5150

Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Photo-
Topographic } Sheet No. T-5150
~~*Hydrographic*~~ (29)

State Florida

LOCALITY

St. Johns River

Georgetown

AND VICINITY

Photos taken 1935
~~1937~~

CHIEF OF PARTY

Hubert A. Paton

U.S. GOVERNMENT PRINTING OFFICE: 1934

5150

Applied to Chart 687. December 1939. H.E.M. L.A.M.

Form 537a
Ed. Nov., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

PHOTO - TOPOGRAPHIC TITLE SHEET

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

Field No. 29 T5150

REGISTER NO. T-5150

State Florida

General locality St. Johns River

Locality Georgetown and Vicinity

Scale 1:10,000 Date of ~~survey~~ photos Feb. 28, Mar. 13, 1935

Vessel Party No. 26

Chief of party Hubert A. Paton

Surveyed by See Page 2.

Inked by Robert H. Young and William C. Russell

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated March 4, 1935, 19

Remarks: U. S. Army Air Corps Five Lens Camera #32-2 used

Field Inspection in February and August, 1937.

JLW

Notes on Compilation

Sheet No. 29

Register No. T-5150

Photos:	Five lens Flight No. 12, Nos 182 - 200, Feb. 28, 1935	Time 12:15 P.M.
	No. 23, Nos 865 - 877, Mar. 13, 1935	11:50 A.M.
	No. 26, Nos 968 - 975, Mar. 13, 1935	12:50 P.M.
Scale Plot:	Henry O. Fortin, and Hubert A. Paton	No Tide. Lake and River at approx. mean level.
Scale Factor Used:	1.00	
Projection by:	Washington Office.	
Control Plotted by:	William C. Russell,	May 15, 1937
Control Checked by:	H. A. P.	May 18, 1937
Topography Transferred by:	W. C. R.	
Topography Checked by:	H. A. P.	
Shoreline Inked by:	W. C. R.	
Other Details Inked by:	Robert H. Young	
Overlay Sheet By:	H. A. P.	

Area of Detail Inked:	24.2 Sq.	Statute Miles
Length of Shoreline (over 200 meters)	27.0	Statute Miles
Length of Shoreline (under 200 meters)	1.0	Statute Miles
Length of shoreline of small lakes	9.0	Statute Miles

Reference station
(Datum: N.A. 1927)

Putnam, 1935
Lat. 29°21' 44.85 (1380.9 m.) un adjusted
Long. 81°35' 21.24 (572.8 m.)

Refer to following pages of this report for additional data.

1. Control - Page 3
2. Field Inspection - Page 4
3. Date of details on this survey Page 4

Descriptive Report

to accompany

Photo-Topographic Sheet No. 29 (field)

Register No. T-5150

General Information:

This sheet was compiled from photographs taken by the U. S. Army Air Corps, using a five lens camera, No. 32-2. The principal part of the sheet was covered by three flights, Nos. 12 and 23, flown in a general northerly direction and No. 26, flown in a northwesterly direction. The wing prints of Photos Nos. 656 and 657, Flight No. 16 were used in the compilation of the extreme northwest corner of the sheet but these photos will be transmitted with Sheet No. T-5151.

The photos were taken at an elevation of approximately 5000 feet and their average scale was almost exactly 1:10,000. The individual pictures were free from excessive tilt or scale differences, and the flight lines were straight and well located. The quality of the photos were below average in distinctiveness.

Control:

Triangulation: There were a total of nine second-order triangulation stations on this sheet, quite well distributed. The northeast corner of the sheet had no control but this was not more than two miles from adequate control and an accurate plot was made without difficulty. The triangulation stations had been established in 1935 by Lieut. K. G. Crosby. His field positions were used as this arc has not been adjusted. His closures in this area were practically zero, so no corrections were applied to his field values.

Traverses: There were no State Control Survey traverses on this sheet and there was no need for additional control.

G. C. Sheets: Considerable additional control was secured from the plane table surveys executed by Lieut. Comdr. L. D. Graham in 1937. The following described H. & T. Stations were located on Sheet XX, Scale 1:10,000 - Gal, Bok, Four, Gale, Pile, Gram, Del, Pel, Town, Gay, Log, Tor, Ty. In addition to these, the following hydrographic signals were used for control,-

Form 524 — Filed under No. T-5150

CS131M Sheet WW, scale 1:5,000 : Cow and Fox.
CS133M Sheet XX, Lum, Diz, Zip, Gin, Pet, Lad, Eve, Go. Her, Dig.
CS142M Sheet YY, scale 1:20,000, Nest, Use, Fat, Pt.C (near Putnam).

These signals were not permanently marked and have not been inked on the compilation.

All control station that had definite reference points for spotting on the photographs, checked the plot without trouble. In some cases the stations were located on a heavily wooded shore and these could not be picked accurately. There was such a density of control however, that it was not difficult to eliminate the stations in error. An example of this was Hydrographic Signal Oar, midway between Station Use and

Refer to office Review at the back for a comparison of the graphic control surveys and T5150

Field Inspection:

The field inspection noted no important changes since the date of the photographs (Feb and Mar. 1935). ~~an~~ The shore line and other Topographic details on This survey are of the date of the photographs except for the following which were taken from the 1937 planetable surveys and hydrographic surveys:

1. Stakes, net racks, piling, pier ruins, and ~~recoverable~~ a rock awash.
2. Aids to ~~Nav~~ Navigation and recoverable ~~by~~ topographic stations
3. Certain small houses.
4. Additional piling of old piers from the Hydrographic surveys.

BGS

and Station Rea. This signal did not check and was probably not picked correctly by the field inspectors.

Station Wend, a described station on Sheet XX, was a shed on a dock which had been built since the photographs were taken. The shed and decking were removed soon after the point had been located and only a few piles remain to mark the site. This station was not used for control and is not shown on the compilation other than by the symbol for piling. card (7-Forms-24) destroyed upon review.

Radial Plot:

See Descriptive Report accompanying Sheet T-5195 for a discussion of the difficulties encountered in previous radial plots. In order to eliminate these difficulties, the photos for this sheet were mounted in accordance with the calibration tests furnished by the office for this camera. Note the duplication of detail on the inner edges of the wing prints and the B prints. This was found to be a great improvement but there were still occasional photos which would not check without slight adjustments. This may be due to distortion in the negative or in the print.

The plot is believed to be quite accurate. As a test, the trails and roads in the northwest portion of the sheet that were known to be straight had from five to twelve radial points on them and they "lined-up"very nicely.

Field Inspection:

The field inspection for this sheet was done between Februrary and August, 1937, by three different parties. The area has also been visited frequently by all members of the party and the interpretation of details on the photographs was easily and adequately accomplished from personal experience. While there may not be a great number of notes shown on the field prints, this does not indicate that there was inadequate field inspection. see opposite page.

General Description of Topography:

Area West of St. Johns River.- This portion in generally solid ground in contrast to the low swampy shores found in other portions of the river. There is a small swamp at the north side of the sheet and another at the head of Muddy Cove. In these two places the deciduous tree symbol was used for the shore line but in all other places a solid line was used to indicate solid ground above the water level.

Back from the river the land is generally very level, with scattered lakes and small marshes, gradually rising to the more heavily wooded areas in the Ocala National Forest. In this forest, many trails, roads, and fire breaks have been constructed in recent years.

Hog Island.- This small island is heavily wooded near the shore, with deciduous trees. In the center of the western end is found an open area covered with grass and brush and east of the center of the island is a grass marsh which almost divides it in two.

Drayton Island.- Drayton Island is a large cleaver shaped island. It has a community centered along its southeastern shore which is known by the same name. Orange groves can be seen from the shore in places but the major portion of the shore is heavily wooded. There is a grass marsh in the center of the island. At one time, Drayton Island was quite a prosperous community. Large plantation, employing numerous slaves, were found here before the Civil War. The remains of three long docks on the southeast side can still be seen.

East of the St. Johns River.- Near the north side of the sheet the river is bordered by a narrow wooded swamp. Next is found the small farming community of Georgetown and at Lake George Point, the Eastern Branch of the river drains out of Lake George. East of Georgetown is found a large flat area covered with lakes, ponds, and marshes with scattered pine, brush and grass between. The shore line of Lake George, on this sheet, is swampy except at the Point.

Roads:

All roads shown by a double solid line are paved. The double dashed lines indicate poor dirt roads, some of which are difficult to travel. In some cases where they approach the shore line they are crude trails but were considered of slightly more inportance than other trails and were emphasised for this reason. They all should be charted. The single dash lines indicate trails. They are generally very faint and overgrown. Trucks might be able to traverse them, but automobiles would probable get stuck in the mud or sand. In the Ocala National Forest trails have recently been cut along the section lines. They provide avenues of approach to forest fires but are being allowed to grow back to brush and grass. The fire breaks have been indicated by a dash ~~and dot~~ line. These are very prominent on the photographs but they are not passable for automobiles. Several abandoned railroad beds are found on this sheet and are indicated by a single dash line - using a longer dash that that used for a trail. These road beds are used for trails in some places but are generally overgrown and impassable for vehicles.

Pilings:

The remains of old docks are shown by a broken line. In case the piles are scattered, small circles are used to indicate their position. Most of these could not be seen on the photographs and the information was transferred from the G. C. Sheets. There were no fish traps on this sheet. It is our plan to reserve the use of a row of dots to indicate fish trapsstakes, which are found in profusion on other sheets of this project. See Director's Letter dated June 7, 1937 Reference No. 80-DRM, in regard to this symbol. There are, however, fish net drying racks ~~off shore~~ in the water along shore. For symbol see note at end of this report.

Miscellaneous:

There were no bridges, railroads, cable crossings, over-head power lines, ferries, tall stacks or water tanks on this sheet.

Geographic Names:

The geographic names on this sheet were obtained from the following sources, which will be referred to hereafter by their accompanying symbol:

Symbol	Source
A	Well established by local usage
B	Bureau of Soils Map, 1914, Putnam County.
C	Maps and Charts of the U. S. Coast and Geodetic Survey
D	U. S. C. & G. S. Strip Map No. V-238
E	U. S. Engineers, Route 13-B, Topographic Maps.
F.	U. S. Dept. of Agriculture, Forest Service, Ocala National Forest.
G	State Road Dept., Marion and Putnam County Maps.
H	Florida Mapping Project, Preliminary Sheet, Welaka Quadrangle.
I	U. S. Geological Survey, State of Florida.
J	Old Map of Putnam County by local surveyors.
K	Official Map of Putnam County, 1914.
L	G. C. Sheet XX, L. D. Graham, 1937.
M	State Road Dept., Aviation Division, Airway Map of Florida.
MN	Sectional Land Plat Maps, Putnam County.
O	Land Title Deeds.

The following names are in use on our Chart No. 509 and are in common use on all other maps,-Georgetown, Black Point, Drayton Island, Hog Island, St. Johns River, and Lake George.

Drayton Island.- This term is applies to the small community on the southeast side of the island with like name on sources A, C, F, and L. It has a post office of that name, a group of houses, and several short docks.

Muddy Cove.- Located northwest of Hog Island, the name is derived from A and B. It was used in the description of Station Ursus, at the head of the Cove. On "L" the term Big Muddy was used but it is believed that the former term isiin more common use.

Old Fort Gates Road.- Near the western edge of the sheet. Term obtained from A and F. Used in the description of Station Bear. The name has been applied to various roads at different times, apparently to the one in most common use at the time. It is indicated by a double dashed line on the sheet.

Bear Creek.- Located on the west side of the sheet. Term obtained

from A and F. The stream flows through a grass marsh and is not sharply defined throughout its length. Its source is Bear Spring but we could not determine from the photos the exact location of the spring. According to the description of Station Bear, it is one half mile west of the station, but the streams appears to head from a point about one mile west of the station. Since the location was in doubt, the name of the spring was not shown on the overlay sheet.

Cape Point.- The southernmost point of Drayton Island. Name derived from L. On land plats of this area the term Cape Kinsley is used and on J and N, the original owner of the entire island was Zeph. Kinsley. However the name Cape Point is apparently the one in most common use and should be the one shown on our charts.

Lake George Point.- On the east side of the Eastern Entrance to the St. Johns River. Name derived from A, B, L, and N and description of Station Rea. The term Orange Point is shown on C and F and the term, Georgetown Point is found on K. The first one of these three terms is the only one in common use and therefor it is the one recommended.

Pelham Park.- The dock and orange grove on the west side of Drayton Island. Derived from L and the description of Station Pel.

Rooky Point.- The point west of Cape Point. Derived from A, F, and L.

Keeths Point.- Directly across from Black Point. Derived from L.

Smiths Cove.- The cove north of Keeths Point. Derived from L.

North Point.- The north end of Drayton Island. Derived from L.

Saunders Cove.- West of Hog Island, derived from A and L.

Johns Branch.- The small stream entering the river about one-half mile north of Lake George point. Derived from A and B. This streams drains a series of marshes and swamps which extend northward to the next sheet.

Tiger Branch.- The stream entering Lake George just to the north of of Station Putnam. Derived from A, B, and K.

Ocala National Forest.- The western portion of the sheet. Term found on A, F, G, and M. The reservation is irregular in shape and does not include Richard and Jos. Hernandez Grants.

Richard Grant.- A land grant west of Muddy Cove. Found on A, F, J, and N. It extends from Black Point to Saunders Cove.

Jos. Hernandez Grant.- A land grant in the southwest corner of the sheet. Term found on A, F, J, and N. It extends south from the fire break north of Solee Landing.

Wakefield and Solee Landings.- West of and across the river from Drayton Island. These names were found on F. The landings are no longer in evidence but rough roads or dim trails can still be seen leading down to the shore. Since on other names are in use for these localities, it is recommended that they be retained.

Eastern, Middle and Western Entrances.- The three outlets from Lake George into St. Johns River. The names were found in use on N and J. No other terms are applied to these streams. Some consider them as part of Lake George and others as part of the River.

All of the above names are recommended for adoption. The following name is not recommended. Blanchard Wharf.- This term is in use by local inhabitants for the small pier on Lake George Point. It is of no commercial importance and the name was not placed on the overlay.

Comparison with Previous Surveys.-

The U. S. Engineers compiled topographic maps from aerial photographs of most of the area covered by this sheet, in 1933. A careful comparison has been made with them. The shoreline agrees quite closely when differences in datum are adjusted. A large number of new trails and fire breaks have been cut and a few trails can not now be seen on the more recent photos. All other maps available have been compared with this compilation but due to smallness of scale or obsolete surveys, not much value could be obtained from a minute comparison.

Landmarks,-

Four prominent objects on this sheet were selected by L. D. Graham as landmarks and submitted with his reports. They are Pel, Town, Gale and Del. No other objects were of sufficient importance to be designated as landmarks.
Also 4 aids to Navigation
All submitted on
Form 567 in chart letter
#259(1938)

Respectfully submitted,

Hubert A. Paton

Hubert A. Paton,
Lieut. C. & G. S.

For explanation of various symbols used
on this sheet see P. 10 Des. Report T-5151
or P. 7, Des. Report T-5133.

Notes in red by
T. W. Price
upon review
June 7, 1938

	Remarks	Decisions
1		OK for Planimetric Map only
2		" "
3		" "
4		
5		
6		
7		
8	From G.C. sheet (XX). Not in office to date	
9	" " " " " " "	
10		
11	Descriptive term	
12	" "	
13	Landing no longer in existence (See D.R.)	
14	" " " " " " "	
15		
16		OK for Planimetric Map.
17	* After a Cape Kinsley (See D.R. pg.7) who owned point Cape Point a poor name	
18		
19		
20	Descriptive Term	
21		submitted to USGB ~~Use Geographic Names decision~~
22		
23	From G.C sheet (XX) Not in office to date Note - a descriptive term apparently	
24		
25		
26		
27	rejected account of "more important" Bear Creek in extreme SW corner of sheet	~~near~~ Oklahoma River on T 5151

M 234

GEOGRAPHIC NAMES

Survey No. T-5150

Name on Survey	On Chart No. 508 A,	On previous survey No. T-2027 Recon. B,	On U.S. ~~quadrangle~~ Forest ~~Maps~~ Service C,	From local information D.R. Pg. 6-8 D	On local Maps See D.R. E	P.O. Guide or Map F	5011 Map Putnam Co Rand McNally Atlas (See D.R. Pg. 6-8) G	H	U.S. Light List K	
✓ Ocala National Forest			✓							1
✓ Richard Grant			✓							2
✓ Jos. Hernandez Grant			✓							3
✓ Saunders Cove				✓						4
✓ Muddy Cove				✓			✓			5
✓ St. Johns River	✓	✓	✓	✓						6
✓ Black Point	✓			✓						7
✓ Keeths Point										8
✓ Smiths Cove										9
✓ Hog Island	✓	✓	✓	✓						10
Western Entrance					✓					11
Middle Entrance					✓					12
Wakefield Landing			✓							13
Solee Landing			✓							14
✓ Rocky Point			✓	✓						15
Pelham Park ~~Pelham Park~~				✓	see also PEL (T-5150)	Desc. of Topo Sta.				16
* Kinsley ~~Cape~~ Point										17
✓ Drayton Island	✓	✓	✓	✓						18
✓ Lake George	✓	✓	✓	✓						19
Eastern Entrance					✓					20
✓ Lake George Point	* (R) Orange pt.	Orange pt	Orange Point	✓	✓					21
← D. G. N.		1/27/39								
✓ Johns Branch				✓			✓			22
North Point										23
✓ Georgetown	✓	✓	✓	✓		✓				24
✓ Tiger Branch				✓	✓		✓			25
✓ Drayton Island (P.O.)			✓			✓				26
Bear Creek										27

Names underlined in red approved by GGE on 2/23/38

M 234

M-350

T-5150

PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to this compilation were computed by Division of Geodesy and the computation forms are included in this report.

Positions plotted by H. D. REED, JR.

Positions checked ~~by~~ on Ruling Machine

Grid inked on machine by H. D. REED, JR.

Intersections inked by H. D. REED, JR.

Points used for plotting grid:

x = 310,000 FT y = 1,845,000 FT	x 310,000 y 1,820,000
x 275,000 y 1,845,000	x y
x 295,000 y 1,830,000	x y
x 275,000 y 1,820,000	x y

Triangulation stations used for checking grid:
x = 312,299.90 FT - y = 1,828,485.39 FT.

1. Putnam, 1935
2.
3.
4.
5.
6.
7.
8.

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Geodetic positions from transverse Mercator coordinates

State Fla East Station x 310,000
y 1,845,000

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)	−190,000	log (1/R)	
$x'^3/(6\rho_o^2)_g$	− 2.62	log S_m	
S_g	189,997.38	cor. arc to sine	−
		log S_1	4.76278304
log S_m^2	9.525578	log A	8.50937190
log C	1.156561	log sec ϕ	0.05990874
log $\Delta\phi$	0.682139	log $\Delta\lambda_1$	3.33206368
		cor. sine to arc	+ 785
y		log $\Delta\lambda$	3.33207153
ϕ' (by interpolation)	29° 24′ 33.″0376	$\Delta\lambda$	2148.″1843
$\Delta\phi$	− 4.8099	λ (central mer.)	81° ′ ″
ϕ	29° 24′ 28.″2277	$\Delta\lambda$	
		λ	81° 35′ 48.″1843

x 275,000
Station y 1,845,000

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)	−225,000	log (1/R)	
$x'^3/(6\rho_o^2)_g$	− 4.35	log S_m	4.83621550
S_g	224,995.65	cor. arc to sine	− 834
		log S_1	4.83620716
log S_m^2	9.672431	log A	8.50937191
log C	1.156561	log sec ϕ	0.05990645
log $\Delta\phi$	0.828992	log $\Delta\lambda_1$	3.40548552
		cor. sine to arc	+ 1101
y		log $\Delta\lambda$	3.40549653
ϕ' (by interpolation)	29° 24′ 33.″0376	$\Delta\lambda$	2543.″8794
$\Delta\phi$	− 6.7452	λ (central mer.)	81° ′ ″
ϕ	29° 24′ 26.″2924	$\Delta\lambda$	
		λ	81° 42′ 23.″8794

(M-29)

(over)

Explanation of form:

$$x' = x - C$$

$$S_g = x' - \frac{x'^3}{(6\rho_o^2)_g}$$

$$S_m = \frac{1}{R}\left(\frac{1200}{3937}\right)S_g$$

R = scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi = C\, S_m^2$

$\phi = \phi' - \Delta\phi$

$\Delta\lambda_1 = S_1 A \sec\phi$

$\log S_1 = \log S_m$ − cor. arc to sine

$\log \Delta\lambda = \log \Delta\lambda_1$ + cor. arc to sine

$\lambda = \lambda$(central mer.) $- \Delta\lambda$

5150

Geodetic positions from transverse Mercator coordinates

State Fla. East Station χ 295,000 / y 1,830,000

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)	−205,000	log (1/R)	
$x'^3/(6\rho_o^2)_g$	− 3.29	log S_m	
S_g	204,996.71	cor. arc to sine	−
		log S_1	4.79578135
log S_m^2	9.591577	log A	8.50937282
log C	1.155833	log sec φ	0.05973172
log Δφ	0.747410	log $\Delta\lambda_1$	3.36488589
		cor. sine to arc	+ 914
y		log Δλ	3.36489503
φ'(by interpolation)	29° 22′ 04.5309	Δλ	2316.″8346
Δφ	− 5.5900	λ (central mer.)	81° ′ ″
φ	29° 21′ 58.9409	Δλ	
		λ	81° 38′ 36.8346

Station χ 275,000 / y 1,820,000

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)	−225,000	log (1/R)	
$x'^3/(6\rho_o^2)_g$	− 4.35	log S_m	4.83621550
S_g	224,995.65	cor. arc to sine	− 834
		log S_1	4.83620716
log S_m^2	9.672431	log A	8.50937342
log C	1.155347	log sec φ	0.05961314
log Δφ	0.827778	log $\Delta\lambda_1$	3.40519372
		cor. sine to arc	+ 1100
y		log Δλ	3.40520472
φ'(by interpolation)	29° 20′ 25.5258	Δλ	2542.″1708
Δφ	− 6.7263	λ (central mer.)	81° ′ ″
φ	29° 20′ 18.7995	Δλ	
		λ	81° 42′ 22.1708

(M-29)

(over)

Explanation of form:

$$x' = x - C$$

$$S_g = x' - \frac{x'^3}{(6\rho_o^2)_g}$$

$$S_m = \frac{1}{R}\left(\frac{1200}{3937}\right)S_g$$

R = scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi = C\, S_m^2$

$\phi = \phi' - \Delta\phi$

$\Delta\lambda_1 = S_1 A \sec\phi$

log S_1 = log S_m − cor. arc to sine

log $\Delta\lambda$ = log $\Delta\lambda_1$ + cor. arc to sine

$\lambda = \lambda$(central mer.) − $\Delta\lambda$

5150

Geodetic positions from transverse Mercator coordinates

State Fla East Station ~X 310,000
Y 1,820,000

x		log S_g	5.27874761
C		log (1200/3937)	9.48401583
x' (=x−C)	−190,000	log (1/R)	2555
$x'^3/(6\rho_o^2)_g$	− 2.62	log S_m	4.76278899
S_g	189,997.38	cor. arc to sine	− 595
		log S_1	4.76278304
log S_m^2	9.525578	log A	8.50937341
log C	1.155347	log sec ϕ	0.05961543
log $\Delta\phi$	0.680925	log $\Delta\lambda_1$	3.33177188
		cor. sine to arc	+ 784
y		log $\Delta\lambda$	3.33177972
ϕ' (by interpolation)	29° 20′ 25.″5258	$\Delta\lambda$	2146.″7413
$\Delta\phi$	− 4.7965	λ (central mer.)	81° ′ ″
ϕ	29° 20′ 20.″7293	$\Delta\lambda$	
		λ	81° 35′ 46.″7413

Station

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)		log (1/R)	
$x'^3/(6\rho_o^2)_g$	−	log S_m	
S_g		cor. arc to sine	−
		log S_1	
log S_m^2		log A	
log C		log sec ϕ	
log $\Delta\phi$		log $\Delta\lambda_1$	
		cor. sine to arc	+
y		log $\Delta\lambda$	
ϕ' (by interpolation)	° ′ ″	$\Delta\lambda$	″
$\Delta\phi$	−	λ (central mer.)	° ′ ″
ϕ		$\Delta\lambda$	
		λ	

(M-29)

(over)

Explanation of form:

$$x' = x - C$$

$$S_g = x' - \frac{x'^3}{(6\rho_o^2)_g}$$

$$S_m = \frac{1}{R}\left(\frac{1200}{3937}\right)S_g$$

R = scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi = C\, S_m^2$

$\phi = \phi' - \Delta\phi$

$\Delta\lambda_1 = S_1 A \sec\phi$

$\log S_1 = \log S_m$ − cor. arc to sine

$\log \Delta\lambda = \log \Delta\lambda_1 +$ cor. arc to sine

$\lambda = \lambda$(central mer.) $- \Delta\lambda$

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla. East Station Putnum, 1935

ϕ 29° 21' 44.85

λ (Central meridian) 81° 00' "

λ 81 35 21.24

$\Delta\lambda$ (Central meridian–λ) 35 21.24

$\Delta\lambda$ (in sec.) − 2121.24"

log $\Delta\lambda$	3.32658981	log S_m^2	9.5150000
Cor. arc to sine	− 766	log C*	1.1557760
log $\Delta\lambda_1$	3.32658215	log $\Delta\phi$	0.6707760
log cos ϕ	9.94028497		
colog A	1.49062710	ϕ	29° 21' 44.85
log S_1	4.75749422	$\Delta\phi$	+ 4.6855
Cor. sine to arc	+ 581	ϕ'	49.5355
log S_m	4.75750003		
log 3937/1200	0.51598417	Tabular difference of y for 1" of ϕ'	
log R	− 2555		
log S_g	5.27345865	y (for min. of ϕ')	
log S_g^3	15.8203760	y (for seconds of ϕ')	+
log $1/6\rho_o^2R^2$	4.5821873	y	1,828,485.39
log $(S_g^3/6\rho_o^2)_g$	0.4025633		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	187,697.57	log $\Delta\lambda$	
$(S_g^3/6\rho_o^2)_g$	2.53	log $\Delta\alpha_1$	
x'	− 187,700.10		
	5 2,000,000.00	log $(\Delta\lambda)^3$	
x	312,299.90	log F	
		log b	
		$\Delta\alpha_1$	"
		b	
		$\Delta\alpha$	"
		$\Delta\alpha$	° ' "

* Take out C first for ϕ and correct for approximate ϕ'.

(R 349)

$$x = 2{,}000{,}000.00 + x'$$

$$x' = S_g + \left(\frac{S_g^3}{6\rho_0^2}\right)_g$$

$$S_g = \frac{3937}{1200} S_m R$$

$$\log S_m = \log S_1 + \text{cor. sine to arc}$$

$$S_1 = \frac{\Delta\lambda_1 \cos\phi}{A}$$

$$\log \Delta\lambda_1 = \log \Delta\lambda - \text{cor. arc to sine}$$

$$\left(\frac{S_g^3}{6\rho_0^2}\right)_g = \frac{S_g^3}{6\rho_0^2 R^2}$$

$$\phi' = \phi + \Delta\phi$$

$$\Delta\phi = C S_m^2$$

$$\Delta\alpha = \Delta\lambda \sin\frac{\phi + \phi'}{2} + F(\Delta\lambda)^3$$

S_m = distance in meters from point to central meridian

S_1 = distance in meters from point to central meridian reduced to sine

S_g = grid distance in feet from point to central meridian

R = scale reduction factor

Values of y in minutes and tabular difference for one second, scale reduction factors, colog A, and log C are given in auxiliary tables.

REVIEW OF AIR PHOTO COMPILATION NO.T-5150

Chief of Party: Hubert A. Paton

Compiled by: W. C. Russell
R. H. Young.

Project: HT 168

Instructions dated: Mar. 4, 1935

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b,c,d,e,g and i; 26; and 64) Charts should be completely revised in accordance with recent surveys.

2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g,n) See Above. The piers shown as a landmark on the "Orlando" Sectional Aeronautical Chart should be changed to agree with the information on the new compilation. See Drayton Island.

3. Ground surveys by plane table, sextant, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 d,e) Pilings and docks in ruins were transferred from the G. C. Sheets.

4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28) None submitted.

5. Differences between this compilation and contemporary plane table and hydrographic surveys have been examined and ~~rectified in the field~~ before forwarding the compilations to the office and are discussed in the descriptive report. No differences.

6. The control and adjustment of the photo plot are discussed in the descriptive report. Unusual or large adjustments are discussed in detail and limits of the area affected are stated. (Par. 12b; 44; and 66 c,h,i) No umusual nor large adjustments necessary.

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, and 44) Yes.

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs." M-67

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41) These are non-tidal waters, so there are none shown. The shoreline in swamp regions is in accord- with office recommendations.

9. Recoverable objects have been located and described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57) Submitted by L. D. Graham, previously.

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60) Submitted by L. D. Graham previously.

11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c) There are no bridges on this sheet.

12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k) Yes.

13. The geographic datum of the compilation is N. A. 1927, field and the reference station is correctly noted. The arc of triangulation has not yet been adjusted. No corrections applied to stations.

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j) Yes. Sheet No. T-5139 is the only one completed at the present time. Junctions with the other sheets will be discussed with the other reports.

15. The drafting is satisfactory and particular attention has been given the following:

    1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report. See 17

    2. The degrees and minutes of Latitude and Longitude are correctly marked. Yes.

3. All station points are exactly marked by fine black dots. Yes.

4. Closely spaced lines are drawn sharp and clear for printing. Yes.

5. Topographic symbols for similar features are of uniform weight. Yes.

6. All drawing has been retouched where partially rubbed off. Yes.

7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground. Yes.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

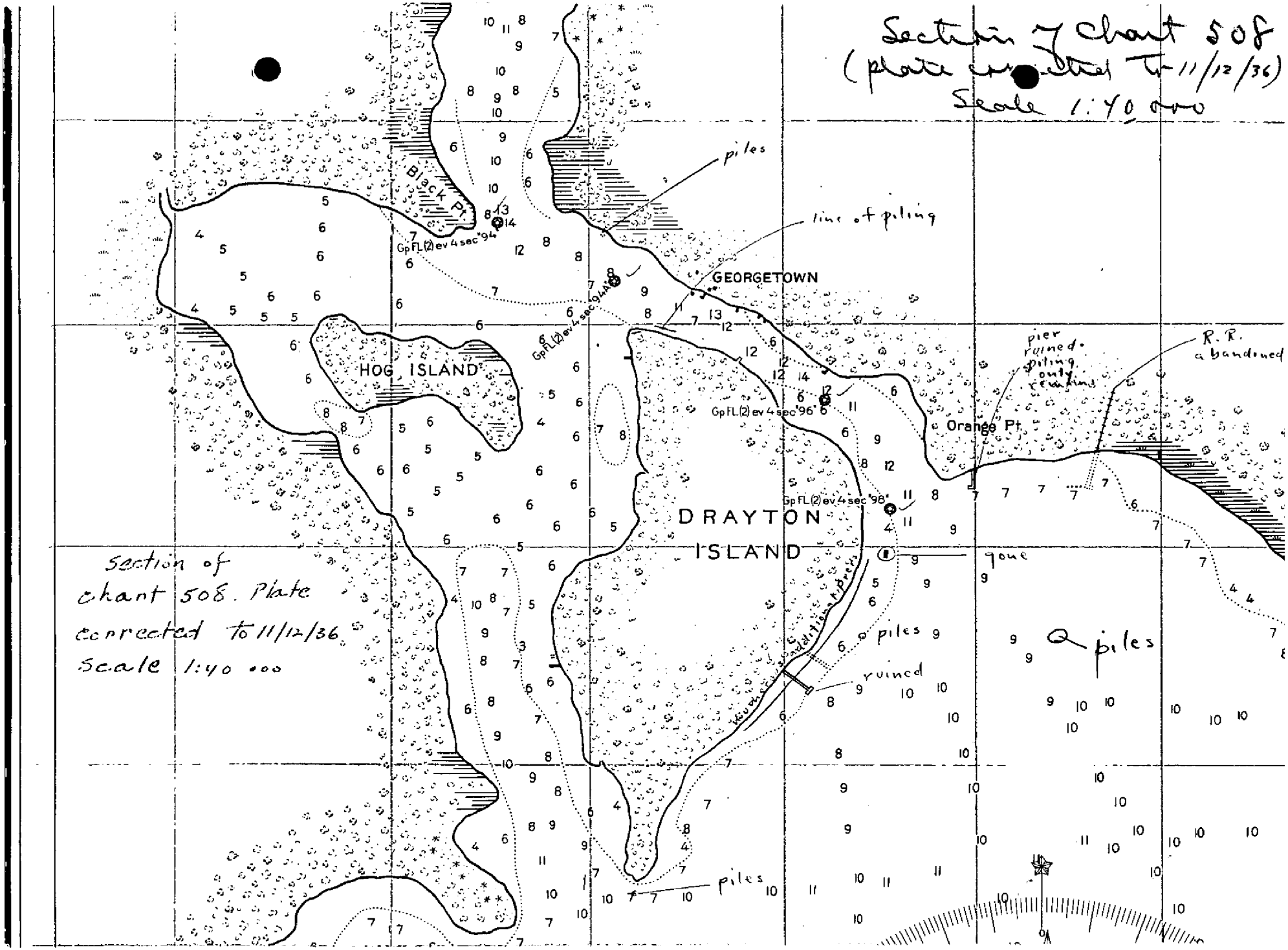
16. No additional surveying is recommended at this time.

17. Remarks: New symbols were devised for abandoned railroad beds and fire breaks. Otherwise only standard symbols were used.

18. Examined and approved;

Hubert A. Paton

Hubert A. Paton.
Chief of Party


Section 7 Chart 508
(plate corrected to 11/12/36)
Scale 1:40 000
piles
line of piling
GEORGETOWN
Black Pt.
Gp FL (2) ev 4 sec "94"
HOG ISLAND
Gp FL (2) ev 4 sec "96"
pier ruined. piling only remains
R.R. abandoned
Orange Pt.
Gp FL (2) ev 4 sec "98"
DRAYTON ISLAND
Section of chart 508. Plate corrected to 11/12/36
Scale 1:40 000
piles
ruined
piles
piles

Section of Field Records

REVIEW OF AIR PHOTOGRAPHIC SURVEY T-5150

Scale 1:10,000

Data Record

Refer to page 2 of the descriptive report, T-5150.

Graphic Control Surveys

C. S. 131 M (1937), 1: 5,000, Field No. WW
C. S. 133 M (1937), 1:10,000, Field No. XX
C. S. 142 M (1937), 1:20,000, Field No. YY

The graphic control surveys were made to locate hydrographic signals, aids to navigation, and obstructions. Only scattered small sections of shoreline were surveyed.

In general the photographs are clear and the field inspection was adequate. T-5150 has been compared with the graphic control surveys, the photographs, and the contemporary hydrographic surveys and additions or corrections have been made to T-5150 where necessary. As regards the remaining minor differences between the graphic control surveys and T-5150 the latter is correct. The following details on the graphic control surveys are not on T-5150: Magnetic declination, temporary topographic stations, and recoverable topographic station Wen (d), C.S. 133 M, which has been destroyed.

There were numerous differences in location of details between the graphic control surveys and T-5150.

1. A number of minor differences in shoreline location were corrected on T-5150 after examination of the photographs.

2. The ruined pier at Lat. 29° 22.4', Long. 81° 36.3', on C. S. 142 M, differs considerably from the position shown on T-5150. A number of small piers differ in position by 10 to 15 meters. In each case T-5150 was correct as submitted from the field.

3. The rock off Lake George Point shown on C. S. 133 M as a topographic station, was changed on T-5150 to a rock awash for ease in interpretation. The topographer, Mr. Russel, states that the rock is about 1 foot above lake level.

4. A number of piles which had not been transferred from the graphic control surveys in the field were transferred to T-5150 during the review.

Previous Topographic Surveys

T-2027 (1875), 1:80,000

This is a reconnaissance survey only and is poorly controlled. It has been examined in connection with T-5150 but no detailed comparison was necessary. T-5150 supersedes the section of T-2027 which it covers.

Contemporary Hydrographic Surveys

H-6266 (1937), 1:20,000
H-6295 (1937), 1:10,000

The omission on the hydrographic surveys of a number of piling located on the graphic control surveys has been called to the attention of the verifying unit.

Since H-6266 is on a different scale from T-5150 the shoreline was transferred in the field with a projector. The transfer of shoreline has not been checked in detail during the review.

Chart 508 (corrected to 11/12/36), scale 1:40,000

Important changes in chart 508 resulting from T-5150 are noted on the attached chart section.

The list of landmarks including fixed aids for the area covered by T-5150 is filed as chart letter No. 259 (1938).

General

All cypress shoreline on T-5150 has been redrafted in the office from the open tree symbol to a light line in accordance with Field Memorandum No. 1, 1938. The cypress shoreline as drawn by the field party was in accordance with instructions issued to the party prior to Field Memorandum No. 1, 1938.

Tiger Branch and a stream in the northwest corner of T-5150 were changed in the wooded areas from a solid line to a broken line to indicate an approximate rather than an exact location where the streams were largely obscured by trees.

Additional Work

This survey is complete and adequate for chart compilation.

Reviewed in office by: T. M. Price, June 7, 1938.

Inspected by: B. G. Jones

Examined and approved:

Thos. B. Reed
T. B. Reed
Chief, Section of Field Records

Fred. L. Peacock
Chief, Section of Field Work

K. T. Adams
Chief, Division of Charts

Chief, Division of H. & T.