5132

DESCRIPTIVE REPORT

Photo
Topographic }
~~Hydrographic~~ } Sheet No. **5132**

(311

State .... Florida

LOCALITY

Lake George

Juniper Creek

AND VICINITY

Photos taken 1935

~~1937~~

CHIEF OF PARTY

Hubert A. Paton

Applied to Chart 687. November 1939. L.A.M.

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.

Field No. 31

REGISTER NO. T-5132

T5132

State   Florida

General locality   Lake George

Locality   Juniper Creek

Scale 1:10,000   Date of photos ~~survey~~ March 13, 1935, 19

Vessel   Party No. 26

Chief of party   Hubert A. Paton

Surveyed by   See Page No. 2

Inked by   Robert H. Young

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 No. 32-2 used

Field Inspection   February and August, 1937

Notes on Compilation

Sheet No. 31

Register No. T-5132

PHOTOS- Five lens, Flight No. 22, Photos Nos. 836 to 859 *Time 11:30-11:45 A.*

No tide

Date Flown- March 13,1935 *River Level Normal*

Scale Plot- William C. Russell, 4/17/37

Scale Factor Used- 1.00

Projection by- Washington, Office.

Control Plotted by- Hubert A. Paton, 5/20/37

Control Checked by- W. C. R. 5/21/37

Topography Transferred by- Robert H. Young 7/19/37

Topography Checked by- H. A. P. 7/19/37

Smooth Radial Plot by- H. A. P.

Details Inked by- R. H. Y.

Area of Detail Inked- 17.9 sq. Stat. Miles.

Length of Shoreline*(over 200 m) 6.9 " "

"   "   "   (under 200m) 9.0 " "

Ref. Sta.; Yellow, 1935

Lat.: 29° 16′ 10.30″ (317.1 m.) (unadjusted)
Long.: 81° 38′ 31.36″ (846.4⁴ m.)

N. A. 1927 datum

note: an approximate adjustment to the field position was made by Paton. (-0.2 meters in longitude) and applied to the projection of this sheet.

Descriptive Report

to accompany

Photo-Topographic Sheet No. 31 (field)

Register No. 5132

General Information:

      This sheet was compiled from photographs taken by the
U. S. Army Air Corps, using a five lens camera, No. 32-2. There
was but one flight on this sheet, No. 22, which was flown in a
northwest direction. The photos were taken at an elevation of
about 5000 feet and the scale of the photos was almost exactly
1:10,000.
      The tide range in this area is zero so the stage of the tide
is not important. From the appearance of the photos the lake was
at normal river level.

Control:

      Triangulation.- Control for this plot was obtained from
the unadjusted field positions of the second order stations estab-
lished by Lieut. K. G. Crosby in 1935. A small adjustment was made
to the longitude of the positions for error in closure of arc. In
the case of the reference station, Yellow, it amounted to 0.2 meters
minus. For this reason the seconds into meters will not check ex-
actly.
      Graphic Control Sheets.- Considerable control was secured
from Sheet ZZ,* surveyed by Lieut. Comdr. L. D. Graham in 1937, on a
scale of 1:20,000.   "Sed" is a described H. & T. station but the
others,"Cor", "War" and "Urn" were temporary hydrographic signals
on lone trees and fish traps.
*G.C. survey
Fld. No. 22 is
~~Registered~~ in
Air Photo Section
under Number
C 5 1 3 4 M

/des. H+T station; filed under No. T 5132; Sed(d)

      Additional control.- Station "Cor", the southwest
corner of an old platform out in the lake, was located by sextant
angles, partly as a check on the graphic control sheet, and also
for a definite location for the station. There was found a differ-
ence of about 5 meters on the 1:20,000 scale sheet between the
location by sextant angles and the plane table location.   The
sextant angles were used for the position on the photo compilation.
The fix was as follows:

            Juniper
            War $70^\circ 21'$
            Urn $32^\circ 47'$

Check Angle - War to Volusia Bar Beacon No. 102, $95^\circ 33'$

      The above sources furnished control for the sheet. There were no
State Control Survey Traverses in this area. Additional control
would have been helpful on the A wing of the flight,but not abso-
lutely necessary, as a good plot was carried through from the
stations along the shore. *The control is not very strong
on this sheet, but probably adequate for
locating pts. within 10 m. true geog. position.
F.M.P.*

      Station Juniper as picked on the photos would not check the plot.
The field inspection at this station was very difficult due to
dense growth of trees, and some mistake had probably been made in
identifying the reference points.   A field inspection station
"Pt.B", near Juniper, was selected and scaled from the graphic
control sheet, and then plotted on the photo-topographic sheet.
This point checked to within 3 or 4 meters*which was considered

This difference is 10 m. instead of 3 or 4. F.M.P.

within the allowable degree of accuracy, since it had been scaled
from a small scale survey.

Station Yap, as picked on the photos in the field was in error.
The point picked was some other signal which had not been located
on the G. C. Sheet.

Station Hav was located on the photos as the southeast corner
of an old abandoned fish net rack out in the lake. The station
could not be held for control on the plot, and it is believed that
since the photos were taken the ends of the dock have broken down
and the present end is inshore from the one shown. All of these
stations were relocated by means of the radial plot and the new
positions were used as radial points.

Radial Plot:

The five lens pictures were mounted in accordance
with the calibration tests furnished by the office for this camer.
In most cases it was found that the wings had to be moved slightly
in toward the B print to obtain good intersection of radial lines
and to check the control. The amount moved was not always the same
on each picture. In no case was the wing moved in enough to check
the detail with the B. Print. With this method of mounting it is
impossible to trace detail across the junction of the wing prints
and the B prints, but since there was generous overlap, all areas
could be traced from some photo without the necessity of crossing the
junction lines.

After the radial points had been picked, all radial lines that
did not check were corrected or rejected. No great difficulty was
experienced in making the plot go through. *Note: There seems to have
been difficulty however with fitting a number of control pts;
plot (see above paragraph)*

General Description of Topography:

The area covered by this sheet is a part of the Ocala
National Forest. For the most part it is covered with low pine and
scrub oak and deciduous trees. Along the shore the trees are taller
and there are a few scattered palms. The southern part of this
sheet is low, rather flat, and covered with swamp and marsh. The
central and northern parts are higher and rolling country.

At Station Cliff, there is a steep bluff estimated at about
seventy feet above the water line. The bluff falls away gradually
to the north and south for about one-half mile in each direction
along the shoreline. The face of this bluff, in front of the
station, is partially cleared from trees, making the yellow sand
on the slope a good land mark which can be seen from the opposite
side of the lake when conditions are favorable.

Silver Glen Springs *Run* is partially filled with water grass and a
plant called "bloom" by the local inhabitants. This plant grows
in the water and is attached to the bottom. It is found in many
of the shallow streams in this part of the country. This stream
is navigatable by small boats and is used by fishermen as a haven,
when in this vicinity, in time of storms on Lake George.

At the mouth of Silver Glen Springs Run there is constructed
a hyacinth fence to keep the opening clear. This fence is con-

structed of chicken wire supported by small stakes extending about two feet above the water. These fences were not located by the Graphic Control party and only the outer ends showed clearly on the photos. The inshore ends were spotted by the field inspection so they could be traced quite accurately.

Juniper Hunting and Fishing Lodge is on the south side of Silver Glen Springs Run at Station "Sed". It is the only building of importance on this sheet.

Juniper Creek is navigatable by small boats but at times the entrance is entirely blocked by hyacinth. The creek is filled with water grass and bloom and at times it becomes necessary to pole through this vegetation, there being no definite channel. The north entrance is completely clogged with this grass and bloom and is not navigable.

There are no cultivated field or orchards on this sheet except fo r two small groves near Silver Glen Springs.

Roads:

The double solid lines indicate a graded shell road built in a fire break. The double dashed lines indicate sand roads, not graded. These are passable by automobile but not traveled to any great extent due to the loose sand and the possibility of getting stuck. The single dashed lines west of the shell road, laid out square with the world, are recent cleared paths, which serve as means of access to forest fires. The other trails are very poor sand roads or dim paths, and may not be passable for wheeled traffic.

Pilings:

In the vicinity of Station Juniper there are several groups of piles, apparently the foundation piles for old fishing shacks and net drying racks. These pilings have been indicated by small circles.

Miscellaneous:

The firebreaks have been shown by a dash and dot line. This is not a conventional symbol but is one that was improvised for these sheets. There are no bridges on this sheet.

It would have been desirable to have begun the flight about one mile farther south so that stronger intersections of the radial lines along the shore could be obtained. The result of the present flight is that the intersection of the radial lines along the south end of the lake were a little slim and the detail could not be located with the same degree of accuracy as in other portions of the sheet. Inshore detail only, affected; nothing of importance in area south of last photo center.

Land marks

None recommended (see P. 2, field review)

Geographic Names:

A complete list of the names shown on the overlay sheet are here given together with the sources.

Lake George.- U.S.C.&G.S. Chart No. 508, and other maps. All in agreement.

Yellow Bluff. Chart No. 508, U. S. Dept. of Agriculture, Ocala National Forest Map and others.

Pats Island. A partial clearing in the Ocala Scrub, outside of the tracing limits of this flight. Name shown on the Forest Map and the U. S. Geological Survey, Ocala Division Map. All of the above names are in common use.

Silver Glen Springs Run. The springs at the head of this run are shown as Silver Springs on Chart No. 508, but there is a much more famous springs over near Ocala known by this same name. To distinguish between the two the local inhabitants are very careful to call this one Silver Glen Springs and it is so shown on the National Forest Map and the Ocala Division Map. G. C. Sheet ZZ is in accordance with this practice. It is recommended that our charts be changed accordingly.

Juniper Creek. Shown thus on Chart No. 508, and all National Forest Maps. On the Ocala Division Map and alternate name "Sweetwater Creek" is shown together with the Juniper Creek name. This is the only use of the name that was encountered and all the local inhabitants call it Juniper Creek. No change recommended.

Ocala National Forest Game Refuge. Term used on Dept. of Agriculture maps and on signs along all the roads. It refers to the area south of the Hopkins Prairie Road down to Silver Glen Springs Run.

Hopkins Prairie Road. This name is shown on all maps of the Forest and on a preliminary Quadrangle map compiled by the Florida Mapping Project. It is in common use.

All of the above names are in common use and their adoption is recommended.

Respectfully submitted,

William C. Russell,
Ensign, U. S. C. & G. S.

Special Symbols
Shoreline: Cypress Swamp - - - - outer edge of tree symbol (to be changed to light line)
Marsh - - - - light solid line
Fast Land - - - - heavy " "

Fire break limits - - - - - long dashed line (medium weight)

Hyacinth Fence - - - medium dashed line and labelled

Piles _ _ _ _ small circle, open center; labelled.

Fish Net Racks _ _ _ _ _ dashed line, like "pier ruins" symbol

Notes in red by
T.M. Price
May 9 1938
upon review.

REVIEW OF AIR PHOTO COMPILATION NO. T-5132

Chief of Party:Hubert A. Paton   Compiled by Robert 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)
    Wharf shown on Chart No. 508 near old hunting lodge is now broken down
    and only the a portion remains as shown on this sheet.

- 2. Change in position, or non-existence of wharfs, lights, and
    other topographic detail of particular importance to naviga-
    tion which affect the chart, is discussed in the descriptive
    report. (Par. 26; and 66 g,n) see above

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)   Yes

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

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 unusual or large adjustments were
    necessary.

7. High water line on marshy and mangrove coast is clear and ade-
    quate for chart compilation. (Par. 16a, 43, and 44) Yes.
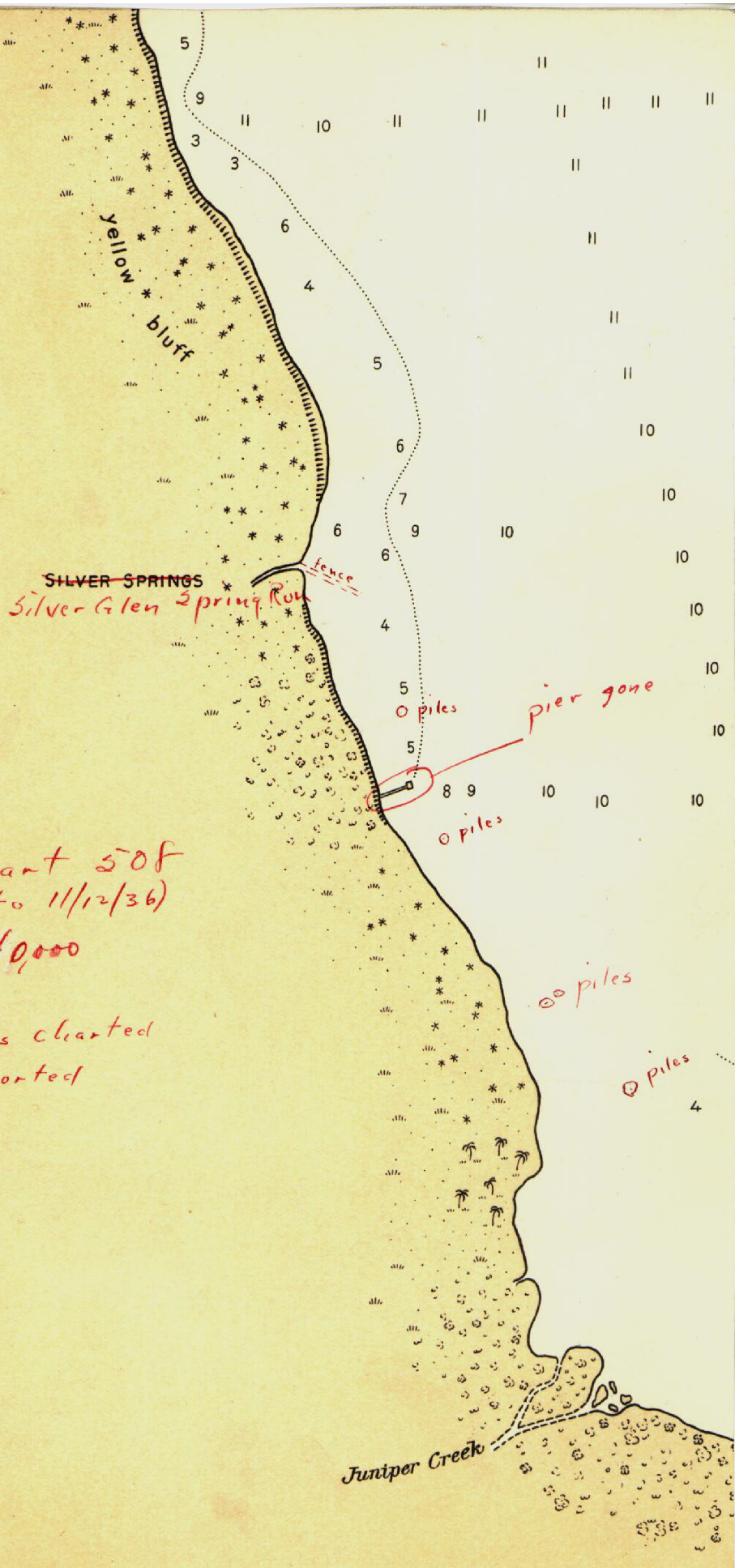
NOTE: Strike out paragraphs, words or phrases not applicable and
modify those requiring it. Paragraph numbers refer to those in the
Topographic Manual. Refer also to the pamphlet "Notes on the Compila-
tion of Planimetric Line Maps from Five Lens Air Photographs."   M-87

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) none shown.

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) All such objects were described and submitted by L. D. Graham.

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) No landmarks on this sheet.

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) 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   and the reference station is correctly noted.See descriptive report for discussion of corrections for closing errors in the arc.

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j) Junction with T-5139 is satisfactory. Sheet No. T-5682 will be discussed in the report for the latter sheet after it has been compiled. *all junctions o.k.*

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. Symbol for firebreaks hasbeen improvised.
    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: Photos Nos. 836 to 839 inclusive will be retained until Sheet T-5682 has been compiled. Rec'd

18. Examined and approved;

Hubert A. Paton
Chief of Party

yellow bluff

5
9
11
3
3
10
11
11
11
11
11
11
6
11
4
11
5
11

SILVER SPRINGS
Silver Glen Spring Run
fence

6
6
7
9
6
10
11
6
4
10
5
O piles
10
5
pier gone
10
8 9
10   10   10
O piles
O piles
oo piles

Section Chart 50f
(plate cor. to 11/12/36)
Scale 1:40,000

(note: distances as charted
are badly distorted

O piles
4

Juniper Creek

GEOGRAPHIC NAMES

Survey No. T- 5132

Name on Survey	On Chart No. 508 (A)	On previous survey No. T-2027 (B)	On U.S. quadrangle Ocala Maps Nat'l For. (C)	From local information see D.R. (D)	On local Maps see D.R. (E)	P.O. Guide or Map (F)	Rand McNally Atlas (G)	U.S. Light List (H)	(K)	
Lake George	✓	✓	✓							1
Yellow Bluff	✓	✓	✓	✓						2
Ocala National Forest			✓							3
Silver Glen Springs Run	Silver springs	Silver springs	Silver Glenn spring	✓						4
Juniper Creek	✓	✓	✓	✓					●	5
Pats Island			✓							6
F.M. Arredondo Grant			✓							7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
									●	20
										21
										22
										23
										24
Names underlined in red approved										25
by _SHE_ on 2/25/38										26
										27

M 234

	Remarks	Decisions
1		
2		
3		oK for Planimetric Map only
4		
5	●	' '
6	*Not on sheet*	.
7		oK for Planimetric Map only
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19	●	
20		
21		
22		
23		
24		
25		
26		
27		

M 234

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 *on* ~~by~~ _Ruling Machine_

Grid inked on machine by _H. D. Reed, Jr._

Intersections inked by _H. D. Reed, Jr._

Points used for plotting grid:

x = 285,000 FT.
y = 1,800,000 FT.

x 305,000
y 1,765,000

x 305,000
y 1,800,000

x
y

x 295,000
y 1,785,000

x
y

x 285,000
y 1,765,000

x
y

Triangulation stations used for checking grid:
$X = 295,291.18 - Y = 1,794,781.89$

1. _Yellow, 1935 (Ref. Sta.)_   5. _____

2. _____   6. _____

3. _____   7. _____

4. _____   8. _____

5132

Geodetic positions from transverse Mercator coordinates

State: **Fla. East**   Station: x **285,000** y **1,800,000**

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)	−215,000	log (1/R)	—
$x'^3/(6\rho_o^2)_g$	− 3.80	log S_m	—
S_g	214,996.20	cor. arc to sine	−
		log S_1	4.81646454
log S_m^2	9.632944	log A	8.50937463
log C	1.154376	log sec ϕ	0.05937979
log $\Delta\phi$	0.787320	log $\Delta\lambda_1$	3.38521896
		cor. sine to arc	+ 1003
y		log $\Delta\lambda$	3.38522899
ϕ' (by interpolation)	29° 17' 07".5147	$\Delta\lambda$	2427."8899
$\Delta\phi$	− 6.1280	λ (central mer.)	81° ' "
ϕ	29° 17' 01".3867	$\Delta\lambda$	
		λ	81° 40' 27".8899

Station: x **305,000** y **1,800,000**

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)	−195,000	log (1/R)	
$x'^3/(6\rho_o^2)_g$	− 2.83	log S_m	4.77406969
S_g	194,997.17	cor. arc to sine	− 627
		log S_1	4.77406342
log S_m^2	9.548139	log A	8.50937462
log C	1.154376	log sec ϕ	0.05938107
log $\Delta\phi$	0.702515	log $\Delta\lambda_1$	3.34281911
		cor. sine to arc	+ 825
y		log $\Delta\lambda$	3.34282736
ϕ' (by interpolation)	29° 17' 07".5147	$\Delta\lambda$	2202."0509
$\Delta\phi$	− 5.0410	λ (central mer.)	81° ' "
ϕ	29° 17' 02".4737	$\Delta\lambda$	
		λ	81° 36' 42".0509

(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

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

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

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

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

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

$$\lambda = \lambda(\text{central mer.}) - \Delta\lambda$$

5132

Geodetic positions from transverse Mercator coordinates

State __Fla East__   Station x 295,000
                                       y 1,785,000

x		log S_g	5.31174689
c	_____	log (1200/3937)	9.48401583
x' (=x−C)	−205,000	log (1/R)	2555
x'³/(6ρ_o^2)$_g$	− 3.29	log S_m	4.79578827
S_g	204,996.71	cor. arc to sine	− 692
		log S_1	4.79578135
log S_m^2	9.591577	log A	8.50937553
log C	1.153646	log sec ϕ	0.05920524
log $\Delta\phi$	0.745223	log $\Delta\lambda_1$	3.36436212
		cor. sine to arc	+ .911
y		log $\Delta\lambda$	3.3643723
ϕ' (by interpolation)	29° 14' 39.0051	$\Delta\lambda$	2314."0420
$\Delta\phi$	− 5.5619	λ (central mer.)	81° ' "
ϕ	29° 14' 33."4432	$\Delta\lambda$	38 34.0420
		λ	81° 38' 34."0420

                              x 285,000
                Station _____ y 1,765,000

x		log S_g	5.33243078
c	_____	log (1200/3937)	9.48401583
x' (=x−C)	−215,000	log (1/R)	2555
x'³/(6ρ_o^2)$_g$	− 3.80	log S_m	4.81647216
S_g	214,996.20	cor. arc to sine	− 762
		log S_1	4.81646454
log S_m^2	9.632944	log A	8.50937674
log C	1.152672	log sec ϕ	0.05897145
log $\Delta\phi$	0.785616	log $\Delta\lambda_1$	3.38481273
		cor. sine to arc	+ 1001
y		log $\Delta\lambda$	3.38482274
ϕ' (by interpolation)	29° 11' 20."9911	$\Delta\lambda$	2425."6199
$\Delta\phi$	− 6.1040	λ (central mer.)	81° ' "
ϕ	29° 11' 14."8871	$\Delta\lambda$	
		λ	81° 40' 25."6199

(M-29)

Geodetic positions from transverse Mercator coordinates

State __Fla East__   Station x 295,000 y 1,785,000

x		log S_g	5.31174689
C	_____	log (1200/3937)	9.48401583
x' (=x−C)	−205,000	log (1/R)	2555
$x'^3/(6\rho_o^2)_g$	− 3.29	log S_m	4.79578827
S_g	204,996.71	cor. arc to sine	− 692
		log S_1	4.79578135
log S_m^2	9.591577	log A	8.50937553
log C	1.153646	log sec ϕ	0.05920524
log $\Delta\phi$	0.745223	log $\Delta\lambda_1$	3.36436212
		cor. sine to arc	+ .911
y		log $\Delta\lambda$	3.36437123
ϕ' (by interpolation)	29° 14′ 39″.0051	$\Delta\lambda$	2314.″0420
$\Delta\phi$	− 5.5619	λ (central mer.)	81° ′ ″
ϕ	29° 14′ 33″.4432	$\Delta\lambda$	38 34.0420
		λ	81° 38′ 34″.0420

Station x 285,000 y 1,765,000

x		log S_g	5.33243078
C	_____	log (1200/3937)	9.48401583
x' (=x−C)	−215,000	log (1/R)	2555
$x'^3/(6\rho_o^2)_g$	− 3.80	log S_m	4.81647216
S_g	214,996.20	cor. arc to sine	− 762
		log S_1	4.81646454
log S_m^2	9.632944	log A	8.50937674
log C	1.152672	log sec ϕ	0.05897145
log $\Delta\phi$	0.785616	log $\Delta\lambda_1$	3.38481273
		cor. sine to arc	+ 1001
y		log $\Delta\lambda$	3.38482274
ϕ' (by interpolation)	29° 11′ 20″.9911	$\Delta\lambda$	2425.″6199
$\Delta\phi$	− 6.1040	λ (central mer.)	81° ′ ″
ϕ	29° 11′ 14″.8871	$\Delta\lambda$	
		λ	81° 40′ 25″.6199

(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

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

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

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

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

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

$$\lambda = \lambda(\text{central mer.}) - \Delta\lambda$$

5132

Geodetic positions from transverse Mercator coordinates

State **Fla. East**   Station   x 305,000
y 1,765,000

x		log S_g	
C		log (1200/3937)	9.48401583
x′ (=x−C)	−195,000	log (1/R)	
$x'^3/(6\rho_o^2)_g$	− 2.83	log S_m	4.77406969
S_g	194,997.17	cor. arc to sine	− 627
		log S_1	4.77406342
log S_m^2	9.548127	log A	8.50937673
log C	1.152672	log sec ϕ	0.05897272
log $\Delta\phi$	0.700799	log $\Delta\lambda_1$	3.34241287
		cor. sine to arc	+ 824
y		log $\Delta\lambda$	3.34242111
ϕ' (by interpolation)	29° 11′ 20.″9911	$\Delta\lambda$	2199.″9920
$\Delta\phi$	− 5.0211	λ (central mer.)	81° ′ ″
ϕ	29° 11′ 15.″9700	$\Delta\lambda$	36 39.9920
		λ	81° 36′ 39.″9920

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

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

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

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

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

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

$$\lambda = \lambda(\text{central mer.}) - \Delta\lambda$$

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State _Fla East_ Station _Yellow, 1935_

λ (Central meridian)   _81° 00' "_

ϕ _29° 16' 10".30_

λ	81 38 31.36
	38 31.36

$\Delta\lambda$ (Central meridian $-\lambda$)

$\Delta\lambda$ (in sec.)   _2311.36_

log $\Delta\lambda$	3.36386759	log S_m^2	9.590342
Cor. arc to sine	$-$ 909	log C^*	1.154122
log $\Delta\lambda_1$	3.36385850	log $\Delta\phi$	0.744464
log cos ϕ	9.94068052		
colog A	1.49062506	ϕ	29° 16' 10".30
log S_1	4.79516408	$\Delta\phi$	$+$ 5.5522
Cor. sine to arc	$+$ 690	ϕ'	15.8522
log S_m	4.79517098		
log 3937/1200	0.51598417	Tabular difference of y for 1" of ϕ' }	
log R	$-$ 2555		
log S_g	5.31112960	y (for min. of ϕ')	
log $S_g{}^3$	15.9333888	y (for seconds of ϕ')	$+$
log $1/6\rho_o{}^2R^2$	4.5821873	y	1,794,781.89
log $(S_g{}^3/6\rho_o{}^2)_g$	0.5155761		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	204,705.54	log $\Delta\lambda$	
$(S_g{}^3/6\rho_o{}^2)_g$	3.28	log $\Delta\alpha_1$	
x'	$-$ 204,708.82		
	$2{-}500,000.00$	log $(\Delta\lambda)^3$	
x	295,291.18	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 PHOTOGRAPHIC SURVEY T-5132

DATA RECORD

Triangulation: 1935.
Photographs taken March 1935.
Field Inspection: February and August, 1937.
Planetable graphic control surveys: March - April 1937.
Recoverable Stations of less than third order accuracy 1937.
Hydrographic surveys: 1937.

The field inspection was for the purpose of interpreting the photographs. The detail of T-5132 is of the date of the photographs except for the piling offshore which was taken from the 1937 graphic control surveys.

COMPARISON WITH RECENT GRAPHIC CONTROL SURVEYS.

CS 134 M (1937) 1:20,000.

General.

(1) The graphic control survey is on a scale of 1:20,000 whereas T-5132 is on 1:10,000 scale.

(2) The graphic control survey was made to locate signals, obstructions, aids to navigation. Very little shoreline or other detail is shown.

(3) In general the aerial photographs show the detail clearly and the field inspection was adequate. T-5132 has been carefully compared to and corrected against the field photographs and notes, the above graphic control survey and the recent hydrographic survey. In case of any difference between the above graphic control survey and T-5132, the latter should now be taken as correct.

(4) All detail on the above graphic control survey within the area of T-5132 is now shown on T-5132, except:

> (a) Magnetic declination; (b) Temporary topographic stations; (c) location of Juniper Tide station (this appears on the contemporary hydrographic survey).

Detail.

(1) The short sections of shoreline shown on the graphic control survey agree within 10 meters with that shown on T-5132, which is sufficiently good considering the difference in scale between the surveys. There was some difference in the interpretation of the marsh H. W. L. which exceeded 10 m. but the representation on T-5132 has been accepted as correct.

(2)   The group of piling located 300 m. N. E. of triangulation station Juniper, 1935, is shown about 10 m. further south on T-5132 than on the G. C. S. These piles show clearly on the photographs and the representation of T-5132 has been accepted as correct.

(3)   Recoverable H. & T. station Sed (d) had been transferred from the graphic control survey to T-5132, approximately 5 m. too far east. This has not been corrected on T-5132 because the difference is small and the correction is hard to make.

COMPARISON WITH PREVIOUS TOPOGRAPHIC SURVEYS.

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

This is an inadequately controlled reconnaissance survey. It has been examined in connection with T-5132 but no detail comparison is considered any value. T-5132 is adequate to supersede.

COMPARISON WITH RECENT HYDROGRAPHIC SURVEYS.

H-6266 (1:20,000) 1937.

(1)   The above hydrographic survey is on 1:20,000 scale whereas T-5132 is on 1:10,000.

(2)   The shoreline on the hydrographic survey was transferred from the air photo surveys by projector. The accuracy of the transference was not checked in this review.

(3)   Conflicts and omissions are as follows:

(a)   Soundings at entrance to Silver Glen Spring Run conflict with the hyacinth fences shown on T-5132. Descriptive report says fences well located on T-5132.

(b)   Above hyacinth fences, not shown on the hydrographic sheet. They still existed in 1937, and according to page 5, descriptive report T-5132, they should be shown.

(c)   Several fish net racks extend offshore 25-50 meters on T-5132. These have not been transferred to H-6266. They still existed in 1937.

(d)   Certain piling as shown on H-6266 disagree 5-10 meters. T-5132 and graphic control survey correct. The graphic control survey was the source of the information, for these piling on the hydrographic sheet.

The above additions and corrections to H-6266 have been called to the attention of the hydrographic verifying unit.

COMPARISON WITH CHARTS.

Chart 508 (plate corrected to November 12, 1936)
Scale 1:40,000.

The important changes to be made on this chart are
noted on a section of the chart attached to this review.

REMARKS

Recoverable H. & T. Stations.

SED (d) is the only recoverable H. & T. station which
appears on T-5132. It is filed under number T-5132. It was
located by planetable and transferred to T-5132.

Landmarks.

No landmarks were recommended for the area covered by
this sheet.

Changes.

The only changes made to this survey upon review were
of a minor nature.

Datum.

There is a difference between the unadjusted N. A. 1927
datum as shown on this sheet and as given in the triangulation
field positions. This is due to an approximate adjustment of
-0.2 m. in longitude which was applied by the compilation
party to the triangulation in this area.

Drafting.

The drafting was neat and the detailing complete; and
the review and revision of this sheet was thereby facilitated.

Accuracy.

No statement of accuracy is given in the report, but
from a review of the sheet it is believed that a probable
error in geographic position of 8-10 meters obtains.

Additional Work.

This survey is complete and adequate for chart compila-
tion.

Reviewed in office by - T. M. Price, May 9, 1938.

Examined and approved:

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Chief, Section of Field Records

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Chief, Section of Field Work

_____
Chief, Division of Charts.

_____
Chief, Division of Hydro-
graphy & Topography.