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 Junctn of St. Lucie Canal & South Fork of St. Lucie River

1942

CHIEF OF PARTY

Lt. Comdr. Kenneth G. Crosby

LIBRARY & ARCHIVES

DATE Aug 2 - 1942
Applied to Chart 1289  8-16-43  G.H.E.  {Before review}
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  

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 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 Photographs Jan. 9-19, 1940  

Party  

Air Photographic Party No. 1  

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

Field Inspected 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:  

------------------------------------------------------------------------------------------------------------------  

670 706522
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 leaved 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 6.0 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) /\n
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: 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 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-5913 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 in this paragraph. About 98 per cent of the points established 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 mostly cut 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 0.25m.m. away from the point selected.

The conditions in the preceding 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 were clear 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 stereoscope 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
Engineering Draftsman (Topo)

Forwarded:

Kenneth G. Crosby
Chief of Party...
<table>
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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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SWS NO. 2-5916

**Supreme Court Wrens**

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**Field Log**

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**Plotted Plot**

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**Working**

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**Calculations**

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**Total time spent on Sh. et.** | 3553/4 hours
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The predicted sound factor:

**Summary:** N. S. Dredge and Geodetic Survey records, (depth length 1.2 inches)
Negative on file in the office.

Scale:

- ISO code of photograph: .............................. 10,000 ± 0.989
- Scale of survey chart: ............................... 1:10,000

**Statistics**

- Area (Land): ........................................ 21.8
- Shoreline (norm: 100 ft from opposite shore): None
- Shoreline (exact): .................................. 30.7
- Roads, streets, trails, and railroads: .............. 29.6

**Reference Station**

- Station: Jay, 1924
- Latitude: 27° 07' 47" N
- Longitude: 80° 13' 45.5" W

- FLA. EAST ZONE
  \[ x = 750,490.47 \]
  \[ y = 1,018,128.19 \]
**Legend Used for Field Inspection and Drafting**

**PROJECT 242 - 1942**

### TREES
- Pi = Pine
- Cy = Cypress
- Pal = Palmetto
- Pal = Palm
- D T = Deciduous trees (broad leaf)
- Cit = Citrus (orchard)
- Lin = Pine, cypress & Dec. trees (Density)
- Sct = Scattered
- T.w = Thiny wooded
- H.w = Heavily wooded
- Scr = Scrub trees

### VEGETATION
- C = Cultivation
- Cr = Grass
- T Gr = Tall Tropical Grass
- M = Marsh (dashed blue line on inshore limits)
- M6 = 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
- Brq = Bridge or symbol
- Cv = Culvert
- Lev = Levee

### 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.Ste = 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 of 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
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. King
Chief, Nautical Chart Branch
Division of Charts

K. T. Adams
Chief, Div. of Photogrammetry

Raymond E. Silverman
Chief, Div. of Coastal Surveys