2933 2933a

Diag. Cht. No. 1251-2 & 1252-2

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., *Director*

State: Florida

DESCRIPTIVE REPORT

~~*Topographic*~~ *Hydrographic* } *Sheet No.* **2933**

LOCALITY

Key West Harbor and

Northwest Channel

~~1908~~ 1908

additions 1909, 1913, 1914, 1915

CHIEF OF PARTY

N.H. Heck

GOVERNMENT PRINTING OFFICE

2933 2933a

2933

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State: Florida

DESCRIPTIVE REPORT.

Hyd. Sheet No. 2933

LOCALITY:

Key West
Harbor

1908

CHIEF OF PARTY:

N. H. Heck

DESCRIPTIVE REPORT
Hyd. Sheet "A"
Key West Harbor, Fla.

2933

The work within the limits of this sheet was done when weather conditions would not permit of work outside. The depth dragged to is fixed by the depth appearing on the chart the object being to determine the existence of obstructions of less depth than charted.

This work was not completed as the amount of weather suitable f for this work was limited since work was carried on outside whenever possible.

The survey resulted in finding several cases where the depth was slightly less than charted. One 23 foot uncharted shoal was found in the channel off the nortern end of the dock line. Several anchors were picked up with the drag brought to the surface and taken out of the channel. One of these weighed 600 lbs., a curiousexample of the u uses to which the drag may be put.

STATISTICS FOR SHEET "A"

Key West Harbor, 1908

Date	day	vol	Launch #1 angles	Launch #1 sound'gs	Launch #2 angles	Launch #2 sound'gs	miles
Mar 20	A	1	76	2	74	0	2 1/2
" 26	B	1	14	1	14	0	1/4
			Launch #3		Launch # 4		
" 30	C	1	44	1	32	0	3/4
April 15	D	1	32	3	24	0	3/4
16	E	1	30	1	24	0	1/2
May 14	F	1	5	1			
			Special hydrography (with leadline)				
Feb 14	A	1	44	99			1 3/4
	Totals		245	108	168		6 1/2
	Total angles		413				
	" soundings		108				
	" miles		6 1/2				

2933

PROJECTION No. A

KEY WEST HARBOR

Scale 1/15,000

Surveyed with wire drag

March to May 1908

N.H. Heck, Chief of Party

Tide station, Key West L.H.E. Wharf

Verified and inked by H.L. Simons

V.E.C.
June 16,1908.

HYDROGRAPHIC SHEET NO.2933.

Key West Harbor, Florida, by Assistant N. H. Heck, in 1908.

TIDES.

	Key West, Light House Establishment
	ft.
Mean low water, or plane of refernce on staff	2.1
Lowest tide observed " "	0.8
Highest " " " "	5.5
Mean rise and fall of tides	1.2

Hyd. Sheet No 2933 June 24 '09

At several places on this sheet, where the drag struck, it will be noticed that the off depths of the drag is less than the depths found with the lead. There are also several places where the drag touched and no examination was made. In such cases the records should show why an examination was not necessary.

K L Simons

2933

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State: Fla.

DESCRIPTIVE REPORT.

Hyd. *Sheet No.* 2933

LOCALITY:

Coast of Florida

Key West Harbor and Northwest Channel.

1909

CHIEF OF PARTY:

N.H. Heck, Assistant

Sheet 2933

Work continued from previous season

Chief of Party N. H. Heck. Assistant

Officers operating drags Geo. Olsen , W.O. C. H. Swick, Aid

Jan. 9 - May 12, 1909

Scale 1/15000

HYDROGRAPHIC SHEET 2933

DESCRIPTIVE REPORT Season 1909

Work was continued from that of the previous season to the head of the Man of War Harbor, and to the 18 foot curve on the western side of the harbor. A portion of the Nortwest Channel was also dragged. The work was very slow, partly on account of the large number of obstructions, which however could be found in no other way and partly on account of the strong tides and the fact that only bad weather could be used for this work. The result of the work was a much more thorough knowledge of the depths in Key west Harbor. A number of anchors and similar obstructions were found.

Ten obstructions probably anchors were located. One anchor was taken up and removed. Another was dragged along the bottom but evidently caught in a rock and could not be lifted. These obstructions are shown on the sheet by a sounding taken at the point with the abbreviation "obs". Owing to their nature a sounding could not be taken on top of them so that at these points the depth should be considered 2-3 feet less. They are readily ditinguished from shoals from the fact that the drag swings around them till the two parts make a very sharp angle., while there is no indication of rocky bottom. The positions are sufficiently close to enable a diver to readily find them, when it becomes desirable to remove them.

The most important shoals found were two 16 foot shoals one of which has been reported and published in the Notice to Mariners, both lying on the western side of the harbor opposite the docks. The other lies 0.3 mile NWxN from signal "Post" It should be noted that the Middle Ground extends further to the southward than charted, and that opposite its lower end on the east side of the channel a 22 ft. shoal was found. This decreases the effective width of the channel for the deep draft vessels now using it materially.

In the part of the Northwest Channel examined the bottom was found to be very irregular and in many cases differing from the charted depths. The most important finds were a 16and 17 ft. shoal lying in mid channel 0.7 mile NW of signal "Bar"

Hydrographic Sheet 2933

Statistics for season of 1909

DRAG 1

Date 1909	letter	Vol.	Launch 1 Angles	Launch 1 soundings	Launch 2 Angles	Miles	Remarks
Jan. 15	a	1	56	4	54	2.1	
" 16	b	1	84	7	74	3.0	
" 19	c	1	32	1	52	2.0	
" 25	d	1	76	4	82	3.0	
Feb. 3	e	1	44	1	50	2.5	
" 4	f	1	136	2	144	7.0	
" 16	g	2	100	5	88	5.0	
March 5	h	2	64	5	54	3.0	
" 6	j	2	26	4	24	1.0	
" 20	k	2	6	1	4	0.1	
" 22	l	2	36	2	30	1.5	
" 27	m	2	108	5	86	5.0	
April 15	n	2&3	306	2		5.4	Planigraphic system
" 16	o	3	120	1		1.2	" "
			1206	44	742	41.8	
			742				
Total			1948	44		41.8	

DRAG 2

			Launch 1		2		
Jan. 9	a	1	190	1	144	9.7	
" 13	b	1	36	4	28	1.1	
" 15	c	1	82	4	60	3.1	
" 16	d	1	142	5	118	6.0	
" 19	e	1	24	2	32	0.5	
" 22	f	1&2	68	2	66	2.8	
" 25	g	2	86	7	86	3.8	
Feb. 4	h	2	102	4	90	3.2	
" 13	j	2	4	2	2	0.1	
March 22	k	2	18	0	18	1.0	
" 27	l	2	90	5	102	4.0	
" 29	m	2	10	2	14	0.5	
April 15	n	2	132	5		2.1	Planigraphic system
" 16	o	2	30	2		0.3	
May 12	p	3	270	1		3.1	
			1284	46	758	41.3	
			758				
Totals			2042	46		41.3	
Launch 2			1948	44		41.8	
Totals for sheet			4090	90		83.1	
Angles in Sdg. record 1			131				
" " " " 2			110				

Total angles	4331
" soundings	90
" miles of line	83.1
" square miles	4.6

2933

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State. Fla.

DESCRIPTIVE REPORT.

Hyd. *Sheet No.* 2933

LOCALITY:

Florida Keys

Key West Harbor and Northwest Channel

1913

CHIEF OF PARTY:

N. H. Heck

11—4645

2933

DESCRIPTIVE REPORT HYD. SHEET NO. 2933

The work on this sheet is not considered completed-in fact the complete development to determine to what depth might be safely taken in view of possible future improvements of the channel would require a long time. The channel is very irregular and narrow in places and the tidal currents are strong probably as high as 3 knots at times. With the exception of one day all of the work was done under the most unfavorable conditions in which work can be done.

1. For the purposes of description the area covered on this sheet is divided into two parts, 1/ Key West Harbor including all are south of parallel 24 34 2. Northwest Passage to include the channel to the beginning of the channel improved by the U.S. Engineers.

1. No- The most important discovery was the finding of a number of 15 foot shoals on the westerly side of the southern extension of the Middle Ground. This narrows the approach to the Northwest Channel from the south and also affects vessel leaving Key West Harbor by the Northwest Channel and passing southward of buoys C 13 and C 15.

A charted depth of 15 feet which was apparently deduced from previous wire drag work was dragged over to a depth of 17 feet but the drag scraped the bottom, indicating that there is probably not less than 16 ft. One third of a mile SE of Middle Ground Bn. 11 ft was found where 19 to 23 ft. was formerly charted.

2/ To the westward of buoy C 13 and about 1/4 mile SxE from this (where the chart showed 16 ft.) 15 ft shoals

were found. These form part of a contin ous ridge(charted) 3/4 mile long parallel to the channel, the depth varying from 15 to 19 ft.. The previous general depths were 19 to 22 ft.

It is evident from the finding of these shoals that navigation of this channel with drafts greater than 15 ft/ is dangerous and should not be recommended at least until the channel is better buoyed.

The draftsman inspecting this sheet should refer to Descritive Report for sheet no. 2932 for discussion of method of plotting depths and statement as to accuracy of the depths.

Corrections

Note depths of 23 & 24 ft. in Key West Harbor on west side of channel north of Whitehead Spit.

Note that F.E.C.R.R. Co's wharf has been located on this sheet. This was done after a report was received that it was recently charted.

VEC
May 16, 1913

HYDROGRAPHIC SHEET 2933.

Approaches to Key West, Florida, by Assistant N. H. Heck in 1913.

TIDES.

	Key West ft.
Mean low water, or plane of reference on staff	4.1
Lowest tide observed " "	2.8
Highest " " " "	7.5
Mean range of tide	1.2

2933

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittman
Superintendent.

State: FLORIDA.

DESCRIPTIVE REPORT.

2933

Hyd. *Sheet No.* 2933.

LOCALITY:

Key West Harbor
&
Northwest Channel

Wire Drag Survey Continued from 1913

191 4.

CHIEF OF PARTY:

N. H. Heck,
Assistant.

11—4646

Sheet No. 2933.

F L O R I D A .

Key West Harbor and Northwest Channel.

Wire Drag Survey Continued from 1913 .

-------- 1914. --------

January 30,---------- March 30.

N. H. Heck, Assistant,	Chief of Party.
J. A. Daniels,	A i d .
Geo. Olsen,	Watch Officer .
Harry Leypoldt,	A i d .
E. W. Eickelberg,	" .
W. H. Clark,	" .
Maurice E. Levy,	" .
Carl E. Risvold,	Deck Officer.

Scale:- 1/15000

Tide Gauge,- Key West Automatic and Middle Ground & Northwest Passage Staff Gauge.

E. M.

Florida Reefs,
Key West, Florida.

S T A T I S T I C S.

Sheet No. 2933- 1914.

Date.	Day.	Vol.	Angles.	Miles.	Drag Length	Soundings. Number	Soundings. Angles.	Remarks.
Jan. 30	A	1	132	3.5	2100	4	10	
Feb. 13	B	1	84	1.75	1150	9	24	
17	C	1	210	3.0	1200	15	44	
18	D	1	84	1.25	1200	9	24	
Mar. 13	E	1	96	2.0	1500	1	2	
16	F	1	156	2.5	1500	13	33	
19	G	1	228	3.5	1500 400	7	20	
20	H	1	156	1.8	400	12	28	
21	J	2	234	4.0	600	5	15	
23	K	2	88	2.8		256		Hydrography.
28	L	2	30	0.2	900	10	25	
30	M	2	126	2.0	1200	6	16	
			1624	28.5		347	241	

Summary,

Total No. Angles, ---------- 1865
" No. Miles, ---------- 28.5
" No. Soundings, --------- 347
" No. Square Miles,------- 2.

E. M.

The 1914 work on this sheet consisted in dragging small areas previously missed in Key West Harbor and in completely dragging sufficient of ~~K~~ Northwest Channel to a depth of not less than 17 feet so that a channel of such depth could be marked b y the Bureau of Lighthouses from Key West Harbor to the dredged cut at Northwest Bar.

A copy of chart ~~t~~ 584 showing the results of the work in this channel has been forwarded. Especial attention was paid to the narrow part of the channel between the mid channel buoys and also to the region where the Northwest Channel joins Key West Harbor, The 17 foot curve may now be accurately defined,

All the area in Key West Harbor is now dragged except a few small areas where anchored vessels , mooring buoys, etc. prevented.

In the Northwest Channel the drag work indicates that the 16 foot sounding from B.P. 12374 charted ~~shown~~ on the eastern side of the channel northward of buoy C 13 is not plotted in the correct position. I recommend that the source of this sounding be investigated and that after revision of the tidal data the wire drag work be carefully examined and if the non-existence of this shoal at this point is proved that the ~~16~~ 17 foot sounding shown at no.4 h replace it. This is a narrow part of the channel and the presence or nonexistence of this shoal is important. The wire drag work in this channel was done under unusually favorable conditions and the depth was carefully checked, and can be accurately relied on.

The position of buoy N 8 is given as it was found but the Lighthouse Inspector intended to remove it to its chated position at the first opportunity No attempt was made to develop the channel on the western side. Such work is slow, tedious, and expensive and the work that has been done is all that especially needs immediate attention.

Soundings were made in Key West boat harbor to show results of dredging by the F.E.C.R.R.

Changes in topography.

The U. S. Army dock at Fort Taylor completed in 1913 is shown. The changes of the Florida East Coast R.R. both dock and made land are indicated.

Note that Northwest Channel Bar light has been moved to a new structure, and its position was determined by triangulation. Its position now meets the requirement that this light can be brought in range with Sand Key Light for entering the dredged cut.

1913 ICS Hyd. Sheet 2933 Key West Harbor and Northwest Channel

Date 1913	Day	Vol	Angles	Miles	Drag length	Soundings number	Soundings angles	Remarks
2-17	A	1	16	1/2	1800	4	8	
3-19	B	1	108	1	1500	12	24	
3-22	C	1	84	1½	1800	7	14	
27	D	1	42	1/2	1500	14	28	
4-8	E	1	54	½	1800	4	8	
30	F	1	354	9		52	104	
Totals			658	13½				

Miles 13 1/2
Angles 762
Sdgs 52
Sq. Miles 4

Tides- Key West Automatic Tide Gauge

R. H. Sands Observer

See records at Office

Continuation of wire drag work on sheet 2932

Sheet 2933

Object	Distance	Direction
Stump	From west Crawfish Key	At west Crawfish key
	Meas. one way , 406.30M.	From Sand Key L.H.
	Meas. other way, 406.34	+ 69° 21'
	Mean. 406.32	

	Lat.	D.M.	Long.	D.P
Pole	24° 35'	1731 m	81° 50'	709 m

Date	Letter	Volume	Angles	Soundings	Miles	Vessel
Feb. 14-1908	A	1	44	99	1.7	Rambler
Mar. 20 "	A	1	76	2	2.5	"
" 26 "	B	1	14	1	0.2	"
" 30 "	C	1	44	1	0.7	"
Apr. 15 "	D	1	32	3	0.7	"
" 16 "	E	1	30	1	0.5	"
May 14 "	F	1	12	1	3.0	"
		7	252	108	63	

2933

Department of Commerce and Labor

COAST AND GEODETIC SURVEY

E. Lester Jones
Superintendent.

State: Florida

DESCRIPTIVE REPORT.

Hyd. *Sheet No.* 2933.

LOCALITY:

Key West Fla.

Additional work
Season of 1915

CHIEF OF PARTY:

M. H. Heck

11—4646

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

Hyd. 2933

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Key West, Florida Sheet 2933 1915

Date	Letter	Vol	Angles	Miles	Drag Length	Soundings No.	Soundings Angles
2-12	A	--	------	------	------	8	16

DESCRIPTIVE REPORT *HYD. SHEET NO. 2933 -1915

Soundings taken in Key West Harbor from a sounding tender are shown. It was intended to drag a few areas missed but a Greek steamer which had been ashore was anchored in Man of War Harbor in such a position as to prevent the use of the drag.

The prsent outlines of the F. E. C.R. R. terminal wharf is shown. The work on this sheet was fully reported in my letter of March 26.

Hyd° 2933

The 1914 work on this sheet consists in dragging part of the North West Channel and covering small areas previously missed in Key West Harbor.

The following inaccuracies in plotting were noticed:

Sounding 1/A does not plot well, when 61°35' is used as the left angle, but when the right angle as recorded and the check angle are used the soundings falls in the proper place.

Positions 4A, 12 C, and 14 C were plotted wrong. On the last case the right angle was plotted as 45° 16' instead of 40° 16'.

J. B. Shkeonin

Aug. 3-1914.

VEC
May 14,1915

L.O.S.

HYDROGRAPHIC SHEET 2933.

Florida Reefs, Florida, by

Assistant N. H. Heck in 1915.

TIDES.

	Key West ft.
Mean low water, or plane of reference on staff	4.1
Lowest tide observed " "	2.8
Highest " " " "	7.5
Mean range of tide	1.2

applied to comp. 576 F.M.A. Dec. 1940