

7604

Diag. Cht. No. 1115-2 & 1114

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey OFFSHORE HYDROGRAPHIC

Field No. HY-20247 Office No. H-7604

LOCALITY

State COAST OF FLORIDA

General locality GULF OF MEXICO

Locality S.W. OF CAPE SAN BLAS

194 7-'48

CHIEF OF PARTY

F.L. PEACOCK

LIBRARY & ARCHIVES

DATE 14 NOVEMBER 1949

B-1870-1 (1)

7604

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H-7604

Field No. HY-20247

State Florida

General locality Gulf of Mexico

Locality offshore, S. W. of Cape San Blas

Scale 1:200,000 Date of survey 21 Oct. 1947 to 15 Aug. 1948

Instructions dated 26 September 1946 and 9 July 1947

Vessel Ship HYDROGRAPHER

Chief of party Fred. L. Peacock

Surveyed by F. L. Peacock, E. B. Latham, C. I. Aslakson, G. R. Shelton, W. J. Chovan
J. D. Thurmond, W. N. Martin, F. J. Bryant, L. S. Baker and H. F. Dunbrook.

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand lead voice~~ F. G. Johnson, R. C. Rowse

Fathograms scaled by Various and many personnel under officer supervision.

Fathograms checked by Various and many personnel under officer supervision.

Protracted by W. W. Feazel and P. E. Jones

Soundings penciled by Harry J. Thompson

Soundings in fathoms ~~feet~~ at MLW ~~XXXXXX~~

REMARKS: Positioning entirely by E. P. I. System.

DESCRIPTIVE REPORT TO ACCOMPANY

OFFSHORE HYDROGRAPHIC SURVEY H-7604, (FIELD NO. HY-20247)

SCALE 1:200,000

Ship HYDROGRAPHER 1947-48

Fred. L. Peacock, Chief of Party

PROJECT

This survey is a part of project No. C.S.-328. The original project instructions are dated 26 September 1946. Supplemental instructions for E.P.I. controlled offshore surveys are dated 9 July, 1947.

SURVEY LIMITS AND DATES

The general locality of this survey is offshore southwest of Cape San Blas, Florida.

The northern limit is Latitude $28^{\circ} 50'$ N. The southern limit is Latitude $27^{\circ} 30'$ N. The eastern limit is Longitude $84^{\circ} 50'$ W. The western limit is Longitude $87^{\circ} 30'$ W.

This survey joins with survey H-7603 (scale 1:200,000, 1947) on the north, with H-6548 (scale 1:160,000, 1940) on the west, no surveys as yet on the south, and with unfinished surveys on the east.

Work on this survey began on 21 October 1947 and ended 27 November 1947 for the 1947 season. Work was resumed again on 15 May 1948 and was completed on 15 August 1948.

VESSEL AND EQUIPMENT

All hydrography on this survey was accomplished from the ship HYDROGRAPHER. All soundings were obtained by either 808-J type depth recorder No. 105-S or by a tuning fork controlled NMC-1, No. 206, depth recorder, for the 1947 season. A different 808-J type depth recorder, No. 131-SG, was used for the 1948 season. The dividing depth between the 808-J type instrument and the NMC-1 instrument was approximately the 150 fathom curve. Position control was entirely by the "Electronic Position Indicator System", Model No. I.

The normal turning radius of the Ship HYDROGRAPHER is between 80 and 120 meters, depending on the velocity and direction of the wind.

TIDE AND CURRENT STATIONS

The Pensacola Primary Tide Station located at Pensacola, Florida was used for the reduction of all soundings. A time correction of minus 2 hours and a range factor of 0.0 was used, in accordance with office letter dated 24 December 1947.

No current stations were observed.

SMOOTH SHEET

Smooth sheet projection with circles was prepared at Washington Office. ✓

The 1947 Field Season work was plotted aboard Ship HYDROGRAPHER. ✓

CONTROL STATIONS

The hydrography on this survey was controlled by two E.P.I. shore stations. The western station was at the Department of Interior Wildlife Reservation on Santa Rosa Island near Pensacola, Florida; Latitude $30^{\circ} 20' 17.55''$, Longitude $87^{\circ} 09' 23.31''$. The eastern station was at Carrabelle Beach, Florida; Latitude $29^{\circ} 49' 54.59''$, Longitude $84^{\circ} 40' 53.71''$. ✓

The effective center of each station was located by triangulation methods from nearby stations of the coastal triangulation. The eastern station was located by C.A. Burmister. The western station was located by a party from the Ship HYDROGRAPHER in charge of J.D. Thurmond. ✓

The length of baseline is approximately 152 statute miles. ✓

For control used for locations of E.P.I. test stations off Cape St. George and off signal "ROOK" see cahier "E.P.I. Corrections, Stations A and B, 1948 Field Season". ✓

SHORELINE AND TOPOGRAPHY

None shown on this offshore survey. ✓

SOUNDINGS

Sounding corrections for velocity of sound and instrumental errors were controlled by adequate salinity and temperature serials and by frequent vertical cast comparisons using sounding machine No. H-141 with stranded wire over calibrated registering sheaves Nos. 349 and 403. ✓

The effective length of Stylus arm and stylus speed for 808-J fathometer number 131-SG were checked during each field trip and found to be within the required accuracy. For fathometer number 105-S see special report submitted 27 March 1948. *Reports No. 9, # 62 (1948)*
63 ✓

For Velocity corrections covering the 1947 season See: Cahier of Velocity Correction Abstract, Field Season 1947, previously submitted.

For Velocity corrections covering the 1948 season see: To be submitted at end of 1948 field season.

For Instrumental Corrections and Settlement & Squat covering the 1947 season see: Cahier previously submitted.

For Instrumental Corrections and Settlement and Squat covering the 1948 season see: To be submitted at end of 1948 field season.

with
5dg. Vols.
#1-7607

CONTROL OF HYDROGRAPHY

All hydrography on this survey is controlled by the "Electronic Position Indicator System" using E.P.I. stations A and B.

ADEQUACY OF SURVEY

The survey coverage of this offshore area is complete and no excessive gaps or holidays at the junctions with other surveys appear.

Tests were made to determine the Electronic Position Indicator corrections during the progress of the work. However from later experience with the E.P.I., it is now evident that these tests were not made as often as needed. It has been found that the corrections are continuously changing and tests should be made to determine the errors as often as practical.

The smooth plotting of the survey will afford additional information but the survey appears to be quite adequate for this offshore area.

CROSSLINES

A system of about 5% crosslines were run. Discrepancies at crossings were a very small percent of the depth and this percentage was greatly reduced when the corrections were applied.

COMPARISON WITH PRIOR SURVEYS AND WITH THE CHART

Junction with survey H-7603 on the north is very good. Junction with H-6548 on the west has a discrepancy of about 1% of the depth at the north to around 2 3/4% at the south where the depths are much greater.

There are some large discrepancies with the few soundings printed on U.S.C.&G.S. chart 1115, Cape St. George to Mississippi Passes, mostly in the greatest depths.

Complete information on crossings and comparison with other surveys, will not be available until the smooth sheet has been plotted.

The spacing of sounding lines on this survey and the accuracy of the horizontal control is so much more adequate than heretofore available that in the Chief of Party's opinion the new survey should supersede all prior surveys and charted data for the area.

TABULATION OF APPLICABLE DATA

FOR USE WITH THE 1947 SEASON

Special report on the study and investigation of E.P.I. distance corrections. Transmitted 22 December 1947 to the Director. *Not filed in Library*

Special report on the study of 908-J type depth recorder No. 105-S errors (fathom scale). Transmitted 27 March, 1948 to the Director.

Reports 9, 10, 63 (1948)
24

*Review
Parts
3, 4, 5, 6*

Triangulation field records, Location of E.P.I. shore station EPIA. Transmitted 6 Feb. 1948 to the Director.

Triangulation records location of E.P.I. shore station EPIB. Transmitted by Lt. Commander C.A. Burmister.

Temperature & Salinity Observations & Computations for Surveys H-7603, H-7604, HY-4147, HY-4247, and HY-4347. Transmitted 8 April, 1948 to the Director. *Filed with H-7603*

One cahier, computations for Fathometer Corrections, Fathometer No. 105-S, Fathom Scales, Surveys H-7603, & H-7604. Transmitted 8 April, 1948, to the Director.

One cahier, Calibration Tests, 1947, transmitted 8 April, 1948, to the Director.

One cahier, Original E.P.I. Test Data & Computations, E.P.I. Tests, 1947, transmitted 8 April, 1948 to the Director.

1 cahier, hourly heights, tides.

1 cahier, calibrations, registering sheaves and depth recorders. Previously submitted.

1 cahier, Velocity Correction Abstracts Derived From Temperature & Salinity Observations for Surveys HY-4147, 4247, 4347, 20147, and 20247. Previously submitted.

1 cahier, computations for fathometer corrections. Previously submitted.

1 cahier E.P.I. Computations, Calibration Corrections and Final Distances, 1947 Season. Submitted with this report.

FOR USE WITH THE 1948 SEASON

1 cahier, Instrumental Corrections & Settlement & Squat, 808J No. 131-SG, Fathoms & Feet, NMC-1 No. 206, Fathoms.

1 cahier, E.P.I. Corrections and computations Stations A and B, 1948 Field Season, for Surveys H-7603 (Add. Work) H-7604, HY-4148, HY-4248, and HY-4348, 13 May - 15 Sept. 1948.

For Calibration Tests of registering sheaves, settlement and squat etc. See cahier No. 3 forwarded 8 April 1948. For Additional calibrations of registering sheave No. 403 see report at end of 1948 season.

Applicable data being submitted or to be submitted later.

Seasons report 1948.

Fathometer Velocity Corrections 1948.

Records of Temperatures and Salinities 1948.

Tidal Data 1948.

Calibration of registering sheaves 1948.

ADDITIONAL INFORMATION

Attached to Volume No. 1 are copies of abstracts of velocity and instrumental corrections for 1947 season. For E.P.I. corrections refer to cahier of E.P.I. computations Sheet H-7604, 1947 Season. All the 1947 work has been smooth plotted and the smooth sheet sent to Washington Office. See addendum by Norfolk Office.

Attached to Volume No. 12 are copies of abstracts of velocity, instrumental and E.P.I. corrections. Also the tide corrections used for the reduction of soundings. This covers the 1948 season.

19 January 1949

Respectfully Submitted:

Frank G. Johnson
Frank G. Johnson, Commander, C&GS

Respectfully forwarded:

George L. Anderson
George L. Anderson, Commander, C&GS
Chief of Party

STATISTICS FOR HYDROGRAPHIC SURVEY H - 7604

Volume	Letter	Day	Date	Number of Positions	Statute miles of sounding line
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1947

1	A		21 Oct.	87	143.2
1	B		22 Oct.	42	68.7
2	B		22 Oct.	52	90.0
2	C		3 Nov.	1	2.4
2	D		4 Nov.	72	184.9
3	D		4 Nov.	27	69.1
3	E		5 Nov.	98	201.3
4	E		5 Nov.	22	36.8
4	F		6 Nov.	100	171.9
5	F		6 Nov.	34	61.5
5	G		7 Nov.	25	40.6
5	H		12 Nov.	58	94.8
6	J		21 Nov.	64	127.9
6	K		22 Nov.	39	91.0
7	K		22 Nov.	50	107.3
7	L		23 Nov.	59	147.8
8	L		23 Nov.	37	94.4
8	M		24 Nov.	86	240.4
9	M		24 Nov.	11	29.8
9	N		25 Nov.	98	256.4
10	P		26 Nov.	94	237.0
10	Q		27 Nov.	15	31.5
11	Q		27 Nov.	69	161.5

1948

12	R		15 May	25	66.9
12	S		16 May	86	236.0
13	T		17 May	77	211.2
13	U		18 May	35	98.5
14	U		18 May	42	112.4
14	V		19 May	81	209.8
15	V		19 May	15	32.6
15	W		20 May	33	73.7
15	X		2 June	58	117.3
16	X		2 June	35	68.4
16	Y		3 June	68	136.0
17	Y		3 June	9	17.4
17	Z		4 June	91	179.0
17	AA		5 June	11	22.3
18	AA		5 June	74	146.2
18	BA		6 June	20	45.1
19	BA		6 June	7	10.3
19	CA		26 July	5	6.9
19	DA		27 July	109	173.8
20	DA		27 July	24	41.0
20	EA		28 July	111	164.7

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STATISTICS (CONTINUED)

21	FA	29 July	134	218.4
21	GA	30 July	9	13.3
22	GA	30 July	127	214.5
22	HA	31 July	3	3.2
23	HA	31 July	123	208.0
24	JA	14 Aug.	19	30.5
24	KA	15 Aug.	89	145.5
TOTALS			2760	5693.1

Number of Vertical Cast Comparisons 21
 Number of Temperature and Salinity Observations 7

copy to case

TIDE NOTE

SURVEY H-7604

Reference Station: Pensacola Primary Tide Station
Position: Lat: 30° 24' 12"
Long. 87° 12' 45"
Plane of Reference: MLW
Height of Staff at reference Plane: 8.0 ft.
Time of Tide: 2 Hours earlier
Authority: Office letter dated 24 Dec. 1947
Hourly heights were furnished from the Washington Office.

007 420

LIST OF SHORE OBJECTS USED IN EPI CALIBRATIONS MAY 13 - AUGUST 15, 1948

Calibrations off ROOK

Station	Latitude	DM	Longitude	DP	From
ROOK	29° - 58'	1599.9 (247.6)	85° - 31'	130.3 (1478.4)	Topographic Sheet E-1947 (Not yet submitted)
JOE	29° - 49'	302.2 (1545.2)	85° - 18'	1204.0 (406.0)	Air Photo Compilation No. T-5506 (Stack at St. Joe Paper Mill)
TALL	30° - 08'	989.2 (858.3)	85° - 37'	443.9 (1162.1)	Geographic Positions Revised 11/5/42 Page 100 Millville, Tallier Concrete Stack 1934 (n.d.)
SAM	30° - 03'	1806.4 (41.1)	85° - 35'	320.4 (1286.9)	Topographic Sheet Registry No. T-5517 (Descriptive Report HY-2447)

Calibrations off Cape St. George

Station	Latitude	DM	Longitude	DP	From
Beach 1935 (d.m.)	29° - 37'	1640.7 (206.7)	85° - 07'	1598.5 (15.8)	Geographic Positions, Vicinity of Apalachicola, Page 643
Cape St. George L.H. 1857, R. 1935 (a)	29° - 35'	450.1 (1397.3)	85° - 02'	1333.2 (281.6)	Geographic Positions, Vicinity of Apalachicola, Page 641
OWL 1942	29° - 37'	836 (1011)	85° - 05'	944 (670)	Recoverable Hydrographic and Topographic Signals H-6787
Cape San Blas L.H. (ecc) 1934	29° - 40'	479.6 (1367.8)	85° - 21'	619.5 (994.0)	Geographic Positions McIntyre, Florida to Mobile, Alabama, Page 71
Cape San Blas L.H. (center)	29° - 40'	479.7 (1367.7)	85° - 21'	621.5 (992.0)	Computed from Cape San Blas L.H. (ecc)

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Fathometer Corrections between 5 August and 28 November 1947

Sheets 20147 (H7603) and 20247 (H7604)

All Corrections Additive

NMC - 1 Fathometer

Corr.	Depth	Corr.	Depth	Corr.	Depth
6.5	220	24.5	1103	42.5	1670
7.0	245	25.0	1119	43.0	1685
7.5	272	25.5	1138	43.5	1700
8.0	300	26.0	1158	44.0	1713
8.5	330	26.5	1178	44.5	1727
9.0	358	27.0	1195	45.0	1740
9.5	382	27.5	1212	45.5	1752
10.0	412	28.0	1230	46.0	1768
10.5	438	28.5	1245	46.5	1780
11.0	470	29.0	1265	47.0	1796
11.5	495	29.5	1280	47.5	1810
12.0	522	30.0	1302		
12.5	555	30.5	1318		
13.0	582	31.0	1330		
13.5	608	31.5	1348		
14.0	637	32.0	1362		
14.5	666	32.5	1379		
15.0	690	33.0	1393		
15.5	718	33.5	1412		
16.0	745	34.0	1425		
16.5	770	34.5	1440		
17.0	795	35.0	1455		
17.5	820	35.5	1468		
18.0	840	36.0	1484		
18.5	865	36.5	1502		
19.0	885	37.0	1517		
19.5	905	37.5	1530		
20.0	926	38.0	1547		
20.5	945	38.5	1562		
21.0	968	39.0	1575		
21.5	988	39.5	1588		
22.0	1008	40.0	1603		
22.5	1028	40.5	1618		
23.0	1048	41.0	1630		
23.5	1064	41.5	1644		
24.0	1083	42.0	1658		

Corrections in fathoms and tenths of fathoms.

Fathometer Corrections between Sept. 30 and Nov. 28, 1947

Sheets 20147 and 20247 -- All Corrections Additive

(H 7603 and H 7604)

NMC - 1 Up to 200 Fathoms		808 Fath.	
Corr.	To Depth	Corr.	To Depth
0.2	9.5	0.0	9.0
0.4	13.5	0.2	17.5
0.6	17.5	0.4	26.5
0.8	21.5	0.6	37.0
1.0	26.0	0.8	51.0
1.2	30.0	1.0	75.0
1.4	35.0	1.2	114.0
1.6	40.0	1.0	160.0
1.8	44.5		
2.0	50.0		
2.2	56.0		
2.4	62.0		
2.6	68.0		
2.8	74.0		
3.0	80.0		
3.2	86.0		
3.4	93.5		
3.6	100.0		
3.8	107.0		
4.0	121.0		
4.5	141.0		
5.0	163.0		
5.5	187.0		
6.0	200.0		

CORRECTIONS IN FATHOMS AND TENTHS.

Instrumental Corrections 1947

808J No. 105S

Sheets 101^{HY}7(7603) and 102^{HY}7(7604)

Depth	A-Scale	B-Scale	C-Scale	D-Scale	Depth	C-Scale	D-Scale
Up to and including 40ct.					After and including 50ct.		
to 26.5	0.8				70.0-74.0	2.6	
26.6-30.0	0.9				74.1-81.0	2.8	
30.1-36.0	1.0				81.1-87.0	3.0	
36.1-43.0	1.2				87.1-94.0	3.2	
43.1-50.0	1.4				94.1-101	3.4	
50.1-55.0	1.6				101.1-113	3.5	
35.0-37.0		0.6			113.1-125	4.0	
37.1-43.0		0.8			105.0-113		3.5
43.1-50.0		1.0			113.1-131		4.0
50.1-57.0		1.2			131.1-148		4.5
57.1-64.0		1.4			148.1-160		5.0
64.1-71.0		1.6					
71.1-78.0		1.8					
78.1-85.0		2.0					
85.1-90.0		2.2					
70.0-77.0			1.6				
77.1-83.0			1.8				
83.1-91.0			2.0				
91.1-98.0			2.2				
98.1-101.0			2.4				
101.1-117.0			2.5				
117.1-125.0			3.0				
105.0-122.0				2.5			
122.1-139.0				3.0			
139.1-156.0				3.5			
156.1-160.0				4.0			

ALL CORRECTIONS ARE ADDITIVE

Corrections in Fathoms

H-7604

13 May - 19 Sept., 1948

Instrumental Corrections

NMC - I

Correction to Depth	
fms	fms
-0.5	14
-0.4	18
-0.3	22
-0.2	27
-0.1	33
0.0	41
+0.1	50
+0.2	62
+0.3	78
+0.4	183
+0.2	200
0.0	over 200

808 J, #131 SG - Fathoms

A - Scale		B - Scale		C - Scale		D - Scale	
Corr.	To Depth	Corr.	To Depth	Corr.	To Depth	Corr.	To Depth
fms	fms	fms	fms	fms	fms	fms	fms
0	11	+1.3	37	+2.4	73	+2.4	118
+0.1	20	+1.4	46	+2.5	82	+2.6	141
+0.2	27	+1.5	54	+2.6	90	+2.8	158
+0.3	37	+1.6	62	+2.7	98	+3.0	160
+0.4	46	+1.7	71	+2.8	115		
+0.5	55	+1.8	79	+3.0	120		
		+1.9	88				
		+2.0	90				

Compiled by W.N.M.
Checked by L.S.B.

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SURVEY NO. H-7604

Fathometer Corrections
 For Period 13-20 May incl.
 Soundings in Fathoms

808 Fathometer	Corrn	To Depths	NMC-1 Fathometer	Corrn	To Depth	Corrn	To Depth
	Fms 0.0	Fms 4		Fms 5.0	Fms 145.5	Fms 24.5	Fms 1315
	0.1	8.5		5.2	154	25.0	1330
	0.2	13		5.4	162	25.5	1350
	0.3	16.5		5.6	171	26.0	1365
	0.4	22.5		5.8	180	26.5	1385
	0.5	26		6.0	190	27.0	1400
	0.6	30.5		6.2	200	27.5	1420
	0.7	35.5		6.5	210	28.0	1435
	0.8	41		7.0	240	28.5	1455
	0.9	46.5		7.5	270	29.0	1470
	1.0	53		8.0	355	29.5	1485
	1.1	61		8.5	405	30.0	1500
	1.2	70.5		9.0	445	30.5	1515
	1.3	83		9.5	490	31.0	1530
	1.4	101		10.0	535	31.5	1550
	1.5	160		10.5	580	32.0	1565
				11.0	625	32.5	1575
				11.5	665	33.0	1595
				12.0	700	33.5	1610
				12.5	740	34.0	1620
				13.0	770	34.5	1635
				13.5	805	35.0	1650
				14.0	835	35.5	1665
				14.5	865	36.0	1680
				15.0	890	36.5	1695
				15.5	920	37.0	1705
				16.0	945	37.5	1725
				16.5	975	38.0	1735
				17.0	1000	38.5	1750
				17.5	1025	39.0	1760
				18.0	1045	39.5	1775
				18.5	1075	40.0	1785
				19.0	1095	40.5	1800
				19.5	1115		
				20.0	1135		
				20.5	1155		
				21.0	1175		
				21.5	1200		
				22.0	1215		
				22.5	1235		
				23.0	1255		
				23.5	1275		
				24.0	1295		

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Survey Nos. H-7604, H-7603
 Fathometer Corrections 1948
 For Period 1-9 June incl.
 Soundings in Fathoms

808				NMC-1					
Fathometer	Corrn	To Depth		Fathometer	Corrn	To Depth	Corrn	To Depth	
	Fms	Fms			Fms	Fms	Fms	Fms	
	0.1	8			5.2	147.5	24.5	1315	
	0.2	12.5			5.4	157	25.0	1330	
	0.3	16.5			5.6	167.5	25.5	1350	
	0.4	21.5			5.8	178	26.0	1365	
	0.5	26			6.0	189.5	26.5	1385	
	0.6	30			6.2	200	27.0	1400	
	0.7	32.5			6.5	230	27.5	1420	
	0.8	37			7.0	270	28.0	1435	
	0.9	42.5			7.5	315	28.5	1455	
	1.0	48			8.0	355	29.0	1470	
	1.1	54.5			8.5	405	29.5	1485	
	1.2	62			9.0	445	30.0	1500	
	1.3	72			9.5	490	30.5	1515	
	1.4	83			10.0	535	31.0	1530	
	1.5	100			10.5	580	31.5	1550	
	1.6	159			11.0	625	32.0	1565	
	1.4	160			11.5	665	32.5	1575	
					12.0	700	33.0	1595	
					12.5	740	33.5	1610	
					13.0	770	34.0	1620	
					13.5	805	34.5	1635	
					14.0	835	35.0	1650	
					14.5	865	35.5	1665	
					15.0	890	36.0	1680	
					15.5	920	36.5	1695	
					16.0	945	37.0	1705	
					16.5	975	37.5	1725	
					17.0	1000	38.0	1735	
					17.5	1025	38.5	1750	
					18.0	1045	39.0	1760	
					18.5	1075	39.5	1775	
					19.0	1095	40.0	1785	
					19.5	1115	40.5	1800	
					20.0	1135			
					20.5	1155			
					21.0	1175			
					21.5	1200			
					22.0	1215			
					22.5	1235			
					23.0	1255			
					23.5	1275			
					24.0	1295			

Copy 1288

✓

VELOCITY

Corrections to be used between
26 July and 15 August, 1948 in depths 27-101 Fathoms

Survey H-7604

808-J - Corr.	820 Fms to Depth	Sec			NMC-1 - Corr.	800 Fms to Depth	Sec.	
Fms 0.7	Fms 35.5	0.6	29.5		Fms 1.4	Fms 32.0	1.2 1.3	27 29.5
0.8	41.5				1.5	34.0		
0.9	48.5				1.6	36.5		
1.0	56.5				1.7	39.0		
1.1	66.5				1.8	41.1 ⁰		
1.2	79.0				1.9	44.0		
1.3	97.5				2.0	46.5		
1.4	101.0				2.1	48.5		
					2.2	51.5		
					2.3	54.0		
					2.4	56.5		
					2.5	59.5		
					2.6	62.0		
					2.7	65.0		
					2.8	68.0		
					2.9	71.0		
					3.0	74.0		
					3.1	77.0		
					3.2	80.5		
					3.3	83.1		
					3.4	86.5		
					3.5	90.0		
					3.6	93.1		
					3.7	96.5		
					3.8	100.0		
					3.9	101.0		

Copy 209

Compiled :W.N.M.
Checked :F.J.B.

✓

808 FATHOMETER CORRECTIONS - 820 FMS/SEC

Corrections in Fathoms

To be used between 26 July and 15 August 1948 for depths from 101 to 215 Fms

Survey H-7604

Corrn Fms	To Depth Fms								
1.6	102								
1.8	200								
1.5	215								
		Compiled	:F.J.B						
		Checked	:W.N.M						
						Copy ✓			

NMC-1 FATHOMETER CORRECTIONS - 800 FMS/SEC

Corrections in Fathoms

To be used between 26 July and 15 August 1948 for depths from 101 to 215 Fms

Suvery H-7604

Corrn Fms	To Depth Fms							
4.2	103.5							
4.4	110							
4.6	116.5							
4.8	123							
5.0	130							
5.2	137							
5.4	144.5							
5.6	152.5							
5.8	160							
6.0	168.5							
6.2	176.5							
6.4	185.5							
6.6	194.5							
6.8	200							
7.0	215							

Compiled F.J.B.
Checked W.N.M

Chy 480

✓

E.P.I. Corrections - H-7604, H-7603 (Additional Work)
From Calibration Tests West of Cape St. George.

Use Between	EPIA	EPIB	Date of Calibration
15 May - 6 June	-11.0	-11.8	14 May & 6 June
26 July-1 August	- 8.7	-11.5	26 July
15 August	- 7.4	- 8.4	14 August

Compiled: W.N.M.
Checked : C.I.A.
Copy - MM

APPROVAL SHEET

Survey No. H-7604

The field work on this sheet was done under the immediate supervision of Captain Fred. L. Peacock, Chief of Party, and daily inspections of the field records were made by him. Field work completed during 1947 was smooth plotted on the HYDROGRAPHER under his general supervision and the smooth sheet forwarded to Washington. Field work done during 1948 is scheduled to be smooth plotted at the Norfolk Processing Office.

The records, sheets, and reports have been reviewed by me and are approved.

George L. Anderson
George L. Anderson
Chief of Party, C&GS.

✓

✓

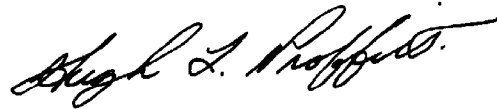
ADDENDUM

To Accompany

HYDROGRAPHIC SURVEY H-7604 (Field No. Hy-20247)

The Norfolk Processing Office smooth plotted that
part of H-7604 accomplished during the 1948 field season. ✓

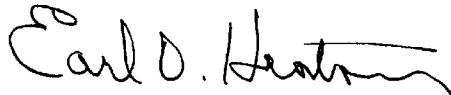
Respectfully submitted,



Hugh L. Proffitt
Cartographer

Norfolk, Virginia
1 November 1949

Approved and forwarded.



Earl O. Heaton
Supervisor, SE Dist.

GEOGRAPHIC NAMES

Survey No. H-7604

Name on Survey	On Chart No.		On previous survey No.		On U. S. quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
	A	B	C	D	E	F	G	H	K							
<u>Florida</u>				(for title)											USRN 1	
<u>Cape San Blas</u>				" "											2	
<u>Gulf of Mexico</u>				" "											3	
															4	
															5	
															6	
															7	
<u>Pensacola</u>				(location of tide gage)											8	
															9	
															10	
															11	
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															13	
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															26	
															27	

Names underlined in red are approved
11-23-44
L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7604

Records accompanying survey:

Boat sheets¹; sounding vols.²⁴; wire drag vols.;
 bomb vols.; graphic recorder rolls^{7 envel.}
 special reports, etc.^{1 Cahier, E.P.I. Computations; 1 Cahier, E.P.I. Plott-}
^{ing abstracts.}
^{4 Sketchbooks, E.P.I. Readers 8 records}

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

Number of positions on sheet		2760
Number of positions checked		171
Number of positions revised		14
Number of soundings revised (refers to depth only)		52
Number of soundings erroneously spaced		36
Number of signals erroneously plotted or transferred		0
Topographic details	Time	0
Junctions	Time	3 hrs.
Verification of soundings from graphic record	Time	12 hrs

Verification by R. K. De Lawder Total time 183 hrs. Date 2-13-50.

Reviewed by G. F. Jordan Time 65 Date 7-21-50.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7604

FIELD NO. HY-20247

Florida, Gulf of Mexico, Southwest of Cape San Blas
Surveyed from October 1947 to August 1948 Scale 1:200,000
Project No. CS-328

Soundings:

Control:

808-J Fathometer
NMC-1 Fathometer

Electronic Position Indicator

Chief of Party - F. L. Peacock

Surveyed by - F. L. Peacock, E. B. Latham, C. I. Aslakson,
G. R. Shelton, W. J. Chovan, J. D. Thurmond,
W. N. Martin, F. J. Bryant, L. S. Baker and
H. F. Dunbrook

Protracted by - W. W. Feazel and P. E. Jones

Soundings plotted by - H. J. Thompson

Verified and inked by - R. K. DeLawder

Reviewed by - G. F. Jordan, 21 July 1950

Inspected by - R. H. Carstens

1. Shoreline and Control

No shoreline falls within the limits of the smooth sheet.

This survey was controlled by two Electronic Position Indicator (EPI) stations established on shore about 152 miles apart and located by triangulation. A discussion of the control and the problems encountered is included in the Descriptive Report. Further consideration of the EPI calibrations and corrections by the verifier and reviewer was unnecessary except as noted in paragraph 3 below.

2. Bottom Configuration and Depth Curves

This survey and survey H-7603 (1947-48) on the north together cover an area of approximately 20,000 square miles on the continental shelf and slope between the depths of 25 and 1730 fms. Between 80 and 400 fms., the bottom is unmarked by irregularities, and the gradient increases with the depth. The bottom inshore and offshore from these depths is marked by significant configurations. Some of the configurations are revealed by an inspection of the

depth curves on the smooth sheet, but not all the physiographic details are revealed on this small-scale plotting sheet. A more complete delineation of bottom irregularities would in part require a larger scale plotting of the area having depths less than 80 fathoms and the addition of soundings scaled from the fathograms.

In the shoaler depths of 25 to 80 fms. the bottom irregularities consist of ridges, elongate depressions, domes, gradient changes and the nose-like protuberance of 40- to 60-fm. curves into depths of 70 to 90 fathoms. The domes fall 13 to 20 miles apart in a linear direction in the vicinity of the 70-fm. curve and are accompanied by gradient changes in the bottom. Troughs and adjacent ridges paralleling the depth curves occur frequently in the shoaler depths. Some of the features not clearly revealed by the smooth sheet are as follows:

- a. H-7603 - A trough 18 ft. deep and an adjacent ridge 8 ft. high are recorded in lat. $29^{\circ} 17'$, long. $85^{\circ} 44'$ in 40-fm. depths where the general sea bottom elevation drops 20-feet.
- b. H-7603 - A trough 38 ft. deep is revealed at the bottom of the south slope of a protuberance delineated by the 60-fm. curve in lat. $29^{\circ} 20.5'$, long. $86^{\circ} 03.5'$.
- c. H-7604 - Three symmetrical domes were crossed by sounding lines on H-7604 in lat. $28^{\circ} 23.0'$, long. $85^{\circ} 01.7'$ - lat. $28^{\circ} 38.8'$, long. $85^{\circ} 10.0'$ - lat. $28^{\circ} 45.7'$, long. $85^{\circ} 20.3'$. These domes are respectively 10 ft. high with a 2700-ft. base, 16 ft. high with a 4200-ft. base and 10 ft. high with a 2500-ft. base.
- d. H-7603 - The three encircled soundings in the vicinity of lat. $29^{\circ} 10'$, long. $85^{\circ} 40'$ represent high points on a ridge which terminates with a hook in the 80-fm. curve.

In the deeper depths of 400 to 1730 fathoms the bottom is marked by the continental slope escarpment, large areas of depression, the valley heading toward De Soto Canyon and crustal faults on and above the escarpment. The continental slope terminates with an escarpment having a maximum gradient of 35 degrees in lat. $28^{\circ} 12'$, long. $86^{\circ} 52'$. The survey reveals one area of depression beginning along the bottom of the escarpment and separated from another area of depression by a ridge which is at progressive distances of 8 to 28 miles from the escarpment. The ridge disappears at the northwestern limits of H-7604 in the valley which is shown

in part in the southwestern corner of H-7603 and which terminates in De Soto Canyon developed on H-6690 (1941). The continental slope and escarpment is lined with crustal faults paralleling the depth curves. The faults appear as crustal slips, ridges, troughs and benches. One fault appears to extend for approximately 30 miles along the western limits of both surveys where a ridge 20 to 50 ft. high is indicated by shoal soundings of 719 to 773 fathoms.

The depth curves are complete and are adequately delineated for navigational purposes.

3. Sounding Line Crossings

The depths at most of the sounding line crossings are in excellent agreement. To obtain this agreement considerable study and adjustment of EPI procedures and calibrations and a detailed consideration of fathometer corrections were made in the field. A few revisions were made during verification where sections of sounding lines were either replotted on dead-reckoning or rejected because of inadequate EPI control. In addition, some soundings were revised or rejected where fathometer troubles caused inaccurate recordings. An unresolved discrepancy in crossings remains, however, in the vicinity of lat. $27^{\circ} 45'$, long. $87^{\circ} 15'$, where the dial-indicator soundings on M-day appear to be 10 fms. too deep in depths of about 1630 fms.

4. Adjoining Surveys

An adequate junction on the north was effected with H-7603 (1947-48). The junction with H-6548 (1940) on the west revealed some discrepancies in depths which have been resolved by the rejection of sections of dead-reckoning sounding lines on that survey. The junction with H-7679 (1948-49) on the east will be considered in the review of that survey. Additional surveys on the east and south are in progress.

5. Comparison with Prior Surveys

H-483 (1854) 1:200,000 scale; H-1354 (1875) 1:600,000 scale;
H-2920c (1882-84) 1:1,200,000 scale

These early reconnaissance surveys contain a few dead-reckoning lines within the area of the present survey. Differences with present depths are as great as 30 fms. in 100-fm. depths and 125 fms. in 1600-fm. depths and are undoubtedly caused by inaccuracies in the early surveys. There are no shoal soundings involved. The present survey supersedes the prior surveys except for the bottom characteristics carried forward.

6. Comparison with Chart 1114 (Print of Aug. 15, 1949)
Chart 1115 (Print of May 1, 1950)

A. Hydrography

The charted hydrography originates entirely with the present survey before verification, except for four lines of soundings on Chart 1114 which originate with the surveys previously discussed. No significant revisions were made during verification other than a correction of the 327-fm. sounding shown on Chart 1115 in lat. $28^{\circ} 34.5'$, long. $86^{\circ} 42.0'$. The correct depth is 337 fms. *Cancelled on Chart 1115 SB 10-28.53*

B. Aids to Navigation

No aids to navigation are charted in this offshore area. No features which might be considered to be dangers to navigation were revealed by this survey.

7. Condition of the Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth sheet was accurately and neatly plotted.


8. Compliance with Project Instructions

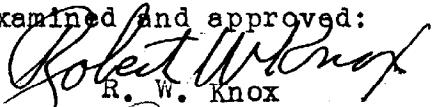
The survey complies adequately with the project instructions.


9. Additional Field Work

This is an excellent basic survey and no additional field work is recommended.


H. R. Edmonston
Chief, Nautical Chart Branch


L. S. Hubbard
Chief, Section of Hydrography

Examined and approved:

R. W. Knox
Chief, Division of Charts


W. M. Scaife
Chief, Division of Coastal Surveys

RAC

TIDE NOTE FOR HYDROGRAPHIC SHEET

21 November 1949

~~Division of Hydrography and Topography~~

Division of Charts: R. H. Carstens

Plane of reference approved in
24 volumes of sounding records for

HYDROGRAPHIC SHEET 7604

Locality Gulf of Mexico

Chief of Party: F. L. Peacock in 1947-48
Plane of reference is mean low water, reading
8.0 ft. on tide staff at Pensacola
9.0 ft. below B. M. 7 (1923)

Height of mean high water above plane of reference is 1.3 feet.

NOTE: Allowance of -2000 hours was used to determine time of tide at working grounds.

Condition of records satisfactory except as noted below:

E. C. McKay
Section
Chief, Division of Tides and Currents.

