

5914

5914 T-5914

Form 504 Rev. June 1941	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Air Photographic Plane Table Hydrographic	Sheet Survey No. T-5914 (Field)
LOCALITY	
State	Florida
General locality	East Coast
Locality	St. Lucie Canal
PHOTO'S TAKEN January 9, 1940	
1940	
CHIEF OF PARTY	
Lieut. Comdr. Kenneth G. Crosby	

appended to Ch. 1289

8/12/43

1289 ^{before}
_{revision}

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

15914

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.

Sheet

~~Field~~ No. T-5914

REGISTER NO.

State Florida

General Locality Florida East Coast

Locality St. Lucie Canal

Scale 1:10,000 Date of ~~survey~~ ^{Photos} January 9, 19 40

Party

~~Surveyed by~~ Air Photographic Party No. 1

Chief of party Lieut. Comdr. Kenneth G. Crosby

Field Inspected by: G. E. Varnadoe, Princ. Photo. Aid &

~~Surveyed by~~ Lieut. J. T. Thurmond

Inked by William H. Shearouse, Prin. Photo. Aid

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated April 3, 19 40

Remarks: _____

SUPPLEMENTARY SURVEYS

	Name	Date	Hours
Control Surveys.....	WHS-JEH	March & Apr.	$\frac{3}{4}$
Planetable Surveys.....			
		Total	$\frac{3}{4}$

FIELD INSPECTION

Preparation of Photographs.....	CH-FHE	Nov.	$4\frac{1}{2}$
Field Work.....	JDT-GEV	Jan.	27
Inking Notes.....			
Coast Pilot Notes.....			
Geographic Name Reports.....	FHE	May	4
Land Marks for Charts.....			
Description Cards.....	JDT	Jan.	32
Recovery Notes.....			
		Total	$67\frac{1}{2}$

MAIN RADIAL PLOT

Scale Plot.....	JEH	March	1
Projection on Base Sheet.....	Washington Office		
Projection on Survey Sheet.....			
Control Plotted.....	KGC	April	$\frac{1}{4}$
Control Checked.....	WHS	April	$\frac{1}{4}$
Control Trans. to Base Sheet....	KGC	April	$\frac{1}{4}$
Transfer Checked.....	WHS	April	$\frac{1}{4}$
Control Picked on Photograph....	JEH	March	3
Control Checked on Photograph...	RD	March	$4\frac{1}{2}$
Hydro & Topo. Stations Picked...			
Radial Points Picked.....	WHS	April	6
Adjacent Centers Picked.....	JEH-CAJP	Feb.	2
Templates.....	CAJP	April	3
Radial Plot.....	KGC-WHS-JEH	April	8
Radial Points Transferred.....	WHS-JEH	April	2
Transfer Checked.....	WHS-JEH	April	$2\frac{1}{2}$
B & T Stations Scaled & Checked	WHS-ALK	June	2
Additional Radial Points.....	WHS	May	4
		Total	39

DETAILING

Rough Draft.....	WHS	May	103
Smooth Draft.....			
		Total	103

COMPILATION

Name overlay.....	WHS	June	2
Descriptive Report.....	WHS	June	4
Field Review.....	JHSB	July	6
		Total	12

Total time spent on Sheet..... 222 hours.

T NO. 2- 5914

PHOTOGRAPHS

Photo	Date	Time	Stage of Tide
4570	1-9-40	11:30	No Tide
4571	1-9-40	11:31	
4572	1-9-40	11:32	

Tide from photograph: No Tide

Covered by U.S. Coast and Geodetic Survey (see 1-2-40) (see 1-2-40) (see 1-2-40)
 negatives on file in the U.S. Coast and Geodetic Survey

Scale

Map scale of Photograph..... 10,000 : .991
 Scale of Survey Sheet..... 1:10,000

STATISTICS

Area (land) 13.0 Square statute miles
 Shoreline (more than 200 yds. from opposite shore).... 0 Statute miles
 Shoreline (creeks) 5.5 Statute miles
 Roads, streets, trails, and railroads 10.4 Statute miles

REFERENCE STATION

Station: Indian, 1935
 Datum: M.A. 1927

Latitude: 27° 01' 35.365" (1088.5 m)
 Longitude: 80° 25' 03.354" (92.4 m)

Adjusted

F12. E Zone

x = 689,602.38
y = 979,196.73

DESCRIPTIVE REPORT
TO ACCOMPANY
SHEET T-5914

GENERAL

This sheet was compiled in accordance with "Instructions for Drafting Air Photographic Surveys, Project H. T. 242", dated April 3, 1940.

The general locality of the area covered by this sheet is Florida East Coast, in the immediate vicinity of the St. Lucie Canal near Indian-town, Florida.

The terrain on both sides of the canal is flat land being covered with numerous ponds, intermittent ponds and flooded areas. The vegetation is pine, brush, palmetto, palm, and grass. There are a few marshy areas. The western half of the south part of the sheet is being drained and prepared for cultivation. However, it was not possible at the time of field inspection to determine the limits of this development.

Roads shown by centerline should be 0.6 m.m. wide.

CONTROL

The only triangulation station on this sheet is Indian, which is a U. S. Coast & Geodetic Survey station established in 1935 by J. Bowie, Jr.

The geodetic azimuth of Indian azimuth mark was checked by using a 3-arm protractor and found to be in good agreement. *Means that after location of the azimuth mark by the photo plot the azimuth as recorded from the manuscript agreed with the geodetic azimuth.*

The U. S. Engineers have a traverse system along the St. Lucie Canal and an attempt was made to convert the local grid system position of these to geographic positions in order that they could be used for control but the conversions would not check. Therefore, these traverse stations were picked on the photographs and their locations determined by the main radial plot. The geographic position of these traverse stations are scaled and recorded on Form 524, Description of Recoverable Hydrographic or Topographic Station.

MAIN RADIAL PLOT

A continuous radial plot was run on April 22 - 24, 1942 inclusive, for the purpose of locating all photograph centers, all hydrographic stations, topographic stations, bench marks, azimuth marks, and radial points. The plot extended over the area covered by sheets T-5912 to T-5919, inclusive. All photographs in the area were used. It extends along the St. Lucie Canal from Stuart, Florida, south and westward to Lake Okeechobee at Port Mayaca. Photographs 4591, 4583 and 4584 are the northeast limits and photo 4564 forms the westerly limits.

The plot consisted of 37 templates all being for 9 lens photographs and being controlled by triangulation stations as follows: 1 by 0; 12 by 1-2; 9 by 3; 8 by 4-8; 7 by 9-13. These templates were made in accordance with "Notes on Radial Plotting of nine-lens Photographs", dated April 9, 1940.

The control afforded by first and second order triangulation was sufficient on sheets T-5919, T-5918, T-5917 and T-5912. Triangulation control

Note The method of making the
main radial plot was in accordance
with established practice and the
positions established by the main
plot should have been accepted.
It is doubtful that the detailer could
improve the positions and the practice
intended here is not ~~as~~ good.

B. J. Jones

was very meagre on sheets T-5913, T-5914, T-5915 and T-5916, but it was felt that additional field observations were not necessary.

The usual practice of laying the plot was followed. This consisted of plotting the control on the survey sheets and then transferring it to the base grid sheets by matching grid squares. The agreement between the grid lines on the survey sheet and those on the base grid was excellent and no adjustment was necessary. After laying the plot, the intersections of the radial lines were transferred to the survey sheet by again matching grid squares as previously described.

The plot was laid only once with the exception of those templates on sheets T-5914 and T-5915. The laying of the plot began with the templates on sheets T-5917, T-5918 and T-5919 and proceeded southwest to triangulation station "ALLEN" on sheet T-5916. These templates were rigidly controlled. From that point to sheet T-5912 the templates were layed by holding intersections of radial lines and azimuth, and due to lack of control the templates on sheets T-5914 and T-5915 had to be laid three times before a satisfactory tie-in of control on sheet T-5912.

The agreement along the flight line and the intersections of radial lines to adjacent photographs was excellent, with exceptions as noted in this paragraph. About 98 percent of the points established by the plot resulted from the intersection at a common point, of three to six radial lines. The remaining 2 percent are instances where only two "cuts" could be obtained. These are mostly out on the wings of the photographs and while the value of the intersection will be determined by the draftsman, it is believed that the majority of them will be outside the detailing limits. In six or eight instances the point was selected at the center of gravity where the radial lines did not form a common intersection. In no case were the sides of the triangle of error greater than 0.25 m.m. away from the point selected.

The conditions in the preceeding paragraph apply to seven of the eight sheets of this plot. The other sheet (T-5914) was the "weakest" of the plot, in so far as control is concerned, and a common intersection of radial lines was not obtained in some instances on the northern half of the sheet. There are fourteen of these instances and in each case the "cuts" were transferred to the survey sheet for further investigation by the draftsman. The points on the southern part of the sheet were picked at common intersections and after the draftsman has made further investigation, it is believed the detailing will be accomplished with the desired accuracy.

To summarize - the plot is considered "strong"; no large or unusual adjustments were necessary; and that all points are picked with 0.25 m.m. of their true position.

Various colored inks were used on the photographs and surveys sheet to designate triangulation stations, topographic and hydrographic stations, and radial points. The following key is furnished for future reference.

Photographs

Triangulation and traverse stations.....2.5 mm blue circle
Hydrographic and topographic stations.....2.5 mm green circle
Radial points in main plot.....2.5 mm red circle

Survey Sheet

Triangulation and Traverse Stations.....	3.5 mm high black triangle	
Hydrographic and topographic stations....	2.5 mm black circle	
Radial Points on main plot.....	2.5 mm blue circle on back of	sheet
Radial points (additional).....	3.5 mm blue circle on back of	sheet
Photograph Centers.....	Double blue circle on back of	sheet

INTERPRETATION OF PHOTOGRAPHS

The photographs were clear and accurate ~~and~~ interpretation was obtained with no unusual conditions being found.

FIELD INSPECTION

Field inspection was made during January and February by Lieut. J. T. Thurmond and G. E. Varnadoe, Principal Photogrammetric Aid. Field notes were sufficient for accurate interpretation of vegetation.

DETAILING

This sheet was detailed in accordance with the current instructions for the project.

The scale of photograph 4570 was fair on the north half and poor on the southern half; photograph 4571 was the same; photograph 4572 was of good scale. By supplementing the radial plot with additional radial points the detailing was accomplished with the desired accuracy.

Due to numerous ponds, intermittent ponds and flooded areas, the problem of delineating and classifying was discussed with the Chief of Party and Lieut. J. T. Thurmond and it was decided that those areas which were definitely water would be called ponds and shallow water areas that obviously flooded with the rainy season would be classified as intermittent ponds or flooded areas. A small area has been smooth drafted to serve as an example of how the sheet should be detailed by the smooth draftsman.

Before detailing, the surface of this sheet was rubbed down with magnesium carbonate and then washed off. No additional cleaning or reinking has been necessary.

Symbols have been used in a few places where it was thought that this was the better procedure.

The stereoscope has been freely used for interpreting the detail and determining the limits of vegetation.

The legend used by the field inspection party and by the draftsman is made a part of this report.

JUNCTIONS

This sheet joins sheet T-5913 on the west and sheet T-5915 on the east. The junctions are in agreement.

COMPARISON WITH OTHER SURVEYS

There is no previous survey of the area covered by this sheet, which was available at this time, with which a comparison could be made.

GEOGRAPHIC NAMES

The geographic names for this area are the subject of a special report entitled "Investigation of Geographic Names, Florida East Coast, St. Lucie River, Cross State Waterway and Lake Okeechobee", submitted to the Washington Office by Harold A. Duffy, Senior Photogrammetric Aid.

LANDMARKS

There are no prominent landmarks within the detailing limits of this sheet.

Respectfully submitted,

William H. Shearouse

WILLIAM H. SHEAROUSE

Principal Photogrammetric Aid

Forwarded

Kenneth G. Crosby
Kenneth G. Crosby,
Chief of Party...

**LEGEND USED FOR FIELD INSPECTION AND DRAFTING
PROJECT 242 - 1942**

TREES

Pi - Pine
Cy - Cypress
Palo - Palmetto
Palm - Palm
D T - Deciduous trees (broad leaf)
Cit - Citrus (orchard)
Mix - Pine, cypress & Dec. trees
(Density)
Sct. - Scattered
t.w. - Thinly wooded
h.w. - Heavily wooded
Scr. - Scrub trees;

VEGETATION

C - Cultivation
Gr - Grass
T Gr - Tall Tropical Grass
M - Marsh (dashed blue line on
inshore limits)
Mw - Marsh grass in water (dashed blue
line on offshore limits)
Sw - Swamp
Mg - Mangrove
Hdg - Hedge

STREAMS

Ca - Canal (width)
Cr - Creek
D - Ditch (width)
I S - Intermittent Stream
PDU - Probable drainage unsurveyed
Brg - Bridge or symbol
Cv - Culvert
Lw - Levee

P.G.S.- Florida Geodetic Survey
J. S. E.- U. S. Engineers
USBS - U.S. Biological Survey

ROADS & RAILROADS

Rd 1 - 1st class road (paved)
Rd 2 - 2nd class road
Tr - Trail
R R - Railroad
O P - Over pass (state the kind)
U P - Under pass (state the kind)
X - Abandoned trail, road, etc.
R H ab- P.R. abandoned (grade only)

PONDS

P - Pond
Cy P - Cypress Pond
I P - Intermittent Pond

SHORELINE

M.H.L.- mean high waterline (solid
red line - fast land)
L.W.L.- low waterline (dashed red line)
L.L.- Light line (solid blue line for
mean high water line on marsh)
Dk - Dock
Pr - Pier
Se W - Seawall
Bldd - Bulkhead
Conc - Concrete
Ho - Wooden
Jet - Jetty
Dol - Dolphin
Pile - Pile (give type)
S - Sand
Mud - Mud
Rk - Rock or Rocky
Sty - Stony
W - Water
Blf - Bluff (height)

BUILDINGS

H - House, barn or building
Ch - Church (give name)
Ct H - Court House (give name)
Bo H - Boat House
P.O. - Post Office (give name)
R.R.Sta-Railroad station (give name)
Hos - Hospital (give name)
Sch - School (give name)

MISCELLANEOUS

F - Fence
FB - Fire Break (maintained)
FBX - Fire Break (abandoned)
Cem - Cemetery
Park - Park (give name)
F.T. - Fire tower
T.T. - Transmission tower (tall steel)
P.L. - Power Line
Shoal - Approx. limits by long dashed
line for use by hydrographer.

**LEGEND USED FOR FIELD INSPECTION AND DRAFTING
PROJECT 242 - 1942**

TREES

Pl - Pine
Cy - Cypress
Pal - Palmetto
Palm - Palm
D T - Deciduous trees (broad leaf)
Cit - Citrus (orchard)
Mix - Pine, cypress & Dec. trees
(Density)
Sct. - Scattered
t.w. - Thinly wooded
h.w. - Heavily wooded
Scr. - Scrub trees

VEGETATION

C - Cultivation
Gr - Grass
T Gr - Tall Tropical Grass
M - Marsh (dashed blue line on
inshore limits)
Mw - Marsh grass in water (dashed blue
line on offshore limits)
Sw - Swamp
Mg - Mangrove
Hdg - Hedge

STREAMS

Ca - Canal (width)
Cr - Creek
D - Ditch (width)
I S - Intermittent Stream
PDU - Probable drainage unsurveyed
Brg - Bridge or symbol
Cv - Culvert
Lev - Levee

P.G.S. - Florida Geodetic Survey
J. S. E. - U. S. Engineers
USBS - U.S. Biological Survey

ROADS & RAILROADS

Rd 1 - 1st class road (paved)
Rd 2 - 2nd class road
Tr - Trail
R R - Railroad
O P - Over pass (state the kind)
U P - Under pass (state the kind)
X - Abandoned trail, road, etc.
R H ab - P.R. abandoned (grade only)

PONDS

P - Pond
Cy P - Cypress Pond
I P - Intermittent Pond

SHORELINE

M.H.L. - mean high waterline (solid
red line - fast land)
L.H.L. - low waterline (dashed red line)
L.L. - Light line (solid blue line for
mean high water line on marsh)
Dk - Dock
Pr - Pier
Se W - Seawall
Bkhd - Bulkhead
Cone - Concrete
Ho - Wooden
Jet - Jetty
Dol - Dolphin
Pile - Pile (give type)
S - Sand
Mud - Mud
Rk - Rock or Rocky
Sty - Stony
W - Water
Blf - Bluff (height)

BUILDINGS

H - House, barn or building
Ch - Church (give name)
Ct H - Court House (give name)
Bo H - Boat House
P.O. - Post Office (give name)
R.R.Sta - Railroad station (give name)
Hos - Hospital (give name)
Sch - School (give name)

MISCELLANEOUS

P - Fence
FB - Fire Break (maintained)
FBX - Fire Break (abandoned)
Cem - Cemetery
Park - Park (give name)
F.T. - Fire tower
T.T. - Transmission tower (tall steel)
P.L. - Power Line
Shoal - Approx. limits by long dashed
line for use by hydrographer.

Remarks

Decisions

1		271801-02
2		270803-05
3		"
4		1941 Off. Road Map
5		" " "
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

GEOGRAPHIC NAMES

Survey No. T-5914

Name on Survey	A, On Chart No.	B, On previous survey No.	C, On U. S. quadrangle Maps	D, From local information	E, On local Maps	F, P. O. Guide or Map	G, Rand McNally Atlas	H, U. S. Light List	K	
St. Lucie Canal										1
Spillway Allapattah No. 2										2
Spillway Mid										3
Florida Highway No. 109 and 85										4
Florida Highway No. 29										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

[Stamp: Survey No. T-5914]
 [Handwritten: L H 204 11/7/43]

DIVISION OF CHARTS

SURVEYS BRANCH

Review of Air Photographic Survey T-5914

Previous Surveys - None

Control and Radial Plot:

These are discussed in detail in the descriptive report. While only one triangulation station exists on T-5914, there appears to have been adequate control on opposite sides of this sheet for spanning the area with the photo plot. The plot has been accepted without relaying in this office.

No detailed information is given in the report regarding effort by the compilation party to adjust and use the U. S. Engineer traverse. Subsequent to the receipt of this report Commander Crosby forwarded to this office blueprints and Engineer coordinates for the traverse stations. These data have not been processed but from casual examination there appears to be few, if any, datum connections and it is doubted if the traverse can be computed to give accurate geographic position. The coordinates are not state coordinates but local coordinates.

Field Inspection and Detailing:

The field inspection is adequate and the detailing of the manuscript complete. The map has been smooth drafted in this office.

Reviewed by Dorothy Jones and E. V. Evans

Under the direction of D. H. Benson

Inspected by B. G. Jones *B.G. Jones*

Examined and approved:

Charles Pierce

Chief, Surveys Branch

J. B. Gordon

Chief, Div. of Charts

K. T. Adams

Chief, Topography Section

G. W. Hude

Chief, Div. of Coastal
Surveys