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1910
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3142

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Diag. Chart No. 901-2

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann

Superintendent.

State: P. R.

DESCRIPTIVE REPORT.

Hyd. *Hyd.* = Sheet No. 3142

LOCALITY:

Coast of P. R.

Moyaguez Bay and Guanajibo

Channel

1910

CHIEF OF PARTY:

N. H. Heck, Assistant

3142

3142

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HYDROGRAPHIC SHEET 10

COAST OF PORTO RICO

MANATEE BAY AND GUANAJIBO CHANNEL

AREA COVERED BY WIRE DRAG PARTY

January 17 - April 28, 1910

M. H. Heck, Assistant, Chief of Party
Geo. Olsen W. O. J. H. Hawley, Aid operating drag
L. W. Smith, T. L. Warner, in charge end launch

Scale 1/15000

3142
O. & G. SUTLEY,
LEADY AND INVESTIGATOR
MAY 1 1910
Approaches to

The work in this region comprised the dragging of Mayaguez Bay and Guanajibo Channel with the especial view of proving that the former and the latter were either free from obstruction or to find the dangers.

Mayaguez Bay and the Main Channel were proved to be practically as charted.

In the north approach to Mayaguez Bay was found that two shoals, a 19 foot shoal lying 550 meters NW (mag) from the center of Algarobo Reef and a 24 foot shoal 1650 meters in the same direction from the same point were found not to exist. A depth of 19 feet was found where the chart shows 21 feet lying 1420 meters NW 1/2 N from Algarobo reef. By properly marking this shoal a 27 foot channel is available between it and the shore. To the westward of this shoal it was found that the 18 foot curve was only 500 meters distant with a narrow 24 foot channel between. As the eastern channel is so much better vessels of more than 15 feet draft should not pass west of the 19 foot shoal mentioned. The channel described will probably be of importance in the future as one of the steamship companies proposes to build a wharf on the shore about one half way between Algarobo and Little Algarobo Point. The northern part of this channel is practically as charted.

*2475 - see April 2555 - same as 1910
Application filed 1910
From the above it shows that there is a
shoal here not shown on chart, 1910
1910 ft.*

Southwest channel between Rodriguez Bank and Machos Grandes. The principal shoals have been reported and published and I have recommended in a special report that this channel be abandoned.

From the investigation of this channel and an unsuccessful attempt to find a channel between the inner and outer Manchas it may be stated that The North Channel and the Main Channel into Mayaguez are the only ones and that only small vessels with local knowledge should cross the reefs at any other points as the probable depths ~~on~~ coral heads ranges from 2 to 6 or perhaps an even greater ~~amount~~ ^{number of feet} less than charted. The entire length of the reef abounds in pinnacles and coral heads some of unusual shapes. It would be nearly impossible and

practically useless to examine the reef further.

The sheet shows the position of the New Reform School on Guanajibo Point which is a two story concrete steel building, and is a very prominent landmark from the North and directions between North and Northwest and South and Southwest. Between Northwest and Southwest it shows against the hill and is not so prominent.

Guanajibo Channel.

This channel in its northern part and as far south as buoy number the deep basin lying south of Buoy number 4 was found to be a difficult piece of work and this accounts for the number of lines shown on the sheet which in some cases covered very small areas missed. The principal shoals found have already been reported and published in the Weekly Notice to Mariners. As a result of this examination it may be stated that the only safe channel is that between the 15 and 13 foot shoal previously reported (letter 997, part 1 W.N. to M. April 8). This is sufficient for the maximum depth taken through this channel, 15 feet in good weather, when there is no northerly swell. Elsewhere on the reef while greater depths were found there was no passage with a suitable direction and with proper width to insure safety. This channel should be marked and all other passages avoided. Between Red buoys 6 & 8 a number of 16 foot shoals were found but these are of no importance to navigation.

About 5/8 of the basin west of Joyuda was dragged to depths greater than 30 feet. Three shoals were found, none of importance to navigation. It should be noted that one of these a 33 foot shoal was found where 10 fathoms was charted, and was a very small pinnacle. This is of no local importance but indicates that the same situation may and undoubtedly does exist in other more important Porto Rico Channels.

For that part of the sheet lying south of Mayaguez Bay a new system of plot-

ting was tried with a view to showing the effective depths obtained to the nearest half foot. The adoption of the gridiron system of plotting renders it no longer necessary to distinguish adjoining lines by color. In the system used all lines having a depth between even fathoms have the same color and a small figure is placed on the cross bars of the gridirons at suitable intervals such as every fifth position or whenever the depth is changed. Thus the same colors are used for the fathoms as given for plotting curves in the General Instructions for Field Work, except that 2 fathoms is brown and 1 fathom, dotted green lines to avoid repeating colors. Thus brown, 4 1/2 is 16 1/2 feet, blue 3 is 21, red 5 is 35, etc. The great advantage is that the sheet furnishes a record of the depths obtained and in examining in the office it can be seen at a glance at what depth of drag a shoal was found and what depth was afterwards taken over it. It may be stated that this is an advance over previous methods.

In regard to methods used those of the previous season were continued and proved satisfactory except that no power tender was available and the changing of depth while under way was impracticable. As a result less depths were used in some cases than desired and time was lost unavoidably. A large number of the smaller areas missed are accounted for by the insufficient power of one of the launches used (the only one available) which at times caused her to fall behind the other making the maneuvering so as to avoid missing area very much more difficult. The light draft of the guiding launch which is built for running in the very shoal water near the wharf at Mayaguez made it necessary to use courses varying from those of the drag more than usual and in the absence of natural ranges was responsible for missing some area. These are mentioned as indicating some of the causes which interfere with work which do not exist in hydrographic work with the lead line.

| DATE | LET | Vol. | ANGLES | MILES | DRAG LENGTH | SCOUNDINGS | ANGLES |
|-----------------|------|------|--------|-------|-------------|------------|--------|
| 1910 | TIER | | | | | | |
| Jan | 17 | a | 1 | 12 | 0.6 | 800 | 0 |
| | 18 | b | 1 | 80 | 5.0 | 800 | 0 |
| | 19 | c | 1 | 54 | 2.7 | 900x | 1 |
| | 20 | d | 1 | 24 | 1.0 | 900 | 0 |
| | 24 | e | 1 | 372 | 7.2 | 1000 | 0 |
| | 25 | f | 1 | 180 | 4.0 | 1000 | 0 |
| | 27 | g | 2 | 84 | 1.5 | 1000 | 0 |
| | 28 | h | 2 | 22 | 0.8 | 1000 | 0 |
| | 29 | j | 2 | 34 | 2.0 | 1000 | 0 |
| Feb | 8 | k | 2 | 150 | 2.5 | 1050 | 3 |
| | 9 | l | 2 | 114 | 1.8 | 1050 | 1 |
| | 10 | m | 2 | 138 | 3.0 | 1050 | 1 |
| | 11 | n | 2 | 160 | 1.0 | 1050 | 0 |
| | 12 | o | 2 | 144 | 3.2 | 1050 | 1 |
| | 14 | p | 3 | 264 | 4.7 | 1050 | 2 |
| | 15 | q | 3 | 182 | 4.0 | 1050 | 0 |
| | 17 | r | 3 | 66 | 0.8 | 1050 | 2 |
| | 18 | s | 3 | 192 | 3.2 | 750 | 1 |
| | 21 | t | 3 | 300x | 5.2 | 750 & 1050 | 2 |
| | 23 | u | 4 | 356 | 6.8 | 750 | 0 |
| | 25 | v | 4 | 210 | 4.0 | 750 | 7 |
| | 26 | w | 4 | 132 | 2.3 | 750 | 1 |
| Mar | 1 | x | 4 | 14 | 0.2 | 750 | 2 |
| | 2 | y | 4 | 62 | 1.0 | 750 | 13 |
| | 3 | z | 4 | 216 | 3.8 | 750 | 2 |
| | 4 | a' | 5 | 192 | 4.0 | 750 | 4 |
| | 5 | b' | 5 | 110 | 1.2 | 750 | 3 |
| | 7 | c' | 5 | 56 | 0.8 | 750 | 1 |
| | 9 | d' | 5 | 426 | 7.0 | 750 | 0 |
| | 10 | e' | 5 | 145 | 3.3 | 1050 | 4 |
| | 11 | f' | 5 | 181 | 3.5 | 1050 | 2 |
| | 12 | g' | 6 | 100 | 1.8 | 1050 | 1 |
| | 14 | h' | 6 | 310 | 6.0 | 1050 | 1 |
| | 15 | j' | 6 | 174 | 3.0 | 1050 | 5 |
| | 16 | k' | 6 | 136 | 3.0 | 1050 | 0 |
| | 17 | l' | 6 | 58 | 1.0 | 1050 | 0 |
| | 18 | m' | 6 | 200 | 4.0 | 1050 | 2 |
| | 19 | n' | 7 | 250 | 4.7 | 1050 | 2 |
| | 21 | o' | 7 | 261 | 4.5 | 1050 | 1 |
| | 22 | p' | 7 | 89 | 2.0 | 1050 | 3 |
| | 23 | q' | 7 | 356 | 4.0 | 1050 | 4 |
| | 24 | r' | 7 | 210 | 5.5 | 1050 | 5 |
| | 25 | s' | 8 | 126 | 2.0 | 300 | 6 |
| | 26 | t' | 8 | 228 | 4.5 | 450 & 750 | 1 |
| | 28 | u' | 8 | 300 | 6.2 | 750 | 1 |
| | 30 | v' | 8 | 74 | 1.5 | 750 | 0 |
| | 31 | w' | 8 | 42 | 1.0 | 750 | 0 |
| Carried forward | | | | | | 83 | 177 |

Carried forward

7376 162.2

DATE 1910
 SOUNDS ANGLES
 DRAG LENGTH

| NO. | LETTER | STATION | DEPTH | DRAG LENGTH | SOUNDINGS | ANGLES |
|-----|------------|-----------|-------|-------------|-----------|--------|
| | Brought | 10 | 7376 | 22.2 | 83 | 177 |
| 1 | x | 8 | 168 | 2.0 | 0 | 0 |
| 4 | y | 9 | 160 | 4.3 | 1 | 2 |
| 5 | z | 9 | 168 | 4.2 | 1 | 2 |
| 7 | a | 9 | 168 | 3.2 | 1 | 2 |
| 8 | b | 9 | 210 | 4.0 | 0 | 0 |
| 9 | c | 9 | 186 | 3.8 | 0 | 0 |
| 11 | d | 9&10 | 260 | 4.0 | 1 | 2 |
| 12 | e | 10 | 186 | 5.2 | 1 | 2 |
| 13 | f | 10 | 132 | 2.5 | 0 | 0 |
| 14 | g | 10 | 121 | 2.3 | 1 | 0 |
| 15 | h | 10 | 126 | 2.5 | 5 | 10 |
| 16 | j | 10 | 63 | 1.2 | 0 | 0 |
| 18 | k | 10 | 156 | 2.0 | 3 | 6 |
| 19 | l | 11 | 138 | 2.0 | 6 | 12 |
| 21 | m | 11 | 120 | 2.0 | 0 | 0 |
| 22 | n | 11 | 126 | 2.5 | 0 | 0 |
| 23 | o | 11 | 132 | 2.5 | 1 | 2 |
| 25 | p | 11 | 122 | 4.0 | 0 | 0 |
| 26 | Q | 11 | 81 | 20 | 1 | 2 |
| 27 | r | 11 | 150 | 2.5 | 0 | 0 |
| 28 | reg'd area | 1/28 area | 750 | 750 | 0 | 0 |
| | | | 10317 | 222.9 | 105 | 219 |
| | | | 29? | | | |

3142

TOTALS

Number of Angles 10509
 Miles 222.9
 Soundings 105

Area Covered 14.5 sq. miles

All soundings reduced to and plotted in feet above Mean low water

Tide Gauge Mayaguez Custom House Wharf
 Plane of reference Mean Low water = 3.2 feet on Gauge

3142

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PLANE TABLE POSITIONS.

| Sta. | Lat. | D. M. | Long. | D. P. | Remarks |
|-------|--------|-------|--------|-------|--|
| Ask | 18°16' | 208 | 67°11' | 447 | Hyd. sig. at mouth of Anasco River. |
| Quill | 18°15' | 465 | 67°10' | 1161 | Hyd. sig. at mouth of Boquillo River. |
| Al | 18°13' | 1425 | 67°10' | 711 | Hyd. sig. on Algorrobo Point. |
| Tank | 18°13' | 476 | 67°09' | 1122 | Large black molasses tank on shore. |
| Guan | 18°09' | 1827 | 67°10' | 1713 | S.W. cor. of highest part of Guanajibo Reform School |
| Pin | 18°07' | 225 | 67°11' | 573 | Hyd. sig. on extreme western end of Pinero Island. |

Ask is no longer in existence. Quill, Al, and Pin may be recovered if used before signals are destroyed.

Hyd Sheet No 3142

June 2 1910

The descriptive report states that the charted
19 foot spot 550 meters (1800 fms) from Algarbo
Reef was found not to exist.

As the original sheet #2555, from which the
spot was charted, gives as the depth 19 1/2 feet
and the sea has been dragged to an off depth of only
18.8 feet it does not appear that the depth as charted
is not correct.

The soundings & positions on this sheet were
verified and found correct.

H. S. Simeon