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applied to ch. 1289 7/5/43 ~~YHE~~

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.
T5901

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

~~State~~ No. **T-5901**

REGISTER NO.

State **Florida**

General Locality **Lake Okeechobee, Florida**

Locality **Northeastern Shore Lake Okeechobee, vicinity of Nubbin Slough**
photos.

Scale **1:10,000** Date of survey **January 9**, 19 **40**

Party

~~Header~~ **Air Photographic Party No. 1**

Chief of party **Lieut. Comdr. Kenneth G. Crosby**

Field Inspected by:

~~Surveyed by~~ **George E. Varnadoe, Principal Photogrammetric Aid**

Inked by **Robert Eis, Photogrammetric 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: _____

SHEET No. T—5901

SUPPLEMENTARY SURVEYS

	Name	Date	Hours
Control surveys.....			
Planetable Surveys.....			

FIELD INSPECTION

SUPPLEMENTARY SURVEYS

Preparation of Photographs.....	JEH, CH, GEV	Oct. Nov. Dec.	6
Field Work.....	GEV, FHE	March	36
Inking Notes.....			
Coast Pilot Notes.....			
Geographic Name Reports.....			
Land Marks for Charts.....			
Description Cards & Recovery Notes.....	GEV	March	10
		Total	52

MAIN RADIAL PLOT

Scale Plot.....	WHS	May	1
Projection on Base Sheet.....	} Washington Office		
Projection on Survey Sheet.....			
Control Plotted.....			
Control Checked.....			
Control Trans. to Base Sheet.....			
Transfer Checked.....			
Control Picked on Photograph.....			
Control Checked on Photograph.....			
Hydro & Topo. Stations Picked.....	HGB, JTW, CHW	May	34 $\frac{1}{2}$
Radial Points Picked.....	LGB, MMS	May, June	12 $\frac{1}{2}$
Adjacent Centers Picked.....	HVR, RDE	Apr.	5 $\frac{1}{2}$
Templates.....	MMS, CHW	May, June	13
Radial Plot.....	X	June	11
Radial Points Transferred.....	RDE	June	1 $\frac{1}{2}$
Transfer Checked.....	RD	June	1
H & T Stations Scaled & Checked.....	RDE, BOB	July, Aug.	6 $\frac{1}{2}$
Additional Radial Points.....	RDE	June	2
Investigation of Radial Points.....	RDE	June	27
		Total	115

DETAILING

Rough Draft.....	RDE	June	126
Smooth Draft.....			
		Total	126

COMPILATION

Name overlay.....	RDE	July	4
Descriptive Report.....	RDE	July	8
Field Review.....	HAD	Sept.	10 $\frac{1}{2}$
			22 $\frac{1}{2}$

Total time spent on Sheet..... 315 $\frac{1}{2}$ hours
X=Several of Office Personnel

PHOTOGRAPHS

Number	Date	Time	Stage of Tide
4604	1-9-40	12:05	No Tide
4606	"	12:11	
4607	"	12:13	
4608	"	12:14	
4609	"	12:15	

Tide from predicted tables for: No Tide

CAMERA: U. S. Coast and Geodetic Survey Nine-Lens (focal length $9\frac{1}{2}$ inches)

SCALE

Mean scale of Photographs..... 10,000 + 1.007
Scale of Survey Sheet..... 1:10,000

STATISTICS

Area (land)..... 14.28 Square statute miles
Shoreline (more than 500 m. from opposite shore)... 7.46 Statute miles
Shoreline (creeks)..... 7.46 Statute miles
Roads, streets, trails, and railroads..... 37.95 Statute miles

REFERENCE STATION

Station: U. S. TRI-NS

Latitude: $27^{\circ} 11' 31.142''$ (959.5 m.)

Datum: NA 1927

Longitude: $80^{\circ} 45' 40.227''$ (1107.2 m.)

No card of S. Inauguration on this map. See par. "Control" on next page.

See datum stations on adjoining map.

Do not show on the note for the datum station in the title of this map.

DESCRIPTIVE REPORT
TO ACCOMPANY
SHEET NO. T-5901

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 survey sheet is the Northeastern shore of Lake Okeechobee, Florida, in the vicinity of Nubbin Slough. The area, a strip approximately $2\frac{1}{8}$ miles wide lying parallel to the lake shore, extends from Long. $80^{\circ} 42'$ to Long. $80^{\circ} 47'$.

Along the lake shore there is a ridge covered with cypress, palm, and deciduous trees. This ridge and the lake form a fast shore line from the eastern limits of the sheet to Nubbin Slough, thence to the western limits of the sheet the shore line is formed by a levee which has been thrown up in front of the ridge. The terrain beyond the ridge is low land covered with numerous ponds, intermittent ponds, glades, swamps and marshes.

The vegetation consists of cypress, palm, pine, deciduous trees, palmetto, grass and scrub.

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

CONTROL

There is no first or second order triangulation station within the limits of this sheet.

The U. S. Engineers Station U.S. TRI-NS was used as the reference station. As the grid position of this station could not be converted to a geographic position due to it being on a local grid, the station was picked on the photographs and its location was determined by the main radial plot. This position was scaled and the forward distances, in meters, were converted to seconds.

MAIN RADIAL PLOT

A continuous radial plot was run on June 14-16 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-5900 to T-5903 inclusive. All photographs in the area were used. It extends north and west along Lake Okeechobee from Lat. $27^{\circ} - 01'$, which is just north of Port Mayaca to Okeechobee, Florida. Photographs 4563 and 4598 are the southeast limits and photographs 4615 are the northwest limits.

The plot consisted of 18 templates all being for nine-lens photographs and being controlled by triangulation stations as follows: 2 by 4; 2 by 3; 7 by 2; 2 by 1; 5 by 0. 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-5900, T-5902 and T-5903, and the field season was closed before additional observations could be made by this party.

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 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 laying of the plot began on sheet T-5900 and proceeded to triangulation station Ute, 1924, on sheet T-5902. Sheet T-5900 was adequately controlled by triangulation. Sheet T-5901 did not have any triangulation on it and the plot was laid by holding intersections of radial lines and azimuth. Due to lack of control this part of the plot had to be relaid several times before a satisfactory tie-in could be made at triangulation station Ute, 1924. The remainder of the plot - sheets T-5902 and T-5903 were laid by starting with the templates for photographs 4563 and 4598 and working north to triangulation station Ute, 1924. Photographs 4563 and 4598 were used in the previous plot which covered sheets T-5912 to T-5919 inclusive. Therefore, the radial points already on them were used to tie these plots together. In proceeding with the laying of the templates on sheets T-5903, it was found that the location of the field marker for triangulation station Sand, 1924, was doubtful as the recovery card for this station says that it apparently has been moved. The location of the point as picked on the photographs failed to form an intersection at the plotted position of station Sand, 1924, on the base grid, but by holding intersections of radial lines and azimuth and other triangulation control in the area the plot is satisfactory for accurate detailing of the area covered by sheet T-5903.

The agreement along the flight line and the intersection of radial lines was good on sheet T-5900. In 12 instances where the radial lines failed to form good intersections the "cuts" were put on the survey sheet for further investigation by the draftsman. In 15 instances where only 2 cuts could be obtained they were also put on the survey sheet for the draftsman to determine their accuracy.

Agreement along the flight line was only fair on sheets T-5901 and T-5902. About 50 percent of the cuts failed to form "tight" or good intersections and were penciled on the survey sheet to be investigated by the draftsman. It is thought that by recutting these points the intersections will be closed. *This is not a logical nor acceptable method. pgg*

Agreement along the flight line and the agreement of the intersection of radial lines was good on sheet T-5903. There were 15 instances where only 2 cuts could be obtained and these cuts were penciled on the survey sheet so that the draftsman could determine their strength. In four instances a satisfactory intersection was not formed by the radial lines and the cuts were penciled on the survey sheet for further investigation by draftsman.

All points established by intersection of radial lines were picked where from 3 to 6 lines formed the intersection and it is believed that all picked points are within 0.25 m.m. of their true position.

This plot cannot be called "strong". However, the sheets on both ends are rigidly controlled by triangulation. This allows an accurate tie-in of sheet T-5903 with the previous plot and insures a good tie between sheet T-5900 of this plot and T-5899 of the next plot on the west side of Lake Okeechobee.

Various colored inks were used on the photographs and survey sheets to designate control, topographic stations and radial points.

The following key is furnished for reference:

Photographs

Triangulation and Traverse stations-----2.5 m.m. blue circle
Hydrographic and Topographic Stations-----2.5 m.m. green circle
Radial Points in the Main Plot-----2.5 m.m. red circle
Radial Points (Additional)-----3.5 m.m. red circle
Photograph Centers-----Double white circle

Survey Sheet

Triangulation and Traverse Stations-----3.5 m.m. high black triangle
Hydrographic and Topographic Stations-----2.5 m.m. black circle
Radial Points on Main Plot-----2.5 m.m. blue circle on back
Radial Points (Additional)-----3.5 m.m. blue circle on back
Photograph Centers-----Double blue circle on back

An investigation of the "cuts" on this sheet which failed to form "good" intersections disclosed that nothing could be accomplished by holding to the centers which were picked from the main radial plot. All radial points picked on the photographs were checked and a number of additional points were added. On photograph 4606 a line was drawn from the center of the photo to triangulation station Ute 1924. Points on this line were picked on Photo 4607 and a line was drawn through them from the center. In effect, this line was a radial line from the center of Photo 4607 through Ute 1924 although the station did not actually appear on this photograph.

As radial lines through common points on photograph 4608, 4609 and 4610 formed good intersections, it was believed that the centers of photos 4608 and 4609 were picked in their true positions on the survey sheet.

By means of a "dog ear" triangulation station Ute 1924 was picked from sheet T-5902 and added to this survey sheet.

Photograph 4607 was then oriented under the sheet in such a manner that the azimuth 4607-4608 was held, common points on photographs 4609, 4608 and 4607 formed good intersections, and the radial line to Ute 1924 from the center of photograph 4607 passed through the position of Ute as it was picked on the survey sheet. The positions of the center of photograph 4607 was then picked on the sheet.

This procedure was followed in determining the positions of the centers of photographs 4606 and 4604.

Good radial intersections were obtained and points were picked whose position it is believed falls within limits for their true position.

INTERPRETATION OF PHOTOGRAPHS

The photographs were clear and no difficulty was experienced in their interpretation. The stereoscope was used freely as an aid to interpretation.

See memorandum and comparisons following.

FIELD INSPECTION

The field inspection was made March 1942 by George E. Varnadoe, Principal Photogrammetric Aid. Field notes were sufficient along the shoreline and roads throughout the sheet for interpretation of the terrain.

DETAILING

The detailing of this sheet has been done in accordance with the current instructions for this sheet and project.

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

The scale of all photographs with the exception of photograph 4604 was reasonably good. As the salient area of photograph 4604 was covered by photograph 4606 and photograph 4607, photograph 4604 was not used.

In the approximate location Lat. $27^{\circ} 11.5'$, Long. $80^{\circ} 45.5'$, the field inspection party has noted new cultivated areas. These have been drafted as shown on the field print.

Symbols were used wherever a truer interpretation could be obtained than by the use of legends.

All buildings visible under the stereoscope have been shown.

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-5900 on the northeast and sheet T-5902 on the southwest. The junctions are in agreement.

COMPARISON WITH OTHER SURVEYS

A comparison was made with photostat of Section of Topographic Sheet No. T-4124, surveyed in 1924-25 on scale 1:20,000. Due to changes created by road building, levee construction, the hurricane of 1928, and the scale of the above mentioned survey, a favorable comparison could not 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, Sr. Photogrammetric Aid.

LANDMARKS

Form 567, which is made a part of this report, lists the only landmark appearing on this sheet. It is to be deleted.

Forwarded by:

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

Respectfully submitted,
Robert D. Eis
Robert D. Eis,
Photogrammetric Aid

LANDMARKS FOR CHARTS

~~FOODS OF THE WORLD~~ }
TO BE DELETED } STRIKE OUT ONE

Sheet 5901 42
1101 E. Broadway, Tampa, Florida Sept. 12, 1935

I recommend that the following objects which have (*have not*) been inspected from seaward to determine their value as landmarks, be ~~deleted~~ (*deleted from*) the charts indicated.

The positions given have been checked after listing.

1401. Capt. Kenneth G. Greedy
Chief of Party

[illegible]

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

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

TREES

Pl - Pine
Cy - Cypress
Pal - Palmetto
Palm - Palm
Df - Deciduous trees (broad leaf)
Cit - Citrus (orchard)
Mix - Pine, cypress & Dec. trees
(Density)
Sc - 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
Edg - Hedge

STREAMS

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

FOS - Florida Geodetic Survey
USE - U. S. Engineers
USGS - U. S. Geological Survey

ROADS & RAILROADS

Rd 1 - 1st class road (paved)
Rd 2 - 2nd class road
Tr - Trail
RR - Railroad
OP - Overpass (state the kind)
UP - Underpass (state the kind)
X - Abandoned trail, rd, etc.
RR ab - R.R. abandoned (as-is 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
Bhd - 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)
RR Sta. - Railroad station (give name)
Hos - Hospital (give name)
Sch - School (give name)

MISCELLANEOUS

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

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

TREES

M - Pine
 Cy - Cypress
 Palo - Palmetto
 Palm - Palm
 D F - Deciduous trees (broad leaf)
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 Mix - Pine, cypress & Dec. trees
 (Density)
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 USNS - U. S. Biological Survey

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 line - fast land)
 L.W.L. - Low waterline (dashed red line)
 L.L. - Light line (solid blue line
 mean high water line on map)
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 Conc - Concrete
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 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
 Special - Appx. limits by long dashed
 line for use by hydrographer

Remarks

Decisions

1		269806-08 USGB
2		271806-07
3		"
4		"
5		"
6		"
7		"
8		"
9		"
10		Railway Guide
11		"
12		1941 Off. Road Map of Fla.
13		"
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GEOGRAPHIC NAMES

Survey No. T-5901

GEOGRAPHIC NAMES											
Survey No. T-5901											
Name on Survey											

12/18/42
 L. Heck

REVIEW OF PLANIMETRIC MAP T-5901

Field Inspection:

The field inspection was adequate.

Main Radial Plot:

The descriptive reports indicate that the radial plot was weak in this area. It was first intended to relay the main radial plot in this office as a check. However, all of the metal-mounted office photographs have been dismantled to provide metal for new prints and on requesting that the photographs be reprinted it was found that the negatives are so badly distorted that it would be practically impossible to obtain accurate prints for radial plotting. For these reasons the idea of relaying the plot was discarded.

A comparison was made with the previous planetable surveys in this area. The previous surveys at a scale of 1:20,000 were enlarged in the projector and permanent map details such as road intersections and bridges compared.

The comparisons show many differences up to 10 meters and a number of differences up to 20 meters, with a few as much as 25 meters. However, considering that the planetable sheets were enlarged twice, this comparison indicates that planimetric maps T-5900 to T-5912 probably shows details to within 1 to $1\frac{1}{2}$ millimeters of correct geographic position, if not closer. While this is not up to usual standards of accuracy, the probable error in position is not sufficiently large to warrant the additional ground control surveys which would be necessary to test the horizontal accuracy and to strengthen a new radial plot of this area.

Detailing:

A number of minor details have been added to the manuscript from the field inspection photographs during this review. These are shown on the manuscript in red.

Comparison with Previous Survey T-4124 (1:20,000) 1925:

T-5901 is complete and adequate to supersede that section of T-4124 which it covers.

Comparison with Chart 1289:

T-5901 has been applied to Chart 1289 prior to this review. However, the changes made during the review and shown on the manuscript in red do not effect the chart.

Reviewed by Willis St. John
Under the Direction of D. H. Benson - 12/8/43

Approved by:

B. G. Jones 11/20/45
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 Egan
Chief, Div. of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. F-5901

Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.