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Diag. Ch. No. 1251-1 & 1252-1

Form 504 U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE DESCRIPTIVE REPORT	
Type of Survey	<i>Hydrographic</i>
Field No.	<i>2682</i>
Office No.	<i>2683</i>
	<i>2684</i>
LOCALITY	
State	<i>Florida</i>
General locality	<i>Approaches</i>
Locality	<i>to Key West</i>
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CHIEF OF PARTY	
LIBRARY & ARCHIVES	
DATE	

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SHA
2682
1904

Treasury Department,
U. S. COAST AND GEODETIC SURVEY.

D. K. Tittmann,
Superintendent.

State: *Florida.*

DESCRIPTIVE REPORT.

Hyd. Sheet No. {
2682
2683
2684

LOCALITY:

1904

CHIEF OF PARTY:

W. C. Parker, Asst.

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SEP 10 1904

Acc. No. 2682

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Diag. Cht. No. 1251-1 & 1252-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tussman
Superintendent.

State: *Fla*

DESCRIPTIVE REPORT.

Bydc Sheet No. *2683*

LOCALITY:

See

2682

1904

CHIEF OF PARTY:

W. E. Parker

2684

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Diagram No. 1252-1

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2684

Department of Commerce and Labor

COAST AND GEODETIC SURVEY

O. H. Tussman
Superintendent.

State: *Fla*

DESCRIPTIVE REPORT.

Hyde Sheet No. *2684*

LOCALITY:

See also

2682

1904

CHIEF OF PARTY:

W. E. Parker

W.T.B. Co.
L. V. A.
Post-Office Address:

Telegraph Address:

Express Office COAST AND
GEODETTIC SURVEYU. S. C. & G. SURVEY.
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U. S. COAST AND GEODETIC SURVEY,

Washington D. C.

Sept. 9, 1904

FILE:
REFERRED:

ASSISTANT IN CHARGE

To the Superintendent,
U. S. Coastal Geodetic Survey,
Washington D. C.

Sir:-

I have the honor to make the following descriptive report to accompany hydrographic sheets Nos 2682, 2683 and 2684, approaches to Key West, Fla.

The work on sheet No 2682 consists of special developments with the drag in Key West Harbor and soundings without the drag taken along the West Channel sailing course from Key West to longitude $81^{\circ}53'$

At nine points in the harbor depths less than those shown on chart No. 469 had been reported. These spots were carefully developed by the ship and whariboat and in all cases the drag, set at more than the reported depths, was run over the patches. These sound-

ings agree well with the depths given on chart No. 469 and fail to indicate any such shoals as had been reported.

The chart however was found to be in error on the eastern side of the channel south of the first pier. Here the bottom has apparently been scoured leaving nearly twice the depths shown by the last survey. There is a good anchorage here for vessels of less than ten feet draft.

Lines of soundings about 100 meters apart without the drag, were run from opposite Fort Taylor to a point about opposite Beacon No. 3 along the course laid down on the chart for entering Key West by the West Channel. The object of this work was to determine the limits of the area and at what depth the drag could be set when sweeping out this part of the channel.

Sheet No. 2683 extends from longitude $81^{\circ} 53'$ to a point a little west of longitude $81^{\circ} 56'$ and from a little south of latitude $24^{\circ} 29'$ to latitude $24^{\circ} 30'$ and lays mostly in the West Channel. The lines were run at intervals of about 40 meters in a east

and west directions and crossed at right angles by lines at the same interval. Thirteen of the east and west lines had been run the season before.

The northern half of this area is free from rocks and shoals and has a uniform depth of from six to seven fathoms. The bottom for the most part is hard but in places it is soft and sticky.

Along the lower half of the area the bottom is rocky and very uneven. The southern side of the sheet ends at Passage Shoal and the Middle Ground, but there are numerous isolated coral heads projecting up through the deep water north of these shoals.

Between the shoals there is a depth of six fathoms, and through this cut the South-west Channel passes. The whole southern portion of the area covered by this sheet is foul. The least depth found on any of the isolated rocks is 17 feet on a rock in the South-west Channel. Several rocks at depths of 19 feet or more were found north of Passage Shoal where the chart shows six fathoms. These rocks are all of coral

formation, not over fifty feet in diameter, and sand rise abruptly from the bottom. Some are not ten feet across at the top.

Sheet No. 2684 extends from longitude $81^{\circ}53'$ nearly to longitude $82^{\circ}00'$ and from a little south of latitude $24^{\circ}27'$ to latitude $24^{\circ}30'$; but the work on this sheet does not duplicate the work on sheet 2683 except for a narrow strip along the South-west Channel and there the soundings are run in a different direction from the lines on that sheet. There are two independent surveys on this sheet. One is a resurvey of the South-west Channel to develop more closely the rocks located the season before and to discover if possible any rocks-missed in that survey. The other part of the work consists of an examination of the area west of this channel and the survey of a channel across this area.

Lines of soundings, with the drag set at 30 feet, were run at intervals of 30 meters parallel to the sailing course of the South-west Channel over an area about one quarter of a mile wide extending from the Middle

Ground to Jaton Shoal. At red buoy No. 4 the hydrography was extended to the eastward to include the shoal marked by this buoy. All this work was crossed whenever it was possible by lines of the same interval.

Whenever the depths were known to be less than 30 feet the drag was set at the least known depth and careful developments were made. Only two ^{new} rocks with depths of 28 and 29 feet were found; but on several of the known rocks depths were found less than had been noted in the previous survey.

The whole area west of this channel was rounded over in order to show if possible a deeper and safer channel than the one now in use. The lines were run parallel to the south-west channel at intervals of about 100 meters, and no pains were taken to get soundings more accurate than to the nearest foot or two. After fixing the limits of the best channel lines of soundings, with drag set at 31 feet, were run at intervals of 30 meters parallel to the axis of the channel. The sweep bar struck frequently but rarely with sufficient force to detach the bar.

In most cases the drag lifted a foot and passed over the obstruction or else one guy line broke letting the upright swing back and thus allowing the bar to pass over.

Whenever the bar stuck the work was - ceased with the bar set at 29 feet; and in every case the bar cleared the rock. A careful development without the drag, was made of the reefs on both sides of the sea entrance of the channel.

The least depth found in the channel was - 29 feet on a rocky patch in mid channel near the sea entrance. This patch was carefully developed with and without the drag but no less depth could be found. The spot can be avoided easily if properly marked with a buoy.

At the sea entrance there is a rocky shoal of 21 feet depth on the east side and another of 25 feet depth on the west side. After passing these shoals the channel widens and deepens to a least depth of six fathoms. About one mile from these shoals there are several rocks of extremely small area rising abruptly from a depth of six or seven fathoms. They all lay west of the channel course

and have a least depth of over 29 feet on them. On the east side of the Channel 3/4 of a mile west of black buoy No. 3 there is a patch of foul ground that should be avoided. Depths of 26 feet have been found here near the edge of the channel with less depths farther east.

The direction of this channel is N. by E. & E. (true) and the center line projected northward falls about 120 meters to the westward of the mid-channel buoy in the West Channel.

All the channels to Key West are used to a greater or less extent, and are all well buoyed; but the North-west and Main Ship Channels are by far the most important.

The North-west Channel is used only by ships of light draft, but it is well buoyed and lighted, the depth over the bar is only about eleven feet.

The Main Ship Channel is used almost exclusively by deep draft vessels. There are numerous rocks on each side of this channel; but they are well marked by buoys.

and a beacon, and a set of range lights and day marks - fix the center course.

The South-west Channel is not safe for vessels drawing over 18 feet and it is doubtful if this draft can be carried with entire safety. The buoys must be followed with great care at all times. The sailing course is marked at night by the southern edge of the red sector of Key West Light; but the line of demarcation between red and white light at the outer danger point (nine miles from Key West) is not sharp enough to insure a vessel keeping clear of this danger.

The West Channel should be used only during day light.

Flood and ebb tide currents set generally across all the southern channels with a force of about half a knot; but the direction of the currents vary in different parts of the channels - and are influenced to a considerable extent by the contiguous shoals. Neither the direction nor the strength of these currents can be allowed for with any reasonable certainty. Dr. Key West Barber

the ebb current runs - at times with a velocity of two knots. Both currents set along the face of the wharves:-

The usual anchorage for deep draft vessels is south of Fort Taylor on the west side of the Channel in 28 feet of water. The holding ground here is good but there is some danger of losing the anchor by fouling in the rocky bottom. The smaller government vessels - use the ~~government~~ ^{Navy} moorings in Man of War Harbor to some extent. Vessels anchoring off the Lazaretto should keep well south of buoy No. 15, as the Tampa boats round sharply on either side of this buoy. Vessels under 10 feet draft will find a good anchorage close in to the Lazaretto on the east side of the channel. Vessels lying here will swing to the westward with the turn of both tides unless prevented by strong westerly winds.

The Peninsular and Occidental Steamship Line operates several boats a week between Key West and Tampa, Miami, and Havana Cuba. The Mallory

Line boat between New York and Galveston stops weekly here. A large fleet of small schooners-trade between this port and the Bahama Islands-and the other keys-of the Florida group.

The principal industries of Key West are cigar making, sponge fishing and wrecking.

The Navy Department has two coaling plants with modern appliances for handling coal rapidly, an evaporating and distilling plant with cisterns for fresh water, a machine shop and foundry.

The Army has modern guns mounted on old Fort Taylor and in new batteries on the island, and is constructing ^{more} new batteries. Several companies of coast artillery are stationed on the island with barracks on the north side of the island.

The Post Office and Custom House, Weather Bureau, and Marine Hospital buildings are all on the west side of the city overlooking the harbor.

The Light House Establishment has a wharf and buoy shed near the Navy

plant, and offices in the Post Office.
Key West is connected by cable with
the main land and with Cuba. Chronometer
can be compared every noon, at the telegraph
office, with Washington time.

The Navy has wireless-telegraph stations
here and at Dry Tortugas.

Mails are received and delivered from
the north and from Cuba six times a
week.

Storm signals are displayed from
the top of the Weather Station. A branch
Weather Observatory at Sand Key is
connected with the station at Key West
by cable, and the arrival of vessels -
is reported here from Sand Key.

There are several pilot boats, all small
sailing crafts, stationed here; and a pilot
can be called by signalling to Sand
Key. Strangers are advised not to attempt
to enter without taking a pilot.

Quarantine regulations are strictly
enforced. Vessels from foreign ports
must be boarded by a Marine Hospital
Official before they can pass - the

Lazaretto.

There is one tow boat here belonging to a private concern; no fixed rates for towing.

The harbor regulations appear to be very lax.

Government vessels are furnished with coal and fresh water by requisition on the Commandant of the Naval Station.

A small supply of coal and fresh water is available for merchant ships - but the price of both is unusually high.

Wm Curtis's sons own two main rail ways - and have facilities for hauling out and repairing small vessels. They also operate an ice plant and run a general store where they carry a fair line of ship chandlers' stores and supplies.

During the winter months strong northerly and north easterly winds prevail over this section; the winds are generally local. After the first of April the winds are light and variable. Hurricanes may be expected after the first of August. Fog is unusual at any time during the year.

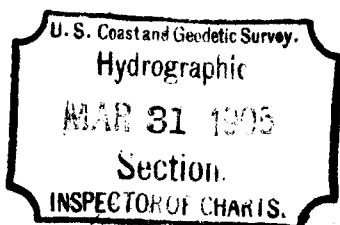
A line of coral reefs skirt the south and southeast sides of this whole chain of keys; and although well lighted, they are dangerous to navigation. Wrecks - frequently occur along these reefs.

Respectfully
W. G. Parker
Asst. Comdr. U.S.N.

Report
ON
Hydrographic Sheet
No. 2682,
Key West Harbor,
and Southwest Approaches,
Fla.
Ald Parker.
1904.

The work on this sheet seems to be all right and when taken in connection with Sheet No. 2671 the ground, for the single system of lines seems to be sufficiently covered.

F.G.Donn. (Signed).



Report
on
Hydrographic Sheet

No. 2683.

Approaches to Key West,
West Channel,
Fla.
Assistant Parker,
1904.

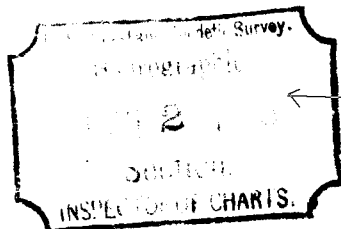
The ground seems to be well covered. The drag was used 32 days out of a total of 41 days. There is one sounding of 36 at the West end of work that was not developed and one sounding of 34-1/2 at near the upper edge of the sheet about midway between east and west limits that is doubtful transferred from sheet 2648.

F. G. Donn. (Signed).

REPORT.
on
Hydrographic Sheet
No. 2684.
Approaches to Key West,
Southwest and New Channels,
Florida.
Aid Parker,
1904.

The ground seems to be well covered and dragged. All indicated shoals will be found on the Sheets 2643 and 2649, 1-5,000. The curves on this sheet were combined with the curves on Sheets 2643 and 2649 without any especial difficulty. The different depths of drag setting are indicated by a dash underlining the position number. The 17 ft. spot lat. $24^{\circ}29'30''$, long. $81^{\circ}54'$ (approx) was doubtful at first and is made more doubtful by this sheet 2684 and Sheet 2683. To keep the sounding clear the curves inside of the 36 ft. were, as a rule, not drawn on this sheet, but will be found on Sheets 2643 and 2649.

F. C. Donn. (Signed).



U.S. Coast and Geodetic Survey
Hydrographic
MAY 2 1905
Section

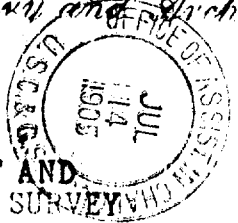
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2684



COAST AND GEODETIC SURVEY

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1905

U. S. C. & G. SURVEY,
LIBRARY AND ARCHIVES,
JUL 15 1905
Acc. No.

FILE: **Treasury Department,**
REFERRED. S. COAST AND GEODETIC SURVEY.

O. H. Tittmann

Superintendent.

State: Florida

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 2684 Bis.

LOCALITY:

Approaches

to

Key West Harbor

1905

CHIEF OF PARTY:

P.A. Welker, Ass't, C. & G.S.

2684

POST-OFFICE ADDRESS: General Delivery, P. O., Baltimore, Md.

TELEGRAPH ADDRESS: Foot of Chesapeake Street.

EXPRESS OFFICE:

Department of Commerce and Labor
COAST AND GEODETIC SURVEY Str. "Bache",
Baltimore, Maryland,
July 11th, 1905.

Mr. O. H. Tittmann,
Superintendent, Coast and Geodetic Survey,
Washington, D. C.

ACKNOWLEDGED

JUL 16 1905

C. & G. SURVEY ARCHIVES

S i r :-

In obedience to Instructions and Memoranda for Descriptive Reports, 1887, I have the honor to submit the following report on Hydrographic Sheet No. "2684 bis."

2. The work consists of an extension to a depth of 10 fathoms of the surveys at the mouth of the new channel, between Satan and Vestal Shoals, as developed by Assistant Parker in 1904.

3. The drag set to a depth of 5 fathoms was used for this work.

4. As the work is supplemental to the work of 1904, which has already been reported upon, no further descriptive report is considered necessary.

Very respectfully,

P. A. Walker

Assistant, C. & G. Survey,
Commanding.