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DEPARTMENT OF COMMERCE

U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Tapagasphics | Sheet No......

Hydrographic

Louisiana State

LOCALITY

South-eastern and of Marsh

Island, Atchafalaya Bay.

Southeast of Marsh Island

193 5

CHIEF OF PARTY

Thos. B. Reed

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.

Field No. ...7 REGISTER NO. 5837 State Louisiana General locality Atchafalaya Bay Locality Southeastern Had of Marsh Island Scale 1:20,000 Date of survey April 21 to June 11 19 35 Vessel Field Party No. 4. Chief of Party Thos. B. Reed Surveyed by J. F. McIlwain Protracted by H. L. Proffitt, T. F. Donlon. Soundings penciled by H. L. Proffitt, T. F. Donlon. Soundings in xathoms feet Plane of reference M. L. W. Subdivision of wire dragged areas by Inked by Verified by Instructions dated June 26. Sept. 15: 1934: Jan. 19. . . 19 35 Remarks: _____

U. S. GOVERNMENT PRINTING OFFICE: 1931

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DESCRIPTIVE REPORT to accompany

Hydrographic Sheet No. 7, Southeastern end of Marsh Island,

Louisiana

Field Party No. 4

Thos. B. Reed, Chief of Party

Project H. T. 156

DATE OF INSTRUCTIONS: June 26, September 15, 1934; January 19, 1935.

DATE OF SURVEY:

April 21 to June 11, 1935.

SURVEY METHODS:

This survey was made by the usual launch hydrographic methods, using a pole, marked to feet for the shoaler soundings and a standard lead line for the deeper. Oyster reefs, which could not be crossed by the sounding launch, were sketched on the boat sheet in the field by the hydrographer. The position of signal BAR was computed, and the computations are inclosed with this report.

DISCREPANCIES:

Discrepancies found in smooth plotting are noted in the sounding records by the smooth plotter. The position of SHELL 3 was obtained from the ship HYDROGRAPHER. Cuts taken in locating hydrographic signals indicate that the position of this signal may be slightly in error. However, since this signal was located by planetable by the ship HYDROGRAPHER, the position was not changed as the planetable location is probably preferable to the hydrographic location.

GENERAL DESCRIPTION:

This sheet includes the inshore area in the Gulf of Mexico to the southeastward of Marsh Island including Shell Keys.

The area covered by this survey is spotted by many cyster reefs and shoals, particularly in the western part of the sheet to the northward of Shell Keys. Sounding lines were run as close to the shore line and to the edge of cyster reefs as possible with safety to the sounding launch. Notes regarding the various cyster reefs are shown on the sheet. Except for the four small islands in Shell Keys, which are bare about 2 feet at High Water, all reefs are covered at mean high tide. The shore line of three of these shell islands was transferred from a tracing of Topographic Sheet "H", 1934 by the Ship Hydrographer, and the shore line of the scuthermost island was taken from the sketched position on the boat sheet. These islands are composed of loose shells and probably change considerably with every storm.

COMPARISON WITH PREVIOUS SURVEYS:

Copies of the 1888 surveys in this region are not available for making a comparison. A comparison with Charts Nos. 199 and 1277 shows a considerable amount of change, especially in the reefs and shoal areas.

JUNCTION WITH CONTEMPORARY SURVEYS:

This sheet joins on the east and north with Sheet No. 5, on the west with surveys of the ship HYDROGRAPHER, 1934 and on the south with surveys of the ship HYDROGRAPHER, 1935.

GEOGRAPHIC NAMES:

The names "Shell Keys" and "South Point" shown on the present charts are correct.

TIDE REDUCERS:

Tidal reductions are shown on the attached sheets.

Respectfully submitted,

Thos. B. Reed,

Lieut., C. & G. Survey, Chief of Field Party No. 4.

STATISTICS FOR SHEET NO. 7

YEAR 1935 DATE	40 to to to	DAY LETTER	VOL. NO	STATUTE MI. - SDG. LINES -	number - soundings	NUMBER POSITIONS
April	21	8.	1	19.2	285	34
n	22	ъ	ī	29.9	867	
**	23	c	ī	17.3	434	116
11	25	ď	1&2			53
tt	26			57. 3	1304	156
tt		6	2&3	64.7	1509	181
11	28	f	3&4	58 _• 8	1308	174
	29	g h	4	6 . 5	144	22
May	2 6		4	17.7	526	87
11	27	j	4	17.8	525	81
11	29	k	48:5	27.5	725	
June	6	1	5	12.9	3 1 3	143
Ħ	9	m	5	24.5		44
17	10	n	6		742	115
11	11			29.3	820	124
	4.1	p	6&7	37. 5	953	154
		TOTAL		420.9	10,455	1,484

NO. SQ. MILES AREA OF SOUNDINGS --- 50.0

COMPUTATION OF THREE-POINT PROBLEM

For Position of Water Signal BAR

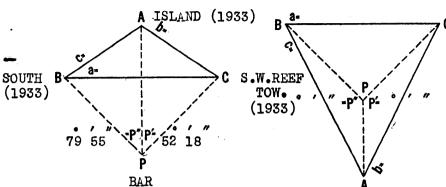
Case 1

Case 2

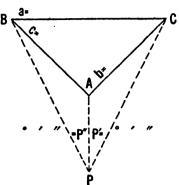
Case 3

A ISLAND (1933)

B a= C



Log c =



Sextant Angles at BAR were taken by party from Ship HYDROGRAPHER

Cases 1 and 2

Case 8

4.209858

P' P"	52 - 18 79 - 55	P' P"	
A	118 - 49		
Sum	251 - 02	A	
1/2 Sum	125 - 31	A	**************************************

$$S=180^{\circ}-\frac{1}{2}$$
 sum = $54-29$ $S=\frac{1}{2}$ (A-sum) =

Log sin P' = 9.898299
Colog b = 5.797235
Colog sin P'' = 0.006760

Sum = log tan Z = 9.912152

Z = 39° 14' 40"
Z+45° = 84° 14' 40"

Log cot (Z+45°) = 9.003429
Log tan S = 10.146465

Sum = log tan
$$\epsilon$$
 = 9.149894 (sign +)

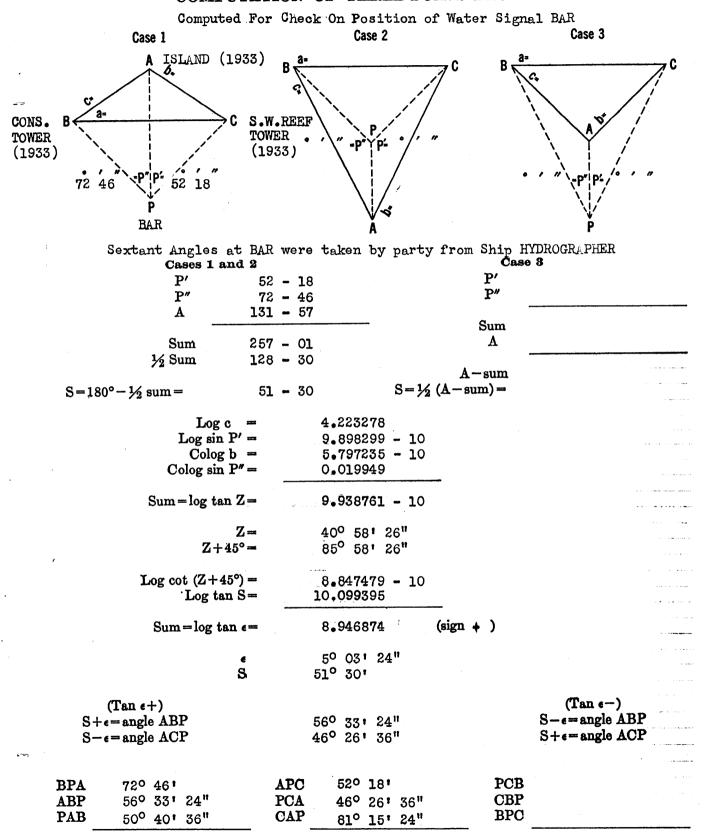
t to capacitates	 			U	
. A summatura	001 771	00	_		
* *100	02' 17"	0 -	•		
	291	540	Q		
· and an	49.	⊕ ±	D.		
. We advantage of the					

$(Tan \epsilon +)$		(Tan e−)
$S + \epsilon = angle ABP$	62° 31' 17"	$S-\epsilon=$ angle ABP
S-e=angle ACP	460 261 43"	S+e=angle ACP
_		· - · · · · · · · · · · · · · · · · · ·

BPA	79° 55 '	APC	52° 18'	PCB	
ABP	62° 31' 17"	PCA	46° 26	CBP	•
PAB	37° 33' 43"	CAP	8 1° 15' 17"	\mathbf{BPC}	

(For explanation of this form see Special Publication No. 138, pages 191 and 192, or Special Publication No. 145, pages 98-100)

COMPUTATION OF THREE-POINT PROBLEM



(For explanation of this form see Special Publication No. 138, pages 191 and 192, or Special Publication No. 145, pages 98–100)

State: Louisiana

COMPUTATION OF TRIANGLES

•	NO.		STATION	OBSERVED ANGLE	CORR'N	Spher'l Angle	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
		2-3		7.					4.20986
		1	BAR	790 551 0011					0.00676
		2	SOUTH	62° 31' 17"					9.94801
		3	ISLAND	37 ⁰ 33' 43"		, .			9.78506
		1-3							4.16463
		1-2							4.00168
									4 20256
		2- 3							4.20276
		1	BAR	52° 18' 00"					0.10170
		2	ISLAND	81° 15' 24"					9.99492
		3	S. W. REEF	46° 26' 36"					9,86015
	ı	1-3							4.29938
argin		1-2							4.16461
Do not write in this margin									,
rite i		2-3					ŀ		4.22328
oc w		1	BAR	72° 46' 00"					0.01995
. Q		2	CONS. TOW.	560 331 24"					9,92139
		3	ISLAND	50° 40° 36"					9.88851
		1-3							4.16462
•		1-2							4.13174
		2-3							
<u>.</u> '		1							,
		2							
		3		-					
•		1-3							
×		1-2							
				Α.					
	<u></u>	CAR.	CKd, K SK, -	WB.R.					Comp. by T.B.R.

DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY FORM 27 Ed. April, 1929

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

			U	명		a	Sin3 a	43	4	В	Cosa	•		φ,	Δφ	0		α' 1		\$	R	2d /	8	
		7.18	2.32	4.86	8,6681	1.1580	9.5067	8.0034	2,42917	8.51161	9.91588	4.00168	Logarithma	29		29	•				2 SOI			
					18	88	67	34	917	161	588	168	ithma	24	4	29					SOUTH		SOUTH	
	- 4	3d term			2d term				1st term		(4	180	Value	58.55	28.68	27.23	;	\$	-		t.	Rr.	8	
	+ 268 , 68	+			+ 0.04				+ 268-64		(44.6)	1802.7 m	Values in seconds	1 BAR		2 SOUTH	First Angle of Triangle	to 2			to 1 BAR		8 ISLAND	
				$-\Delta \alpha$	Sin } (+++)	Δλ	Sec ø'	A'	Sin a	4		j(φ+φ')					TRIANGLE							
				2		2	0	8	9	4	Log	-		<u>۲</u>	₽	>		<u></u>	1		3	+	2	1
				2.01608	9,69171	2.32437	0.05994	8.50937	9.75338	4.00168	Logarithms	29	•	16		91	79	145	180		325	62	262	
				-	ľ	1	_	7	α	8		27 1	,	42	-3	45	55	30	00	+	28	31	57	
ļ				-104		-211.04	(895.1)	722.5m			Values in seconds	12		26.81	31.04	57.85	00.0	23.0	00.0	44.0	39.0	17.0	22.0	•
	-		ם	F.		C	Sin3 a	9.	٦	В	Cosa	Co		θ,	Δφ	0		a,		Δα	۵	3 ^d / ₂	ρ	1
		7.36	2.32	5.04	9.	1:		8	20	8		4.	вод	29		29	0	H			3 I		8 H	
		36	32	2	9.1936	1.1582	9.7061	8,3293	2.52209	8.51161	9.84585	4.16463	Logarithms	24	-5	30	,				ISLAND		ISLAND	
	-Δφ	3d term			2d term		<u> </u>	<u> </u>	1st term		<u> </u>	1	Value	58.54	32.89	31.43								
	+332.89	+			+	-			+332.73				Values in seconds	1		ထ		to 8			to 1 BAR	&•	to 2 SO	
	.89	[016				•73				nds	BAR		ISLAND					R		SOUTH	
11				$-\Delta \alpha$	Sin } (++4')	Δλ	Sec ϕ'	A'	Sin a	Co		± (φ+φ')												
1-9362 a				2,27883	9,69183	2.58700	0.05994	8.50937	9.85306	4.16463	Logarithms	و2 (پ		λ' 91	\$	λ 91	o	225	180		45	- 37	83	
S. SOVERNEES				883	183	700	994	937	306	463	hms	27		42	t 6	36		25	00	-3	28	33	8	
1 PRUTTUO 007708 1886				+190		+386-37	,	`.			Values in seconds	44	"	26.80	26.37	00.43	=	23.0	00.0	10.0	33.0	43.0	16.0	

copy Chd. KSK. WBR.

Comp. by T.B.R

HYDROGRAPHIC SURVEY NO. 5837

Smooth Sheet
Boat Sheet
Sounding Records Vols.
Descriptive Report
Title Sheet Yes
List of Signals Yes in vol.1
Landmarks for Charts (Form 567) None
Statistics Yes
Approved by Chief of Party
Recoverable Station Cards (Form 524) Yes
Special Chart for Lighthouse Service None (Circular Nov. 30,1933)
Remarks

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO.

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

Number of positions on sheet	1,484
Number of positions checked	<i>75</i> .
Number of positions revised	2.
Number of soundings recorded	10,455
Number of soundings revised	50
Number of signals erroneously	
plotted or transferred	

Date:

Verification by Chas R Bush Jr.

Review by

Time: 60ay -0 hr.

Time:

	GEOGRAPHIC	NAMES
Date. July 24, 1935	LOUISIANA	

Survey No	H5837	
Chart No	1116	
Diagram No	1116	

Approved by the Division of Geographic Names, Department of Interior.
Referred to the Division of Geographic Names, Department of Interior.
R Under investigation.
Q

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	Marsh Island	Same			
	South Point	n			······································
	Shell Islands	Shell Keys			
		Oyotor Roofs			•
		Atchafolaya Bay			
		East Cote Blanche Bay L			
		Gulf of Mexico			~ ·)
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		APPROVED NAMES UNDERLINED IN RED H.L. Flemes.			
,		H.L. Flemes.			
•					(M-136

FORM 718
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 30, 1935.

Division of Hydrography and Topography:

/ Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in 7 volumes of sounding records for

HYDROGRAPHIC SHEET 5837

Locality Southeast of Marsh Island, Atchafalaya Bay, Louisiana.

Chief of Party: Thos. B. Reed in 1935
Plane of reference is mean low water reading
1.4 ft. on tide staff at Eugene Island
4.2 ft. below B.M. 1

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

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

VERIFIER'S REPORT ON H 5837

This sheet was verified by the undersigned and inked by Mr. McKenney.

The signals and shoreline were taken from T 6325 and T 4926.

Signal Shell as shown on T 4926 is not the same as • Shell 3 as shown on this sheet. Mention is made that the signal does not check the hydrographic location. (See descriptive report H 5837.) However, the location as shown does check the geographic position as furnished by the Ship HYDROGRAPHER and recorded on page 2, vol. 1 of this sheet. This location was accepted by the Chief of Section.

Junctions were made with H 5852 on the east and north with very good agreement. Junction was made with H 5766 on the west with fairly good agreement. In the vicinity of latitude 29° 27' the easternmost line of H 5766 is much shoaler. It is recommended that where they conflict the shoaler soundings be accepted.

The field records were inadequate in so far as reefs were concerned. Little mention was made of them in the sounding records. They were in most part taken from the boat sheet.

Since all fractions were plotted depth curves could be completely drawn.

The sheet was neatly and accurately plotted with very few changes by the verifier.

The wreck, latitude 29° 24.4', longitude 91° 51.3' checks as plotted according to the records, but does not shock with H 5786.

January 28, 1936.

Chase R. Bush, Jr.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5837 (1935) FIELD NO. 7

Atchafalaya Bay, Southeast of Marsh Island
Surveyed in April - June 1935
Instructions dated June 26, Sept. 15, 1934; Jan. 19, 1935.

Hand Lead and Pole Soundings.

3 Point fixes on shore signals.

Chief of Party - Thos. B. Reed.
Surveyed by - J. F. McIlwain.
Protracted by - H. L. Proffitt, T. F. Donlon.
Soundings penciled by - H. L. Proffitt, T. F. Donlon.
Verified and inked by - Chas. R. Bush, Jr., Chas. McKenney.

Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. Notes were inadequate regarding reefs, passing over shell banks and in changeable bottom.
- b. The reference station on smooth sheet did not indicate datum and did not give seconds in meters. These have been added in the office.

The Descriptive Report is brief but adequately covers all matters of importance.

2. Compliance with Instructions.

The plan, character and extent of the survey satisfy the instructions for the project except as noted under par. 4 below.

3. Shoreline and Signals.

The shoreline on this sheet originates with Plane Table surveys T-4926 (1934) and T-6325 (1935). The shoreline of the southern-most of the Shell Keys shown in blue on H-5837 (1935) originates with the boat sheet for that sheet.

The topographic signals used originate with T-6325 (1935). This survey in 1935 on aluminum mounted sheets followed an incomplete one in 1934 on Whatman paper by a party of the Ship HYDROGRAPHER. The former survey was intended to be completed in 1935, but the adoption of aluminum mounted sheets led to a discard of the 1934 work in the area involved, with the result that a new topographic survey T-6325 was undertaken in 1935 to provide signal locations for H-5837, as well as rodded shoreline.

Both surveys involve traverses between triangulation station South and topographic signal Co (near triangulation station Cove). Though the 1934 survey was done on Whatman Paper with possible distortion, the traverse was carried forward with distances measured with wire, and with negligible closing error. (The Descriptive Report states there was no error). The 1935 survey on aluminum mounted paper involves a closing error of 26 meters, which was adjusted proportionately. of the topographic signals, Lum and Vat, were located in both years, named the same, and are probably recoverable, being lone trees. It is not stated in the report on sheet T-6325 (1935) that these signals were recovered, but it is presumed that they were using the adjusted positions of the signals on T-6325 (1935). A discrepancy appears between the locations of topographic signals Lum and Vat as compared to T-4926 (1934) of 20 to 25 meters, in a direction which in view of the 26 meter closing error on sheet T-6325, indicates that the T-4926 (1934) positions are probably substantially correct. The topographer of T-6325 (1935) does not state in his report that these discrepancies were noted, or if any weight was given to the T-4926 (1934) locations.

Use of the T-4926 (1934) locations, however, would involve adjustment of the additional signals Flo, Gut, Jax, by an uncertain amount, and since these signals by proportionate adjustment among themselves offer locations which can not be too greatly in error, the T-6325 (1935) locations are acceptable. Whatever adjustment in the hydrography necessary due to corrected positions of these signals would serve no useful charting purpose.

Topographic signal Shellz originates with information furnished this party by the Ship HYDROGRAPHER and is recorded on page 2 Vol. 1 of the sounding records.

4. Sounding Line Crossings.

No regular system of check lines was run as called for by Supplemental Instructions of June 26, 1934. In the few cases of crossings obtained incidental to the development of shoal areas, and along longitude 91° 47', where the direction of lines change at right angles, the crossings are in good agreement.

5. Depth Curves.

Within the limits of the survey, the usual depth curves may be satisfactorily drawn with a few exceptions:

(a) The 6 foot curve in latitude 29°26', longitude 91°50' where a passage between the reefs has insufficient development. Since there is less water in the approaches to this passage this is comparatively unimportant.

(b) A shell knob in latitude 29°26', longitude 91°43.3' is crossed by but one line of soundings, with consequent uncertainty.

6. Junctions with Contemporary Surveys.

- (a) The junction on the east and north with H-5852 is very good.
- (b) The junction on the west with H-5766 is fair, with disagreement on the easternmost line of H-5766 between latitudes 29°26.8', and 29°27.3', that of H-5766 being from 1 to 2 feet shoaler.
- (c) The junction on the south with work of the Ship HYDROGRAPHER in 1935 is not yet available for comparison.

7. Comparison with Prior Surveys.

a. H-1831 (1888-89).

Charts Nos. 1277 and 199 in the area under consideration are based altogether on sheet H-1831 (1888-89). This sheet was executed on a scale of 1:80,000 with the general system of north and south lines spaced 1/2 mile apart and with practically no development of shoal indications east of longitude 91°49.

This scale does not give a comprehensive representation of the bottom and is inadequate for such an area, which is much broken by shell banks.

A comparison of depths between Charts 1277 and 199, which are based on H-1831 and H-5837, discloses a general shoaling of the area, which is particularly noticeable in the expansion of the shell reefs and all the general area inside the six foot curves.

In only one locality does the present survey show greater depths than on H-1831 (1888-89). Immediately eastward of South Point (latitude 29°29.3', longitude 91°45.3') it appears that the area deeper than 6 feet is expanding to the east and northeast, with the possible formation of a channel through the extensive shoal in the direction of East Cote Blanche Bay.

One shoal indication shown on H-1831 (1888-89), does not appear on H-5837. A 6 foot sounding in latitude 29°26.2' longitude 91°44.1', falls within a flat 7 foot to 8 foot area, with shell bottom noted between positions 134d and 135d. It is, therefore, probable that slightly less water is present hereabouts and the 6 foot sounding has been darried forward.

That the shell reefs (oyster bars) are building up is evidenced by numerous spots now bare at low water, which do not appear at all on H-1831 (1888-89).

8. Comparison with Charts Nos. 1277 (New Print dated Nov. 6, 1934) 199 (New Print dated Jan. 26, 1934)

Within the area of the present survey the charts are based on the survey discussed in the foregoing paragraph and contain no additional information that needs consideration in this review.

9. Field Plotting.

The sheet was neatly and accurately plotted. Minor errors in signal names topographic signal Bar (blue for red), and misspelling of topographic signal Mag for topographic signal Mug have been changed in the office.

10. Additional Field Work Recommended.

Whenever work is again resumed in this locality, the following additional examinations would be desirable:

- (a) The reef indication in latitude 29°26.1', longitude 91°43.3'.
- (b) The shoal area extending northwest from the reef in latitude 29°25.1'. longitude 91°42.5'.
- (c) The reef indication in latitude 29°26.8', longitude 91°45.9'.
- (d) The vicinity of the 6 foot sounding carried forward from sheet H-1831 in latitude 29°26.1', longitude 91°44.1'.
- (e) The channel between the reefs in latitude 29°26.0', longitude 91°50.0'.
- (f) The narrow pass between the reefs in latitude 29°27.2', longitude 91°50.7'.

11. Wreck off Shell Keys.

The wreck located on the present survey by a sextant fix off the southernmost of the Shell Keys did not agree with the wreck as located in 1934 on T-4926. The location on the present survey, however, agrees substantially with the location on H-1851 (1888-89). The location on T-4926 (1934) was obtained by a rod reading from topographic signal Shell. A study of the two locations disclosed the fact that the azimuths of both locations from topographic signal Shell were the same but that the distance from topographic signal Shell, on the hydrographic sheet, was exactly double the distance on the topographic sheet. In view of the agreement of the hydrographic location with the location shown on the 1888-89 survey, it is reasonable to assume that the topographer on T-4926 (1934) neglected to double a half rod reading when plotting the position of the wreck. The wreck has, therefore been removed from T-4926 (1934) and also from

H-5766 (1934) to which it had been transferred.

12. Note to Compiler.

Attention is directed to the southernmost of the Shell Keys shown in blue on this sheet. This has been transferred from the boat sheet and is the only authority for this Key.

13. Superseding Old Surveys.

Within the area covered the present survey, with the indicated additions from prior surveys, supersedes the following surveys for future charting purposes:

H-1831 (1888-89) in part

14. Reviewed by - C. A. Egner, Feb. 11, 1936.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, C. M. Speen. Chief, Section of Field Records.

Chief. Division of Charts.

Chief, Division of H. & T.

Applied to Chart 1051 Aug 1937 Chas. P. Bus Chas. P. Bush J