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FORM 504 Rev. Dec. 1933 DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR
DESCRIPTIVE REPORT Topographic Sheet No. P 4866
DEPENDENT !
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State
S. W. of Galveston Island Bastrop Bay, Oyster Bay,
193 3_4
OHIEF OF PARTY
11

U.S. GOVERNMENT PRINTING OFFICE: 1984

Form 537a Ed. Nov., 1929

DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY

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TOPOGRAPHIC TITLE SHEET

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

Field No. P

REGISTER NO. 4866

State	
General locality	S.W. of Galveston Island and Bay, Oyster Bay, on 1975
Bastrop I	Bay, Cyster Bay, and the May
1:20,000 Scale	Dec. 1935 to Jan. 34
Project H	F=118
Chief of party	Earl O. Heaton
Surveyed by	J. W. Somers
Inked by	W. T. White
Heights in feet abo	ve M.H.W. to ground to tops of trees
Contour, Approximat	e contour, Form line intervalfeet
Instructions dated	Nov. 5, 1932
Remarks:	
i .	

applied to Chr 1283. July-1935- DX. J. Bankle

DESCRIPTIVE REPORT

TO ACCOMPANY TOPOGRAPHIC SHEET P BASTROP BAY, OYSTER BAY, & DRUM BAY

Scale: 1:20.000

Project HT-118, Galveston Bay Surveyed December 1933 to January 1934 Earl O. Heaton, H. & G. Engr., Chief of Party Topographer J. W. Somers

Instructions Dated Nov. 5, 1932

General Description of the Coast:

The north and west shores of Bastrop, Oyster, and Drum Bays are low prairie and marsh land. The southern shores of Oyster and Drum Bay are generally marsh land. A low sand ridge rises to the southeastward of this marsh land to meet and form the gulf beach. There are no natural features of prominence in the area covered by this sheet. Grass, weeds, and salt cedars constitute the principal vegetation. A tall white concrete stack at Hoskins Mound is the only prominent object east of Freeport on this sheet, which may be considered useful to mariners.

The Galveston and Brazos River Canal, 40 ft. wide, project depth of 5 ft. extends through Oyster and Drum Bays. This canal is subject to rapid shoaling particularly near Christmas Pt. The channel is marked at frequent intervals

in Oyster Bay, by day beacons.

A narrow and shallow channel extends through Bastrop Bay from Christmas Pt. to Bastrop Bayon. This channel is poorly marked. A wrecked boat is located on the west dide of the channel near the mouth of Bastrop Bayou. The east end of this wreck is marked by a 4 x 4 stake with one cross slat about 6 ft. above M.H.W.

Landmarks:

STACK - white concrete, A Hoskins Mound, 1931.

Aids to Navigation:

BEACON 1. (a Mod Island Channel Bn. 1) BEACON 1, (oAce), Christmas Pt. Ch. Bn. 1. BEACON 3, (oTrey), ** n 5 BEACON 5, (Duce) BEACON 1. Oyster Bay Ch. Bn. 1 11 5 BEACON 5, 7 BEACON 7. 9 BEACON 9, 11 2 BEACON 2. BEACON 11. 11 BEACON 13.

Character of Control Used:

Sheet P is controlled by nine second order triangulation station; Freeport Mun. W.T., Bend, Well, Light, Skeet, Will, Slough, Ridge, Tatlum, and by six third order triangulation stations; Stray, Bastrop, Mud Island Ch. Bn. 1, Hartrick, Clute, Red Bluff, and intermediate control by planetable.

Closing Errors and Methods of Adjus	tingi	Distance (miles)
Station	Closure (meters)	
ABastrop to junction with Sheet N	3	3.0
	4	2.6
ABastrop to Ace	3	2.7
ARidge to A Slough	-	4.0
ASlough toaClute	5	4. €

Station	Closure (meters)	Distance (miles)
△Clute to ○Hamp	6	1.5
△Tatlum to △Will	13	4.5
A Will to ASkeet	8	3.2
ASkeet to AWill	11	2.7

All traverse lines were adjusted as prescribed in the U.S.C.& G.S. Topographic Manual publication #144.

Dates on Triangulation Stations:

Two dates are shown on this sheet for stations shich have been recovered. The date of original establishment is shown in parenthesis and the last date of occupation is also shown. This was done because the datum was changed in 1927. The last date is the one which represents the plotted position.

Failure to Agree with Former Work:

Comparing sheet P with chart 1263, very little displacement was found in the shores of Bastrop and Cyster Bays. A large area in the west end of Drum Bay has filled in and is now marsh land. On the south side of the Galveston and Brazos River Canal the west end of Drum Bay is now 750 m. east of its charted position. North of the canal, Drum Bay has filled in eastward to Drum Pt., a distance of $l_{\frac{1}{4}}$ mi. Rogue Islands no longer exist and it is recommended that they be deleted from the chart. These changes are probably due to silt deposits left by flood water in the Brazos River and Cyster Creek. The gulf beach has rededed from 20 to 150 m. as noted below: at Tatlum, 20 m.; at oSnif, 60 m.; at oLog, 150 m.; at oSkeet; 130 m. At Well there is not apparant change in the shore line. This recession is due to wave action, both normal and during storms. Beacons 3 and 15 in Cyster Bay Channel no longer exist.

List of Planetable Positions:

B. M. U.S.E.D. - Christmas Pt.

Lone - lone tree.

Changes in Shoreline:

No changes of any importance have taken place in this area except in the west end of Drum Bay as previously noted in this report.

Character of Marsh and Extent Covered by High Water:

About 75% of the marsh shown on this sheet is 6 inches or more above high water and the remaining 25% floods at M.H.W. The soil in the marsh on the north and west shores of Bastrop, Oyster, and Drum Bays is black mud and sheal. The marsh along the south shore of these bays is mud, sand, and shell. All of these marsh areas sustain a heavy growth of grass and weeds.

Photo Topographic Work Transferred to Plane-table Sheet:

When the work on sheet P was being done in the field, it was known that aerial photographs were being taken of this area and for this reason plane table work was carried back inland only about \$\frac{1}{4}\$ mile on the northwest side of Oyster, Drum, and Bastrop Bays. Northwest from this point the topograpy has been transferred from the Photo Topographic Sheet to the plane table sheet so that the area is shown through which the new intracoastal waterway will pass. The projected intracoastal waterway has been transferred to the plane table sheet from the U.S. Engineers blueprints and it was also transferred to the Photo Topographic Sheet in the same manner. (Engineers blueprints and data accompany this sheet)

The report for the photo topographic sheet accompanies this report and the phototopographic sheet is being submitted with the plane table sheet.

Inspected and Approved:

Earl O. Heaton,

Chief of Party, C.& G.S.

Respectfully submitted,

J. W. Somers,

Observer.

REPORT FOR PHOTO TOPOGRAPHIC SHEET
vicinity of
BASTROP, OYSTER, and DRUM BAYS
to accompany
Planetable Sheet of party of Lt. E. O. Heaton

1. COMPILATION BY:

Projection	Ben Benson	8/6/34
Projection Checked	J. L. Smith	8/7/34
Control Plotted	Ben Benson	8/,8/,34
Control Checked	R. J. Moore Jr.	8/9/34
Topography Transfered	Ben Benson	8/24/34
Smooth Radial Line Plot	Ben Benson	8/22/34
Radial Line Plot Checked	T. M. Price Jr.	8/ 83/ 34
Detail Inked	Ben Benson	8/25/34

2. GENERAL INFORMATION

This sheet was compiled from photographs taken by the U.S.Army Air Corps using Fairchild T-3A Camera #31-76. The photographs used were #106-122 L-flight taken December 19, 1933 at 10:47 A.M. to 11:18 A.M.

The shoreline of the bays, inland waterways, and Gulf was traced directly from the 1:20,000 plane table sheet which this sheet accompanies.

3. CONTROL

Triangulation by E.O.H. 1933 .1934.
Triangulation by U.S.E.D. 1927 recomputed by E.O.H. 1933.
The control is adjusted to 1927 N.A. Datum.
The field parties geographic positions were used.

4. COMPILATION

(a) General Remarks

This sheet was prepared for the particular purpose of supplementing the information already obtained on the 1:20,000 plane table sheet of the party of Lt. E. O. Heaton covering this area.

The detail desired was in the area extending inland about one to two miles NW of Drum, Cyster and Bastrop Bays, along the proposed route of the new intra coastal canel, as well as any other information shown on the photographs not obtained by the plane table party, in the limits of their survey.

4. COMPILATION (contd)

(b) Plot

A preliminary plot was not made. Since it was desired to transfer detail to a 1:20,000 scale sheet, the projection was made with a scale factor of one. The photographs of the same flight to the SW have a scale factor of 0.96 and it is believed that the photographs covering the sheet also have a scale factor of 0.96.

The standard method of radial line plot was used. No unusual adjustments were made and the intersections obtained were good. The intersections obtained in the area N of Bastrop Bay to West Bay were weak, however, since this area extends far into the wing prints, the flight does not extend beyond this vicinity and the control was scarce. However, the topography is marsh, unimportant lakes and sloughs, and of such nature as a whole as not to warrant the expenditure of considerable time and effort to obtain the maximum degree of accuracy possible.

(c) Detail

The shore line was transfered from the plane table sheet which this sheet supplements, in order to indicate and bound the areas to be traced from the photographs. The nature of the topography was interpreted from notes made on the photographs by the field inspection party and from the knowledge of the features gained by the compiler Ben Benson who assisted on the field inspection. All detail was inked and indicated only sufficiently to enable it to be properly transfered to the plane table sheet.

5. LANIMARKS, COMPARISONS, Etc.

For information regarding landmarks, comparisons with other esurveys, etc., reference is made to the descriptive report of the plane table sheet which this accompanies.

Respectfully submitted,

T. M. Price Jr.

ADDRESS REPLY TO
DISTRICT ENGINEER
U. S. ENGINEER OFFICE
GALVESTON
TEXAS

WAR DEPARTMENT UNITED STATES ENGINEER OFFICE GALVESTON, TEXAS

September 22, 1934

Mr. Earl O. Heaton, Chief of Party, C.& G.S., 230 Nixon Bldg., Corpus Christi, Texas.

Dear Sir:

Inclosed are the ties from the monuments along the new Intracoastal Canal to the triangulation system requested in your letter of September 20, 1934.

For and in the absence of the District Engineer:

Very truly yours,

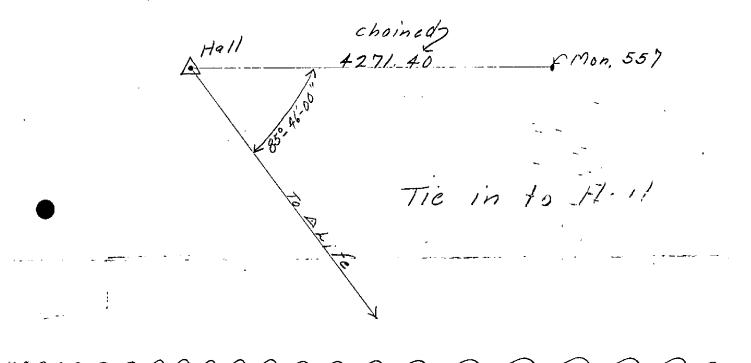
lst Lieut., Corps of Engineers, U.S.A.,

Executive Officer.

Incls.

2 sketch maps

From U.S. Engineers



117°-32'- 40"

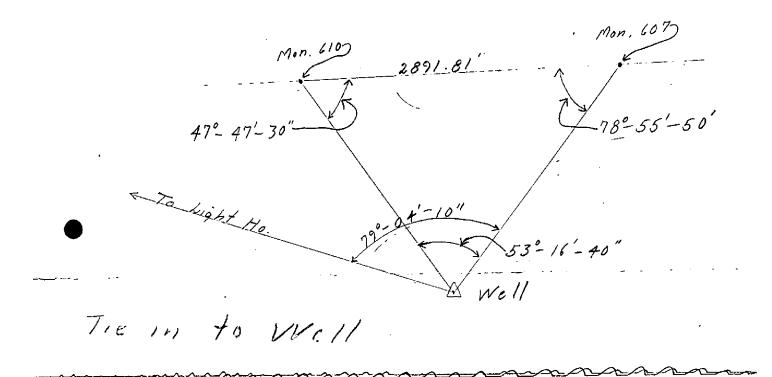
70 Shell

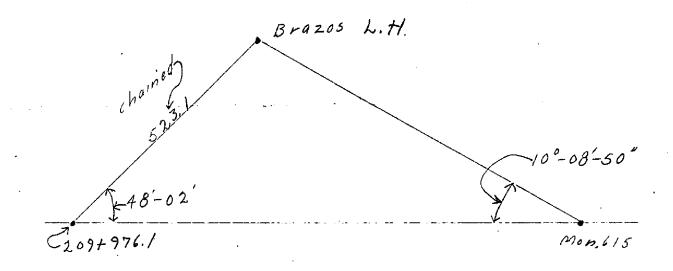
N. Drum Bay

Mon. 620./

Tie in to Al Brown Pay

From U.S. Engineers

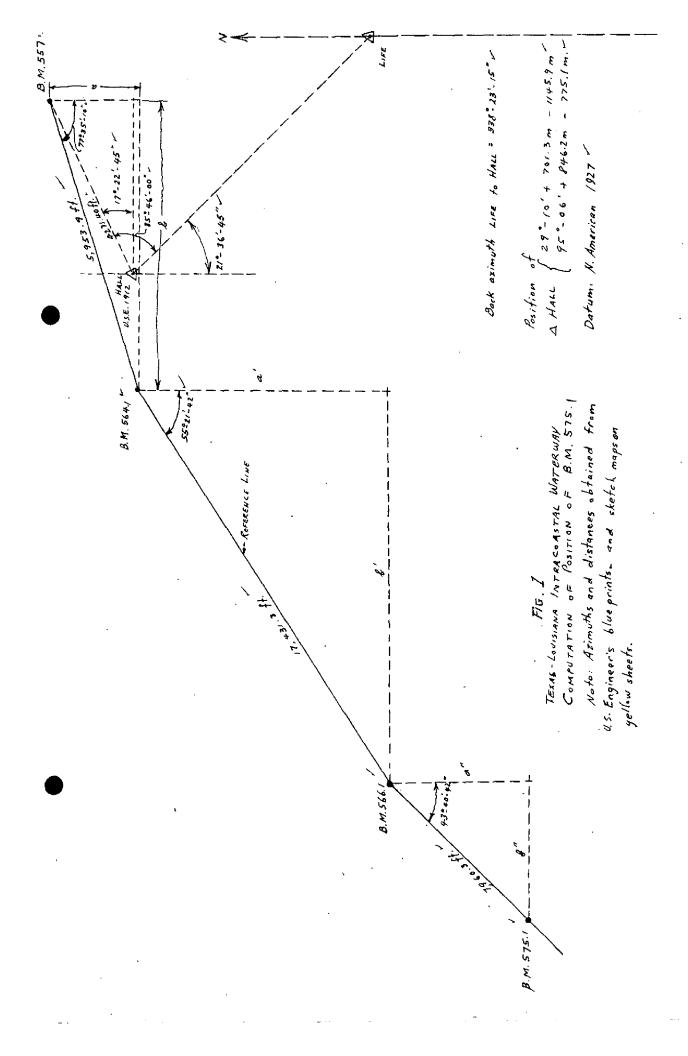




Tie to Braz Litt.

•

/



Computation for distance B.M. 557 is north of HALL:

109. 4271.4 = 3.6305702 9.4752262 -10 log sin 17: 22'- 45" = Colog 3.28087 9. 4840110 -10 2.5898074

distance is: 388.9 meters!

Computation for distance B.M. 557 is east of HALL:

109. 4271.4 = 3. (305702 log Cos 17 - 22'-45" 9.9797072-10 Colog 3.28087 = 9.4840110-10 3.0942584

> distance is 1242.5 meters

computation of a, a', and a". Computation of b, b', and b"

109 5,953.9 = 3.7748015 Colog 3.28087 = 9.4840110 -10 3. 25 88 125 109 cas 77=35=10"= 9.3323 820 - 10 / 2.5911945 V

a = 390.1 meters . V

: 4.2413298 log 17431.3 = 9.4840110-10 Colog 3.28087 3.7253408 log cos 55-21-42" = 9.75464 97 - 10 / 3.4799905

a' = 3019.9 meters x

/og 7,960.3 = 3.9009294 Colog 3.28087 = 9.4840110-10

log cos 43-40'-42"= 9.8592754 -10 2 3.2442/58 "

a" = 1754.8 meters

ΣA = 5164.8 meters '

3.2588/25-1

109 Sin 77:35-16: 9. 989 7257 -10 V 3.2485382 6 = 1772.3 meters.

3.7253408 / log sin 55-21-42=9.9152712 -10 3.6406120 6' = 4371.3 meters

3.3849404 109 sin 43 - 40-42 = 9.839 2322 -10 3.2241726

6" = 1675.6 meters.

EB = 7819.2 meters. ~

B.M. 575.1 is south of HALL: 5164.8 - 388.9 = 4775.9 meters

B.M. 575.1 is south of LAT. 29°-10': 4775.9 - 701.3 = 4074.6 meters

HENCE B.M. 575.1 is at LAT.:

29-07' + 1468.8 meters

B.M. 575.1 is West of HALL: 7819.2 - 1242.5 = 6576.7 meters

B.M. 575.1 is West of Long 95°07'
6576.7 - 775.1 = 5801.6 meters.

HENCE 8.M. 575.1 is at LONG.

95°-10' + 937.4 meters

FIG. 2. INTRACOASTAL WATERWAY

COMPUTATION OF POSITION B.M. 618.1

117932:40.

N. DRUMBAY U.S.E. 1927

42.06:47"

AZIMUTH from N. DRUMBAY to SHELL is 272.00-27".

Position of N. Drum BAY: \[29.01 + 948.3 m \]

Postom: N. American 1927.

computation for & "log c":

computation for a:

/og c = 2.700.1573

/og cos 42°-06-47° = 5.87030°3-10

2.5704576

. a = 371.9 meters.

HENCE LAT OF B.M. 618.1 is:

29°-01 + 576.4 meters

leg c = 2.7001573 leg c = 2.7001573 leg sin. 42°-06-47"= 9.826 4607 -10 2.5266180 6=336.2 meters. V

HENCE

LONG OF B.M. 618.1 is:

95°-14' + 44.67 meters.

Back AZIMUTH BRAZOS R. LH. to WELL is 69°-12'-58"

Datum: N. American 1927.

WELL U.S.E. 1912 - 27

FIG. 3

TEXAS-LOUISIANA INTRACOASTAL WATER WAY COMPUTATIONS OF POSITIONS OF BM. 610 AND B.M. 607.

BRAIOS R. LH. C. & 6.1. 1897 U.S.E. 1927

109 2891.81

Computation of 10g sin 47-47-30" = 9.8 6964

Colog 3. 28 087

log sin 53°-16'-40" = 9.9039273 -10 2.9108999 r

computation for a

2. 9108 999 log 58°-17'-08" = 9. 9297655-10 2.8406654

692.9 meters

HENCE . 'LAT of B.M. 607 is:

28°-57' + 949.7 m.

computation for b 2.9108999 log = = 10g Cos 58 -17 - 08 = 9. 7207265-10 -2.6316264

428.2 meters.

HENCE:

LONG of B.M. 607 is:

95°-17'+699.3m.

Computation of log c'

Computation for a'

 $l \circ g = 2' = 3.0330974V$ $l \circ g \sin 5 = 00 - 28'' = 8.9409693 - 10V$ 1.9740667 V

a'= 94.2 meters.

HENCE: LAT. of BM. 610 is:

28°-57'+ 351.0 m.

Computation for b'

/og cos 5°00-28'= 9.9983391 -10

6' = 1075.1 meters

HENCE:

LONG. of BN/ 610 is:

95°-17' + 1346.2 m.

Computations by W.T.W.

Cormis Christi, Texas

Earl O. Heaton

DEPARTMENT OF COMMERCE

U.S. COAST AND GEODETIC SURVEY

Mr. Storm

LANDMARKS FOR CHARTS

		 	 			_	
			 Sept.	25,	1934	,	193
H C C	C C						

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

Chief of Party. NOITIZOS METHOD OF DETER-MINATION CHARTS AFFECTED DESCRIPTION LATITUDE LONGITUDE DATUM D.M. METERS D.P. METERS BEACON 1 H.A. 739.3 1927 1282 Triang. 29 412.9 95 (AMad Island Ch. Bn. 1) 06 09 BEACON 1 1282, 1283 29 1497.0 95 378.0 Topo. (oAce) 04 10 Christmas Pt. Ch. Bn. 1 BEACUN 3 (oTrey) ** 918.0 1016.0 29 04 95 10 Christmas Pt. Ch. Bn. 3 BLACUN 5 11 ** ** (oDuce) 824.0 95 10 1325.0 29 04 Christmas Pt. Ch. Bn. 5 BEAUON I ** 11 Ħ. Cyster Bay Ch. Bn. 1 12.0 696.5 95 11 29 04 BEACON 5 tŧ 11 29 03 859.0 95 11 899.0 Oyster Bay Ch. Bn. 5 BEACUN 7 ŧŧ ** 77 1232.0 Oyster Bay Ch. Bn. 7 29 03 199.0 95 11 BEACON 9 11 ** 41 05.3 1300.0 12 29 02 95 Oyster Bay Ch. Bn. 9 BLACUN 2 ** 11 346.0 12 698.0 95 Oyster Bay Ch. Bn. 2, 02 BEACUN 11 n Ħ *1 41 488.4 12 Jyster Bay Ch. Bn. 11, 29 02 316.0 95 BEACON 13 ŧī 11 tt 11 1558.5 95 12 803.0 01 29 Oyster Bay Ch. Bn. 13 Copy checked and verified by:

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive indentification. A group so selected should be indicated.

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

objects may by their interrelationship provide positive incentineation. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaffs and like objects are not sufficiently permanent to chart.

U.S. GOVERNMENT PRINTING OFFICE: 1934 25379

Form 567 Rev. Jan. 1933

DEPARTMENT OF COMMERCE

U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

					Corr	ms Chris	sti. Te:	gas	
						Sept	tember :	25, 1934	, 193
DIRECTOR, U.S. COAST AND GEO The following determined description given below, and s	oeric l obje hould	Surv cts a be cl	re promino harted:	ent, c	an be	readily d	_	hed from se	eaton
				-					Chief of Party
				POSIT	ION				
DESCRIPTION		LATI	TUDE	L	LONG	ITUDE	DATUM	METHOD OF DETER- MINATION	CHARTS AFFECTED
		t	D.M. METERS		t	D.P. METERS	BATOM		
*STACK_white concrete 3) (△Hoskins Mound	29	08	391.1	95	14	397.3	NA 1927	Triang.	1282, 111
Freeport Co. stack 19	31)		[]						
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	Con	DV C	hecked at	id v	erif	 ied by:_	M	Jane	~
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A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the

chief of Party to his description and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive indentification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaffs and like objects are not sufficiently U.S. GOVERNMENT PRINTING OFFICE: 1934 25379 permanent to chart.

Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 4866 (1933)

Bastrop Bay and Oyster Bay, S. W. of Galveston, Texas Surveyed: December, 1933, to January, 1934 Instructions dated: November 5, 1932

Plane Table Survey

Cloth Mounted

Chief of Party - E. O. Heaton. Surveyed by - J. W. Somers.

1. Condition of Records.

This survey is a combination of plane table topography and airphoto compilation. As stated in the Descriptive Report, the topography, which was located by plane table, includes the erea from the
Gulf Coast to about one-fourth mile northwest from Bastrop, Cyster
and Drum Bays. The area to the northwest was obtained from airphoto compilation and transferred to this sheet.

This survey contains all necessary available information of this area. For that reason, the air-photo section will not make a print of the air-photo celluloid which is filed in the air-photo unit.

The records conform to the requirements of the topographic manual, with the exception that a magnetic meridian was not obtained.

2. Compliance with Instructions for the Project.

The survey complies with the instructions.

3. Junction with Contemporary Surveys.

A satisfactory junction was made with T-4853 (1933) on the east.

4. Comparison with Prior Surveys.

T-375 (1852).

A comparison of this survey with the present survey shows a very good agreement in general appearance and character of the shoreline throughout except in Drum Bay where considerable filling in has taken place. This amounts to a shift of the head of Drum Bay of about 750 meters to the east. The Galveston Brazos River Canal is now flanked by marsh (spoil bank) through the whole length of Drum Bay. Oyster Creek formerly emptied into the Gulf at about lat. 28°57.5', long. 95°16.6'. It now empties into Drum Bay as evidenced by the statement in the Descriptive Report that the silting in Drum Bay is probably due to flood waters in the Brazos River and Cyster Creek (D. R. page 2).

There is some discrepancy in the coast line but it does not exceed 150 meters. As stated in the Descriptive Report, it is due to normal wave action, as well as storms.

5. Field Drafting.

The field inking of the survey is very good.

6. Additional Field Work Recommended.

The survey is complete and no additional field work is required.

Superseding Old Surveys.

Within the area covered, the new survey supersedes the following surveys for charting purposes:

T-375 (1852) in part.

8. Bastrop Bay Canal and Intracoastal Waterway (proposed).

The embankment on the N. E. side of Bastrop Bay Canal and the low water line northeast from Christmas Point were obtained from the airphoto compilation.

The right-of-way for the proposed Intracoastal Waterway was located on this sheet from U. S. Engineer's blueprints and ties which were reduced to the N. A. 1927 Datum. This right-of-way was left in pencil because of the possibility of change of location at time of construction.

9. Reviewed by - A. F. Jankowski, November, 1934.

Examined and approved:

C. K. Green, J. H. Green K.T. Haus Chief, Section of Field Records. Acting Chief, Division of Charts.

Chief, Section of Field Work.

Chief, Division of H. & T.