readings were mistransferred from original to edit copy.

Positions 872 and 885. - Two incorrect times were added on the original during field scanning of the fathograms and this incorrect placement was carried through.

Position 1007. - The wrong depth was transferred from original to edit copy.

Erroneous Depths Caused by Programming System

Due to the system used in programming this sheet erroneous depths (at most a foot) were plotted on the preliminary smooth plot. These were caused by tide and phase (entered under draft) corrections not being entered at the correct times because of the system. All corrections were applied from each long word to the next. If a correction was introduced on a short word this was not used until the next long word.

Corrections were made and all cards were changed to show correct depths (a list of all corrections made may be found in cahier filed with fathograms).

RECOMMENDATIONS CONCERNING AUTOMATED SMOOTH SHEETS

1. A clear acetate cover sheet should be considered for use over the smooth sheet to protect it from smudging especially during compilation processes. This cover sheet could be attached by plugs through holes or by taping.

   Selection of soundings, etc. could take place on this overlay sheet with grease pencil, if desired, then erased completely by the compiler when job is complete. (Wipe off with rag).

   If this cover sheet is placed over the survey at all times except when actual work is done on the sheet, its legibility will remain good.

2. More attention should be given to unnatural depth curves when selecting soundings for the final smooth plot. This will prevent later desires by the reviewer to check into distorted depth curves in smooth bottom areas.

   Depth curves were not drawn on preliminary plot.

3. Somehow, some soundings appear to have two cards and are printed twice. An effort should be made to prevent this as it makes the soundings stand out or makes them blurred.

Dale E. Westbrook

Westbrook has suggested through Notes to Compilers that no markings shall be made on smooth sheets and especially machine plotted sheets.

R. H. Carstens

Information for Future Pre-Survey Reviews

A future pre-survey review of this area should call for development of Heald Bank, particularly to verify or disprove the 25-ft. and 26-ft. soundings which have been carried forward from H-4333 (1923) and H-6251 (1937).

It is not believed, considering the evidence available, that the 25-ft. sounding now exists, but sufficient development was not made on this survey to disprove it. The least depth is probably about 27-ft., as obtained on the present survey.

Heald Bank is quite stable and its configuration is likely to remain substantially the same in the future.

The deeper portions of the area are subject to sedimentation. The maximum apparent shoaling is about 0.1 ft. per year (Lat. 29°03.2', Long. 94°09.8') in general depths of 62-ft.

Dale E. Westbrook
June 26, 1964

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8737 FIELD NO. HY-40-2-62

Texas, Sabine Bank, Heald Bank

SURVEYED: August 1962 and September 1963 Scale: 1:40,000

PROJECT NO. OPR-427

SOUNDINGS: Raytheon Depth Recorder CONTROL: Raydist

Chief of Party----------R. M. Stone (1962)
W. E. Randall (1963)
Surveyed by----------P. A. Stark (1962)
J. F. Guth (1962)
F. D. Moran (1962)
W. E. Randall (1963)
C. D. Upham (1963)
S. C. Miller (1963)
D. G. Popejoy (1963)
J. H. Allred (1963)
N. A. Barnes (1963)
T. J. McConnell (1963)
Protracted by----------Gerber Digital Plotter
Soundings Plotted by----------Gerber Digital Plotter
Verified by----------F. J. Pavlat
Reviewed by----------D. E. Westbrook
Inspected by----------R. H. Carstens

Date: June 26, 1964

1. Description of the Area

This survey is located off the Texas Coast in the vicinity of Heald Bank.

Most of the survey is relatively featureless except for Heald Bank itself which rises to 25 feet from general depths of 40 feet.

In general, the bottom is composed of sand and broken shells, but the deeper areas contain some sedimentary mud deposits.

Heald Bank does not appear to be changing substantially either in position or in depth. The depositing of sediments in the deeper areas constitute the only major change in the area.

2. Control and Shoreline

The source of the control is adequately described in the Descriptive Report.

There is no shoreline within the area of this survey.

3. Hydrography

A. Depths at crossings are in good agreement except in isolated instances where 3-8 ft. seas caused jagged fathogram profiles.

It was necessary to add an arbitrary correction of 1 foot to all 1962 hydrography (five lines) to bring it into agreement with the remaining 1963 hydrography. The exact reason for this discrepancy could not be determined, but it is probably caused by small cumulative differences between the depth corrections used on the 1962 and 1963 work.

B. The usual depth curves were adequately delineated. The 36-ft. depth curve was added to more adequately define the bottom configuration.

Dashed curves and brown curves were used to emphasize sand ridges in accordance with Par. 6-64 of the Hydrographic Manual.

C. The development of the bottom configuration is considered adequate, but the least depth on Heald Bank should have been investigated more completely. According to prior surveys this is a comparatively sharp feature and the line spacing

of 300 meters (the maximum for these depths according to the Project Instructions) was not reduced as necessary to provide the least depth.

4. Condition of the Survey

The automated plotting, sounding records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, as amended by instructions promulgating the automatic digital recording system.

However, a change of one digit was made in all position numbers after Pos. 60, because of an error in the original numbering system. These changes were not, however, applied to the corresponding fathograms. On automated surveys such as this one, where the position numbers run consecutively, and an error in numbering is found, a number should be dropped or a prime added to the number so that all position numbers do not need to be changed.

5. Junctions

Adequate junctions were effected with H-6294 (1:80,000) 1937 on the east, and H-6251 (1:40,000) 1937 on the west.

Because of the large area of overlap with H-6251 only a butt junction is shown. The present survey adequately reveals the least depths and bottom configuration and is adequate to supersede H-6251 in the overlapping area.

The junctions with H-8712 (1962) on the north and H-8739 (1963) on the south will be discussed in the reviews of those surveys.

6. Comparison with Prior Surveys

A. H-1350 (1:600,000) 1875-77
H-1556a (1:80,000) 1883
H-1556b (1:80,000) 1883
H-1596a (1:80,000) 1884

H-1350 (1875-77) is a small scale reconnaissance survey and as such cannot be compared adequately with the present survey.

A comparison of H-1556a (1883) and H-1556b (1883) with the present survey shows that these surveys were poorly controlled when compared with modern methods. An adequate detailed comparison cannot be made, although there is evidence that some portions of Heald Bank have changed considerably in 80 years due to erosion. The least depth on the bank seems to have remained about the same, however. In other areas, the prior surveys and present survey compare favorably.

H-1596a (1884) also covers the area of Heald Bank. The control on this survey appears to be somewhat more accurate than that on H-1556a and H-1556b. Most of the hydrography on H-1596a compares favorably with the present survey but again there is evidence that some portions of Heald Bank have eroded since 1883-1884.

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

B. H-4333 (1:80,000) 1923
H-5912 (1:40,000) 1935
H-6251 (1:40,000) 1937

These surveys taken together comprise the latest prior coverage of the present survey area.

H-4333 (1923) was controlled by precise dead reckoning and offshore buoys. Some control problems were encountered on this survey.

H-5912 (1935) was made without the benefit of a projection. The projection grid was later positioned on it using the position of a station buoy (⊙ HEAL) shown on H-4333 (1923). Subsequently, the projection was revised based on the position of the buoy as shown on H-6251 (1937).

Taking these positioning factors into account it seems that Heald Bank is quite stable in least depth and position and has changed its general configuration only slightly in 40 years.

A portion of the bank has been eroding, however. Depths of 34-35 ft. in Lat. 29°08.8', Long. 94°14.6' on H-6251 (1937) are now about 37 feet as shown on the present survey.

Sedimentation of up to 4 feet has occurred in the deepest portions of the area. In a comparison with H-4333 (1923), a prior 66-ft. sounding in Lat. 29°03.2', Long. 94°09.8' has now become 62-ft. A shoaling of about 2 ft. is found in many of the deeper areas.

Intermediate depths compare favorably between the present and prior surveys.

The least depth obtained on Heald Bank on H-4333 (1923) was 25-ft. This sounding was not considered disproved and was carried forward through H-5912 (1935) to H-6251 (1937), and positioned according to the hydrography and depth curves. This adjustment of positioning was necessary because of the lack of positive control on H-4333 (1923).

A lack of present development by which the 25-ft. sounding could be verified or disproved, necessitated that it be carried forward to the present survey. The comparative stability of the shoal, in addition, entered into the decision. The sounding was positioned according to comparative hydrography between H-4333 (1923) and the present survey.

A 26-ft sounding also was carried forward to the present survey. This sounding originates withH-6251 (1937) and is located about 500 meters to the southeast of the previously discussed 25-ft. sounding. This sounding is not considered disproved by the present survey.

With the addition of these two soundings and one bottom characteristic, all on Heald Bank, the present survey is adequate to supersede the prior surveys within the common area.

7. Comparison with Chart 1280, 6th Ed., Rev. 5/4/64

A. Hydrography

Most of the charted hydrography originates with the previously discussed prior surveys which require no further consideration. This hydrography has been supplemented with soundings from the boat sheet of the present survey.

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

B. Aids to Navigation

No reference was made concerning the two floating aids to navigation in the area in either the sounding volumes or automatic print-out records of this survey. Their approximate positions were given in the Descriptive Report, but their boat sheet locations were used for positioning them on the smooth sheet.

The location of lighted whistle buoy "2" is 0.4 mile east-northeast of its charted position, but it adequately marks the feature intended. The nun buoy is not charted as it is used for a reference marker only.

8. Compliance with Instructions

The survey adequately complies with the Project Instructions except that maximum line spacing was not reduced as necessary to adequately develop the least depth on Heald Bank.

9. Additional Field Work

This survey is considered to be a good basic survey and no additional field work is recommended.

Examined and Approved:

Chief, Marine Chart Division

Acting Associate Director, Hydrography and Oceanography

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8737

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Gulf of Mexico										1
Heald Bank										2
Sabine Bank										3
Texas				Names approved						4
					2-14-66					5
					A. J. Wright					6
										7
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										27

FORM C&GS-946
(REV. 3-1-64)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. 8737

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS (Position)	1

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS 1	Fathograms & 2 Sdg. Vols.		Scratch, Edited Machine	1-Tape Roll in cahier		1
VOLUMES						
BOXES			& Destroyed 5/19/70 Westbrook			

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)*

OFFICE PROCESSING ACTIVITIES

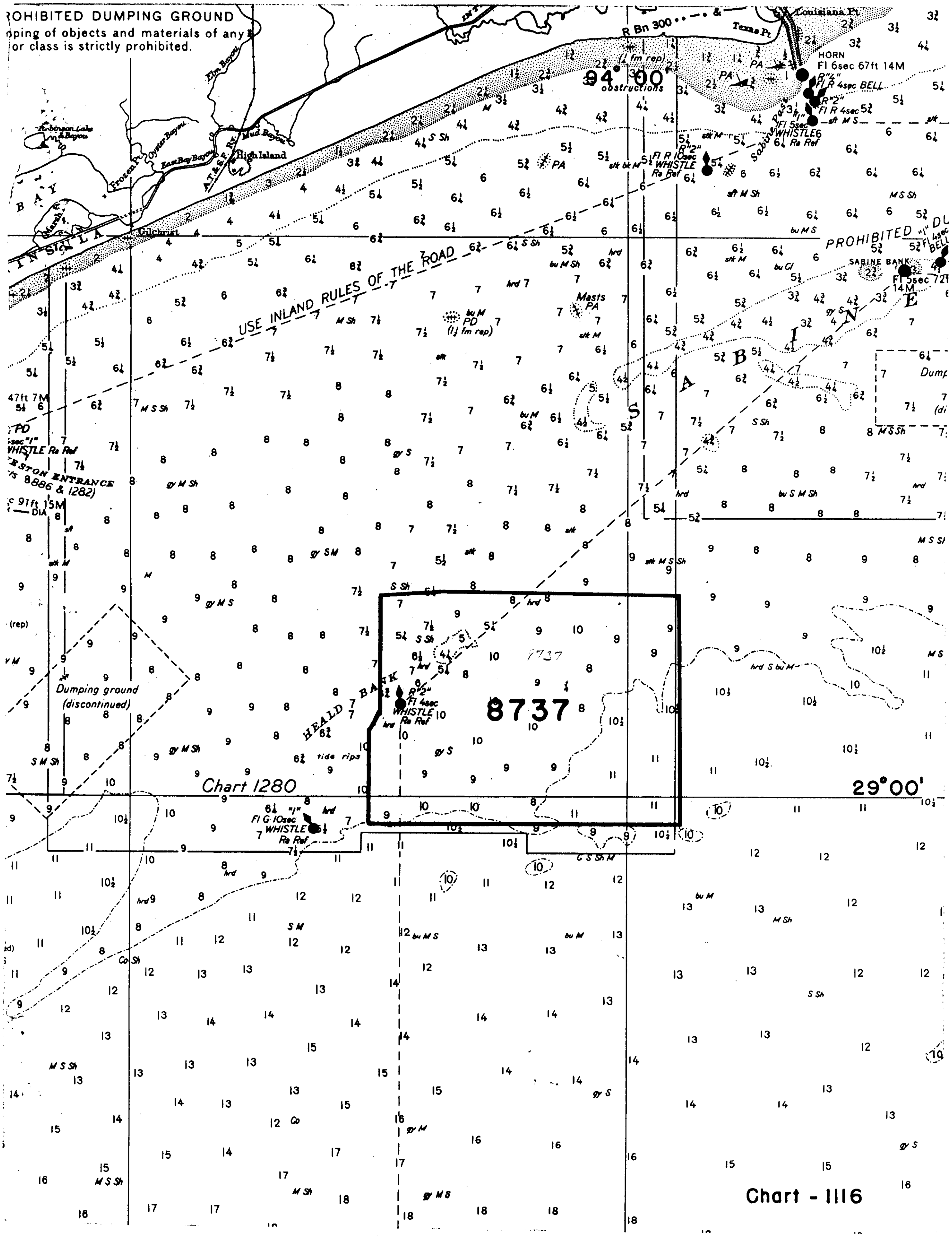
The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				1,121
POSITIONS CHECKED		All positions compared with B.S. 10 pos. checked manually	—	10
POSITIONS REVISED		NONE	—	—
DEPTH SOUNDINGS REVISED		460*	4	464
DEPTH SOUNDINGS ERRONEOUSLY SPACED		NONE	—	—
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		NO SIGNALS	—	—
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		NO DETAILS	—	—
JUNCTIONS		19	2.0	~~6.0~~ 21.0
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		1	0.5	1.5
SPECIAL ADJUSTMENTS		ADJUST 1962 SNDNGS. 16	—	~~16.0~~ 150.5
ALL OTHER WORK (VERIFICATION - 24 HRS. spent in computer center - not billed)		VERIFYING, EDITING & DRAFTING. 116	~~34.5~~ 34.5	~~116.0~~ 116.0
TOTALS		~~137~~ 152	34.0	~~187.0~~ 186.0

PRE-VERIFICATION BY		BEGINNING DATE	ENDING DATE
VERIFICATION BY	Frank J. Pavlat	BEGINNING DATE: May 11, 1964	ENDING DATE: June 9, 1964
REVIEW BY	Dale F. Westbrook	BEGINNING DATE: June 22, 1964	ENDING DATE: June 30, 1964

* Largely adjustment of 1962 work

USCOMM-DC 6641-P64



PROHIBITED DUMPING GROUND
ping of objects and materials of any
or class is strictly prohibited.
R Bn 300
Louisiana Pt
Texas Pt
HORN
Fl 6sec 67ft 14M
High Island
Gilchrist
USE INLAND RULES OF THE ROAD
PROHIBITED "I" DU
SABINE BANK
94°00'
obstructions
Masts PA
SABINE
Dumping ground (discontinued)
HEALD BANK
tide rips
8737
Chart 1280
29°00'
Chart - 1116

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8737

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
			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
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			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975

USCOMM-DC 8558-P63