

6305

U. S. COAST & GEODETIC SURVEY
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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. 11
Hydrographic }

State TEXAS

LOCALITY

GULF OF MEXICO
Entrance to Freeport Harbor
HAZOS RIVER ENTRANCE

1937

CHIEF OF PARTY

F. S. Borden

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 11

REGISTER NO. H6305

State TEXAS

General locality GULF OF MEXICO

Locality BRAZOS RIVER ENTRANCE TO FREEPORT HARBOR

Scale 1:10,000 Date of survey June-July, 19 37

Vessel HYDROGRAPHER (Launch PARIS)

Chief of Party F. S. Borden

Surveyed by V. M. Gibbens and Ross A. Gilmore

Protracted by Ross A. Gilmore

Soundings penciled by Ross A. Gilmore

Soundings in ~~fathoms~~ feet*

Plane of reference M.L.W.

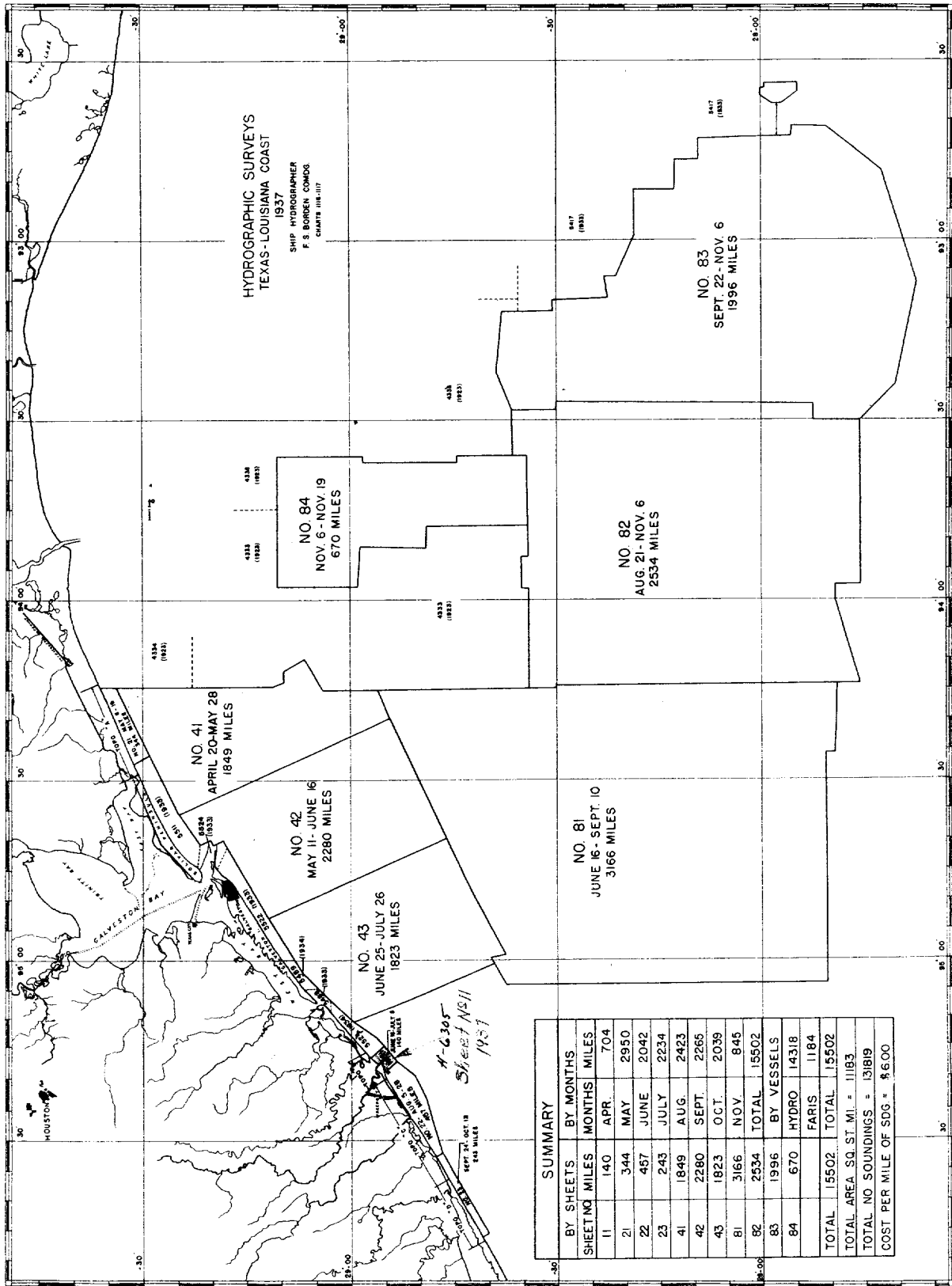
Subdivision of wire dragged areas by _____

Inked by H.F. STEGMAN

Verified by H.F. STEGMAN

Instructions dated February 17, 19 37

Remarks: *Soundings plotted in $\frac{1}{2}$ feet at depth curve units
and at critical points.



SUMMARY	
BY SHEETS	BY MONTHS
SHEET NO	MONTHS
11	APR. 704
21	MAY 2950
22	JUNE 2042
23	JULY 2234
41	AUG. 2423
42	SEPT. 2265
43	OCT. 2039
81	NOV. 845
82	TOTAL 15502
83	BY VESSELS
84	HYDRO 14318
	FARIS 1184
TOTAL	TOTAL 15502
TOTAL AREA SQ. ST. MI. = 11183	
TOTAL NO SOUNDINGS = 131819	
COST PER MILE OF SDG. = \$6.00	

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SHEET No. 11 H-6305

INSTRUCTIONS

This survey was made in accordance with the Director's instructions for Project No. 214, dated February 17, 1937.

GENERAL STATEMENT

This sheet is an inshore sheet embodying the immediate vicinity of the Brazos River Entrance. The general locality and limits of the survey, together with its relation to adjacent sheets, is shown on the attached plate.

The entrance channel to Brazos River is maintained by the Corps of Engineers, U. S. Army, who make what is called a "Bar survey" twice a year. No attempt was made to run any lines inside of the river entrance as it is dredged annually together with the entrance channel. It was noted that the channel and entrance were dredged about 6 weeks after Sheet No. 11 was finished. A blue print of the last "bar survey" accompanys this sheet. ^{H-6305} Bp. destroyed,
of no value to
Cartographic Sec.

SURVEY METHODS

All sounding lines were run by the Launch FARIS excepting a few lines close to the beach which were run by the launch's skiff with outboard motor attached. The launch (twin screw) was run on one engine while sounding, usually at 4 to 5 knots except when closer development required a slower speed.

All sounding lines were controlled by three point fixes on shore signals.

Launch soundings were made with the standard type lead line, care being taken to check it twice a day. Skiff soundings were made with a sounding pole. Soundings were reduced to nearest $\frac{1}{2}$ foot using Galveston S. jetty light gage direct (see tidal note). Soundings were plotted in feet on the smooth sheet except at depth curve units where soundings were plotted to $\frac{1}{2}$ feet in order to more definitely delineate the curve.

Chanel buoys, as shown on the sheet, were all located by three point fixes at the buoy or close proximity as shown in the records. Notes have been made in the records as to the fixes used on these buoy locations.

DISCREPANCIES

Notes were made in the records as the smooth plotting was done in regards to any discrepancies noted. These discrepancies chiefly concern the soundings. Generally, crossings were very good considering that parts of the work were done under more or less adverse weather conditions and that the bottom in this vicinity appears to be irregular particularly at the inshore southwestern part of the sheet.

DANGERS

There are no dangers in the area covered by this survey. The black nun buoy shown in Lat. $28^{\circ} 54.56'$, Long. $95^{\circ} 18.81'$ is a derelict buoy that drifted from the entrance channel during a storm some time ago and fetched up here. This buoy has never been removed and does not create a navigational hazard.

CHANNELS

This sheet includes the entrance channel to Brazos River.

This is a dredged channel ^{32' as of June 1938 on Chart 1283} maintained by the U. S. Engineers and is maintained to a depth of 30 feet. This channel is used by ships calling at the sulphur dock located about $1\frac{1}{2}$ miles up the Brazos River. The channel is marked by buoys as shown on the sheet.

COMPARISONS WITH PREVIOUS SURVEYS

This survey joins Sheet No. H5521 (1934) at the northeast end. A comparison of the soundings of Sheet No. H5521 shows that from a depth of about 21 feet towards the beach the soundings on this sheet appear from 1 to 3 feet deeper than those on Sheet No. 11. Also, the soundings from a depth of 24 feet seaward appear from 1 to 2 feet shallower than those shown on Sheet No. 11. ^{H-6305}

A general comparison with Chart No. 525 was made. In most cases the general depths check very ^{well} good. The flashing ^h red buoy near the end of the N. E. jetty should be numbered "2" instead of "6" as shown on the chart. ^{from Sp 28215} The 12 foot shoal indicated on Chart 525 at this buoy no longer exists. Considerable sounding was done in this vicinity and no indication of it could be found. ^{H.W.M.} Probably a dredge dump which has washed away.

Corrected on later charts

83

^{H-6314} This survey joins Sheet No. 22 of the same season. The junction of the two sheets is in good agreement.

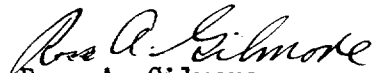
GEOGRAPHIC NAMES

No new place names have been used on this sheet.


STATISTICS

Statute miles of sounding lines	140.0
Number of Positions,	755
Number of Soundings,	3569

Respectfully submitted,


Ross A. Gilmore,
Jr. H. & G. Engineer.

FORWARDED:


G. C. Mattison,
Comdg. HYDROGRAPHER.

OFFICE OF THE DIRECTOR

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

30-McC

WASHINGTON

December 2, 1937.

To: Commanding Officer,
U. S. C. & G. S. S. HYDROGRAPHER,
P. O. Box 565,
Galveston, Texas.

From: The Acting Director,
U. S. Coast and Geodetic Survey.

Subject: Tide Data, Texas.

With reference to your letter of November 22, 1937, the plane of mean low water at Brazos River East Jetty as determined by comparison with the standard station at Galveston corresponds to a staff reading of 2.3 feet. The comparison also shows the tide at this station to be practically the same, both as to time and range, as the tide at Galveston South Jetty, so that the Galveston South Jetty tides may be used without time or height correction for reducing soundings off Brazos River Entrance.

There are inclosed hourly heights for Galveston South Jetty for the period, August 25-October 17, 1937. Hourly heights prior to August 25 have already been furnished. The tabulated heights are referred to the zero of the tide staff, which is 2.4 feet below mean low water.

Inclosure

(s) J. H. Hawley,
Acting Director

C O P Y

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 28, 1938.

Division of Hydrography and Topography:

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

Plane of reference
~~Tide Reductions are~~ approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 6305

Locality Brazos River Entrance, Gulf of Mexico

Chief of Party: F. S. Borden in 1937
Plane of reference is mean low water reading
2.4 ft. on tide staff at South Jetty, Galveston Entrance
6.2 ft. below B.M. 2

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

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

GEOGRAPHIC NAMES

Survey No. **H6305**

Name on Survey	Sources										
	A	B	C	D	E	F	G	H	K	B.P.	
	On Chart No.	On previous survey No. T-3752	On U. S. quadrangle Maps T-6326	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	(1899)		
Araya River Entrance	525	(name of chart)	Also T-12501							✓	1
✓ <u>Quintana</u>		✓						✓		✓	2
<u>Gulf of Mexico</u>											3
✓ <u>Brazosport</u>	1283 525	T-6326						✓			4
<u>Freeport Harbor</u>	H. D. #29, 73rd Cong. 2nd Session.										5
											6
											7
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Names underlined in red approved
by L. Heck on 7-28-38

Remarks

Decisions

	Remarks	Decisions
1		
2	From earliest surveys this name used	
3		
4		
5	Off limits of sheet.	
6		
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M 234		

Field Records Section (Charts)

H6305

HYDROGRAPHIC SHEET NO.

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

Number of positions on sheet	...755
Number of positions checked	...31
Number of positions revised	...4
Number of soundings recorded	3569
Number of soundings revised	...1
Number of signals erroneously plotted or transferred	None

Date: *September 6, 1938*

Verification by *H.F. Stegman*

Review by *Harold W. Murray*

Ver. corrections by *"*

Time: *5 days 6 hrs.*

Time: *1 " 3½"*

" 0 " 1 "

HYDROGRAPHIC SURVEY NO. H6305

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 3 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Vol.#1

Landmarks for Charts (Form 567) None

Statistics See Page #4 of D.R.

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service None
(Circular Nov.30, 1933)

Hydrography: Total Days 7; Last Date July 8, 1937

Remarks _____

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H-6305
~~No. 11~~

{ received June 20, 1938
 registered July 21, 1938
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83	✓		<i>Page 3</i>
88			
90			

RETURN TO

82	T. B. Reed
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APPROVAL SHEET

HYDROGRAPHIC SHEET No. 11 #4305

The field work on this sheet was done during the season of 1937. At the time transfer of command was effected, no smooth plotting had been done. This was done by Lieut.(j.g.) Gilmore who remained in Galveston while the ship was on the working grounds. ✓

The records and smooth sheet have been examined and are approved. ✓

Appended to the report are tide curves and tabulations of tides at Galveston South Jetty Light used in the reduction of soundings. ✓

*Removed by
Div. of tides.*

The control was based on recovered triangulation stations and signals located by topography (Topo. Sheet No. ^{T-6610} B, 1937, tracing enclosed).


G. C. Mattison,
Commanding HYDROGRAPHER.

1.

Verification Report on H-6305 (1937)

The records of this survey were complete and conformed to the General Instructions. The field plotting was neatly and carefully done.

The soundings along the depth curves as well as those in critical spots in the Freeport harbor entrance channel and on shoals were penciled to the half foot. In inking, the half foot fraction was omitted where ^{the sounding} did not constitute a critical depth, or tend to smooth the depth curve.

Crossing lines were in good agreement. Discrepancies were under two feet, with a majority of crossings being in exact agreement. There is one crossing of 5-foot discrepancy in an area where the bottom appears lumpy, at $\phi-28-54.7$ $\lambda-95-18.1$. Here the sounding following position 86C shows a depth of $17\frac{1}{2}$ feet while the sounding just before 60F is recorded as $12\frac{1}{2}$ feet deep.

The shoreline and topographic signals originate with topographic sheet T-6610 (1937).

The colors of channel buoys were taken from the boatsheet as this was the only source of this information.

^{both} Confirmation was made with H-5521 (1934) 1:20,000 which joins this sheet to the northeast. As stated on page 3 of the descriptive report in depths shoaler than about 22 feet the soundings on H-5521 are from 1 to 3 feet deeper than those of H-6305, while further offshore the soundings of H-5521 are from 1 to 2 feet shoaler.

Sheet H-6314 which joins this survey to the southwest has not yet been verified.

The reviewer's attention is called to the fact that the blueprint of the U.S.C. channel survey which accompanies this sheet is of the survey of January 1938, and not of the survey of dredging done six weeks after H-6305. Referred to Cartographic Section for register. H.W.M.

The area of H-6305 is also covered in part by the following surveys:

- H-474 (1855) 1:20,000
- H-539 (1856) 1:20,000
- H-656 (1858) 1:10,000
- H-2102 (1891) 1:10,000
- H-2277 (1897) 1:5,000

These surveys were not examined by the verifier.

In examining the junction with H-5521, the speed of the vessel, when soundings on H-5521 were being taken, was computed. It was found that the vessel speed ranged from 5 to 8.2 knots, with an average of about seven knots. When running between positions 118A and 119A (Green) ($\phi - 28-56.6$ $\lambda - 95-16.6$) the computed speed was 8.2 knots. These soundings on H-5521 were about 1 to 2 feet deeper than the adjacent ones on H-6305.

In $\phi - 28-55.1$, $\lambda - 95-15.1$ between positions 38 and 44 B (red) the computed speed was $5\frac{1}{2}$ to $6\frac{1}{2}$ knots. At this location the soundings of H-5521 were 1 to 2 feet shallower. This would indicate that the discrepancy is due to a change in depth rather than erroneous soundings.

Respectfully submitted

Harold F. Stegman

Sept. 6, 1938

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6305 (1937) FIELD NO. 11

Entrance to Freeport Harbor, Gulf of Mexico, Texas
Surveyed in June - July 1937, Scale 1:10,000
Instructions dated February 17, 1937 (HYDROGRAPHER)

Hand Lead and Pole Soundings.

3 Point fixes on shore signals.

Chief of Party - F. S. Borden.
Surveyed by - V. M. Gibbens and Ross A. Gilmore.
Protracted by - Ross A. Gilmore.
Soundings plotted by - Ross A. Gilmore.
Verified and inked by - H. F. Stegman.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that the duplicate of the chart forwarded to the Lighthouse Bureau containing objects for locating aids to navigation was not received by this office.

The Descriptive Report is clear and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project.

3. Shoreline and Signals.

The shoreline and signals originate with T-6610 (1937).

4. Sounding Line Crossings.

Agreement of sounding line crossings is generally satisfactory.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

- a. The junction on the east with H-5521 (1934) is satisfactory in part only since the present survey depths vary 1 to 3 feet shoaler in the vicinity of lat. $28^{\circ} 56.8'$, long. $95^{\circ} 16.8'$ and 1 to 2 feet deeper in the vicinity of lat. $28^{\circ} 55.5'$, long. $95^{\circ} 15.5'$. The discrepancies in the former area are probably due to the excessive sounding speed of $6\text{-}3/4$ to $8\text{-}1/4$ knots used on the 1934 work. The discrepancies in the latter area may possibly be due to actual changes in bottom since the sounding speeds of both season's work is about the same,

namely 2-1/2 to 6-1/2 knots. Only a fringe of the 1934 soundings is shown. For charting purposes, the present survey should be used to its limits and charting then continued from the 1934 work.

- b. The junction on the west with H-6314 (1937) will be considered in the review of that sheet.
- c. There are no contemporary surveys offshoreward of the present survey limits. A satisfactory junction, however, is made with the ~~charted~~ hydrography shown in this area.
sparse

7. Comparison with Prior Surveys.

- a. H-474 (1855), H-539 (1856) and H-656 (1858), Scales 1:20,000 1:20,000 and 1:10,000.

These sparsely covered surveys each cover part of the present survey and are among the earliest surveys made by this Bureau. Because of the changeable character of the area and the lapse of time since these surveys were made, a detailed comparison will serve no useful cartographic purpose. It is noted, however, that the jetty development is subsequent to the older surveys and that the shoreline on the east side has advanced about one-tenth mile from that shown on the 1855 survey whereas that on the west has advanced about 3/4 miles.

- b. H-2102 (1891) and H-2277 (1897), Scales 1:10,000 and 1:5,000

These surveys both cover practically all of the present survey. Changes have occurred throughout most of the area covered and are more extensive on the 1891 survey. In the vicinity of the inlet, the shoreline on the east side has advanced about 1/5 mile, whereas, that on the west has advanced about 1/2 mile. The contiguous hydrography has shoaled 1 to 14 feet. The offshore half of the present survey has shoaled 1 to 6 feet.

8. Comparison with Charts 525 (New Print dated February 16, 1937) and 1283 (New Print dated April 11, 1938).

- a. Hydrography.

Hydrography on the charts originates with blueprint 28970 (1935) and blueprints 28215 to 28217 (1934). The depths are generally borne out by the present survey except that the present survey shows considerably more detail and also indicates a deepening of 1 to 4 feet in lat. 28° 54.9' long. 95° 17.7'. In addition the present survey shoreline on the west side of the inlet has receded about one-tenth mile. In lat. 28° 55.64', long. 95° 17.26', blueprint 28215 shows a single 12 foot sounding (on Chart 525) which falls in closely developed depths of 23 to 27 feet on the present survey. The D. R., page 3, states that this shoal no longer exists. It is probably a dredge dumping which has been worn away. The more detailed present survey should supersede these blueprints in future charting.

b. Controlling Depths.

The charted controlling depth in the entrance channel is 32 feet as of June 1938 (Chart 1283) and is subsequent to the shoaler present survey information.

c. Aids to Navigation.

The fixed lights agree closely with the charted positions. The floating buoys vary 40 to 170 m. from the charted positions. These aids in either position satisfactorily mark the features intended since the major differences noted are parallel to the channel.

9. Field Plotting.

Field protracting and plotting were exceptionally well done.

10. Additional Field Work Required.

No additional field work is required.

11. Superseded Prior Surveys.

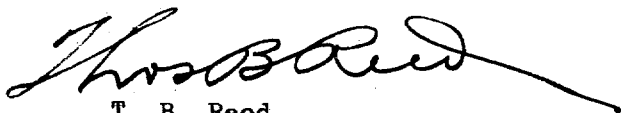
Within the area covered, the present survey supersedes the following surveys for charting purposes:


H-474	(1855)	in part
H-539	(1856)	in part
H-656	(1858)	in part
H-2102	(1891)	in part
H-2277	(1897)	in part.


12. Reviewed by - Harold W. Murray, Sept. 22, 1938.

Inspected by - E. P. Ellis.

Examined and approved:


T. B. Reed,
Chief, Section of Field Records.


K.T. Adams
Chief, Division of Charts.


Fred. L. Peacock
Chief, Section of Field Work.


G. H. Hude
Chief, Division of H. & T.

Applied to 1283 - Apl. 1939 - N. S. S.
" " " 593 Aug. 1939 Z. M. A.

1283