336

IMPORTANT
PAGE 20 WAS ADDED
IT IS NOT A PAGE IN THE REPORT
IT SHOWS DETAIL FROM
ORIGINAL DOCUMENT MISSING
FROM THE SCAN OF PAGE 19

U. S. Coast and Geodetic Survey
DEC 27 1889
ARCHIVES

U. S. COAST AND GEODETIC SURVEY.

F. M. Thorn, Superintendent.

State: Florida.

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 1932.

LOCALITY:

Escambia Bay.

1889.

CHIEF OF PARTY:

P. A. Welker.

T.C.M.

337

U. S. Coast and Geodetic Survey.
F. M. Thorn, Superintendent.

U. S. COAST AND GEODETIC SURVEY
AUG 8 1889
SUPERINTENDENT'S OFFICE

State: Florida.

Descriptive Report.

Topographic and Hydrographic Sheet No. 1932

Locality:

Escambia Bay, Florida. From Gaberonne to Devil's Point. (Navy Yard Site.)

1889

Chief of Party:

P. A. Welker.

To be returned to
Lieut Comdr C. M. Thomas U.S.N.
Hydrographic Inspector C & G S
Washington
D.C.

(KK)

U. S. Coast and Geodetic Survey Office,

Washington, Aug. 2d, 1889.

Mr. T. C. Mendenhall,
Supt., U. S. C. and G. Survey,
Washington, D. C.

Dear Sir:

In compliance to "Instructions and Memoranda for Descriptive Reports, 1887," I beg leave to submit the following report of the work performed by the party of P. A. Welker, Sub-Assist. on the survey for the Navy Yard Site Commission, from Gaberonne to Devil's Point, Escambia Bay, Florida, 1889.

The work covered by the party consists of a topographic and hydrographic survey, on a scale of $\frac{1}{5000}$ of the portion of Escambia Bay between Gaberonne and Devil's Point.

The statistics and table of reference will be found appended.

The survey was made entirely with the plane table, a wye-level being used for the contouring.

The contours were run five feet apart

up to the twenty foot curve, after that every twenty foot curve was run.

A high bluff follows the beach closely as far as Gaberonne where it turns back from the shore and follows around the swamps at a distance of from 400 to 500 yards from the shore. The bluffs at some places, especially where they are close to the shore, are very abrupt and much broken up and cut up by large gulleys. Springs of water leak out from these places some of which disappear in the sand before reaching the shore. The slopes of the bluffs where they follow the shore and are covered with vegetation range from thirty to fifty degrees. Back of the swamps the slope is more gentle and uniform being not more than five degrees at some places.

The land back of the swamps is largely hommock which is covered mostly with hard wood.

The general character of the bluffs shows a mixture of clay and sand of a yellowish color. The beach is entirely sand

and the soil along the beach is sandy.

Very little of the soil is good for agricultural purposes. On a small portion of the low land close to the beach, oranges, peaches, plums, and vegetables are raised. With the exception of a few clear patches close to the beach the whole tract surveyed is densely timbered.

The trees are from 20 to 70 feet high and consist of pine; scattering live oak, water oak, and scrub oak; a little cypress and juniper, in the swamp; red bay and sweet bay; magnolia and palmetto. The timber is of little or no value.

The large fresh water swamp shown on the sheet is heavily timbered as described and a thick growth of undergrowth of various kinds and ranging from one to ten feet in height is found, generally scrub oak.

There is quite a large stream of fresh water running from the swamp into the bay. The level of the swamp is about five feet above high-water mark.

The Pensacola and Atlantic Division

of the Louisville and Nashville Railroad follows the shore line except for a short distance near Gabsonne where it passes through the swamp. Bohemia is merely a railroad station with a collection of houses for the section hands. It is six miles distant from Pensacola which is the nearest post-office.

The climate here is delightful and probably the best in the vicinity of Pensacola. Fish are plentiful in the bay; such as, trout, bass, mullet, and spanish mackerel. Oyster beds are found scattered over the bay. In the woods there are ~~partrid~~ partridges and some wild turkeys.

The system of execution of the hydrographic work was of running normals to the shore except in the southern part of the channel which was zigzagged. These normals were run about fifty meters apart. This system was crossed by lines parallel to the shore about fifty meters apart.

The prevailing wind during the season was strong from the southwest especially during the afternoon when it was usually impossible to do any sounding. These winds sometimes come up very suddenly and may produce a very rough sea.

Character of Bottom.

The bottom of the bay in this locality consists of a very soft mud of a dark grey color. Close to the beach there is a crust of sand but it is all mud underneath.

Borings made by Mr. J. E. Simpson of New York at "A" (500 yds. off shore) and at "D" (200 yds. off shore) ~~show~~ show this same kind

of mud at a depth of thirty feet in the former case and fifty feet in the latter below the surface of the bottom, only that it is more compact than at the surface. It also seems that there are strata of different density. Sand was obtained at a depth of forty feet near the shore. A boring made on shore at high-water mark showed sand finely divided at a depth of 26 feet.

A pole can be shoved by hand to a depth of from 15 to 35 feet and I have seen tug boats forge through three feet of this finely divided mud.

Oyster beds are found scattered over the bay.

At Devil's Point there is a long shoal extending from the point, east to the old beacon. This shoal shifts from north to south with the prevailing wind.

Devil's Point is locally known as Gull Point.

The places marked - Gamma, Delta, etc. signify where specimens of bottom were

procured. The places marked A, B, C, etc. signify where borings were made by Mr. Simpson.

The southern limit of the work shows 18.7 feet of water which is also the greatest depth. The least depth which we found in the channel is at the northeastern limit of our work about midway between the old and new beacon where there is 7 feet. Farther out from this point, however, there is deeper water.

Low water is defined on the sheet by a dotted line.

The principal water trade is of lumber which is towed from different points up the bay to Pensacola.

The old beacon represented on ~~[illegible]~~ Coast Survey chart is nearly washed away. A new one has been erected within a year or so which is about a half mile farther off shore than the old one from Devil's Point. Tugs of small ~~draught~~ draught go inside of the new beacon.

The road following the bluff is the

principal one for communication with Pensacola.

Fences are built of wood and wire. At Gonzalez' wharf there is about four feet of water. This is the best landing on the limits of the sheet. A beautiful summer residence has been built here and it is probably the coolest place on the bay.

The following memoranda in regard to tidal data.

The tides are largely diurnal, there being one high and one low tide each day excepting the day after which the moon's declination is zero when there are two high and two low tides though the range is very small on that day.

The mean range of tides for 36 high waters and 36 low waters was 1.44. The difference between highest and lowest tide was 2.9. High water nearly always occurs between 8 A. M. and 4 P. M.

Very respectfully,

Chas. H. Deetz, Recorder.

Statistics of Field Work

Date of beginning field work	Apr. 24, 1889
" " closing " "	June 13, 1889

Topography

Number of miles of shore line surveyed	3.0
" " " " railroads and other roads	6.0
" " " " creeks surveyed	2.0
" " " " fences "	4.5
" " " " marsh line "	2.2
Approximate area of country surveyed (sq. mi.)	1.5
Scale of work	1/5000

Hydrography

Number of angles measured	3554
" " positions determined	1774
" " soundings	33424
" " sounding books	13
" " tide books	2
Area sounded in sq. mi.	3.4
Number of miles run while sounding (nautical)	244.8
Number of tide stations	1
Number of specimens of bottom	11
Number of plane table points	24

Hydrography and Topography on one sheet

Table of Reference.

Date 1889	Letter	Number of Vol.	Miles (N)	Soundgs	Angles	Boat Used	In Charge	
May 20	a	1	6.8	2462	208	Cutter	P. A. Welker, Sub-Assist.	
" 21	b	2	8.0	1819	140	"	"	"
" 22	c	3	4.4	713	80	"	"	"
" 23	d	3	9.3	1177	172	Steam Launch	"	"
" 24	d	3&4	5.5	1010	108	Cutter	"	"
" 24	B	4	3.7	358	58	Steam Launch	"	"
" 25	e	4	2.9	565	46	Cutter	"	"
" 27	f	4	5.1	1102	114	"	"	"
" 27	C	6	1.4	255	26	Steam Launch	"	"
" 28	g	5	4.4	1336	126	Cutter	"	"
" 28	D	5&6	9.8	1458	162	Steam Launch	"	"
" 30	h	6	5.6	1349	124	Cutter	"	"
" 30	E	6	4.1	454	54	Steam Launch	"	"
" 31	F	6&7	15.5	2173	216	" "	"	"
June 1	G	7&8	22.1	2732	328	" "	"	"
" 5	H	8&2	7.0	891	100	" "	"	"
" 6	I	2&9	21.1	2128	206	" "	"	"
" 7	K	9&10	17.9	2148	212	" "	"	"
" 8	L	10	15.6	1696	152	" "	"	"
" 10	M	11	21.6	2498	266	" "	"	"
" 11	N	11&12	18.9	1927	230	" "	"	"
" 12	O	12&13	20.0	1953	244	" "	"	"
" 13	P	13	14.1	1240	184	" "	"	"
Totals			244.8	33424	3554			

Location of Borings and Samples of Bottom by J.E. Simpson are shown by A, B, C, D, E, F, G, & H. Experimental Pile and Boring

Location of Samples of Bottom, by P.A. Welker, Sub-Asst, is shown by Gamma, Delta, Epsilon, Zeta, Eta, Theta, Iota, Kappa, & Lambda.

Observers	Recorder	Leadsman
P. A. Welker	T. A. Young	C. M. Askegren
C. H. Deetz		

Tide Observers
T. C. Greenwood
C. P. Gonzalez

348,1

U. S. Coast and Geodetic Survey Office,

Washington, Aug 9th, 1889.

Location of Borings by J. E. Simpson

Boring "A", June 4th, 1889

Angles { 39-20
72-27

Objects — Red Beacon, Devils Pt., Gov. Ch.

Depth of Boring - 32 ft. below surface of bottom

Appearance — Dark, green mud, soft

Sample "A" is the same as Mr. Simpson's "A"

Boring "B" June 4th, 1889

Angles { 87-08
42-28

Objects — Round Ch., Beta, White Gab.

Boring made at high water mark on shore.

Depth of Boring — 26 ft. 2 in.

Appearance — Fine, light grey sand

Sample "B" is the same as Mr. Simpsons "B"

U. S. Coast and Geodetic Survey Office,

Washington,....., 188 .

Location of Borings by Mr. Simpson continued.
Of the following no samples were obtained by
P. A. Welker.

Location of Experimental Pile and Boring "C"
Angles {26-48
{42-53
Objects — Red Beacon, Iron Wh., Iron Ch.
Depth of boring 25 ft.
Time - June 6th, 1889, 9-30 A. M.

Location of Boring "D"
Angles {35-14
{70-09
Objects — Alpha, Iron Ch., Round Ch.
Depth of Boring 50 ft.
Character - compact mud
Time - June 6th, 1889, 1-45 P. M.

Boring "E"
10 meters from "C" on line from "C" to Iron. Wh.
Depth of boring 40 ft.
Character - Sand
Time - June 7th, 1889, 2-30 P. M.

U. S. COAST AND GEODETIC SURVEY OFFICE,

Washington,....., 188 .

Boring "F"

Angles { 53-07
25-52

Objects – Red Beacon, Lsw. Wh., Lsw. Ch.

Depth of boring 26 ft.

Time – June 8th, 1889, 11-00 A. M.

Boring "G"

Angles { 37-20
68-23

Objects { Alpha, Lsw. Ch., Roma Ch.

Time – 1-00 P. M. June 8th, 1889

Boring "H."

Angles { 103-35
70-58

Objects { Alpha, Beta, Red Lsab.

Time 1-30 P. M. June 8th, 1889

U. S. Coast and Geodetic Survey Office,

Washington, ... 188 .

Location of Samples of Bottom by P. A. Welker.

Sample "Gamma"

Angles { 76-03 / 63-09

Objects – alpha, Gov. ch., Ronna ch.

Depth – 1½ ft below surface of bottom

Appearance – Dark grey sand and mud

Time June 5th, 1889, 2-45 P. M.

Sample "Delta"

Angles { 42-10 / 53-13

Objects – Devil's Pt., alpha, Beta.

Depth – 2 ft. below surface of bottom

Appearance – Dark green mud, soft

Time June 13th, 1889, 2-00 P. M.

Sample "Epsilon"

Angles { 41-32 / 37-25

Objects – Devils Pt., alpha, Beta

Depth – 1 ft. below surface of bottom

Appearance – Dark green mud, soft

Time – June 13th, 1889, 2-15 P. M.

U. S. Coast and Geodetic Survey Office,

Washington,....., 188 .

Sample "Zeta"

Angles { 36-57
75-09

Objects – Devil's Pt., alpha, Wh. Slab.

Depth – 1 ft. below surface of bottom

Appearance – Dark green mud, soft.

Time 2-25 P.M., June 13th, 1889

Sample "Eta"

Angles { 53-12
30-48

Objects { alpha, White Slab., Root

Depth – 1 ft.. below surface of bottom

Appearance – ~~Dark~~ Dark, green mud, soft

Time 2-45 P.M. June 13th, 1889.

Sample "Theta"

Angles { 42-40
34-08

Objects – Devil's Pt., White Slab., Root.

Depth – 1½ ft below surface

Appearance – Dark green mud, ~~soft~~

Time – 4 P.M., June 13th, 1889

3536

U. S. Coast and Geodetic Survey Office,

Washington, ..., 188 .

Sample "Iota"

Angles { 22-07
47-15
Objects - White Sab., Root, Bight
Depth 1¼ ft. below surface of bottom
Appearance - Dark green mud, soft.
Time - 4-10 P.M. June 13th, 1889

Sample "Kappa"

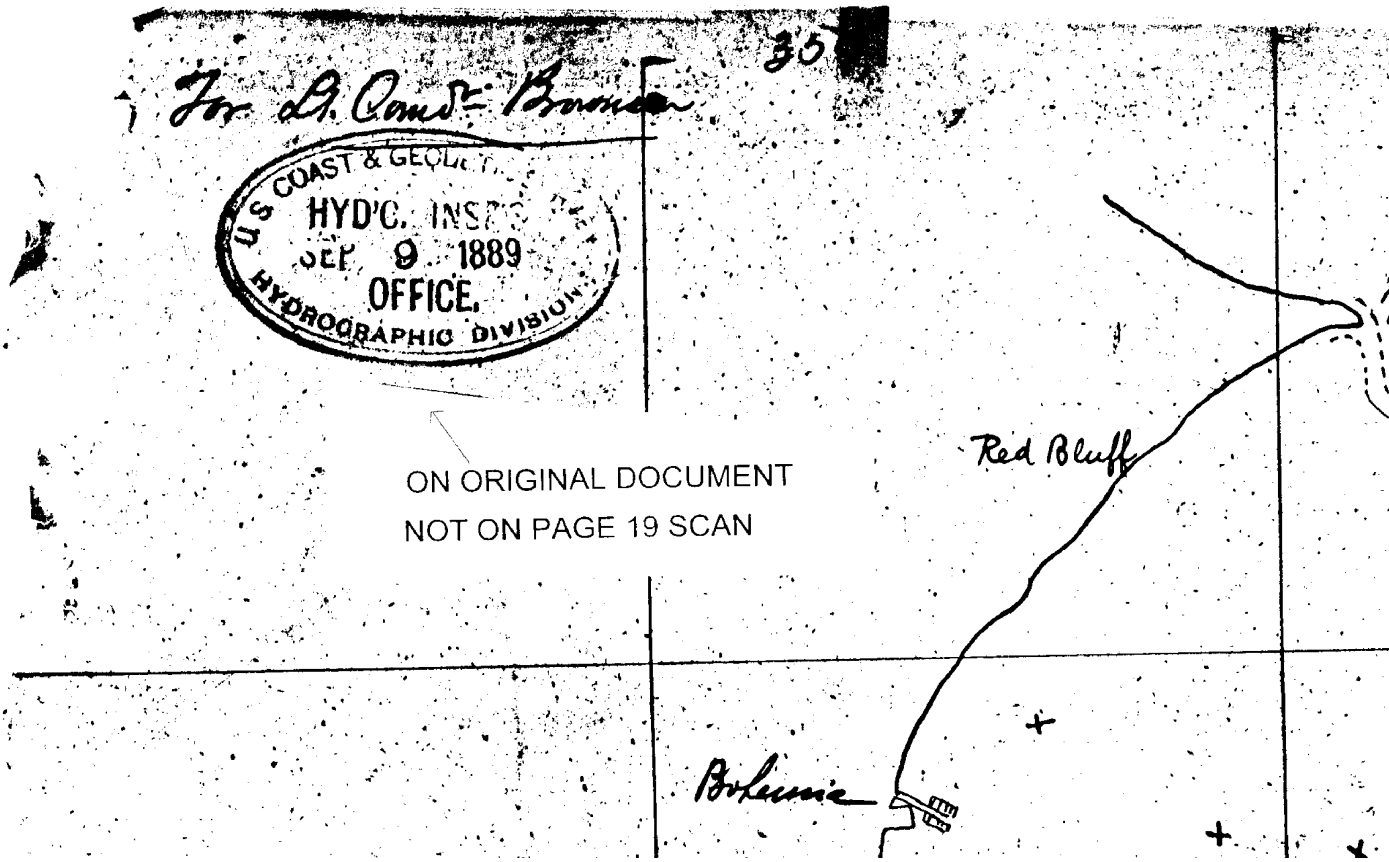
Angles { 38-18
38-24
Objects - Root, Bight, mag. Shanty
Depth ½ ft below surface of bottom
Appearance - Dark green mud, soft
Time 4-20 P.M., June 13th, 1889.

Sample Lambda

Angles { 25-23
32-55
Objects - Root, Bight, mag. Wh.
Depth - 1¼ ft. below surface of bottom
Appearance - Dark green mud, soft
Time 4-30 P.M. June 13th, 1889

For Lt. Comdr. Bronson.

Western Shore of
Escambia Bay, Fla.
Scale 1:9000
Showing positions of borings ordered, and indicated by red crosses.


For U.S. Coast & Geodetic Survey
35
U.S. COAST & GEODETIC SURVEY
HYD'C. INST.
SEP 9 1889
OFFICE.
HYDROGRAPHIC DIVISION
ON ORIGINAL DOCUMENT
NOT ON PAGE 19 SCAN
Red Bluff
Bokeelia