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Diag. Cht. Nos. 903

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey *Hydrographic*
Field No. Office No. *2418*

LOCALITY

State *Puerto Rico*
General locality *San Juan*
Locality *Harbor*

1899

194

CHIEF OF PARTY

W. C. Hodgkins

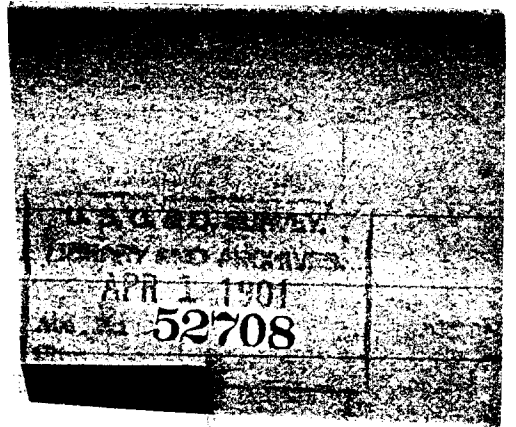
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U. S. COAST AND GEODETIC SURVEY.

H. S. Pritchett, Superintendent.

State: *Porto Rico*

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 2418

LOCALITY:

San Juan Harbor

1899.

CHIEF OF PARTY:

W. C. Hodgkins

2418

Descriptive Report

to accompany Hydrographic Sheet No 2418,
Scale 1:5000, San Juan Harbor, 1899.

This was a careful survey of the bar and anchorage of San Juan made in April, 1899, for the especial benefit of the North Atlantic Squadron under the command of Rear-Admiral Sampson.

Number of days work	24
" " volumes	10
" " angles	6345
" " soundings	18517
" " miles	235.2
" " □ "	3.3

This is the principal port of Porto Rico, the city of San Juan being the capital of the island and one of the three leading commercial centres.

The shore of the small island on which the city is built is generally rocky and bold, while that of the south and west sides of the harbor is a low plain.

On the so-called bar the least depth in mid channel is about 35 feet, which deepens to over 50 feet a little further in and then

gradually shoals to 29 feet, with a 28 foot hump in the midst of deeper water a little to the south of mid channel. After passing the San Juan gate, the channel again deepens to over 30 feet, which holds good until past the Purstilla on the point of the Marina, when it again gradually shoals, 21 or 22 feet being about the limit of draft which can be taken to the quay in the inner harbor.

Deep vessels anchor south of the Marina and the quarantine anchorage is a little further to the S.E., toward the Anegado Shoal, with a depth of from 21 to 27 feet.

There seems to be a gradual tendency toward silting up of the channels.

Some dredging has been done in past years but more is urgently needed.

The only special danger in the channel was the wreck of the steamer Cristóbal Colón, which was sunk in the harbor mouth in 1898 by the Spanish authorities. Its location was marked at the time of the survey by a black can buoy. The least water found on it was 20 feet, apparently on a boat davit or other small projection. Its removal was in contemplation.

The bottom is generally muddy in the channel and the anchorages. Elsewhere coral sand or rock is the rule.

There is a general westerly set through the harbor and along the coast due to the prevailing easterly winds.

The foreign trade of the port is carried on largely by steamers, several lines making this a port of call. A large number of sailing vessels also arrive here. The coasting trade is divided between the steamers and a fleet of small native schooners, plying to the minor ports.

In approaching from seaward, the mountains in the interior are first sighted, when the island is still very distant; perhaps 50 miles away, in clear weather. Clouds hanging over the mountains, however, frequently entirely change the appearance of the island.

In coming from the United States the mountain mass in the western central part of the island will usually be the first landfall and will present a close resemblance to the Sierra de Luquillo, in the N.E. corner of the island. This will probably be sighted some time later and will look like a separate island to the eastward, the relatively lower country between the two mountain masses being invisible.

When within 15 miles or so of the island, if west of the meridian of San Juan there will be sighted a long line of sharp, conical hills of moderate height which occur in remarkable numbers in the region between San Juan and the N.W. corner of the island. This formation is characteristic of this part of the coast, not occurring east of San Juan.

The real shore of the island will not be seen until within a few miles and the gray and yellow walls of the Morro Castle with the light house crowning the seaward point will probably be first seen of shore objects. This is also the most prominent landmark in coasting from either direction.

The harbor is easy to enter except in heavy northerers, when the sea sometimes breaks badly in the entrance. With the wind to the southward of east a sailing vessel, unless very handy, will find it difficult to work in very far, but can shoot inside as far as possible and anchor until the wind favors. The entrance is narrow but safe, if proper judgment is used.

The most serious danger for vessels of deep draft is the ledge projecting from Labras Island, which reaches more than half way to the Morro Point. To avoid it, the entrance should be brought to the west of south before running down for the bar and in.

leaving port the course should be kept to the east of north from the wreck of the "Colón".

There is urgent need of a buoy on the eastern end of this reef, but aside from this the buoyage of the harbor seems to be satisfactory.

This entrance is easily made out, the steep walls of the Morro marking the eastern side and the Cabras islets the western. As above indicated the channel lies nearer to the Morro than to the Cabras.

Pilots come out in small boats and meet vessels just outside the entrance. Vessels rarely anchor, but if necessary wait off the entrance for the pilot.

Pilotage is compulsory.

There is a life saving station on the west side of the Marina, near the signal called "Smoke", but no particular care seemed to be given to it. At the time of this survey the whole front ^{of the station} was blockaded by a large pile of bricks.

In 1899, the only tow boat at San Juan was a small one belonging to the public Harbor Works.

The anchorages are under the supervision of the captain of the Port.

There is a quarantine officer who boards all vessels as soon as they reach the inner harbor and usually before they anchor. If necessary, they are sent to the quarantine anchorage but ordi-

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rarily the quarantine restrictions do not seem to be very severe. Ship chandler's stores and water can be obtained at prices from 10 to 50% in advance of those ruling in the United States.

St. Thomas is the nearest place at which any extensive repairs to vessels or machinery can be made and the facilities at that place are very poor, except for work that can be done by the ship's company. The floating dry dock at St. Thomas is all right for vessels of moderate size, say up to 2000 or 2500 tons, but materials and workmen are scarce and dear.

At San Juan there are no docks and only a very small marine railway, suitable for small sailing craft.

Vessels drawing from 20 to 24 feet can haul in close enough to the quay line to unload.

There is a military hospital at San Juan.

There is a signal station on the castle of San Cristóbal from which the approach of vessels is signaled to the town.

The "Red D" and "Porto Rico" lines of steamers ply between San Juan and New York. Steamers of the Hamburg-American, the French, and one or two Spanish lines also frequently call at San Juan.

There are railroads to Arecibo, on the west, and to Rio Piedras, southeast, of San Juan.

There is a steam ferry to Cataño, which is a straggling village on the south side of the harbor and is the terminus of the railroad to Bayamon and Arecibo.

There is a United States Custom House on the east side of the Marina, facing the landing place.

The U. S. Naval Station is situated on the eastern side of the Marina to the southward of the custom-house and landing place.

The prevailing winds are from the eastern quadrant and during the day generally blow pretty fresh. At night, the trade wind generally dies down and a light southerly breeze comes off the land.

Except for the very violent hurricanes which occur at irregular and, as a rule, long intervals, heavy northerly winds are the most troublesome, piling up a tremendous sea in the harbor mouth.

Wrecks are most likely to occur from getting out of the proper course, through lack of caution, and striking a coral reef. Owing to the close approach of deep water to the land the lead would be of little use in thick weather, which however rarely occurs. The changing color of the water always gives warning (in the day time) of being on soundings. At night, if soundings are obtained and the position is at all uncertain it is always safer to haul off shore.

M. C. Hodgkins
Chief of Party.