6556

Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic }
Hydrographic } *Sheet No.* H-6556

State ~~Porto~~ Puerto Rico

LOCALITY

West of ~~San Juan~~ Harbor Entrance

1940

CHIEF OF PARTY

G. C. Jones

U.S. GOVERNMENT PRINTING OFFICE: 1934

6556

Form 537
Ed. Sept., 1929

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.

6556

Field No. .....

REGISTER NO. 6556 H6556

State Puerto Rico

General locality San Juan Harbor

Locality West of ~~San Juan~~ Harbor entrance

Scale 1:10,000 Date of survey June, 1940

Vessel .....

Chief of Party G. C. Jones

Surveyed by .....

Protracted by G.C. Wright

Soundings penciled by H.G. Wilde

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by .....

Inked by G.B. Littlepage

Verified by H.G. Wilde

Instructions dated May 7, 1940

Remarks: .....

.....

U. S. GOVERNMENT PRINTING OFFICE: 1929

DESCRIPTIVE NOTES TO ACCOMPANY

SHEET NO. ___ PROJECT H. T. 253

OFF SAN JUAN BAY - PUERTO RICO

SURVEYED ON JUNE 4, 7, 13 - 1940

G. C. JONES - CHIEF OF PARTY

INSTRUCTIONS DATED MAY 7, 1940: 22 MJC - 1975 SJ 4

D A T E S - Field work was started as soon as possible after receipt of boat sheet, records, instruments, etc. from Washington. Sufficient triangulation data was secured from the U. S. Engineer Department to complete the boat sheet in that respect and some shoreline was roughly transferred from chart 908. Slight additional delay was due to waiting until boat and crew was available from the U. S. Navy. Hydrography started on June 4th.

C ON T R O L - In discussing the project with the Assistant in Charge, U. S. E. D. who has considerable local knowledge of these waters, I enquired how close to the beach between Salinas Pt. and Tocones Pt. one could approach with a navy launch. The object of the inquiry was to determine what, if any, signals would be needed along that beach. On being informed by him that I "couldn't get within a mile of the beach" I decided that no signals were needed. Mr. Truss' information was correct as to the outer limit of the reef but it was found that deeper water existed inside the reef. For that reason it was necessary to use two roadside advertising signs with temporary locations. Theodolite angles were later taken at both signs and at El Morro Lt. and good positions secured. As a result some positions near the beach may plot differently on the smooth sheet from that shown on the boat sheet and the boat sheet cannot be depended upon for comparison when either signal Road or Ad is included in the fix. All other objects used were recovered triangulation stations.

△ 1940

R E C O R D - On "A" day Ens. E. H. Huff, U. S. N. was sent out as recorder. Though intelligent and conscientious he was unused to that type of work and in addition became seasick. Fortunately the leadsman was an experienced man and sounded very steadily so that where the recorder times show uneven spacing or no time at all is recorded the soundings should be spaced evenly between fixes except where depth changes abruptly as between positions 32 A and 33 A. Notes were made in the record for the smoothplotter regarding spacing of soundings. Signalman Mc Kenna and Chief S. M. Edwards who recorded on B and C days respectively kept their times much better and soundings should be spaced accordingly. On several occasions on B day the spacing is too wide due to failure of recorder to change interval until the fact was noted by one of the anglers and the time speeded up.

But few compass courses are entered. It was found that navy coxswains (different each day), while good at handling the launch with respect to sea and wind had little idea of steering a survey line by compass and none of steering ranges. For that reason headings or ranges ashore, which could be conned by the right angler between fixes, were used to control the boats course. This also serves to explain the unique patterns taken by some of the lines when compass courses were attempted and several of the holidays that were left.

Bottom characteristics were entered much more often than necessary on

A and B days but very few on C day. As the work on C day was on much the same ground it is thought that the changes in bottom can be shown.

A D D I T I O N A L W O R K - The steep slope on the north side of the reef should be sounded more closely both as to line spacing and the spacing of soundings on line. Unfortunately much of the poor spacing of soundings, mentioned above, occured in this area.

The area inside the reef is not complete but an attempt was made to cover as much of the ground as possible while boats and crews were available. The ocean swell does not cross the reef and the beach can be sounded at any time the wind is not blowing. The beach could be approached somewhat closer if a regular plane table survey were made and signals placed at frequent intervals along the beach.

The top of the reef could be sounded with a sufficiently lightweight, light draft boat, say a skiff and outboard motor.

As mentioned in correspondence the area surveyed by the U. S. E. D. was not covered by this survey.

It was hoped to have an opportunity to fly over the reef to see whether or not it extends westward all the way to Pt. Salinas but such an opportunity has not yet offered.

G. C. Jones

G. C. Jones, Lieut. Commander
In Charge San Juan Observatory

22 mjc
1975 SJ 4

May 7, 1940.

To: Officer in Charge,
San Juan Magnetic Observatory,
U. S. Coast and Geodetic Survey,
Box 3067,
Santurce, Puerto Rico.

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

Subject: INSTRUCTIONS, PROJECT H. T. 253.

1. These instructions cover a hydrographic survey near the entrance to San Juan Harbor, Puerto Rico. The area to be surveyed lies between the 12-fathom curve and the beach and between longitudes 66° 08' and 66° 09.5' in the northwest corner of Chart 908 where, except for the shoal area south and southwestward from Cabras Island, practically no soundings are shown at present.

2. Projections are being prepared in this office as follows: 1 boat sheet, 1 smooth sheet, and 1 aluminum mounted topographic sheet. All projections are on a scale of 1:10,000 and will be forwarded to you shortly.

CONTROL

3. It is believed you may have on hand sufficient triangulation data to furnish the necessary control for this work, if not, it will be furnished upon request.

4. An aluminum mounted topographic sheet is being forwarded in order that you may locate by graphic control additional hydrographic signals as may be found necessary. It will not be necessary to delineate any shore line on this sheet; however, heavy breakers or any offlying rocks shall be shown.

HYDROGRAPHY

5. The spacing of the sounding lines shall be governed by consideration of the depth, configuration and character of the bottom, proximity to channels or heavy breakers, etc. In general, the spacing should not exceed 100 meters.

6. If the inshore lines are run parallel to the beach the line spacing shall gradually increase offshore from 50 meters to 100 meters. In so far as is practicable, the two lines nearest the shore shall be run at such times as sea and swell permit.

7. Additional development shall be made to determine the least depth on all shoals, to determine the form and limits of all shoals and other obstructions, and to develop any channels that may be found.

8. To assist in obtaining an adequate development, depth curves shall be drawn on the boat sheet daily as the work progresses. It is considered sound practice to draw all the curves that the scale of the survey permits. The curves on the boat sheet may be left in pencil, or they may be inked according to any desired scheme.

9. Only curves required by the Hydrographic Manual shall be penciled on the smooth sheet. In drawing these curves on the smooth sheet the forms developed by the more numerous curves drawn on the boat sheet shall be observed. A pencil not harder than 3-H shall be used in drawing the smooth sheet depth curves.

10. Cross lines shall be run at about 10% of the principal system of sounding lines exclusive of development.

11. Your descriptive report shall thoroughly describe any unusual methods, such as drift sounding, time spent on investigating shoals, etc.

12. A uniform distribution of bottom characteristics shall be obtained.

13. While monthly progress sketch will not be required, a sketch on the scale of Chart 908 shall be submitted on completion of the project.

TIDAL WORK

14. Tide observations shall be obtained in San Juan Harbor. Plain staff readings during the period of sounding will

suffice. If, upon investigation, however, it is found that satisfactory tide observations are already being made by some other party or organization, additional observations will not be necessary.

15. The staff or gage actually used shall be connected by spirit levels with all the recoverable bench marks at San Juan. The descriptions and elevations of seven tidal bench marks will be furnished.

16. A report shall be submitted on the present condition of all bench marks.

17. In case less than five of these bench marks are found to be in good condition, new standard disk bench marks shall be established to replace those lost.

18. You will please acknowledge the receipt of these instructions.

(Signed) L. O. Colbert

Director.

xQC
THC2

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 31, 1940

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Tide Reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 6556

Locality West of San Juan Harbor Entrance, Porto Rico

Chief of Party: G. C. Jones in 1940
Plane of reference is mean low water reading
0.0 ft. on tide staff at
6.8 ft. below B.M. 1

Height of mean high water above plane of reference is 1.1 foot.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

GEOGRAPHIC NAMES

Survey No. H6556

Name on Survey	On Chart No. A,	On previous survey No. B,	On U. S. quadrangle Maps C,	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
San Juan Harbor										1
~~Toconos Point~~										2
Cabras Island										3
Puerto Rico										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red approved by L. Heck on 10/14/40

M 234

	Remarks	Decisions
1		
2	For title	
3		
4	For title	U S G B
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

M 234

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H6556

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

Number of positions on sheet	362
Number of positions checked	105
Number of positions revised	63
Number of soundings recorded	1687
Number of soundings revised	0
Number of soundings erroneously spaced	0
Number of signals erroneously plotted or transferred	1

Date: Sept. 24, 1940

Verification by H.A. Wilde, G.B. Littlepage (Inked)

Time: 49 hrs. + 15½ hrs. } 64½

Review by Harold W. Murray

Time: 4½ hrs.

HYDROGRAPHIC SURVEY NO. H6556

Smooth Sheet ~~No~~ Yes

Boat Sheet One

Records; Sounding 1 Vols., Wire Drag ___ Vols., Bomb ___ Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) Yes

Statistics No

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service
(Circular Nov.30, 1933)

Hydrography: Total Days 3 ; Last Date June 13, 1940

Remarks

2776

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H H6556
~~No. H~~

received July 17, 1940
registered July 29, 1940
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			
88			
90			

RETURN TO

82	T. B. Reed

✓ JBOR

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-6556 (1940)

Verified and Inked by H.A. Wilde / G.B. Littlepage Date Sept. 24, 1940

1. The descriptive report was consulted and appropriate action taken.

2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.

3. All references to survey sheets mentioned in the descriptive report include the registry number and year.

4. Geographic names of hydrographic features are in slanting lettering and of topographic features in vertical lettering.

5. All items effecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.

6. All positions verified instrumentally were check marked in the sounding records.

7. All critical soundings are clear and legible.

8. The metal protractor has been checked within the last three months.

9. The protracting and plotting of all bad crossings were verified.

10. All detached positions locating critical soundings, rocks or buoys were verified.

11. The boat sheet was compared with the smooth sheet.

12. The spacing of soundings as recorded in the records was closely followed.

13. The bottom characteristics were shown on outstanding shoals.

14. The reduction and plotting of doubtful soundings were checked.

15. ✓ The transfer of contemporary topographic information was carefully examined.

16. ✓ All junctions were transferred.

17. ✓ The notation "JOINS H " was added for all contemporary adjoining or overlapping sheets now registered.

18. ✓ The depth curves have been drawn to include the significant depths.

19. ✓ All triangulation stations and transfer of topographic and hydrographic signals were checked by the field party.

20. ✓ Heights of rocks were checked against range of tide.

21. ✓ Rocks transferred from topographic survey have a dotted curve where shown thereon.

22. ✓ Unnecessary pencil notes have been removed.

23. ✓ Objects on which signals are located and which fall outside of the low water line have been described on the sheet.

24. ✓ The low water line and delineation of shoal areas have been properly shown (see letter of October 20, 1934).

25. ✓ Degree and minutes values and symbols have been checked.

26. ✓ Source of shoreline and signals (When not given in report).

27. ✓ Depth curves were satisfactory except as follows:

G.B.L.

28. Sounding line crossings were satisfactory except as follows:

A 23 ft. sounding in lat. 18° 28.'5 long. 66° 07.'5 falls between an 11 ft. and a 16 ft. sounding. It was probably a recorders error and should not have been taken. Omitted. Of no charting value. H.W.M.

An 18 ft. and a 17 ft. sounding in lat. 18° 28.'6 long. 66° 09.'5 fall among several 14 ft. soundings. They have been so plotted inasmuch as all positions checked and the depth curves in the vicinity are not unduly contorted. H.W.M.

29. Junctions with contemporary surveys were satisfactory except as follows:

None

30. Condition of sounding records was satisfactory except as follows:

The sounding records were very poor due to the fact that inexperienced recorders were used each day. The Chief of Party, Lieut. Cmdr. G.C. Jones, endeavored to straighten out the notes by additional information in the remarks column but even this was not enough to entirely clear up many doubtful points. In cases of doubt positions of lines giving the best crossings were used.

H.W.W.

31. The protracting was satisfactory except as follows:

Practically all day positions were in error in the S.W. portion of the sheet due to fact that the plotting protractor was out of adjustment for acute right angles (about 30°). In other respects the plotting was very poor some positions being several hundreds of meters off.

H.W.W.

32. The field plotting of soundings was satisfactory except as follows:

The field plotting was very poor - probably due to the fact that the Chief of Party had to do most of work and also train and guide an inexperienced crew. Most of the bad sheet errors were in the S.W. portion of the sheet and were mainly due to the use of stations Ad and Road as fixes. (See Des. Rep. Page I (extra))

H.W.W.

33. Notes to reviewer:

The completed smooth sheet was first plotted up and the soundings penciled in fathoms and fractions by G.C. Wright. Subsequently the sheet was verified by H.A. Wilde - the soundings being reduced to feet in the sounding records and replotted in pencil (also depth curves). C.B. Little page verified and inked the soundings and depth curves.

H.W.W.

DIVISION OF CHARTS

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6556 (1940) FIELD NO. H-6556

Puerto Rico, West of San Juan Harbor Entrance
Surveyed in June 1940, Scale 1:10,000
Instructions dated May 7, 1940 (G. C. JONES)

Soundings:
Hand Lead.

Control:
Three point fixes on shore signals.

Chief of Party - G. C. Jones.
Surveyed by - G. C. Jones.
Protracted by - G. C. Wright.
Soundings plotted by - H. A. Wilde.
Verified and inked by - G. B. Littlepage.
Reviewed by - Harold W. Murray, September 28, 1940.
Inspected by - H. R. Edmonston.

1. Shoreline and Signals.

   a. No shoreline is shown because no contemporary topographic survey was authorized.

   b. The origin of the signals is given in the descriptive report, page 1.

2. Sounding Line Crossings.

   Agreement of the several sounding line crossings is generally acceptable.

3. Depth Curves.

   The usual depth curves may be satisfactorily drawn. A considerable portion of the area, however, is very irregular.

4. Junctions with Contemporary Surveys.

   No contemporary surveys adjoin the present survey. A satisfactory junction for charting purposes, however, is made with prior surveys discussed in the following paragraphs.

5. Comparison with Prior Surveys.

   H-2418 (1899), H-2466 (1900) and H-2677 (1904); scales 1:5,000; 1:10,000 and 1:20,000.

   A few soundings from each of these surveys fall just within the limits of the present survey. Agreement

of depths is good though the bottom is quite irregular. Since only a fringe of soundings from these surveys fall within the present survey limits, these older surveys are not superseded and may be used to supplement the present survey in the common area.

6. Comparison with Chart 908 (New Print dated July 15, 1940).

a. Hydrography.

The few soundings shown on the chart originate with surveys discussed in the preceding paragraph and from miscellaneous sources which are as follows:

(1) A fringe of soundings from blue print 33805 of the Army Engineers, on a scale of 1:1200 falls within the present survey limits in lat. 18° 28.8', long. 66° 08.6'. The bottom here is very irregular but the agreement is satisfactory. This large scale survey should be used to supplement the present survey.

(2) The charted 12 foot sounding falling in depths of about 20 feet on the present survey in lat. 18° 28.7', long. 66° 09.0', originates with Chart Letter 473 of 1938 from Lieutenant Commander Harold A. Cotton of this Bureau. The sounding marks the position of the Ship ALMIRANTE SALDANHA which went aground on July 25, 1938. The 12, falling in depths of 20 feet is between sounding lines spaced about 90 m. apart and only 110 m. from the 12 foot curve. The position of the 12 is determined by numerous cuts (see Chart Letter) and since it has not been specifically developed nor disproved on the present survey, it should be retained on the chart.

b. Aids to Navigation.

No aids to navigation are charted within the area covered by the present survey.

7. Condition of Survey.

a. The sounding records do not entirely conform to the requirements of the Hydrographic Manual.

b. The descriptive report is clear and comprehensive.

c. The protracting and plotting of soundings in the office is satisfactory.

8. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project except that shoal indications were not fully developed because of lack of sufficient time.

9. Additional Field Work Recommended.

This survey was made with inexperienced personnel. Doubtful soundings and shoal indications were not investigated due to lack of personnel (see descriptive report, page 3) and the survey should be evaluated accordingly. When field work is accomplished in this area in the future, additional work in the following sections are necessary for the completeness of this area:

a. Development of the shoal soundings, the more important of which is the charted 12 foot sounding discussed in paragraph 6a(2) above.

b. Run split lines in the vicinity of the steep slope on the north. This slope which is as great as 20 degrees is an excellent underwater feature for navigational use in adverse weather.

c. The descriptive report (page 3) states that the small gap in the inshore limits of the present survey can be safely sounded, if necessary, with a boat of small draft.

10. Superseded Surveys.

The three prior surveys in this area are to be used in supplementing the present survey and are therefore not superseded.

Examined and approved:

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

Chief, Division of Charts.

Chief, Section of Field Work.

Chief, Division of H. & T.

applied to chart 908 (drawing) Oct 1, 1940 J.C.L.
" " " 903 " Oct 26, 1940 A.C.III