

4133

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Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: Florida & Alabama

11-5013

DESCRIPTIVE REPORT.

Hyd. Sheet No. 4133

LOCALITY:

Gulf of Mexico

Approaches to Pensacola

and Mobile Bays

1920

CHIEF OF PARTY:

H. A. Seran H. & G. Eng.

D E S C R I P T I V E R E P O R T

to accompany

HYDROGRAPHIC SHEET NO. 1

Gulf of Mexico

Approaches to Pensacola and Mobile Bays

U. S. C. and G. Survey Ship BACHE

H. A. Seran, Commanding.

* * * * *

LIMITS OF SHEET

This sheet, scale 1:80,000, extends from the 87th meridian to the meridian of 87° 58' and from the parallel of 29° 50' to the shore. It includes the inshore work of the approaches to Pensacola Bay and the inshore work of the eastern approaches to Mobile Bay.

COOPERATION WITH RANGER

The party of the ship RANGER has been working on this same sheet and when that party finishes a small amount of inshore work at the western limits of the sheet a smooth sheet embracing its work will be forwarded. By agreement between the Commanding Officer of the BACHE and the Commanding Officer of the RANGER the hydrography was apportioned as follows: The RANGER would do all the work controlled by fixes from shore signals; the BACHE would do nothing but PRECISE DEAD RECKONING in the vicinity of the buoys and to the 100 fathom curve. A small amount of precise dead reckoning was done by the RANGER at times when fixed position work could not be done. All the work inshore of the northern limits of the work done on this sheet has been or is to be done by the RANGER. The hydrography between the meridian of 87° 12' and 87° 30' and out to the southern limit of the sheet was also done by the RANGER. The RANGER has run one line just west of 87° 08' which is not shown on this sheet. None of the work done by the RANGER has been plotted on this sheet as that party has its own smooth sheet.

TIDAL METHOD OF SURVEY

Weather conditions were such that fixed position work using survey buoys as signals could not be done. For that reason all the work is PRECISE DEAD RECKONING. The buoys A, B, C, D, E and F were first located by precise dead reckoning and considerable work done on that determination. As weather conditions allowed buoys A, B, and C were located by cuts, in the usual manner, by the party of the BACHE and buoys D, E and F by the party of the RANGER. Buoys A₁, B₁ and C₁ were located by cuts by the party of the BACHE and buoys E₁ and F₁ located by the party of the RANGER. The RANGER'S determination of these two buoys was accepted by me. All work on the smooth sheet has been plotted using the final fixed position of the buoys.

The soundings to the 25 fathom curve were taken with hand lead and trolley gear, beyond 25 fathoms all soundings were taken with machine.

TIDAL REDUCTIONS

With the exception of the work lying east of the meridian of $87^{\circ} 12'$ and outside of the 25 fathom curve, all the soundings have been reduced for tide, using as a plane of reference the height 3.36 feet on the Tide Staff at Fort Morgan, Mobile Bay. The tide of corrections are all small and no correction for difference in time between the working ground and the tide staff was made. The work east of meridian of $87^{\circ} 12'$ and inside the 25 fathom curve was not reduced as explained in the paragraph of uncompleted records.

DANGERS, ETC

No dangers to navigation were discovered although there is a 13 fathom bank, about ten miles long, extending in A. N. E. and S. E. direction, the center of which is in latitude $30^{\circ} 06' N.$ and longitude $87^{\circ} 04' W.$ One line was run down the center of this bank and an additional line was run to the southward to define the southern limits of the bank.

UNFINISHED WORK

In submitting this sheet the soundings under 25 fathoms on days A to E, inclusive, have not been plotted on the sheet. The automatic tide gauge at Fort Morgan was out of order during this time and the sounding records could not be reduced until some information was received. The Mississippi River Commission maintains an automatic tide gauge at Biloxi, Miss., and that Commission has been requested to furnish records from this gauge for the period during which the Fort Morgan gauge is out of order. As it may be some time before these records are available it was decided that a conference of the Chief, Section Tides and Currents, Chief, Section of Field Records and the Commanding Officer to forward the sounding records unreduced and the smooth sheet unplotted as to sounding, for that portion of the work. The sounding lines, however, have been plotted and adjusted and the positions have all been inked. It will be noticed that at every change of course there are two positions, one position at that point on the line where the soundings stop and the course change commenced and the second position where the ship had steadied on the new course.

In plotting the soundings in the office the following instructions prepared for the draftsman on the BACHS may be useful:

"With beam compass measure the distance between two consecutive positions in meters. The distance in statute miles, as recorded by the ship's log, between these positions is shown in the sounding record and compiled on the dead reckoning abstracts. The log is read every 15 minutes and this log read-

ing recorded in the sounding record. First plot each of these 15 minute positions according to the following proportion:

'The log distance between two consecutive 15 minute log readings : The entire log distance between two consecutive positions as recorded on the abstract ; : the distance in meters of the adjusted 15 minute run : the entire adjusted distance in meters between 2 consecutive positions. '

The soundings between two 15 minute positions are plotted according to time. "

STATISTICS SHEET NO. /

| Date | Letter | Vol. | Pos. | Sags. | Miles (Stat) | Vessel |
|--------|--------|-------|------|-------|-----------------|--------|
| 1920 | | | | | | |
| Feb. 6 | A | 1 | 9 | | 47.9 | BAGGE |
| 9 | B | 1 | 16 | 168 | 44.2 | " |
| 10 | C | 1 & 2 | 13 | 129 | 38.8 | " |
| 11 | D | 1 | 38 | 366 | 54.0 | " |
| 16 | E | 2 | 23 | 164 | 50.0 | " |
| 17 | F | 1 | 26 | 212 | 39.8 | " |
| 19 | G | 2 | 21 | 242 | 46.0 | " |
| 20 | H | 1 | 20 | 60 | 80.0 | " |
| 24 | J | 2 | 11 | 9 | 38.0 | " |
| 25 | K | 1 | 13 | 78 | 42.0 | " |
| Mar. 2 | L | 2 | 17 | 60 | 59.1 | " |
| 5 | M | 3 | 15 | 52 | 37.6 | " |
| 19 | P | 3 | 12 | 218 | 35.0 | " |
| 23 | Q | 3 | 9 | | 55.9 | " |
| 26 | R | 4 | 18 | 133 | 30.7 | " |
| 30 | S | 3 | 13 | 158 | 27.5 | " |
| 31 | T | 4 | 13 | 143 | 27.5 | " |
| Apr. 8 | V | 4 | 4 | 91 | 22.1 | " |
| 13 | W | 4 | 26 | 280 | 43.1 | " |
| 21 | Z | 4 | 18 | 317 | 52.0 | " |
| 22 | A' | 5 | 40 | 388 | 90.0 | " |
| 23 | E' | 6 | 39 | 361 | 75.0 | " |
| 28 | D' | 5 | 40 | 250 | 56.0 | " |
| | TOTAL | | 454 | 3879 | 1092.2 | " |

ADDRESS THE SUPERINTENDENT
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO.

41-~~EMK~~

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

FIELD RECORDS (C)

June 7, 1920.



Division of Hydrography and Topography:

Division of Charts:

*Tidal reductions are approved in
4 volumes (Vols. 3, 4, 5 and 6) of sounding records for

HYDROGRAPHIC SHEET 4133

Approaches to Pensacola and Mobile Bays,
Gulf of Mexico.
H. A. Seran in 1920.

Plane of reference is
Mean low water, reading

3.4 ft. on tide staff at Ft. Morgan, Ala.

*Allowance made for difference in tide at place of
soundings.

Vols. 1 and 2 (Days A-M inclusive) unreduced, owing
to the fact that the automatic tide gauge at Ft. Morgan,
Ala., was out of order during this period.

This office has sent a letter to the Mississippi
River Commission under date of June 4, 1920, requesting
them to forward tabulations of the times and heights of
high and low waters and the hourly heights of the tide
at Biloxi, Mississippi, for the period from Feb. 6th to
March 10th, 1920, inclusive, for use in connection with
reductions of soundings for days A-N, inclusive.

Condition of records, satisfactory.

Forwarded:

L. P. Shidy

Acting Chief, Section of
Tides and Currents.

Chief Div. of Hydrog'y and Topog'y

DIRECTOR
ADDRESS THE ASSISTANT
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 41-MFG

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

July 30, 1920.



Division of Hydrography and Topography:

Division of Charts:

Tidal reductions are approved in
2 volumes (Vols. 1 and 2) of the 6 volumes of
sounding records for

HYDROGRAPHIC SHEET 4133

Approaches to Pensacola and Mobile Bays,
Gulf of Mexico.
H. A. Seran in 1920.

Plane of reference is
Mean low water, reading

5.2 ft. on tide staff at Biloxi, Miss.

Condition of records, satisfactory.

Note: See tide note for H. S. 4133 under
date of June 7, 1920.

Forwarded:

A handwritten signature in dark ink, appearing to read "M. S. Parker".

Chief, Div. of Hydrography and Topography

A handwritten signature in dark ink, appearing to read "G. V. Pude".

Chief, Section of Tides
and Currents.

Section of Field Records.

Oct. 16, 1920.

Verification & Inking H. 4133.

The records were defective in that the intermediate log readings between positions were not indicated ^{by check marks} in the column for position numbers. This occurred in many ~~cases~~ instances.

There were but few positions located by 3-point fix. The protracting was excellent, but one pos. requiring correction. This was 240. The projection, plotted objects, survey buoys and dead-reckoning lines was accepted as being correctly done in the field.

~~The soundings at points of log readings were~~ ^{not} ~~correctly~~ plotted but generally the time interval between log readings was ignored. The soundings were too large in size. This necessitated replotting the sheet.

F. M. Albert.

Notes, H 4133

1. 32D. Note in record of buoy on stbd beam but smooth sheet shows it on port beam & boat sheet on stbd. (Line is OK by ALG)
2. The pos. of 8F was moved down to a point about $\frac{3}{8}$ ' below the point to which the line was drawn in the field. Note in record says this point is abeam buoy 'C' for which the lower point would be nearer correct. Log distances check better with the lower point. This point was put on the sheet by field party (Capt. Ellis approves change)
3. Line 36-46, 98ft. crosses 105ft.
4. No log reading at 4H but log reading for pos 5 puts the position close to that plotted by field party by using proportional distance between 3&6
5. Sounding changed from 266 as plotted in field to 443 as in record, pos. 15L.
6. Sounding of 114 at 7-58-30 between pos. 8-9s questioned by R.D.H. Vol. 3, p. 27. Sounding is OK.
7. Position of buoys, projection and D.R. lines accepted as plotted in field.

Frank M. Albert

AND REFER TO NO.

4-MEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS.

Report on Hydrographic Sheet No. 4133. Surveyed in 1920.
Chief of Party: H. A. Saran Surveyed by Field Party.
Protracted by S. M. Ferguson Soundings plotted by S. M. Ferguson
and F. M. Albert.
Inked and verified by F. M. Albert and A. Baer.

1. The records conform to the requirements of the General Instructions, except that intermediate log readings should have been identified with the soundings to which they belonged by checks in column for position numbers.
2. The plan and character of development fulfills the requirements of the General Instructions.
3. The plan and extent of development satisfies the specific instructions, except that the sounding lines are three-fourths mile apart in less than 15 fathoms instead of one-half mile apart as directed; outside of 15 fathoms the lines are 1-1/3 mile apart instead of 2 miles; the cross lines were omitted throughout a considerable portion of the area surveyed.
4. The sounding line crossings are adequate.
5. The data are sufficient to completely draw the curves.
6. The field plotting was completed to the extent prescribed in General Instructions, except plotting of soundings on A to N days. This was unavoidably delayed while awaiting receipt of tidal data.
7. Regarding the field drafting, the protracting of the few 3-point fixes is excellent. In plotting the soundings the time intervals between log readings were generally ignored, in numerous instances gaps in the sounding lines due to misses were filled in by fudging soundings out of their true positions to fill the gaps. The pencil soundings were about twice as large as they should have been thereby causing the unnecessary omission of many soundings. As a result of the defects noted it was necessary for the office draftsman to replot the soundings.
Also the position numbers and day letters are too large. If the development had been close the lines would have been illegible.
8. The junction with the adjoining sheet is satisfactory.
9. No further surveying is required within the limits of the survey.

SECTION OF FIELD RECORDS.

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10. The locations of signals and dead reckoning lines were accepted as plotted by the field party.
11. Rating of the work: Character and scope of the surveying-Excellent.
Field drafting-----Fair.
12. Reviewed by E. P. Ellis, Nov. 1, 1920.
13. Two copies of this report to be sent to H. & T. Divisions.

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. ⁴¹³³ 4133

State . . . Florida and Alabama

General locality . . . Gulf of Mexico. - Offshore . . .

Locality . . Approaches to Pensacola and Mobile Bays.

Chief of party H. A. SERAN

Surveyed by Party

Date of survey . . February 6th, 1920. to April 28th, 1920.

Scale . . 1" = 80,000

Soundings in . . . Feet

Plane of reference . . 336 on Fort Morgan Staff.

Protracted by S.M.F. . . . Soundings in pencil by S.M.F. . . .

Inked by F.M. Albert . . Verified by F.M.A.

Records accompanying sheet (check those forwarded):

Des. report, ~~----~~ Tide books, 2 Marigrams, 1 Boat sheets,

6 Sounding books, ~~-----~~ Wire-drag books, ~~-----~~ Photographs.

Data from other sources affecting sheet

Remarks: