

3908

Diag. Cht. No. 1272-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. Office No. H-3908

LOCALITY

State LOUISIANA

General locality MISSISSIPPI RIVER DELTA

Locality SOUTH PASS TO BOEBON ISLAND

1916

CHIEF OF PARTY

H. A. Seran

LIBRARY & ARCHIVES

DATE DECEMBER 6, 1916

B-1870-1 (1)

3908

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 3908

State Louisiana

General locality Mississippi River Delta

Locality South Pass to Baton Rouge

Chief of party H. A. Swan

Surveyed by H. A. Swan, James C. Marsh, G. L. Shalowitz, R. J. Hole

Date of survey August - October 1916

Scale 1:40,000

Soundings in

Plane of reference

Protracted by R. J. Hole Soundings in pencil by

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, Tide books, Marigrams, Boat sheets,

Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet Side records from East Bay gauge of Miss. River Comm.

Remarks:

DESCRIPTIVE REPORT

Hyd = 3908

To accompany unfinished hydrographic sheet of

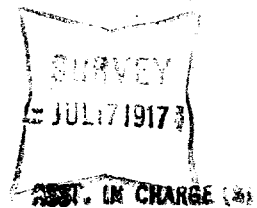
Eastern approaches to Mississippi Delta

- - - o o o - - -

3908

DESCRIPTIVE REPORT
to accompany
~~Bromide Copy of~~ Hydrographic Sheet 3908

DELTA OF MISSISSIPPI RIVER.



The soundings plotted in red ink on this bromide print were made to check the pressure tube soundings previously made and also to check the hand lead work in the vicinity of the 20 fathom curve-- all in accordance with instructions contained in Office letter dated April 19th, 1917. Additional lines to those specified in the instructions were necessary in the vicinity of the mouths of South Pass and Pass a Loutré.

The bottom off Pass a Loutré is very irregular as the original survey showed. In this region the mud lump activities are very pronounced and it is not uncommon for a mud lump to appear one day in waters of 10 and 12 feet depth.

The original soundings off the mouth of South Pass were faulty and additional soundings were run to make a finished survey of this region. The pressure tube soundings in this region were recorded by the Bassnet Sounder and are not above suspicion. For that reason enough new soundings were made outside the 20 fathom curve so that the Bassnet soundings may be rejected.

The pressure tube soundings to the eastward of this region were recorded by the Tanner Blish tubes and the check soundings taken agree remarkably with them. In making these check soundings the ship was stopped and each sounding is an up and down cast. The depth as recorded by the registering sheave being used. The method of taking the hand lead soundings between the 15 and 20 fathom curves has been described in my annual report of June 30th, 1917.

The instructions of April 19th called for some additional lines to be run to effect a junction with the area sounded over monthly by the Army Engineers at Port Eads. These lines were run but as this area is changing in depths daily too much contact be expected of the junction. The Engineer in charge at Port Eads has instructions to make a detailed survey of the waters immediately south of the west shore of the mouth of South Pass. When this survey is made a copy will be sent me to be forwarded to the Office. The work these engineers do is on a much larger scale than we attempt to use and their method of control is different but the results are the same.

The area at the extreme southern end of this sheet has been fully covered by soundings taken when the lines were started toward the reported position of the shoal off the mouth of South Pass.

Respectfully submitted,

H. A. Duran
Chief of party.

U.S.S. Hydrographer.

File with Hyd. Sheet 3908.

General description of the coast.

The coast of the Mississippi Delta is low, marshy and practically featureless. The only vegetation is the rank marsh grass and luxuriant willows usually found along the banks of the passes. The entire country has been formed by the deposit brought down by the Mississippi River and is constantly changing owing to the added material. The shoaling at the southward from the deep waters is quite abrupt and the absence of landmarks makes the approach to the delta a treacherous piece of navigation in thick weather. The masters of the majority of the vessels running in and out of the Mississippi River have found it advisable in thick weather when approaching the delta to lower the anchor about 15 fms. in the water and proceed very slowly. When the anchor brings up they wait until the fog lifts or until the local pilots reach them. A peculiarity of this section is the formation of the mud lumps which are found at the mouths of all the passes. The mud lumps have been discussed very thoroughly by Mr. E. W. Shaw of the U. S. Geological Survey in his admirable work "The mud lumps at the mouths of the Mississippi" which forms part B of professional paper 85, "Contribution to General Geology, 1913". The exact cause of these mud lumps is unknown. Their presence makes the navigating of the unimproved passes of the Mississippi River very difficult. The greater portion of the traffic to and from the Mississippi River makes use of the South Pass * the central of the three large passes of the river. In general the edge of the delta is marked by the 3 fathom curve. Outside this curve the water deepens rapidly especially to the southward. Inside the 3 fathom curve the contour of the bottom is constantly changing owing to additional deposit and movements of the material forming the bottom.

Currents.

The general trend of the current especially off South Pass is to the westward. The currents in this vicinity are greatly affected by the prevailing winds and a westerly wind for a few days will cause a corresponding easterly current whose strength depends upon the force of the wind and length of time it has been blowing. The prevailing winds in this vicinity is East to Southeast and this tends to give a constant current to the westward.

Landmarks.

The eastern approaches to the delta of the Mississippi are absolutely devoid of natural landmarks. The three lighthouses - Pass a Loutre, Old N.E. Pass tower, no longer used as a lighthouse, and South Pass form the only marks to aid the navigator in this region. ~~In this connection I might call attention to the fact that mariners and navigators running in this vicinity find a great deal of fault with the old N.E. Pass Tower. In thick weather they cannot see it only one lighthouse is seen whether it is Pass a Loutre or the old Tower. The officers in~~

~~charge of the hydrographic office in New Orleans has after recommendation that this old tower be dismantled.~~

Inshore dangers.

The mouth of Pass a Loutre is a bad stretch of coast and vessels should give this a wide berth. The buoy off the mouth of this pass is placed in 12 fathoms of water and vessels drawing any water should keep outside it. Inside the buoy the mud lumps begin and their presence is a decided menace to navigation. Except off the mouth of the various passes where these mud lumps are found there are no dangers outside the abrupt shoaling outside the 3 fathom curve.

Bars and channels.

A dredged channel is maintained into South Pass. A dredge operated by the Army Engineers is constantly at work there. The channel into South Pass is marked by range lights on the western side of the end of the jetties. A bell buoy which is shifted when necessary is placed on the edge of the shoals which are found in the prolongation of the line of the jetties. At present this buoy is placed in 18 ft. of water. At the present time - October the mud lumps at the mouth of South Pass are washing away. They will in all probability become active again as soon as the river starts to rise. The dredged channel into South Pass gets quite rough with moderate breezes and as a 45 degree turn has to be made from the dredged channel into South Pass local pilots should be employed. Even with them accidents are of frequent occurrence. There is no channel into Pass a Loutre except for shallow draft boats. This pass is seldom used by anyone as the mud lumps and the natural bulkhead together with the rough sea that is usually present render it too dangerous.

Anchorage.

Except for small boats of little draft there are no protected anchorages along this stretch of coast.

Change of coast line and depths.

The result of the surveys will show the remarkable changes that have taken place in both the emergence of shore line and shoaling of water in this region as compared with the old survey as shown on the present charts. Garden Island Bay lying just East of South Pass is almost half filled in. The 3 fathom curve has been extended from 1 to 2-1/2 miles seaward altho the 20 fathom curve hasn't changed its position appreciably. The mud lumps shown on the present chart at the mouth of N.E. Pass have disappeared as have the north mud lumps on the north side of the mouth of Pass a Loutre and the north side of the mouth of North Pass. Additional mud lumps have appeared on the south side of the mouth of Pass a Loutre and the south side of the mouth of Main Pass. Balize Bayou, Southeast Pass and Northeast Pass are little more than bayous at present. Extensive changes have taken place as the sheet will show.

Survey methods.

The hand lead was used in depths up to 20 fathoms of water the speed of the ship varying with the needs of the leadsman. In greater depths than 20 fathoms the Fanner Blish pressure tubes were used, trial casts being taken at frequent intervals to check their accuracy. The tidal data was obtained from the Secretary of the Mississippi River Commission at St. Louis.

Respectfully submitted,

H. A. Jernan.

Assistant, U. S. Coast and Geodetic Survey,
Chief of Party.

The area at the immediate mouth of South Pass, as blocked off on the smooth sheet, is surveyed almost monthly by the U. S. Engineers. Blue prints of their surveys may be obtained in Washington.

STATISTICS SHEET NO 1. 3908

Date 1916	Letter	Volume	Positions	Soundings	Miles, Statute	Vessels.
Aug, 1	A	1	38	95	6.3	HYDROGRAPHER
" 2	B	1	121	347	23.8	"
" 7	C	1	51	105	11.7	"
" 8	D	1	25	64	6.2	"
" 9	E	1	62	66	52.7	"
" 11	F	1	73	193	49.0	"
" 14	G	1	40	95	9.2	"
" 14	G	2	116	390	26.6	"
" 15	H	2	100	473	23.7	"
" 16	J	2	127	548	32.8	"
" 17	K	2	24	58	14.2	"
" 22	L	2	45	72	17.5	"
" 23	M	2	43	86	31.6	"
" 23	M	3	12	24	7.5	"
" 24	N	3	82	165	42.1	"
" 25	P	3	42	83	20.1	"
" 28	Q	3	72	150	43.1	"
" 29	R	3	11	22	5.8	"
Oct. 9	S	3	133	432	26.5	"
" 10	T	3	59	249	12.7	"
" 13	U	3	51	194	10.3	"
" 13	U	4	33	145	7.9	"
" 14	V	4	114	431	24.0	"
Total.			1474	4487	505.3	

POST-OFFICE ADDRESS: U.S.S. Hydrographer, Mobile, Alabama.

TELEGRAPH ADDRESS: Do.

EXPRESS OFFICE: Do.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

February 26, 1917.

The Superintendent,
U.S. Coast and Geodetic Survey,
Washington, D. C.

Sir:-

Capt. Graves on his trip of inspection to this vessel recently brought to my attention some troubles the Office was having in reconciling the various tube soundings shown in my records of the survey of the approaches to the Mississippi River Delta. The principal information wanted was in regard to the casts that were made to check the accuracy of the tubes. I have compiled and attach hereto a list showing the check casts that were made and so marked on the boat sheet grain the sounding records and a list that from a scrutinization of the records I am certain were meant for check casts altho they are not so marked.

In this connection I would respectfully state that this vessel was only equipped with a small hand Cosmos machine and this machine works very slowly. The currents are very erratic in that vicinity, the sub-current frequently being much less than the surface current, and during the time of sounding the vessel would drift considerably so that it was practically impossible to get what are called up and down soundings in any depth of water. On all the soundings over 50 fathoms the method of procedure was to run .8 of a mile, stop, back if necessary to kill headway, until the log registered a mile and sound. Under 50 fathoms the ship was run at a speed of between $4\frac{1}{2}$ and 5 miles an hour. The check casts were more frequent than I have been able to show on the lists but on account of the reasons mentioned above where the registering sheave would register more than the accurate depth, I am unable to pick them out. I have rejected several pages in the first volume of the sounding records where a reconnaissance dead reckoning lines were run. This should have been done before the records were sent in to the Office and I thought this had been done. I found that with a ninety foot signal near the mouth of S. E. Pass I could carry the work out to the limits of the sheet on fixed positions and intended doing this. The hurried departure from this section prevented this however.

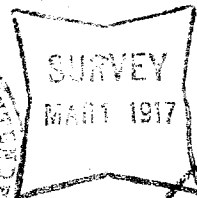
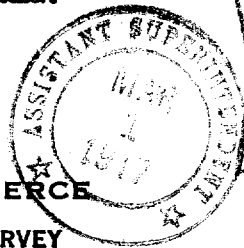
I take this occasion to again call attention to the peculiar way in which the Bassnet sounders acted. Under 50 fathoms of water they registered comparatively accurate but over that depth they proved absolutely worthless, as an examination of the records will show. What occasioned this I am unable to state. The tubes apparently did not leak.

I hope that this will straighten out this matter as it is causing me as much worry as it is causing the Office annoyance.

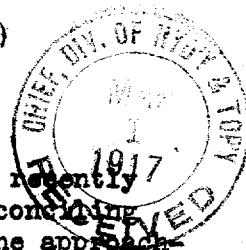
Respectfully yours,

N. A. DeVan
Assistant, C. & G. Survey,
Commanding "Hydrographer".

The 4 volumes of records
are returned under separate
cover.



HYDROGRAPHY, ETC. (S)
FIELD RECORDS (H)
ASSISTANT IN CHARGE (H)



Comparisons of tube soundings as marked on boat
sheet or in sounding record.

Position.	Registering sheave,	Bassnet sounder		Tanner Elish Tube.
Beginning of E day	18½	17½		(lead line 17½)
Page 46 Vol 1	20½	21	20	
	31	32½	31	30
	20	19½		
	31	32½	-29--	29
	33½	34		31
55E *	55	53		52
Page 41 Vol 1 left page		17½		(lead line 18½)
34F *	22	20	20	19 (lead line 20 -- 2)
47 F *	46	42	42	40
52 F *	32	27	27	27
57F *	26	22	24	23
62F *	43	42	40	39
10K *	56	55		50
1 Q *	22	17		19½ (L.L. 19)
55Q	25	21½		22 (L.L. 20)
13Q **	57	50		51
21Q **	42	38		38
28Q **	23	19		19½
33Q **	38	36½		34
55Q **	25	21½		22 (L.L. 20)
60Q **	43	34		32
65Q **	50	45		48
74Q **	35	32½		32

* marked stopped in sounding record.

** " check cast on boat sheet.

L.L. Hand lead.

The registering sheave was set so as to register zero when the lead was
just touching the water.

Soundings which I am reasonably certain were made while the ship was stopped for an up and down cast.

Position	Registering sheave	Bassnet Sounder	Tanner Blish
29E	45	42	
40L	26	23	24
23M	21	21 $\frac{1}{2}$	23
40M	85	<u>55</u>	80
41M	100	50	90
42M	114	38	100
43M	105	42	80
55M	28	25 $\frac{1}{2}$	24 (L.L. $\frac{0}{25}$)
82N	55	50	55
14P	75	48	70
21Q	42	38	38
41Q	64		59 $\frac{1}{2}$
65Q	50	45	48
74Q	35	32 $\frac{1}{2}$	32

Notice readings of Bassnet Sounder over 50 fathoms.

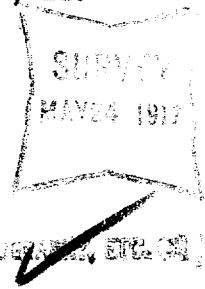
In practically every case the registering sheave registers more than either the Bassnet Sounder or the Tanner Blish tubes. It also registers more than the lead line where those soundings were taken. The Bassnet sounders were apparently all right up to 50 fathoms and the soundings as recorded by them might be used, but a study of these comparisons will show that as a rule the Tanner Blish Tubes read about as much under the registering sheave as the registering sheave reads over the lead line. For that reason I recommend using the Tanner Blish soundings for all. The Bassnet sounder and the Tanner Blish Tubes were fastened to the wire 1 fathom from the bottom of the lead but in my opinion no correction should be made for this.

POST-OFFICE ADDRESS: U. S. C. & G. S. S. HYDROGRAPHER, New Orleans, La.

TELEGRAPH ADDRESS: "

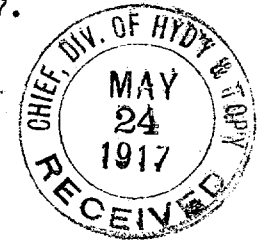
EXPRESS OFFICE: "

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



Str. HYDROGRAPHER, May 21st 1917.

The Superintendent,
U. S. Coast and Geodetic Survey,
WASHINGTON, D. C.



S I R :-

In reply to your telegram of May 19th I have the following report to make on the condition of the work of the Delta. FIELD WORK (H)

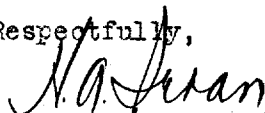
The lines as indicated on the bromide copy of the original from the western limits of the sheet to about half way between signal "Mud" and the string of mudlumps off the mouth of Pass a Loutre. To make absolutely certain some additional lines were run. In general the 15 fathom curve as previously determined by the hand lead and the 20 fathom curve as determined previously by the tube have not been changed. In some cases between the 15 and 20 fathom curve some discrepancies were found. The worst case was the area just a little east of south of the mouth of South Pass including the one line of shoal soundings just east of the Whistling Buoy. I am at a loss to account for this line. The best leadsmen I had on the vessel was at the lead at that time -- I recall the time quite well -- He insisted that he was getting bottom. The character of the bottom in this section is such that ordinarily the hand lead will not bring up any specimen of the bottom so I could check him that way. I ran lines of leadline soundings immediately over these 16 fms. soundings using the arrangements described hereafter and secured no shoal soundings. These new soundings agreed perfectly with the tube soundings on either side as run before. A connection between limits of the previous work and the limits of the area now being sounded monthly by the Army Engineers was made. In this connection I would respectfully state that when this work was done last year the Engineers were making surveys over a much larger area and the limits of the previous work joined with the limits of their work. Too much cannot be expected of this connection as this area is changeable and to be absolutely certain soundings would have to be taken continuously

A fuller report on this work will be made when the new work is submitted. No work was done to the westward ~~and northward~~ and nothing was done toward locating the shoal or shoals reported by Mr. Soley, of the Branch Hydrographic Office in New Orleans. I have my doubts as to the existence of this shoal but Mr. Soley is quite positive. I enclose a copy of a letter recently received from him.

Two soundings were taken at places indicated to check up the tube soundings.

In running these new soundings lines the following arrangement was devised and successfully used. Two sounding platforms were used. One was rigged out from the bow and one was rigged in the usual place alongside the bridge. From the platform on the bow the lead was cast. The leadsman holding about 8 or 10 fms. of line in his hand. The Quartermaster in the chair alongside the bridge read the line. A snatch block was rigged just abaft the forward platform and the lead was reeled in -- in this manner. With this arrangement no trouble was experienced in getting accurate soundings at moderate speed up to 23 or 24 fathoms. These new soundings I will absolutely guarantee. Practically every sounding was made under my immediate supervision, the speed of the vessel was such that each sounding was an up and down cast, and a close check on the length of the lead line was kept. At no time did it exceed 1-1/2 ft. at the 20 fathom mark. The three or four soundings of over 25 fathoms were taken when the vessel was stopped. For this purpose a 15 lb. lead was used and larger size leadline than ordinarily used. Some photographs of the apparatus and mode of procedure were taken and if they are successful, will be submitted later.

Respectfully,



Assistant, U. S. C. & G. Survey,
Commanding "HYDROGRAPHER".

This means all the new work.

C O P Y.

Branch Hydrographic Office,

New Orleans, La.

May 18, 1917.

Mr. Harry A. Seran,
Assistant, U. S. C. & G. Survey,
Commanding S.S. HYDROGRAPHER,

Your letter May 15th.

Dear Sir:-

I am sending you a resume of all the reports on the shoal outside South Pass. I have had many reports on this shoal at different times. These are from some of the most experienced masters and their reports are worthy of careful consideration.

It has always seemed to me that the best way to find it would be to use the bight of a hawser. In all the work done by the Hydrographer some years ago, they used the "Marine sentry", which never seemed to give conclusive results unless they struck the shoal.

The report from the Master of the S. S. Picton was rather brief but he did give details, especially the exact position of the shoal. In the conversation when he described it he said the morning was hazy and as he did not see the light he was uneasy and stopped and sounded. He said he steamed around in a circle and got 5 fathoms several times, and he went to the machine himself and verified it and then took several casts of the hand lead from the bridge and always got 5 fms. Afterwards he ran off a short distance to SE and got 12 fms. and headed on his course and made the light at South Pass right ahead.

These reports are all noted on the British Admiralty chart No. 1638, according to the reports made by the Masters of British vessels to their home office. I think that whether the shoal is found this time or no, the fact should be noted on all the charts of the approaches, because one man has certainly found it others have found shoal spots of 10 to 30 fms. where the charts now show 100 to 300 fms. and more. If there is a five fathom spot, it would be very dangerous for vessels-of-war bound into the Pass in a southeasterly gale; there is no harm in giving a warning of a possible danger, even if we cannot prove positively the existence of the danger. The warning may be a help some day.

I cannot get more details from the Picton. The report was sent to me as the ship was leaving and I do not know if she will ever come here again. But I want to say, as impressively as I can, that the men who made these reports were all trusted men who stood high in their profession and were personally known to me. They could have no reason for giving any information than

what was correct. By omitting such information from our charts, we fail to do our duty to the seafaring people. I hope you will succeed in locating exactly this shoal whose existence has been known for several years.

If you get hold of O'Shea, Master of the fishing schr. Shannon, at Port Eads, he can give you some information of several shoal places. I told him about the Picton shoal and he said he would try to locate it.

Very truly yours,

Sgd. John Soley,

Lieutenant, U. S. N.,
In charge.

(copy to Hydrographer)

VEC
Mar. 22, 1917

12
107
409

HYDROGRAPHIC SHEET 3908.

Eastern Approaches to Mississippi Delta, Louisiana,
by party of Asst. H. A. Seran in 1916.

TIDES.

	East Bay, La. Ft.
Mean low water, or plane of reference on staff	3.4
Mean range of tide	1.3

DEPARTMENT OF COMMERCE

HYDROGRAPHIC SHEET No 3908.

Additional Work. 1917

This sheet was returned to the field party for further investigation and the additional work was executed during May and June 1917.

The additional work was protracted and the soundings put on in pencil. Then the sheet was submitted to the Chief Draftsman and certain lines of the old work were indicated by him for rejection. Those soundings so marked were erased, the remaining work of inking new soundings and changing depth curves was then completed.

The new work is certified to be very carefully done and was taken as final in case of doubt.

The Buoy about 11' of longitude E. of A Shoal apparently had moved about 140 meters in an easterly direction. This Buoy and the sandlump marked by a blue circle were both cut in by restraint cuts on this additional work.

A Wat Lat $29^{\circ}02'$ and long $89^{\circ}07'$ - is new station of 1917 work and had to be transferred graphically from Boat Sheet, as no position has yet been received for it here
(Over)

• Soundings in Feet @ M.L.W.

Additional work Protected by H.S. Rappleye

" " In pencil and Inked by H.S. Rappleye

Revisions made in old work authorized by Chief Draftsman
J.L. Flower

Verified by S.L. Rosenberg

Howard S. Rappleye
Draftsman