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Diag. Ch. No 904-2

4741

Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
....., Director	
State: <i>Porto Rico</i>	
DESCRIPTIVE REPORT	
Topographic Hydrographic	} Sheet No. ¹² 4741
LOCALITY	
<i>E. Coast of Porto Rico</i>	
<i>Ports Humacao and Naguabo</i>	
.....	
1927	
CHIEF OF PARTY	
<i>G.C. Mattison</i>	

DEPARTMENT OF COMMERCE
U.S.COAST AND GEODETIC SURVEY
E. LESTER JONES, DIRECTOR.

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET #12 4741

HUMACAO PLAYA AND NAGUABO,
PORTO RICO.

S.S. RANGER

G.C.MATTISON,
Chief of Party.

1927

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET #12.
Humacao, P.R.

Instructions dated July 3, 1926
Feb. 28, 1927.

LIMITS:

Between Lat. 18 09 and 18 12'N and between Long. 65 42' and 65 46'W.

INTRODUCTION:

This sheet is one of a group of surveys of Roadsteads in Porto Rico. Its purpose is to furnish information for the construction of a large scale chart. Sufficient soundings were taken to supplement the original work in 1902. Lines were run across the ridge between SANTIAGO CAY and HUMACAO PLAYA to determine if shoaling had occurred. Anchorages were developed and indicated shoals were sounded out.

METHOD:

The phosphor bronze hand lead line marked in fathoms and feet was used in this survey. Soundings were fixed by the use of sextant angles. Objects used were triangulation stations and objects whose positions had been determined by plane table. These latter are listed in the "Descriptive Report of the Topographic Sheet of that vicinity.

Hydrography was executed by a subparty from the Steamer RANGER. As no quarters could be obtained at the Playa, the party was housed at Humacao, going to and from working grounds in a truck assigned to the party. Boats assigned to the party were the launch MARINDIN and the wire drag tender M4. Only the tender was used in the survey.

Work was begun on June 8, the party having completed the survey of Port Manabo the preceding day and moved quarters from Guayama to Humacao the night of June 7.

On June 9, the hydrography on this sheet was suspended and the party ran over to the west coast of Vieques Island, to complete a survey begun some time before.

Hydrography was resumed June 10, and completed the same day, with the exception of soundings taken around the docks which was done on June 11. The party then returned to San Juan to join the RANGER.

TIDES:

A portable automatic gauge was installed on the westernmost dock at Humacao for the reduction of soundings. A series from June 8 to June 11, 1927 was observed and compared to San Juan P.R. Time did not permit connection to the Bench Marks at Playa de Naguabo established in 1901

by J.B. Boutelle. These latter were not searched for. The Bench Marks at Santiago Cay established by R.L. Faris in 1902 were not searched for. Three Bench Marks were established at Humacao Playa and connected to the tide staff. Their elevations above the zero of the staff are as follows:

B.M. 1	7.904
B.M. 2	8.905
B.M. 3	7.813

The plane of reference used for the reduction of soundings was mean Tide Level minus 0.5 feet and corresponds to a reading of 2.76 feet on the staff.

GENERAL:

PORT NAGUABO is at the northern end of the open bay, included between SANTIAGO CAY and POINT LIMA. Sugar is loaded by lighters to vessels moored about a half mile off shore. Good shelter is obtained except from the south and southeast. Small vessels and boats anchor well up in the northern portion of the harbor close to shore.

PORT HUMACAO is formed by Santiago Cay and the mainland. It is of some commercial importance, being the port of Humacao, a town lying about six miles inland. Vessels usually anchor just west of SANTIAGO CAY and load and discharge by lighters.

SHOALS etc:

Most of the area included in the limits of this sheet was wire dragged previous to the present survey. The present work is mostly in-shore development.

The ridge, between SANTIAGO CAY and the mainland was sounded out. Eight feet seems to be the mast that can be carried across the ridge. This is about 290 meters off the mainland.

Slightly less water than charted was found in about Lat. 18 10.2' Long 65 44' altho this is a gradual fill rather than a shoal spot.

A 10 foot spot, located approximately ⁱⁿ Lat. 18 11' 6" Long. 65 42' 54" ^{and} was found by the wire drag, but over which no soundings could be obtained, object could not be seen on account of the muddy water. It is probably a mast or similar object, and no hand lead sounding can locate it.

COAST PILOT AND ANCHORAGE:

Notes for the revision of the Coast Pilot were obtained and are included in a separate report covering Porto Rico.

No ships were anchored in Port Humacao during the period hydrography was in progress, but the following anchorages are described by the Captain of the S.S. DELISLE", Baltimore Insular Line. "For Port Naguabo

anchor in 21 feet with center of warehouse bearing 348° true, and extreme end of Point Lima bearing 95° true." For Port Humacao, anchor in 19 feet with extreme southeast end of Santiago Cay bearing 82° true and derrick mast on southernmost pier at Humacao Playa bearing 342° true. On this anchorage the large house at Naguabo shows just clear of northwest end of SANTIAGO CAY."

These anchorages are shown on a sketch submitted with this report.

Photographs of ranges for anchorages are submitted in a separate report, "Photographs Showing Anchorage RANGES for Roadsteads in Porto Rico". These photographs were taken by Captain Briggs, master of the S.S. "EDITH", Baltimore Insular Line.

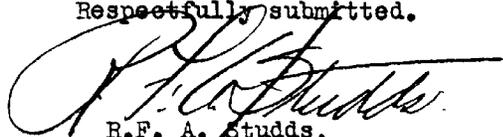
ADDITIONAL DATA:

Sketches showing docks at HUMACAO PLAYA and NAGUABO PLAYA with soundings along sides and outer faces are given on pages 51 to 57 of the sounding record.

LANDMARKS FOR CHARTS:

This form was submitted with the Descriptive Report of the Topographic Sheet of that locality.

Respectfully submitted.


R. F. A. Studds,
Jr. H. & G. Engineer.

*Forwarded
J. C. Mettson
Chg. S. S. Range.*

STATISTICS
Hydro. Sheet #12

Date	Letter	Vol.	Positions	Soundings	Miles Stat.	Boats
June 8	a	1	120	744	16.8	Tender
June 10	b	1	100	702	10.9	"
Total-----			220	1446	27.7	

Total area surveyed .73 square statute miles.

Tides

Automatic gauge at Humacao Playa
 Plane of reference --- M.T.L.-0.5 ft. = 2.8 on staff
 Lowest tide observed 2.9 on staff
 Highest tide observed 3.6 on staff

FIELD RECORDS SECTION

Report on H. 4741

Surveyed in 1927

Chief of Party G. C. Mattison Surveyed by T. F. A. Studds
 Contracted by J. M. Baker, Jr. - Sounding pencil by W. D. P.
 verified and Inked J. Fleming

① The records, plan and character of the development fulfill the requirements of G. I.

② Owing to the nature of the development it was necessary to check more than 50% of all positions. The plotting of positions was very satisfactory - only four were found to be in error.

In the closely developed area East of A SAM the soundings were not plotted on the sounding lines and all positions within that area had to be relocated, pencil lines drawn thru them and soundings replotted.

When sounding values differed at crossings, the least values were used.

The Docks were not drawn on the smooth sheet and these were transferred from the Topo sheet.

The large scale inserts A and B were prepared from the sketches and data given in the sounding volumes.

The Rocks south of Sig. BROWN, the sunken rock south East of Sig. WE' and the small Island or large rock South of A. SAM together with the sunken rock East of A TIP were not shown on the smooth sheet. - All of these were transferred from the Topo sheet.

The development of the ridge between As SAM and TANK does not show that shoaling has not occurred here and attention is called to the uncertain nature of the 12 foot curve at this point.

The development of the anchorage East of A SAM shows that shoaling begins at the edge of the development to the East.

The descriptive report states that this surrounding area has been 'Dragged' and therefore no criticism is advanced regarding this.

No other unusual features were noted.

Respectfully Submitted

J. Fleming July 21st 1928

DEPARTMENT OF COMMERCE

AND REFER TO No. 11-DEM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

August 7, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4741

Ports Humacao and Naguabo, Porto Rico

Surveyed in 1927

Instructions dated July 3, 1926 and February 28, 1927 (RANGER)

Chief of Party, G. C. Mattison.

Surveyed by R. F. A. Studds.

Protracted by J. M. Baker, Jr.

Soundings plotted by E. C. Baum.

Verified and inked by J. Fleming.

1. This survey was intended to supplement the work on H. 2582 (surveyed in 1902) with additional development in the anchorages.
2. The plan and extent of development conform to the specific instructions with the exception that enough lines should have been run and enough soundings taken to define the 18 foot curve which seems to have moved offshore several hundred meters. This is particularly true in the vicinity of lat. $18^{\circ} 10 \frac{1}{2}'$, long. $65^{\circ} 44'$. Also the 12 foot curve on the south side of the ridge between Santiago Cay and Pt. Santiago should have been determined so as to make it unnecessary to utilize the old survey.
3. The anchorage off Humacao is sufficiently developed after combining the old and the new surveys.

Off Port Naguabo, the anchorage (as indicated in the descriptive report) should have had more development. It should be noted that line 94 - 96 a which, according to the sounding records, is on the anchorage range, plots about 200 meters to the eastward of the anchorage as indicated in the descriptive report. Improper allowance for deviation of the launch compass may be the cause of the discrepancy.

4. The sounding line crossings are satisfactory.
5. The usual field plotting was done by the field party.
6. The junction with the old survey H. 2582 (surveyed in 1902) is satisfactory except as modified by paragraph 2 above.

In the area west of Santiago Cay an 18-foot drag (H. 4287) passed over several 16-foot soundings on the present survey. As there has been some additional dragging in this area contemporaneous with the hydrographic survey, the discrepancy will not be considered until the drag work has been verified.

7. Attention is called to the fact that on line 94 - 95 a, a single 17 foot sounding was obtained with 21 feet immediately before and after. On account of its proximity to the anchorage in Port Naguabo it should have been further investigated. In the light of the closely spaced surrounding soundings of 21 and 22 feet, its existence seems doubtful. The old survey H. 2582 shows 22 feet on the exact spot. However, since the sounding is not questioned nor rejected by the field party, it will have to be retained on the sheet. The wire drag survey (H. 4287) throws no additional light on the matter, since only a 15 foot drag passed over the spot. It is recommended that this spot be examined whenever work is done here in the future.
8. Additional work will be necessary as mentioned in the preceding paragraph.
9. Reviewed by A. L. Shalowitz, August, 1928.

This sndg.
does not
exist. See
letter 128-1129
A.L.S.

Approved:

Chief, Section of Field Records (Charts)

Chief, Section of Field Work (H. & T.)

Copy for Records Section files.

March 15, 1928.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
volumes of sounding records for

1

HYDROGRAPHIC SHEET

4741

Locality:

PORTO RICO, SOUTH COAST.

Chief of Party:

Plane of reference G. C. Mattison, 1927.

ft. on tide staff at M L W

2.8

Hamacao

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4741

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. 12

REGISTER NO. 4741

State Porto Rico

General locality East Coast of Porto Rico

Locality Ports Humacao and Naguabo

Scale 1:20,000 Date of survey June 8-10, 1927

Vessel RANGER

Chief of Party G.C. Mattison

Surveyed by R.F.A. Studds

Protracted by J.M. Baker Jr.

Soundings penciled by E.C. Baum

Soundings in ~~athens~~ feet

Plane of reference M.T.L. -0.5 ft.

Subdivision of wire dragged areas by ----

Inked by J. FLEMING July 21-1927

Verified by J. F.

Instructions dated July 3, 1926, Feb. 28, 1927, 192

Remarks: