

281-bis

Div. Ckt. No. 1251-1 & 1252-1

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

....., Director

State: Florida

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic

Sheet No. 281

Additional Work 1896

LOCALITY

Key West Harbor and

Approaches

Location of Rock 1896

~~1850-1851~~ ~~1886-1889~~ 1896
1903

CHIEF OF PARTY
John Rodgers - 1851
R. G. Peck - 1896

GOVERNMENT PRINTING OFFICE

281

Entrance to Key West
Channel of Rocks

Write me at: Tampa, Fla.

Telegraph me at: _____

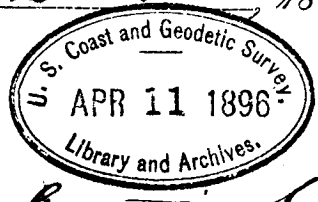
My Express Office is: _____

U. S. Coast and Geodetic Survey

Star "Back",
Tampa, Fla.,

March 31 1896.

2-647



Gen. W. W. Duffield,
Superintendent U. S. Coast and Geodetic Survey,
Washington, D. C.

Sir:—

I have the honor to submit the following Descriptive Report with reference to the search for, and locating of the rock outside the harbor of Key West on which the U. S. S. Raleigh struck on the 6th ultimo, and the re-locating of the East and West Triangles, Mississippi Shoal, West-ru Head and the light spot to the N. of the last mentioned danger. Special report was made on the day the Raleigh rock was found in order to place the office in possession of the information without delay. These further details accompany the plotted work and the records.

Projection.

For the execution of the work, there was sent

from the office a tracing from Hydrographic
 Sheet No. 281, on which were marked the positions
 of Sand Key and Key West lights, several of the
 outer beacons, and the two old Martello Towers
 on Key West island. The beacons were too distant
 for convenient use, but the Martello Towers and
 Key West Lt. gave a satisfactory combination of
 signals for all the work. It was found, however,
 that these points and Sand Key Lt. were dis-
 cordant with one another, and on investigation
 it appeared that the positions assigned on the
 tracing to the Martello Towers were considerably
 in error. New positions for the Towers were obtained
 in the following manner:— Key West Lt. No. was
 occupied with theodolite and the direction of
 each tower from this point was determined
 by the angle from Sand Key Lt. to tower. The dis-
 tance of each tower from Key West Lt. was ob-
 tained from a blue print of the triangulation

mark established by the city engineer of Key West from three months observations of tides. This B.M. consists of a spike driven into middle of street at intersection of Caroline and Sumner streets, and is 5 ft. 4 in. above M.S.W. It is 8.95 ft above the zero of Back's gauge on which M.S.W. reads 3.62 ft. The plane of reference thus obtained was checked by six days continuous observations of tides during the Back's stay.

Descriptions of two tide gauges and bench marks near Key West were sent from the office; one by the party of Lieut. Brownson in 1882, and the other by the party of Lieut. John Rodgers in 1851-52. The B.M. of Lieut. Brownson at Fort Taylor could not be recovered. No reliable mark could be found, and on leveling from tide gauge set up near fort to top side of granite block at entrance, corresponding with position of mark ("X") in description, the result was so evidently in error (more

than one foot) as to lead to the conclusion that the point tested was not the one referred to in description.

The other description was not understood, but further search and investigation was intended.

The U. S. Engineers have a tidal bench mark in Key West, obtained by reference to the C. and G. Survey S. of it., consisting of "the top of N. end of eastern wall situated on E. side of street leading from Key West to Fort Taylor at a point near junction of said street with the long bridge leading over to the fort. This B.M. is 9.44 ft above M.S.W. It is learned that it had been investigated by the navigator of the *Suspectite*, but found indefinite and unreliable owing to some additional construction on the eastern wall.

Naligh Rock. 15.9 ft.

The following angle and distance accurately locate the rock: - At Key West Lt., angle from Sand

Key Lt. to rock, $32^{\circ}47'$; distance from Key West Lt. to rock, 3495 metres. In my report from K. W. this distance was given as 3484 metres, having been taken from boat sheet. The more exact plotting on the smooth sheet of the position of the rock makes this slight change which is scarcely appreciable on the scale used.

Ranges.

The range of two reddish brown pointed Church Spires in Key West, belonging respectively to the Baptist colored, and the Methodist colored societies, leads about 150 metres to the wd of the rock, and being easily recognized is useful for clearing the danger. It should be noted that the pear spire is the taller and sharper of the two. When more than 800 metres to the wd of the rock, vessels of more than 15 ft draft should not go to the Ed of this range, nor to the Ed of the range of E. Triangle and Mississippi Shoal buoys.

This range is plotted on the sheet by the following angles:
 E. Martello Tower to Will Martello Tower
 Position of whale boat on range $22^{\circ} 48'$
 Key West Lt. $25^{\circ} 09'$
 At given position, Key West Lt. to range, $2^{\circ} 44'$ Depth 5 fms $4\frac{1}{2}$ ft.

Other ranges were noted which fixed the position, but being difficult of description would not be of service to a stranger. As it was supposed that the rock would be buoyed as soon as practicable, these ranges were carefully described to the master of the buoy tender, Laurel, much to his satisfaction, as the rock is of small extent and without the ranges would be difficult to recover.

Lines of Search for Raleigh Rock.

In addition to the lines of search shown on the sheet, a space of 35 metres on each side of the range of buoys 4 and 2 was dragged over for a distance of about a mile from the Triangle buoys, two boats being used and lead kept going as rapidly as possible. It was while returning to the N'd

for another trial of the drag, the leads still young, that the rock was discovered by the lead.

Shoal Spots in Main Ship Channel.

The five shoal spots in the main ship channel, indicated by the office, were re-located. While all the new positions appear to be somewhat different from those given on the tracing, this is especially the case with the new positions of Mississippi Shoal and the 16 ft. spot to the N. of Western Head, both of which are changed about 150 metres.

All the buoys seem to be well placed to mark these dangers, being close to them and on the channel side.

Very respectfully,

Robert S. Teak,

Lieutenant, U. S. Navy.
Commanding Tackle.

281^{bis}

Asst. in charge
H.R.O.
March 11, 04

HYDROGRAPHIC SHEET

Key West Harbor

S.E. Channel

Scale 1/10,000.

F. L. Young, 1903

U. S. C. & G. SURVEY
LIBRARY AND ARCHIVES
MAR 15 1904
Acc. No.

This sheet shows the location of the shoal struck by the U.S.S. "Montgomery" on March 3, while entering Key West Harbor through the S.E. Channel on the range line drawn through Key W. L.H. and Channel Buoy C. Angles taken at the time and plotted on chart # 469, combined with the fact that Key W.L.H. and Channel Buoy C were on range seemed to indicate that the shoal was not charted. When the angles at the shoal and at Channel Buoy C were plotted on a large projection it was evident that the shoal is the ~~the~~ 17' shoal to the Eastward and Southward of the range line shown on the chart and that Channel Buoy C has been moved or blown to the Eastward so that the range line of Key W.L.H. and this Buoy passes directly over this shoal, which range the "Endeavor" as well as the "Montgomery" was on when the shoal was discovered. Angles taken at the Channel Buoy C are given in the sounding record.

2 *2* *2* *2*
0 *.* *1* *1*