5916

Diag'd. on Topo Diag. Ch. No. 1247

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Air Photographic

Field No. ..... Office No. T-5916

LOCALITY

State Florida

General locality East Coast

Locality Junctions of St. Lucie Canal & South Fork of St. Lucie River

1942

CHIEF OF PARTY

Lt. Comdr. Kenneth G. Crosby

LIBRARY & ARCHIVES

DATE Aug 2 - 1946

B-1870-1 (1)

5916

Applied to Chart 1289 8-16-43 G.H.E. {Before review}

Form 537a
Ed. Nov. 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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
~~XXXXX~~ No. T-5916

REGISTER NO.

State Florida

General Locality East Coast of Florida

Locality Junction of St. Lucie Canal & South Fork of St. Lucie River

Scale 1:10,000 Date of ~~survey~~ Photographs Jan. 9-, 1940

Party
~~Vessel~~ Air Photographic Party No 1

Chief of party Lieut. Com'dr Kenneth G. Crosby

Field Inspected by
~~Surveyed by~~ Lieut. James D. Thurmond & Geo. E. Varnadoe, Prin. Photo Aid.

Inked by Harold V. Reid- Engr. Draftsman.

Heights in feet above ..... to ground to tops of trees

Contour, Approximate contour, Form line interval ..... feet

Instructions dated April 3, 1940

Remarks:

GPO 266853

DESCRIPTIVE REPORT
TO ACCOMPANY
SHEET NO. T-5916

GENERAL

This survey sheet was compiled in accordance with "Instructions for Drafting Air Photographic Surveys-" Project No. H. T. 242- Dated - April 3, 1940.

The general location of the area covered by this survey sheet is, FLORIDA EAST COAST in the immediate vicinity and covering the junction of the St. Lucie Canal and the South Fork of the St. Lucie River.

The Terrain shows numerous grassy ponds and flooded areas, and on the slightly higher ground the vegetation, is a mixed growth of scattered pine, palmetto, grass and brush. Along the shore line of the St. Lucie River, (South Fork) will be found a dense growth of mangrove and scattered palms. Several stretches of swamp land also appear on this sheet and these are covered with a varied growth of broad leafed trees.

A few scattered citrus groves and cultivated areas also are shown and a small amount of drainage. All roads and highways are to be 0.6 M.M. wide.

CONTROL

Only one triangulation station appears on this survey sheet viz: Jay- which is a U. S. Coast & Geodetic Survey Station, established in 1934 by J. Bowie, Jr.

// The U. S. Engineers have a traverse system bordering the St. Lucie Canal and although an attempt was made to convert the local grid system position of these stations to geographic positions, that they might be used for control, nevertheless, the conversions would not check and the idea was discarded. Therefore, these traverse stations were picked on the photographs and their locations determined by the main radial plot. The geographic position of these stations will be scaled and recorded on Form 524. (Description of recoverable hydrographic and topographic stations) //

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 photograph 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: 1by 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 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 layed 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 layed 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 inthis paragraph. About 98 per cent of the points extablished by the plot resulted from the intersection at a common point, of three to six radial lines. The remaining 2 per cent are instances where only two "cuts" could be obtained. These are nostly 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 atthe 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 0.25m.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-5814) was the "weakest" of the plot, insofar 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 survey 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 wereclear and no difficulty was experienced in obtaining reasonably accurate interpretations.

FIELD INSPECTION

Field inspections were made during January and February 1942, by Lieutenant J. D. Thurmond and Geo.E. Varnadoe- Principal Photogrammetric Aid.

DETAILING

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

The following photographs were used for this drawing viz: 4577, 4578, 4579 and photographs 4576, 4596 whose centers were outside the trading limits of this survey sheet. These were clear and of good scale.

Before detailing the surface of this sheet was rubbed well with magnesium carbonate and washed off. No additional cleaning or re-inking has been necessary.

The sterescope was used wherever it was deemed necessary to better identify certain outlines.

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

JUNCTIONS

This survey sheet joins sheet No. T-5917 on the north, T-5915 on the south and T-5919 on east. All junctions are in agreement.

NON-FLOATING AIDS

Beacons #37 & 40 are shown

~~No non-floating aids appear on this sheet.~~

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.

LAND MARKS

No prominent land marks appear within the tracing limits of this sheet.

Respectfully submitted

Harold V. Reid

Harold V. Reid
Engineering Draftsman(Topo)

Forwarded:

Kenneth G. Crosby

Kenneth G. Crosby
Chief of Party...

GEOGRAPHIC NAMES

Survey No. T-5916

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

[illegible] L Heck 12/29/42

M 234

T-5916

	Remarks	Decisions
1		271801-02
2	Apply this name pending USGb decision	"
3		270803-05
4		"
5		271801-02
6	No. 85 on most maps.	1941 Off. State Road Map
7		
8		
9		
10		
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26		
27		

M 234

	Name	Date	Hours
PHOTOGRAPHIC SURVEYS			
Control Surveys	JEH - WHS	APRIL & MARCH	½
Miscellaneous Surveys		Total	½
FIELD EXAMINATION			
Preparation of Photographs	CH- FHE	Nov.	3¼
Field Work	GEV- JDT	JAN & FEB	48
Bridge Notes			
Coast Pilot Notes			
Topographic Items Verified	FHE	MAY	7
Land Marks for Charts			
Description of Hydrographic Stations	JDT	FEB	16
Recovery Notes		Total	74¼
PLANE TABLE PLOT			
Scale Plot	JEH	MARCH	1
Projection on Base Sheet	Wash. Office		
Projection on Survey Sheet			
Control Plotted	KGC	APRIL	¼
Control Checked	WHS	APRIL	¼
Control Trans. to Base Sheet	KGC	APRIL	¼
Transfer Checked	WHS	APRIL	¼
Control Picked on Photographs	JEH	MARCH	3
Control Checked on Photographs	CAJP	MARCH	2
Hydro & Topog. Stations Plotted	JEH	MARCH	½
Radial Points Plotted	CAJP	MARCH	6½
Adjacent Centers Picked	JEH	FEB	1½
Templates	CAJP	APRIL	3
Radial Plot	KGC WHS JEH	APRIL	5
Radial Points Transferred	WHS - JEH	APRIL	1½
Transfer Checked	JEH	APRIL	2
H & T Stations Inked & Checked	HVR - BOB	JUNE & JULY	10½
Additional Radial Points		Total	37½
DRAWING			
Smooth Drawing	HVR	MAY & JUNE	21¼
		Total	21¼
COMPILATION			
Verification	HVR	JUNE	6½
Descriptive Report	HVR	JUNE	9
Field Review	WHS	JULY	14
		Total	29½
Total time spent on Sheet			353 3/4 hours

CHART NO. T- 5916

PHOTOGRAPHS

Number	Date	Time	Stage of Tide
4577	Jan. 9- 1940	11:30	
4578	Jan. 9- 1940	11:31	
4579	Jan. 9 - 1940	11:32	None

[illegible] predicted tables for:

Camera: U. S. Coast and Geodetic Survey [illegible]-Lens (Focal length [illegible] inches)
Negatives on file at the [illegible] Office.

SCALE

Mean Scale of Photographs .... 10,000 + 0.989
Scale of Survey Sheet 1: 10,000

STATISTICS

Area (Land)	21.8	Square statute miles
Shoreline (more than 200 m. from opposite shore)	None	Statute miles
Shoreline (creeks)	30.7	Statute miles
Roads, streets, trails, and railroads	29.6	Statute miles

REFERENCE STATION

Station: Jay- 1934 ✓
Datum: N.A.- 1927

Latitude: 27°07' 57" 668 (1774.9M) ✓
Longitude: 80°13' 47."455 (1306.9M) ✓

Adjusted

(58 / 20)

FLA. EAST ZONE

x = 750,490.47 ✓
y = 1,018,128.19 ✓

[illegible]
[illegible] - 1952

[illegible]

Pi - Pine
Cy - Cypress
Palo - Palmetto
[illegible] - [illegible]
[illegible] - [illegible] (small [illegible])
Cst - [illegible] ([illegible])
[illegible] - [illegible], cypress & misc. [illegible] ([illegible])
[illegible] - [illegible]
[illegible] - [illegible]
[illegible] - [illegible]
[illegible] - [illegible]

[illegible]

G - [illegible]
Cr - [illegible]
[illegible] - [illegible]
[illegible] - Marsh ([illegible] blue lines on [illegible] limits)
[illegible] - [illegible] grass [illegible] ([illegible] blue line on offshore limits)
[illegible] - [illegible]
[illegible] - [illegible]
[illegible] - Hedge

[illegible]

[illegible] - [illegible] (width)
[illegible] - [illegible]
D - Ditch (width)
I [illegible] - Intermittent Stream
P.D.U. - Probable drainage unsurveyed
Br - Bridge or [illegible]
[illegible] - Culvert
Lev - [illegible]

P.[illegible] - [illegible] Geodetic Survey
[illegible] - [illegible]
[illegible] - U.S. [illegible] Survey

[illegible]

[illegible] 1 - 1st class road (paved)
[illegible] 2 - 2nd class road
Tr - Trail
R R - Railroad
O P - Overpass([illegible] to the kind)
U P - Underpass(state the kind)
[illegible] - [illegible] trail, road, etc.
[illegible] - R.R. abandoned (grade only)

[illegible]

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

[illegible]

H. [illegible] - [illegible] waterline ([illegible] red line - [illegible] Pond)
L. [illegible] - [illegible] waterline ([illegible])
[illegible] - [illegible] Line (solid blue line for [illegible] high water line [illegible])
[illegible] - [illegible]
[illegible] - Pier
[illegible] - Seawall
[illegible] - Bulkhead
[illegible] - Concrete
[illegible] - [illegible]
Jet - Jetty
Dol - Dolphin
Pile - Pile (give type)
[illegible] - Sand
[illegible] - Mud
[illegible] - Rock or Rocky
Sty - Stony
[illegible] - [illegible]
Blf - Bluff (height)

[illegible]

H - House, barn or building
Ch - Church (give name)
Ct H - Court House (give name)
[illegible] H - [illegible] House
P.O. - Post Office (give name)
[illegible] - Railroad station (give name)
Hos - Hospital (give name)
Sch - School (give name)

[illegible]

F - Fence
FB - Fire Break (maintained)
[illegible] - Fire Break (abandoned)
Cem - Cemetery
Park - Park (give name)
[illegible] - Fire tower
[illegible] - 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

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)
MG - 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
U. 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 - Overpass(state the kind)
U P - Underpass(state the kind)
X - Abandoned trail, road, etc.
R R ab- R.R. abandoned (grade only)

PONDS

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

SHORELINE

H.W.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
Bkhd - Bulkhead
Conc - Concrete
Wo - 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.

DIVISION OF PHOTOGRAMMETRY

REVIEW OF PLANIMETRIC MAP T-5916

Horizontal Control and Radial Plot:

With reference to the statement under "Control", page 1, the U. S. Engineer traverse stations were handled in this manner throughout most of project 242-D, that is, around Lake Okeechobee and the Caloosahatchee River. It would have been preferable to have converted the Engineer stations to geographic positions and used them for control of the radial plot. After this sheet and others on this project were received in the Washington Office, the Review Section endeavored to obtain additional information from the Engineer Office at Jacksonville, Florida, and to compute geographic positions ~~at~~ their control stations. However, this was not successful and the idea had to be abandoned.

Because of the sparsity of Coast and Geodetic Survey horizontal control, the radial plots in this area generally were somewhat weak. Plots for sheets T-5901 to T-5903 were relaid in this office as a test and it was decided to accept the compilations as received from the Tampa Office without change. The details of the test plotting are stated in the descriptive report for T-5901.

On the basis of the test noted in the preceding paragraph, the radial plot for T-5916 has been accepted as sufficiently accurate for charting, but is probably somewhat below usual standards.

Additional details as regards the accuracy of work in this area are given in the descriptive reports T-5883 to T-5889.

Field Inspection and Detailing:

The field inspection was adequate and only a few minor changes in details have been necessary during the review.

Comparison with Previous Surveys:

There are no previous surveys of this Bureau in this area.

Comparison with Nautical Chart 1289

T-5916 was applied to Chart 1289 prior to this review. No changes have been made during the review which affect the chart.

Reviewed by Dorothy Moseley Dorothy Moseley

Under the direction of D. H. Benson

Report prepared from reviewer's notes by B. G. Jones

B.G. Jones
B. G. Jones, Technical Asst.
Div. of Photogrammetry

Robert W. Knox
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