

4968
4968

Diag. Cht. No. 1248

Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
State: FLORIDA	
MAR 22 1929	
11-5013	
DESCRIPTIVE REPORT.	
Hydrographic Sheet No. 2	4968
LOCALITY:	
FLORIDA EAST COAST	
LAKE WORTH INLET	
TO PALM BEACH	
1929 -101-	
Steamer RANGER	
CHIEF OF PARTY:	
Ray L. Schoppe	
Charles Shaw.	

4968

LAKE WORTH INLET

FLORIDA

STEAMER RANGER

1929

DESCRIPTIVE REPORT TO ACCOMPANY SHEET NO.2

FLORIDA EAST COAST

LAKE WORTH INLET

-0-

This sheet was partially plotted on board the Steamer RANGER. It is finished at the New Orleans Field Station, and the ship's files are not available for reference. Attached to the Descriptive report for field sheet No. 1, is the ship's copy of a "Report on Unfinished Office work on Steamer RANGER, August 19, 1929." Reference is here made to this report for details as to where the plotting was done.

The field work on this sheet is done under instructions dated December 27, 1928 and reference is made to the Director's letter dated April 11th, 1929.

The area covered by the sheet is confined to Lake Worth Inlet and the dredged channels leading to the Riviera Docks. The completed area lies between Latitude $26^{\circ} 46'$ and $26^{\circ} 47'$. Other soundings south of this area are of value only as reconnaissance. In accordance with the provisions of the Director's letter referred to above, the close development of Lake Worth, south of the turning basin at the Docks, was not done. It was believed that the decision to omit further work south of Latitude $26^{\circ} 46'$, was in accordance with the last sentence of Paragraph 19 of the Instructions and with the Director's letter of April 11th. The work on this

sheet joins Sheet 1 at the east end of the jetties.

No unusual survey methods were used on this sheet. Signals were located by triangulation and topographic methods. All soundings were made with hand lead. Enough soundings were made between Latitude $26^{\circ} 43'$ and $26^{\circ} 46'$ to show the need for a complete revision of this part of Lake Worth. A re-survey of this area should not be attempted in the months of December, January, February or March. At this time, the lake is full of anchored yachts and hydrography will be seriously delayed by their presence. The dredged channel, from the inner end of the jetties to the turning basin is shown as it existed June 30th, 1929. At that time, a dredge was starting work to deepen the channel. The condition of the channel after dredging may be ascertained from the Lake Worth Inlet Commission, West Palm Beach, Fla. It is believed that this dredging contract did not include any work between the jetties. For that reason, the present sheet shows conditions in that area.

A large amount of dredging has been done in Lake Worth and much material from the lake bottom has been used to fill adjacent marsh areas. For this reason, it will be seen that numerous deep holes exist. Practically all the crossings are satisfactory. In one or two spots, at the edge of these holes, a slight adjustment in time interval is sufficient to give good crossings. One sounding in the entrance, 100 meters south east of the end of the north jetty, is to be rejected. (14 ft.- Position 76 - 77 g - at

10 - ⁵37 - 30 o'clock.) A full explanation is entered in the sounding volume and seven lines were run (Position 1 - 29 h) across the spot to confirm this rejection. The best evidence to support the rejection comes from the fact that bottom has frequently been seen from the bridge of the ship at this point and no boulder, coral head, or other obstruction is there. The sounding was either read or recorded one fathom in error or else an error in time interval occurred, in which case the recorded sounding was obtained on the point of shoal north of the channel (close to Position 48 - 49 g).

The shoreline on the east side of Lake Worth, from signal POLE to signal DOC fails to agree perfectly with the recorded soundings and notes. The correct location of shoreline and docks in that area will be taken from the aero-topographic sheet. When this is available, it will be possible to adjust sounding lines to fit the shoreline. The discrepancies are believed to be trivial. Shoreline in this locality, as now shown on the smooth sheet was taken from the NATOMA'S topographic sheet. It is known that a small adjustment was made to close their topographic traverse. The RANGER party was obliged to re-locate some of the signals at the entrance, to agree with computed positions of \triangle Ridge, \triangle Inlet, and \triangle Beg. No attempt was made to correct signals or shoreline south of signal DOC.

Fresh water of good quality is available at the face of the

dock. Mess store, in any quantity, and ship chandlery stores in limited quantity may be obtained in West Palm Beach. Coal may be obtained by arrangement with the Harbor Master, if made in advance. Gasoline in large quantity is available but fuel oil is not available except by tank wagon delivery at the face of the dock. Repair yards for boats and engines are located at West Palm Beach and at Riviera. It is my recollection that the NATOMA was hauled out at Riviera. This vessel is close to the maximum in draft but heavier barges can be hauled.

At the present time a slip 750 ft. by 200 ft. has been dug to a least depth of 16 ft. and it is lined with a first class concrete wall on both sides and along the inner end. A strictly modern steel freight shed is erected along half of the north side. Railroad tracks connect the freight shed with the Florida East Coast Ry. There is also a hard surface road alongside. The west side of the turning basin has a wooden dock about 600 ft. long with not less than 12 ft. of water along its face. This dock has a street alongside but has no direct rail connections. In front of these docks a turning basin 800 ft. square is maintained to full depth. Three mooring dolphins are maintained on the east side of the turning basin.

A history of the development of this inlet, reveals the fact

that it is practically 100% artificial. Years ago, a small natural inlet existed, but it changed position with every storm and could never be depended on for anything but the smallest boats. This inlet once existed in Latitude $26^{\circ} 47'$ where traces of it are now evident. At this time the inlet was so small that during times of high water in the Everglades a raise of level in Lake Worth, took place. With the commercial growth of the Palm Beach area, it became desirable to maintain a serviceable channel into Lake Worth. A small opening at the present location was dredged and two small jetties were built. Then during the 1925 real estate boom,- a 25 ft. project was started. This depth was planned for a slip,- turning basin and entrance channel. The collapse of the boom and the failure of local banks left the Inlet Commission with funds insufficient to complete the project, and it is reported that the rocky sections of the channel were dug to 18 ft. The turning basin and slip are deep enough to correspond to the rock sections. It is believed that the full project depths will be dug in the near future. With a depth of 18 ft. in rocky sections, the present plan is to try to maintain a 16 ft. channel.

Due to strong currents and a lack of training walls west of the inshore end of the north jetty, a large accumulation of sand has been deposited between the east end of the jetties. This shoal

has a least depth of $10\frac{1}{2}$ ft., hard sand bottom, and the least water is found almost exactly on the center line of the opening between the jetties. It is marked on its north side by a black can buoy, and the best water is found between the shoal and the north jetty. It is believed that a stable condition in the lake bottom will soon be reached and then this shoal can be removed from the entrance and full depth maintained. The channel has never been properly cleaned out since the severe hurricane of 1928, and any future storm of this magnitude will cause serious disturbance to this channel.

During the winter of 1929-30, the inner section of the channel had shoaled to 13 ft. As noted above, a dredge was at work on June 30th, 1929, restoring the channel to 16 ft. depth. This depth may be taken in on the following courses:-

In approaching the entrance from any direction pass close to the north of lighted buoy No. 2 L. W. (Fl.R.) and make good a course of 265° true. This leads 150 ft. north of buoy No. 1 and 200 ft. south of the east end of the north jetty. Continue on this course until 150 ft. north of lighted beacon No. 1. Then change course and follow the inner channel lighted range, (both lights ahead, F. R.), course 251° true, into the turning basin.

Deep vessels tie up in the slip. Yachts drawing 10 or 11 ft. tie up at mooring dolphins on the east side of the turning basin. Yachts drawing less than 9 ft. can proceed southward from the turning basin and anchor off the hotels at Palm Beach.

A channel leads from the turning basin, south easterly, across the flats, into the main port of Lake Worth. This was not entirely developed but the following directions are good for 7 ft. draft at M. L. W. A few yachts with local knowledge, take advantage of high water to enter the lake, drawing up to 9 ft. Pass 50 yds. off the mooring dolphins at the turning basin and steer 146° true, until within 200 yds. of the east shore. Then follow the shore southward at about this distance to anchorage as desired. Pending further surveys in this area, local knowledge is required to carry full depth.

Another channel from the entrance follows the eastern shore about 100 yds. from the beach. It is only used by small craft drawing 2 or 3 ft. of water.

North from the main channel, the Inside Route Pilot describes a channel from the draw span in Singer Bridge to the turning basin. This route shows a depth of about 4 ft. Motor boats using the inside route from Jupiter Inlet, pass through the draw span in Singer

Bridge and steer 203° true, passing 100 yds. west of beacon No. 5. Then haul south and follow 50 yds. off the docks to the turning basin. This course is good for 4 ft. which is all that can be taken through the canal from Jupiter. A little better water is found west of this course. Tank barges drawing close to 10 ft. are taken at high tide, to the Sun Oil dock 300 yds. north of the turning basin. About $6\frac{1}{2}$ ft. can be carried from the inner end of the jetties, passing 50 yds. south and west of the point and then steering 331° true until close to the bridge. This course leads 100 yds. east of the house at the draw span. There are no markers to indicate the shoals and in the absence of local knowledge, this approach to the bridge should not be used for drafts over $4\frac{1}{2}$ ft. Local fishermen, (and reported rum runners), use this channel extensively.

STRONG CURRENTS are encountered in the entrance between jetties. A three knot current may be expected on the average ebb tide and under certain conditions, such as a high water in the Everglades and a southerly wind, it is reported that the ebb current exceeds 5 knots. In the turning basin the ebb current flows north and the flood flows south. A strong cross current is often found at the east end of the jetties and vessels entering on a flood tide must avoid being set onto the end of the north jetty. With an easterly

wind and an ebb tide, heavy tide rips often form between the ends of the jetties, making it dangerous to attempt a passage in small boats. Under such conditions smooth water is nearly always found close around the end of the north jetty, and local fish boats avoid the tide rips in that way. The currents at the entrance are described in my descriptive Report for Sheet 1.

In the dredged channel about 0.4 mile from the Inner Front Range Light, is a favorite fishing ground. Dozens of skiffs are often anchored here after dark and without lights. The RANGER narrowly averted sinking some of them when using this channel at night, and no amount of warning seems to be heeded by these fishermen. This custom will probably continue until somebody is drowned at this place.

During the whole season, a portable automatic tide gauge was maintained at the turning basin (close to @ BIT) in Latitude $26^{\circ} 46'.1.$, Longitude $80^{\circ} 03'.1.$ Tide reducers inside the entrance were taken from the records of this gauge. A standard gauge was also maintained on the outside coast at Rainbo Pier, 4.5 miles south of the entrance buoy. Since the present dredged channel was dug, the range of tides in the lake has been greatly increased. It is reported that the daily rise and fall was formerly not over

6 inches. Now it is approximately 2 feet. This circulation of water is further increased by a small artificial outlet at the south end of Lake Worth and the increase of range of tide has caused the mean low water level of the lake to be lower than it formerly was. The increased tidal flow has also improved the sanitary condition of the lake. Lake water which formerly was only brackish is now decidedly salt. A 50 hour series of current observations was made in the channel between the jetties in accordance with the Instructions.

Geographic names in this area are well established. The authority in control of the Inlet improvements is known as the Lake Worth Inlet Commission. They have designated the improvements as "The Port of Palm Beach". The docks are actually located in the city of Riviera and are therefore called the "Riviera Docks". The Island north east of the turning basin is entirely artificial, formed from the discharge of dredged material and has no name at present. The bridge, on which a signal "SO" is located is called Singer Bridge and the point of land at the north jetty is called Singer Point. This is a well known name due to the fact that the Singer Properties own and developed this large tract of land and started the large hotel (signal TALL) in 1925. No name is known

for the point of land at the south jetty.

Final location of shoreline on this sheet should agree with that determined by the photo topographic sheet.

A table of statistics is attached. Prominent objects for charts are listed on Sheet 1.

Respectfully submitted,

A handwritten signature in cursive script, reading "Ray L. Schoppe".

Ray L. Schoppe,
Chief of Party.

STATISTICS

for

FIELD SHEET NUMBER 2

Date	Vol.	Letter	Position	Soundings	Statute Miles	Vessel
April 3	1	a	70	533	8.0	Launch
April 5	1	b	102	774	11.0	Launch
April 9	1	c	69	398	4.9	Launch
June 3	1	d	27	231	2.3	Launch
June 3	2	d	19	180	1.4	Launch
June 26	2	e	143	931	13.1	Launch
June 27	2	f	93	495	8.2	Launch
June 28	2	g	77	271	7.3	Launch
June 28	3	g	61	321	7.5	Launch
June 29	3	h	45	222	3.4	Launch
		Total ---	706	4348	67.1	Launch

SECTION OF FIELD RECORDS

REPORT ON SHEET No. H-4968.

AUGUST 7-1930.

SURVEYED IN - 1929 (APRIL - JUNE)

CHIEF OF PARTY - R.L. SCHOPPE, CHARLES SHAW

SURVEYED BY - R.C. OVERTON

PROTRACTED BY - M.E. WENNERMARK, J.S. MORTON

SOUNDINGS PLOTTED BY - J.S. MORTON

VER. & INDEXED BY - W.H. BAMFORD

- 1./ The records were found to conform to the requirements of the General Instructions for Field Work.
- 2./ The protracting was found to be very good - less than five percent of the positions checked being erroneously plotted.
- 3./ The soundings were correctly spaced in most instances - about 5.5% were found to be plotted incorrectly.
- 4./ The sounding line crossings were found to be adequate.

- 5./ The development in channels and on shoals was sufficient.
- 6./ It was possible to draw the usual depth curves in the completely surveyed area between latitude $26^{\circ}-46'$ and $26^{\circ}-47'$. The depth curves south of this area could not be completely drawn as there was not a complete survey made of this area.
- 7./ The sheet was clean and the work found to be legible.
- 8./ The field plotting was completed to the extent prescribed in the General Instructions.
- 10./ The junctions with the adjacent sheets were found to be satisfactory.
- 11./ The name of INLET ISLAND was taken from U.S. ENGINEERS Bp. #20639

April 4, 1930

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4968

Locality: East Coast of Florida (Lake Worth Inlet)

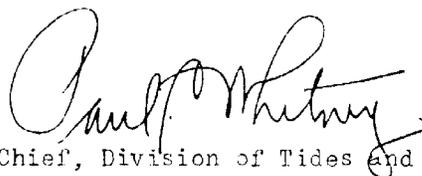
Chief of Party: R. L. Schoppe, in 1929

Plane of reference is

mean low water
1.2 ft. on tide staff at Riviera dock, West Palm Beach
ft. below B. M.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-WSW

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

August 28, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4968

Lake Worth Inlet, Florida

Surveyed in 1929

Instructions dated December 27, 1928. (^RChanger)

Chief of Party, R. L. Schappe.

Surveyed by R. C. Overton.

Protracted by W. E. Wennermank, J. S. Morton.

Soundings in pencil by J. S. Morton.

Verified and inked by W. H. Bamford.

1. Records conform to the general instructions with the following two exceptions: Not enough location characteristics are noted, locations of tide ^gge is omitted from the daily stamp in D day Volume 1 and throughout volumes 2 & 3.
2. Plan and development of areas surveyed conform to the specific instructions. However it is noted that the 2 shoal spots in approximately Lat. $26^{\circ} 46' 50''$ and Long. $80^{\circ} 02' 30''$ and the shoal spot (4 feet) in Lat. $26^{\circ} 46' 950''$ and Long. $80^{\circ} 02' 30''$ are insufficiently developed. However since these soundings are checked in the sounding records they are probably correct. The spacing of lines in the area east of signal Bea is too great. The sounding line 69g-74g is apparently in error by about 3 feet to 6 feet. This line fails to agree with the contemporary soundings on sheet 4963 and 4914 by that amount. As the work on sheet 4963 was done by the ship with the hand lead, this work should be given precedence. It is recommended that this entire line 69g-74g be omitted by the compiler as sufficient soundings are shown without it. If the conditions as shown are correct additional work should have been done to fully develop this deep.
3. Junctions with H. 4914 and H. 4963 are adequate and satisfactory except as noted above.
4. No additional work is required in the completed area but considerable work is necessary in Lake Worth south of the Turning Basin. (See descriptive report 4968)

5. On page 3 of descriptive report No. H. 4968, reference is made to the fact that sounding notes do not agree with the topography of the east side of Lake Worth. The adjusted shore line was transferred to the smooth sheet H. 4968, and the discrepancy could not be adjusted. However, the sounding record does not clearly show to which sounding the notes refer and as the depths are fairly constant no harm will be done in leaving the hydrography as is and accepting the topography also. The discrepancy is believed due to the omission of asterisks in the sounding records to clearly show at which sounding the notations were made.

6. Reviewed by I. E. Rittenburg, August, 1930.

Approved; *Complete only between Lat 26°-46' and 26°-47'*

A. M. Sobieralski
Chief, Section of Field Records (CHARTS)

T. S. Borden
Chief, Section of Field Work (H. & T.)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 4968

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 2 1929.

REGISTER NO. 4968

State Florida

General locality East Coast

Locality Lake Worth Inlet & Palm Beach

Scale 1:10,000 Date of survey April June, 1929

Vessel Str. Ranger

Chief of Party R. L. Schoppe. Charles Shaw

Surveyed by R. G. Overton

Protracted by M. E. Wennermark and J. S. Morton

Soundings penciled by J. S. Morton

Soundings in fathoms feet feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by None/

Inked by Warren H. Baulford

Verified by W.H.B.

Instructions dated Dec 27, 1928, 19

Remarks: Sheet returned to office for completion

Sheet completed in New Orleans Field Station.

One tracing attached, showing surplus soundings.

August 28, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4968

Lake Worth Inlet, Florida

Surveyed in 1929

Instructions dated December 27, 1928. ^R (Shanger)

Chief of Party, E. L. Schappe.

Surveyed by R. C. Overton.

Protracted by W. b. Wennermark, J. S. Morton.

Soundings in pencil by J. S. Morton.

Verified and inked by W. H. Bamford.

1. Records conform to the general instructions with the following two exceptions: Not enough location characteristics are noted, locations of tide gauge is omitted from the daily stamp in D day Volume 1 and throughout volumes 2 & 3.
2. Plan and development of areas surveyed conform to the specific instructions. However it is noted that the 2 shoal spots in approximately Lat. $26^{\circ} 46' 50''$ and Long. $80^{\circ} 02' 30''$ and the shoal spot (4 feet) in Lat. $26^{\circ} 46' 950''$ and Long. $80^{\circ} 02' 30''$ are insufficiently developed. However since these soundings are checked in the sounding records they are probably correct. The spacing of lines in the area east of signal Bea is too great. The sounding line 69g-74g is apparently in error by about 3 feet to 6 feet. This line fails to agree with the contemporary soundings on sheet 4963 and 4914 by that amount. As the work on sheet 4963 was done by the ship with the hand lead, this work should be given precedence. It is recommended that this entire line 69g-74g be omitted by the compiler as sufficient soundings are shown without it. If the conditions as shown are correct additional work should have been done to fully develop this deep.
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6. Reviewed by I. E. Rittenburg, August, 1930.

Approved:

Chief, Section of Field Records (CHARTS)

Chief, Section of Field Work (H. & T.)

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4968

The following statistics will be submitted with the
cartographer's report on the sheet:

Number of positions on sheet .706..
Number of positions checked 166..
Number of positions revised 8...
Number of soundings recorded .4346
Number of soundings revised 240.
Number of signals erroneously
plotted or transferred .ZERO...

Date: July 16 - 1930

Cartographer: Warren H. Bamford

applied to ch. 291

4/12/49

H.W.B.