5152

Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic } *Sheet No.* 5152 (17)
~~*Hydrographic*~~

State FLORIDA

LOCALITY

St. Johns River

SATSUMA - POMONA

Photographs taken 1935 ~~1930~~

CHIEF OF PARTY

Hubert A. Paton

U. S. GOVERNMENT PRINTING OFFICE: 1934

5152

Applied to Chart Comp. 687 November 25, 1939. H.E. MacEwen

Form 537a.
Ed. Nov., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

J.L.P.

REG. NO.

MAP DRAWING 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. 27

T5152

REGISTER NO. 5152

State FLORIDA

General locality ST. JOHNS RIVER

Locality SATSUMA - POMONA

Scale 1:10,000 Date of ~~survey~~ air photographs Feb. 28 & Mar. 1, 19 35

Vessel PARTY NO. 26

Chief of party Hubert A. Paton

Surveyed by See Page No. 2

Inked by Lester S. Leavenworth and HAP

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated March 4, 1935, 19

Remarks: Photographs taken with U. S. Army Air Corps, Five Lens Camera, No. 32-2
Field Inspection in Nov. 1935, and November 1937.

ooo

V I & P.

NOTES ON COMPILATION

Sheet No. 27

Register No. T-5152

Photographs: Five Lens Flight, Nos. 222-243, Feb.28,1935 12:30 P.M.
305-318, Feb.28,1935 1:00 P.M.
668-679, Mar. 1,1935 12:15 P.M.
Range of Tide is small
River Level Normal

Scale Plot:	H. A. Paton
Scale Factor Used:	1.00
Projection by:	Washington, Office.
Control Plotted by:	H. A. Paton
Control Checked by:	T. M. Price.
Topography Transferred by:	H. A. P.
Topography Checked by :	T. M. P.
Shoreline Inked by:	H. A. P.
Other Detail Inked by:	Lester S. Leavenwor th
Overlay Sheet by:	L. S. L.
Area of Detail Inked:	38.5 Sq. Statute Miles.
Length of Shoreline (over 200 meters)	14.0 Statute Miles.
Length of Shoreline (under 200 ")	19.0 " "
Length of shoreline of small lakes	28.0 " "

Reference Station N.A. 1927 datum
Satsuma, 1933
Lat. 29- 30- 41.393 (1274.4 m.) adjusted
Long. 81- 36- 43.694 (1176.8 m.)

DESCRIPTIVE REPORT

to accompany

MAP DRAWING NO. 27

REGISTER NO. T-5152

March 18, 1938.

GENERAL INFORMATION:

This sheet was compiled from air photographs taken by the U. S. Army Air Corps, using a five lens camera No. 32-2. The sheet was covered by four flights, Nos. 12, 13, 16 and 18. Flight No. 21, near the northeast corner of the sheet, was used in the radial plot but was not needed for the tracing of the detail. The southeast corner of the sheet was left blank because the area fell outside of the normal tracing limits of the wing photographs.

The photographs were taken at an elevation of approximately 5000 feet and their average scale was almost exactly 1:10,000. The individual pictures were free from excessive tilt or scale differences and the flight lines were straight and well spaced. The plans were to fly another flight between No. 12 and 18 but this was omitted by mistake.

CONTROL:

A total of 13 triangulation stations were used for control on this sheet. Of these, two were plotted on a dog-ear and attached to the west side of the sheet. They were Stations Camp and Rodman, and were not needed after the radial plot was completed. All of these station were on North American Datum, 1927. They were located in 1933 and 1935. Field values were used for most of them but these values check very closely with the adjusted values which have been received recently.

In addition to the triangulation station, six traverse stations are located on this sheet. These were established by the Florida Geodetic Survey (Florida Mapping Project, Works Progress Administration, Gainsville, Florida.) All of these were located along the Atlantic Coast Line Railroad, between Triangulation Stations Middle and Satsuma. They lent considerable strength to the plot, but some difficulty was found in the position of Station BT 22. The Gainsville office was notified of the error in this station, and in checking over their computation, they found their mistake. The corrected values checked the plot exactly. Traverse probably run in 1935

Considerable control was obtained from Graphic Control Sheets (RR, SS, and TT.) Nineteen signals were recovered and picked on the photographs, and were found to furnish excellent control for the plot. All of these that are recoverable or important have been described and submitted with the reports of the G. C. Sheets.

T-6391-b (1935) 1:5000
T-6393 (1935?) "
T-6394 " "

LIMITS AND JUNCTIONS:

On the north this sheet is joined by Sheets Nos. 5195 and 5196. The former of these two sheets has been forwarded to the office. The junction was satisfactory in all but one place. A second class road near Longitude 81° 39' was found to be in error by eight meters, so it was extended to a point of agreement. This road should be changed on Sheet No. 5195. Sheet No. 5196 has not been drawn as yet, and the junction with it will be discussed later. corrected

On the east this sheet joins Sheet No. 5197. The limits between these two sheets were so placed that Lake Broward would fall entirely on Sheet No. 5152. However the southern end of the lake does not fall within the normal tracing limits of either Flight 12 or 18. Sheet No. 5197 is being compiled at the present time and the junction has been found to be satisfactory.

On the south this sheet joins Sheet No. 5151. The junction was satisfactory except for the following points. Two small and unimportant trails and the extreme southern end of Crystal Lake were omitted from Sheet No. 5151 by mistake. They have been drawn on Sheet No. 5152 but should be transferred to the other sheet in the office. corrected

GENERAL DESCRIPTION OF TOPOGRAPHY:

Most of the area delineated on this drawing is the high ground which lies between the St. Johns River on the west, Dunns Creek on the north, and Crescent Lake on the east. Neither of the last two features appear on this sheet, although Dunns Creek comes within 150 meters of the northeast corner of the drawing. The land west of the St. Johns River needs little mention, as it consists mainly of a dense deciduous swamp breaking away into flat sandy soil covered with scattered pine trees and occasional small cypress ponds. This same condition holds true for a small section on the east side of the river at the northern part of the sheet. For the most part, however, the east bank consists of solid ground with a thin strip known as hammock which turns into areas of pine and oak after a rise of 80 to 100 feet above the river. This elevation holds general across the middle of the sheet, but begins to slope down at the east side towards Dunns Creek and Crescent Lake. One topographic feature, which is further described under "Symbols", page, is the large area of abandoned cultivation to the southwest of the town of Satsuma. This area was planted to camphor trees during the World War, but the subsequent discovery of a synthetic process, caused the abandonment of this project. The center of the town of Pomona, which lies in the southeast corner of the sheet, at the intersection of the highways from Satsuma and Welaka, could not be shown on the map drawing as it extends beyond the normal tracing limits of the photographs. The south end of Lake Broward was not shown for the same reason.

FIELD INSPECTION:

See the descriptive report accompanying Sheet No. 5133 for a complete account of the methods used on field inspection.
Field inspection November 1935 and Nov. 1937

ROADS:

There are four first class roads shown on this sheet:
1. U. S. Route No. 17, running parallel to the railroad and on this sheet, connecting Satsuma and Pomona.
2. The Satsuma-Welaka Highway.
3. A short section of the Welaka-Pomona Highway, appearing in the southwest corner of the sheet, and
4. A Scenic drive, called Lake Boulevard, starting at Sisco going around Lake Broward and back into Pomona. All of these roads are hard surfaced roads, well drained, and are shown with the double solid lines. Lake Boulevard has been changed in two places since the photographs were taken and the changes were obtained by field inspection.

Second class roads are shown with a double broken line. These ... in most cases are graded dirt roads, in common use. The more important trails are shown in this manner, especially those leading to the river or to houses or connecting other roads.

Third class roads, or trails, are shown with a single broken line. Some of these may be traveled by automobile, but are used mostly by loggers or turpentine gathers. Some of them are only dim paths and can be followed only by foot traffic.

SWAMPS AND MARSHES:

Except along the St. Johns River, there is little marshy or swampy land on this sheet. Heretofore, when doubtful areas could not be reached in the field by truck, the marshes and swamps were identified on the photographs by characteristic color and formation. Since the use of the airplane for field inspection was begun, it has been found that these characteristics do not hold true in all cases. For example, the trees and undergrowth in swamps are practically the same as the foliage growing in hammock land and there is a possibility of mistaking one for the other. But by flying over this area, one can readily determine the presence or absence of standing water. The area to the south and southeast of Sugarbowl Lake was identified in this manner, for though heavily wooded with a swampy appearance on the photographs, it was found from the air to be mostly hammock land.

PONDS:

The use of aerial field inspection has also helped to determine the true classification of ponds. After flying over this area, it was found that more intermittent ponds should be shown as grassy ponds, and more of the latter should be designated as clear water. The areas of clear water are more apparent when looking down on a pond, than when looking at it from the side, especially when off at any distance and judging the pond by the saw grass around the edges.

① Intermittent ponds --- standard symbol used
② Intermittent ponds with cypress growing --- symbol as in ① and labelled
③ Grassy Ponds --- see bottom of page 9.

STREAMS:

Difficulty was encountered on this sheet in the interpretation and identification of streams and other drainage. There are no streams large enough tobe shown with double lines, most of them being only 2 to 3 meters wide at the most. Camp Branch on the west side of the River, runs through swamp all of the way, and its course was checked as accurately as possible under the stereoscope. Acosta Branch is the main drainage in the lower central part of the sheet and although its course is plainly marked by the tree growth, its exact position could not always be determined. To the north of Sisco, there is an unnamed stream, which drains the swampy area and flows northe to Dunns Creek. As two of these streams have indefinite courses through the swampy sections, they were shown with a broken line on the map drawing which is a standard symbol for "probable drainage, unsurveyed".

The local inhabitants make a distinction in the use of the terms, branch and creek, for the streams in this section. A small stream is known as a branch and a large one, as a creek. For example, Julington Creek near Jacksonville, is almost one-half mile wide at its mouth.

Lake Broward has an outlet draining to the northeast to Crescent Lake, which can be seen clearly on the photographs. So it is quite evident that the highway and railroad crossing the sheet diagonally mark the divide in drainage. Land to the west drains into the St. Johns River and to the east in Dunns Creek and Crescent Lake.

COMPARISON WITH OTHER SURVEYS:

A careful comparison was made with the topographic maps published by the U. S. Engineers, known as Route 13B. They were compiled from air photographs on a scale of 1:10,000. It is believed however that they did not have a great amount of control and they were probably drawn rather hurriedly. There were found to be a large number of small discrepancies. The datum does not check because their control was based on field computations. On their map No.10, the course of Camp Branch is in error. The course as shown on our sheet is more nearly correct, although it is impossible to follow it exactly through the swampy regions. On their map No. 11, they show many lakes and ponds as marsh. After careful field inspection both on the ground and in the air, it is believed that these should be indicated as shown on our sheet. There are a few differences in trails, probably due to the normal changes in a few years time. On their map No. 14, there were a few errors in their hammock islands in the swamp. On their map No. 15, they left off three small islands in the river and there was additional evidence that no great amount of care was taken in making the drawing.

A comparison was also make with the U. S. Engineers survey of the St. Johns River in 1925. This was probably a plane table survey, and is the source of our present charts. This survey has been found to be not very accurate on other sheets but in this area it checked better than usual. They show a small sand island south of Turkey Island. This has now practically disappeared, there being only a much smaller wooded island near there now. Local inhabitants report that this sand island was actually there when the Engineers made their survey, and this indicates one of the few places where there has been a change in the river recently.

T6391b, T6393, T6394

A comparison was made with Graphic Control Sheets ~~RR, SS, and TT.~~ They show some of the shoreline, and this checked very well with the map drawing. On Sheet ~~TT~~ SS or T-6391b, a Signal BAT, is indicated as being on a dock. This dock could not be seen on the photographs and as it was not drawn in on the G. C. Sheet, it has been omitted. It is probably a small drying rack for some of the local fishermen.

A tracing of the Welaka Town Map is being forwarded with this map drawing. This tracing is not drawn to scale but is a reliable source for street names and detailed field inspection. On this tracing the corrections by field inspection are shown in red and the paved streets are shown in blue. All other streets are either improved dirt roads or trails. A part of this tracing falls on Map Drawing No. 5151, which has been sent in previously.

Filed with Sheet T-5152 4/7/38 J.A.F.

GEOGRAPHIC NAMES: / GHE

The names shown on this sheet were obtained from the following sources:

Symbol Source.

1. U. S. C. & G. S. Chart No. 508.
2. Preliminary Welaka Quadrangle Map, Florida Mapping Project.
3. Ocala Division, Geological Survey.
4. Forest Service, Ocala National Forest.
5. U. S. Engineers, Topographic Maps, Route 13B
6. U. S. Engineers, Hydrographic Survey of 1925
7. Graphic Control Sheets RR, SS, TT.
8. Names established by local usage.
9. Official Map of Putnam County, published in 1914.
10. Geological Survey Quadrangle Map, "Palatka".
11. Welaka Town Map.
12. Putnam County Road Map, State Highway Department.
13. Soil Map, Putnam County, Geological Survey.
14. Lake Crescent Farms Co., Map of Properties.
15. State of Florida, Map by Geological Survey.
16. Land Plats of Putnam County.

Nashua. Derived from 1, 2, 3, 4, 9, 10, and 13. Designates the locality of what used to be the community of Nashua. It now has no postoffice and there are only a few scattered houses remaining.

Horse Landing. Derived from 1, 4, 9, 10, 13, 16. No longer used for a landing but the earth fill for the wharf remains and the name is in common use to designate the locality.

Turkey Island. Derived from 1, 4, 7, and 8. On the official map of Putnam County this name is shown as Turkey Islands. There are actually two island there, but one is so small that the local inhabitants do not consider it as one of the group. The name Tuckey Island should be shown on our charts without change.

Welaka Springs. Derived from 6 and 8. This name appears as Welaka Spring on Nos. 1, 7, and 4. On No. 9 it appears as Sulphur Springs. Since there are several boils in Spring Creek, and since all of the local inhabitants use the term Springs it is recommended that this name be changed on our charts to Welaka Springs.

The names Smiths Landing, Satsuma and Henion as shown on our Chart No. 508 are no longer in use. The name Satsuma is now used to designate the town formerly known as Satsuma heights.

Saratoga. Derived from Nos. 8 and 9. This is the name now used to designate the community formerly knowns as Satsuma. The name of the post office there was changed to Saratoga shortly before it was discontinued.

Disco. Derived from Nos. 2, 3, 8, 9, 10, 13 and 16. A small community on the railroad between Satsuma and Pomona. It has no postoffice or railroad station now.

Pomona. Derived from 2, 8, 9, 12, 13, 14, 15, and 16. The small town in the southeast corner of the sheet. The post office does not appear on the drawing.

Satsuma. Derived from 8, 12, 14, and 15. The name Satsuma heights appear on Nos. 3, 6, 9, 10, 13 and 16, but the Postmaster Mr. Fred V. Owens says that the name has been changed.

Possum Bluff. Derived from 7, 8, and 10. The bluff on the river just north of Saratoga.

Stevens Point. Derived from 7 and 8. The point on the east side of the river just south of Turkey Island.

Spring Creek. Derived from No. 11. The short creek connecting Welaka Springs with the River. This name is not in common use but there is no other name in use for this stream and it appears to be a logical one for it.

Camp Branch. Derived from 2, 3, 5, 9, 10, 13, and 16. The small stream flowing through the swamp on the west side of the river.

Acosta Branch. Derived from local usage only. The postmaster, Mr. Owens, at Satsuma and Mr. Wells, County surveyor, made a point in insisting that this stream should be called a branch instead of a creek. They did this with the knowledge that it had been shown as a creek on the Geological Quadrangle maps. They claim that it is not large enough to be called a creek. The term Acosta Creek was found on the following sources, 2, 3, 9, 10, and 16. It is recommended that the name be changed to Acosta Branch, to agree with local usage.

Saratoga Lake. Derived from 3, 9, 10, 13.

Crane Ponds. Derived from 3, 10, 13, and 16.

Sugarbowl Lake. Derived from 3, 9, 10, 13, and 16.

Lake Broward. Derived from 2, 3, 8, 9, 10, 13, and16.

Castle Lake. Derived from 8 and 9.

Fox Lake. Derived from 8 and 9.

Crystal Lake. Derived from 8 and 9.

Lake Myra, Blue Pond, Silver Lake, and Alligator Lake were all derived from local usage.

Welaka. Shown on Map Drawing No. 5151. See that report.

Colonial Hotel. Derived from Nos. 7 and 8. The hotel is now vacant and has not been occupied for several years. However it is in a fair state of repair and is quite a prominent from the river.

Buzzard Islands. Derived from No. 7 and 8. There are another pair of Buzzard Islands near San Mateo but both names are in common use.

Seminole Grove. Derived from 7 and 8. Although this is a private grove, the term is in use for that locality along the river and should be shown on our charts. The same applies to "Grand View Grove" which term has been in use for forty years.

Pomona Heights. Derived from 16. This is the term applied to a proposed townsite near the southern part of the sheet, midway between Pomona and Welaka. The project failed to develope but there is evidence of the street layout on the photographs.

The following terms are shown on the overlay which need no explanation. Atlantic Coast Line Railroad, Jacksonville to Tampa via Orlando Division, Pomona-Welaka Road, Satsuma-Georgetown Highway, U. S. Route No. 17 and Lake Boulevard. These terms are in use on State Highway Maps and by the local inhabitants.

SYMBOLS:

In order to show the abandoned camphor fields, mentioned before, a new symbol was used, whereby a standard cultivation symbol was combined with the deciduous tree symbol. It is believed that this combination would clearly interpret this area as it appears on the photographs. see page 10 for types of groves and symbols.
Vinyards ---- cultivation symbol and labelled Vinyard.

The ferneries were shown in the same manner as on Sheet No. 5151.
(solid out line, cross hatched; labelled) symbol is same as large bldg.

A broken line marsh symbol was used in grassy ponds to indicate scattered tufts of grass. Where the grass has a definite limit; this was indicated with a fine broken line in accordance with recent instructions from the office. (Where the entire pond was covered with grass it is indicated by the label "Grassy Pond".)* This label does not indicate a geographic name. *grassy ponds entirely filled with grass were so shown by filling them with the "fresh marsh" symbol upon review.
For other types of ponds see P. 5

Shore line:
fast land ---- heavy solid line
Marsh and cypress -- light " "
Abandoned Tramway Bed --- long dash line (labelled)
Probable Drainage, unsurveyed --- med. length dash line
very similar to but slightly heavier than trail
Intermittent stream --- standard symbol
For discussion of streams see P. 6

Piles, offshore ---- ⁰⁰
Piles, near piers ⋮
Poles, snags, sunken logs ◦
stakes, fish traps ⋯

MISCELLANEOUS:

The two groves of tung trees on this sheet have been indicated by the label " Tung Groves". The local inhabitants and all signs use the term "Tung Oil Groves".

All groves not indicated by label are citrous groves.

The following beacons have been established recently in the St. Johns River:

Nashua Beacon 63A
Turkey Island Beacon 84A
Turkey Island Beacon 84B
Obstruction Beacon
Welaka Beacon 84C.

} Not on this sheet. Positions not available at time of review.

The Hydrographic survey party on the Launch MIKAWE, Lieut. Comdr. L. D. Graham, Commanding, is operating in the river at the present time and they have planned to locate all of the new Aids to Navigation before they leave for the north. The data for the plotting of these beacons is not available at the present time, and if not received before the sheets are forwarded to Washington these beacons should be added when they are reported. The other beacons have all been reported with the G.C. Sheets, as well as list of Landmarks, etc.

Respectfully submitted,

Lester S. Leavenworth

Lester S. Leavenworth,
Draftsman, Compiler.

Land marks - located in 1935 on G. C. S. - see chart letter #709 (1935) for position
Aids to Navigation: Light 84 [Ink (d)]
Light 63, [Aco, (d)]
Tower on Pier (Tow, T-6391, 6)
Bldg. on Pier (Leo T-6391 6)
Bldg. on Pier (Son, T-6391 6)

Rec. H + T 05 (d)
1 filed under T-6391 6
1 " " T-6394

Notes in red by
T. M. Price
May 17, 1938
upon review.

REVIEW OF AIR PHOTO COMPILATION NO.

Chief of Party: Hubert A. Paton Compiled by: Lester S. Leavenworth

Project: HT 168, St. Johns R. Florida 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) Yes.

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

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) Pilings, fish traps, sunken logs, docks, etc. were transferred from the G. C. Sheets where they did not show on the photographs.

4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28) Town of Welaka map was not drawn to scale, therefore no control was plotted on it. The map is merely a source for street names and detailed field inspection.

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. Yes.
see review for hydro. comp.

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 adequate 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 Compilation of Planimetric Line Maps from Five Lens Air Photographs." M-67

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) The river has practically no tide, so no low water lines, or reefs are 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) Reported with Graphic Control Sheets RR, SS, and TT.

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) Submitted previously with the above G. C. Sheets. —

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 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. Changes to Acosta Branch, Wēlūka Springs and Satsuma recommended as listed in Descriptive Report.

13. The geographic datum of the compilation is N. A. 1927 and the reference station is correctly noted. Yes.

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j) See Descriptive Report for corrections to Sheets Nos. 5151 and 5195

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. See abandoned camphor farms, ferneries, fresh water marshes in ponds & lakes.
    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)

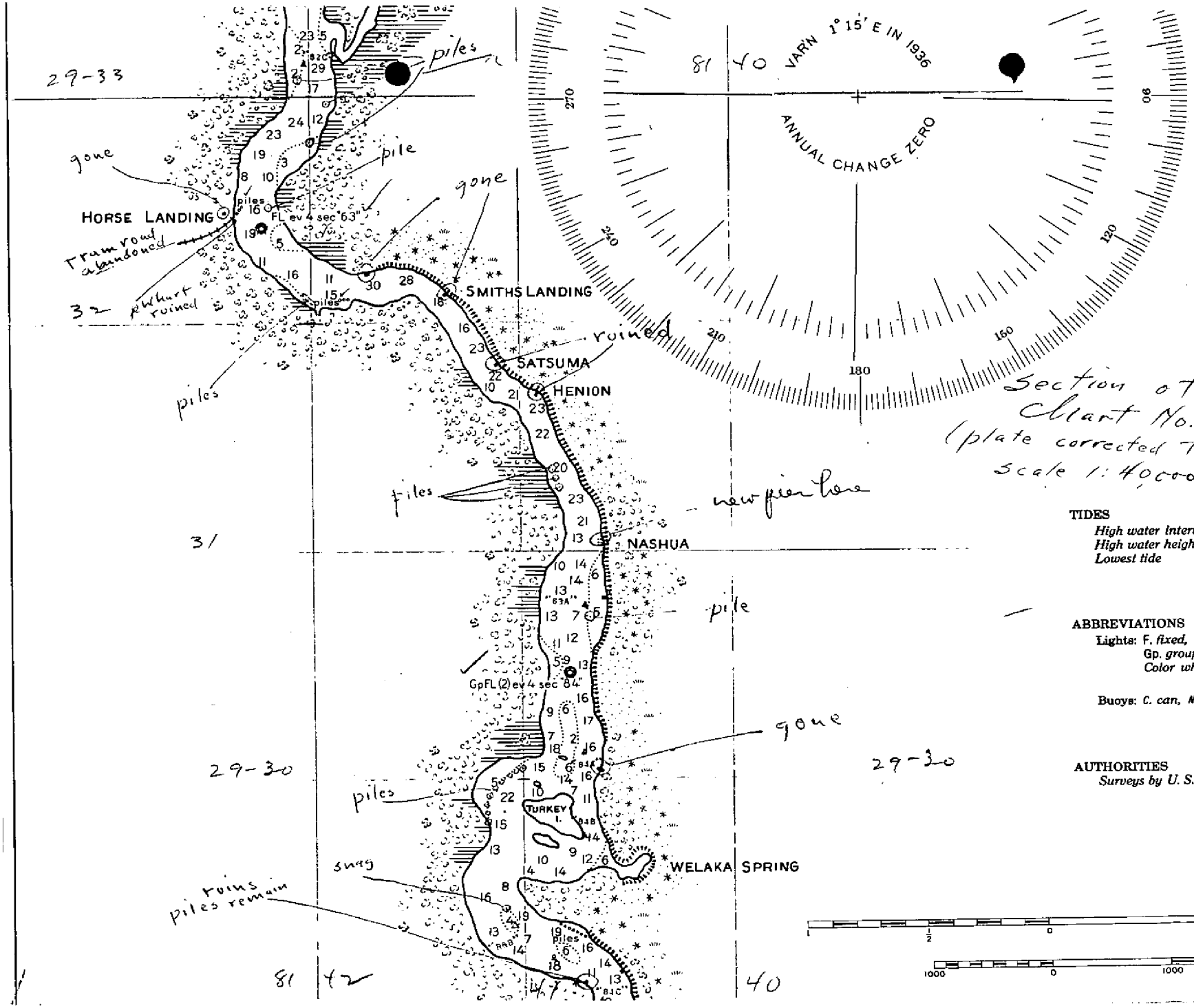
16. No additional surveying is recommended at this time.

17. Remarks:Streams flowing through swamps have been shown with "probable drainage, unsurveyed" symbol. This indicated the correct location of the stream in some places and the most probably location in others. The stream probable has no definite course in same places in the swamps.

18. Examined and approved;

Hubert A. Paton

Hubert A. Paton.
Chief of Party



Section of Chart No. 508
(plate corrected To 11/12/36)
Scale 1: 40,000

TIDES	Palatka
High water interval	2h 37m
High water height	1.1 ft.
Lowest tide	−2.0 ft.

ABBREVIATIONS

Lights: F. *fixed*, FL. *flashing*, Occ. *occulting*, Gp. *group*, Sec. *sector*, m. *miles*, mi
Color white unless otherwise indica

Buoys: *C. can, N. nun, S. spar, W. white,*

AUTHORITIES

Surveys by U. S. Engineers to Jan. 1926

Nautical Miles
½ 0 1

Yards
1000 0 1000 2000

	Remarks	Decisions
1		USGB decision
2		see H-6131
3		
4		
5		
6		
7		
8		see H-6131
9		" "
10		Desc. term
11		
12	A duplication	very small
13		
14		
15		
16	stefens - faphil ngme Probably written in error on name sheet Stephens confirmed by letter from Lt. H.A. Paton	
17		USGB decision
18		see H-6131
19		
20		
21		
22		
23		
24		
25		
26	Proposed town site - not inhabited	
27		

M 234

GEOGRAPHIC NAMES

Survey No. T-5152

Name on Survey	A, On Chart No. 508	B, ~~On previous survey No. Scale Half For.~~	C, On U. S. quadrangle Maps Palatka	D, From local information see D.R.	E, On local Maps see D.R.	F, P. O. Guide or Map	G, Rand McNally Atlas	H, U. S. Light List	K	
✓ St. Johns River	✓									1
✓ Horse Landing	✓			✓	✓					2
✓ Possum Bluff	GNS			✓						3
✓ Camp Branch	GNS	✓	✓		✓					4
✓ Saratoga				✓	✓					5
✓ Alligator Lake				✓						6
✓ Grand View Grove				✓						7
✓ Nashua	✓				✓			✓		8
✓ Seminole Grove				✓						9
X Deep Ravine										10
✓ Acosta Branch			✓ Creek	✓ Branch						11
X ~~Buzzard Islands~~				✓						12
✓ Turkey Island	✓			✓	✓			✓		13
✓ Welaka Springs	Welaka spring	Welaka Spr.		✓						14
✓ Spring Creek					✓					15
D.R. shows ✓ ~~Stakems~~ Stephens Stephens' Point				✓						16
✓ Welaka	✓									17
✓ Satsuma	GNS					✓				18
✓ Lake Myra				✓						19
✓ Castle Lake				✓	✓					20
✓ Saratoga Lake			✓		✓					21
✓ Fox Lake				✓	✓					22
✓ Crane Ponds			✓		✓					23
✓ Sugarbowl Lake			✓		✓					24
✓ Sisco			✓	✓	✓					25
X ~~Ramona Heights~~										26
										27

M 234

	Remarks	Decisions
1		
2		
3		
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6		OK for planimetric Map
7		
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M 234

GEOGRAPHIC NAMES

Survey No. T-5152

Name on Survey	A, On Chart No. 508	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	
✓ Blue Pond				✓						1
✓ Silver Lake				✓						2
✓ Pomona				✓	✓	✓	✓			3
✓ Crystal Lake				✓	✓					4
✓ Lake Broward			✓	✓	✓					5
✓ Pomona Airport										6
										7
										8
										9
										10
										11
										12
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										26
										27

Names underlined in red approved by GHS on 5/12/38

M 234 R

M-350

T-5152

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 ~~by~~ on Ruling machine.

Grid inked on machine by H. D. R. Jr.

Intersections inked by Intersections not inked yet.

Points used for plotting grid:

x 310,000 y 1,900,000	x 275,000 y 1,900,000
x 290,000 y 1,890,000	x y
x 275,000 y 1,880,000	x y
x 310,000 y 1,880,000	x y

Triangulation stations used for checking grid:

Check before plotted up

1.	5.
2.	6.
3.	7.
4.	8.

Note:— Grid has been checked for overlap with adjoining sheets and for spacing. Grid positions for △ stas. are in the process of computation These will be used to check grid as soon as received.

5152

Form No. 743
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Ed. May 1965

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE Fla. East STATION 310,000 1,900,000

x		$\log S_g$	
K		$\log (1200/3937)$	9.4840 1583
x' $(=x-K)$	190,000	$\log (1/R)$	
$x'^3/(6\rho_o^2)_g$	− 2.62	$\log S_m$	
S_g	189,997.38	cor. arc to sine	−
		$\log S_1$	4.76278304
$3 \log x'$		$\log A$	8.50936857
$\log 1/(6\rho_o^2)_g$		$\log \sec \phi$	0.06055693
$\log x'^3/(6\rho_o^2)_g$		$\log \Delta\lambda_1$	3.33270854
		cor. sine to arc	+ 788
$\log S_m^2$	9.525578	$\log \Delta\lambda$	3.33271642
$\log C$	1.159223	$\Delta\lambda$	2151.3765
$\log \Delta\phi$	0.684801		
y			
ϕ' (by interpolation)	29° 33′ 37.5542	λ (central mer.)	81° 00′ ″
$\Delta\phi$	− 4.8395	$\Delta\lambda$	35 51.3765
ϕ	29° 33′ 32.7147	λ	81° 35′ 51.3765

Explanation of form:

$x'=x-K$

$S_g=x'-\frac{x'^3}{(6\rho_o^2)_g}$

$S_m=\frac{1}{R}\left(\frac{1200}{3937}\right)S_g$

R=scale reduction factor

ϕ' is interpolated from table of y

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

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

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

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

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

$\lambda=\lambda$ (central mer.)$-\Delta\lambda$

U. S. GOVERNMENT PRINTING OFFICE 11—11521

5152

Form No. 743
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Ed. May 1935

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE Fla East STATION 290,000 1,890,000

x		$\log S_g$	5.32221197
K		$\log (1200/3937)$	9.48401583
x' $(=x-K)$	210,000	$\log (1/R)$	2555
$x'^3/(6\rho_o^2)_g$	− 3.54	$\log S_m$	4.80625335
S_g	−209,996.46	cor. arc to sine	− 727
		$\log S_1$	4.80624608
3 log x'		$\log A$	8.50936919
$\log 1/(6\rho_o^2)_g$		$\log \sec \phi$	0.06043750
$\log x'^3/(6\rho_o^2)_g$		$\log \Delta\lambda_1$	3.37605277
		cor. sine to arc	+ 962
$\log S_m^2$	9.612507	$\log \Delta\lambda$	3.37606239
$\log C$	1.158740	$\Delta\lambda$	2377.″1818
$\log \Delta\phi$	0.771247		
y			
ϕ' (by interpolation)	29° 31′ 58.″5521	λ (central mer.)	81° 06 ″
$\Delta\phi$	− 5.9054	$\Delta\lambda$	39 37.1818
ϕ	29° 31′ 52.″6467	λ	81° 39′ 37.″1818

Explanation of form:

$x'=x-K$

$S_g=x'-\frac{x'^3}{(6\rho_o^2)_g}$

$S_m=\frac{1}{R}\left(\frac{1200}{3937}\right)S_g$

R=scale reduction factor

ϕ' is interpolated from table of y

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

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

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

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

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

$\lambda=\lambda$ (central mer.)$-\Delta\lambda$

U. S. GOVERNMENT PRINTING OFFICE 11—11521

5152

Form No. 743
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Ed. May 1925

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE Fla. East STATION 1,880,000 275,000

x		$\log S_g$	5.35217412
K		$\log (1200/3937)$	9.4840158 3
x' $(=x-K)$	225,000	$\log (1/R)$	2555
$x'^3/(6\rho_o^2)_g$	− 4.35	$\log S_m$	4.83621550
S_g	224,995.65	cor. arc to sine	− 834
		$\log S_1$	4.83620716
$3 \log x'$		$\log A$	8.50936979
$\log 1/(6\rho_o^2)_g$		$\log \sec \phi$	0.06031845
$\log x'^3/(6\rho_o^2)_g$		$\log \Delta\lambda_1$	3.40589540
		cor. sine to arc	+ 1103
$\log S_m^2$	9.672431	$\log \Delta\lambda$	3.40590643
$\log C$	1.158256	$\Delta\lambda$	2546.2816
$\log \Delta\phi$	0.830687		
y			
ϕ' (by interpolation)	29° 30′ 19.″5496	λ (central mer.)	81° 00′ ″
$\Delta\phi$	− 6.7715	$\Delta\lambda$	42′ 26.″2816
ϕ	29° 30′ 12.″7781	λ	81° 42′ 26.″2816

Explanation of form:

$x'=x-K$

$S_g=x'-\frac{x'^3}{(6\rho_o^2)_g}$

$S_m=\frac{1}{R}\left(\frac{1200}{3937}\right)S_g$

R=scale reduction factor

ϕ' is interpolated from table of y

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

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

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

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

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

$\lambda=\lambda$ (central mer.)$-\Delta\lambda$

U. S. GOVERNMENT PRINTING OFFICE 11—11621

5152

Form No. 743
DEPARTMENT OF COMMERCE
U. S. Coast and Geodetic Survey
Ed. May 1935

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

State Fla. East Station 310,000 / 1,880,000

x		$\log S_g$	
K		$\log (1200/3937)$	9.4840 1583
x' $(=x-K)$	190,000	$\log (1/R)$	
$x'^3/(6\rho_o^2)_g$	−	$\log S_m$	
S_g	189,997.38	cor. arc to sine	−
		$\log S_1$	4.76278304
$3 \log x'$		$\log A$	8.50936978
$\log 1/(6\rho_o^2)_g$		$\log \sec \phi$	0.06032076
$\log x'^3/(6\rho_o^2)_g$		$\log \Delta\lambda_1$	3.33247358
		cor. sine to arc	+ 787
$\log S_m^2$	9.525578	$\log \Delta\lambda$	3.33248145
$\log C$	1.158256	$\Delta\lambda$	2150.″2128
$\log \Delta\phi$	0.683834		
y			
ϕ' (by interpolation)	29° 30′ 19.″5496	λ (central mer.)	81° 00′ ″
$\Delta\phi$	− 4.8287	$\Delta\lambda$	35′ 50.″2128
ϕ	29° 30′ 14.″7209	λ	81° 35′ 50.″2128

Explanation of form:

$x'=x-K$

$S_g=x'-\frac{x'^3}{(6\rho_o^2)_g}$

$S_m=\frac{1}{R}\left(\frac{1200}{3937}\right)S_g$

R=scale reduction factor

ϕ' is interpolated from table of y

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

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

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

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

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

$\lambda=\lambda$ (central mer.)$-\Delta\lambda$

U. S. GOVERNMENT PRINTING OFFICE 11—11521

5152

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla East Station 310,000 / 1,900,000

λ (Central meridian) 81° ' "

φ 29° 33' 32.7147 λ 81 35 51.3765

Δλ (Central meridian−λ)

Δλ (in sec.) 2151.3765

log Δλ	3.33271642	log S_m^2	9.525578
Cor. arc to sine	− 787	log C*	1.159223
log $\Delta\lambda_1$	3.33270855	log Δφ	0.684801
log cos φ	9.93944307		
colog A	1.49063143	φ	29° 33' 32.7147
log S_1	4.76278305	Δφ	+ 4.8395
Cor. sine to arc	+ 595	φ'	37.5542
log S_m	4.76278900		
log 3937/1200	0.51598417	Tabular difference of y for 1" of φ'	
log R	− 2555		
log S_g	5.27874762	y (for min. of φ')	
log S_g^3	15.8362429	y (for seconds of φ')	+
log $1/6\rho_o^2R^2$	4.5821873	y	1,900,000
log $(S_g^3/6\rho_o^2)_g$	0.4184302		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	189,997.38	log Δλ	
$(S_g^3/6\rho_o^2)_g$	2.62	log $\Delta\alpha_1$	
x'	− 190,000		
	2,000,000.00	log $(\Delta\lambda)^3$	
x	310,000	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.

5152

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Flo East Station 290,000 / 1,890,000

λ (Central meridian) 81 ° ' "

φ 29 ° 31 ' 52.6467 " λ 81 39 37.1818

Δλ (Central meridian–λ)

Δλ (in sec.) 2377.1818

log Δλ	3.37606239	log S_m^2	9.612507
Cor. arc to sine	− 962	log C*	1.158740
log $\Delta\lambda_1$	3.37605277	log Δφ	0.771247
log cos φ	9.939562 50		
colog A	1.490630 81	φ	29° 31' 52.6467
log S_1	4.806246 08	Δφ	+ 5.9054
Cor. sine to arc	+ 727	φ'	58.5521
log S_m	4.806253 35		
log 3937/1200	0.5159841 7	Tabular difference of y for 1" of φ'	
log R	− 2555		
log S_g	5.32221197	y (for min. of φ')	
log S_g^3	15.9666359	y (for seconds of φ')	+
log $1/6\rho_o^2R^2$	4.5821873	y	1,890,000
log $(S_g^3/6\rho_o^2)_g$	0.5488232		
S_g	209,996.46	log sin $\frac{\phi+\phi'}{2}$	
$(S_g^3/6\rho_o^2)_g$	3.54	log Δλ	
x'	− 210,000	log $\Delta\alpha_1$	
	2,000,000.00	log $(\Delta\lambda)^3$	
x	290,000	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)

$$x = 2{,}000{,}000.00 + x'$$

$$x' = S_g + \left(\frac{S_g^3}{6\rho_o^2}\right)_g$$

$$S_g = \frac{3937}{1200} S_m R$$

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

$$S_1 = \frac{\Delta\lambda_1 \cos\phi}{A}$$

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

$$\left(\frac{S_g^3}{6\rho_o^2}\right)_g = \frac{S_g^3}{6\rho_o^2 R^2}$$

$$\phi' = \phi + \Delta\phi$$

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

$$\Delta\alpha = \Delta\lambda \sin\frac{\phi + \phi'}{2} + F(\Delta\lambda)^3$$

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.

5152

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla. East Station 275,000 / 1,880,000

λ (Central meridian) 81 ° ' "

φ 29 ° 30 ' 12.7781 λ 81 42 26.2816

Δλ (Central meridian–λ)

Δλ (in sec.) 2546.2816

log Δλ	3.40590643	log S_m^2	9.672431
Cor. arc to sine	− 1103	log C*	1.158256
log $\Delta\lambda_1$	3.40589540	log Δφ	0.830687
log cos φ	9.93968155		
colog A	1.49063021	φ	29 ° 30 ' 12".7781
log S_1	4.83620716	Δφ	+ 6.7715
Cor. sine to arc	+ 834	φ'	19.5496
log S_m	4.83621550		
log 3937/1200	0.51598417	Tabular difference of y for 1" of φ'	
log R	− 2555		
log S_g	5.35217412	y (for min. of φ')	
log S_g^3	16.0565224	y (for seconds of φ')	+
log $1/6\rho_o^2R^2$	4.5821873	y	1,880,000
log $(S_g^3/6\rho_o^2)_g$	0.6387097		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	224,995.65	log Δλ	
$(S_g^3/6\rho_o^2)_g$	4.35	log $\Delta\alpha_1$	
x'	− 225,000		
	2,000,000.00	log $(\Delta\lambda)^3$	
x	275,000	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.

5152

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla East Station 310,000 / 1,880,000

λ (Central meridian) 81° ′ ″

φ 29° 30′ 14.7209″ λ 81 35 50.2128

Δλ (Central meridian − λ)

Δλ (in sec.) 2150.2128″

log Δλ	3.33248144	log S_m^2	9.525578
Cor. arc to sine	− 787	log C*	1.158256
log $\Delta\lambda_1$	3.33247357	log Δφ	0.683834
log cos φ	9.93967924		
colog A	1.49063022	φ	29° 30′ 14.7209″
log S_1	4.76278303	Δφ	± 48287
Cor. sine to arc	+ 595	φ′	19.5496
log S_m	4.76278898		
log 3937/1200	0.51598417	Tabular difference of y for 1″ of φ′	
log R	− 2555		
log S_g	5.27874760	y (for min. of φ′)	
log S_g^3	15.8362428	y (for seconds of φ′)	±
log $1/6\rho_o^2R^2$	4.5821873	y	1,880,000
log $(S_g^3/6\rho_o^2)_g$	0.4184301		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	189.99738	log Δλ	
$(S_g^3/6\rho_o^2)_g$	2.62	log $\Delta\alpha_1$	
x′	− 190,000		
	5 / 2,000,000.00	log $(\Delta\lambda)^3$	
x	310,000	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)

$$x = 2{,}000{,}000.00 + x'$$

$$x' = S_g + \left(\frac{S_g^3}{6\rho_o^2}\right)_g$$

$$S_g = \frac{3937}{1200} S_m R$$

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

$$S_1 = \frac{\Delta\lambda_1 \cos\phi}{A}$$

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

$$\left(\frac{S_g^3}{6\rho_o^2}\right)_g = \frac{S_g^3}{6\rho_o^2 R^2}$$

$$\phi' = \phi + \Delta\phi$$

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

$$\Delta\alpha = \Delta\lambda \sin\frac{\phi + \phi'}{2} + F(\Delta\lambda)^3$$

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.

5152

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla. E. Station Satsuma, 1933

λ (Central meridian) 81° 00' "

φ 29° 30' 41.393 λ 81 36 43.694

Δλ (Central meridian–λ)

Δλ (in sec.) − 2203".694

log Δλ	3.34315129	log S_m^2	9.546854
Cor. arc to sine	− 827	log C*	1.158388
log $\Delta\lambda_1$	3.34314302	log Δφ	0.705242
log cos φ	9.93964745		
colog A	1.49063038		° ' 41."393
log S_1	4.77342085	φ	
Cor. sine to arc	+ 625	Δφ	+ 5.0727
log S_m	4.77342710	φ′	46.4657
log 3937/1200	0.51159 ~~8417~~ 5862	Tabular difference of y for 1" of φ′	
log R	−		
log S_g	5.28938572	y (for min. of φ′)	
log S_g^3	15.8682	y (for seconds of φ′)	+
log $1/6\rho_o^2R^2$	4.5822	y	1,882,718.73
log $(S_g^3/6\rho_o^2)_g$	0.4504		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	194,708.86	log Δλ	
$(S_g^3/6\rho_o^2)_g$	2.82	log $\Delta\alpha_1$	
x′	−194,711.68		
	5 ~~2,000,000.00~~	log $(\Delta\lambda)^3$	
x	305,288.32	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)

5152

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla. E. Station Spring 1935

λ (Central meridian) 81° 00′ ″

φ 29° 30′ 47.870″ λ 81 40 36.290

Δλ (Central meridian−λ)

Δλ (in sec.) − 2436.290″

log Δλ	3.38672899	log S_m^2	9.633993
Cor. arc to sine	− 1010	log C*	1.158425
log $\Delta\lambda_1$	3.38671889	log Δφ	0.792418
log cos φ	9.93963973		
colog A	1.49063042	φ	° ′ 47.870″
log S_1	4.81698904	Δφ	+ 6.2004
Cor. sine to arc	+ 764	φ′	54.0704
log S_m	4.81699668		
log 3937/1200	0.5159 ~~8417~~ 5862	Tabular difference of y for 1″ of φ′	
log R	−		
log S_g	5.33295530	y (for min. of φ′)	
log S_g^3	15.9989	y (for seconds of φ′)	+
log $1/6\rho_o^2R^2$	4.5822	y	1,883,486.86
log $(S_g^3/6\rho_o^2)_g$	0.5811		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	215,256.02	log Δλ	
$(S_g^3/6\rho_o^2)_g$	3.81	log $\Delta\alpha_1$	
x′	−215,259.83		
	5		
	~~2,000,000.00~~	log $(\Delta\lambda)^3$	
x	284,740.17	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.

5152

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla. E. Station Possum 1935

λ (Central meridian) 81° 00′ ″

φ 29° 32′ 04.206 λ 81 41 38.309

Δλ (Central meridian−λ)

Δλ (in sec.) − 2498.309

log Δλ	3.39764615	log S_m^2	9.655646
Cor. arc to sine	− 1062	log C*	1.158799
log $\Delta\lambda_1$	3.39763553	log Δφ	0.814445
log cos φ	9.93954871		
colog A	1.49063089	φ	° ′ 04.206
log S_1	4.82781513	Δφ	+ 6.5230
Cor. sine to arc	+ 802	φ′	10.7290
log S_m	4.82782315		
log 3937/1200	0.51598417 5862	Tabular difference of y for 1″ of φ′	
log R	−		
log S_g	5.34378177	y (for min. of φ′)	
log S_g^3	16.0313	y (for seconds of φ′)	+
log $1/6\rho_o^2R^2$	4.5822	y	1,891,229.96
log $(S_g^3/6\rho_o^2)_g$	0.6135		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	220,689.55	log Δλ	
$(S_g^3/6\rho_o^2)_g$	4.11	log $\Delta\alpha_1$	
x′	− 220,693.66		
	5 2,000,000.00	log $(\Delta\lambda)^3$	
x	279,306.34	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.

Section of Field Records

REVIEW OF AIR PHOTOGRAPHIC SURVEY T-5152

Data Record

Triangulation, 1933 to 1935
Traverse (Florida Mapping Project, W.P.A.), 1935
Photographs taken February 28 and March 1, 1935
Field inspection, November 1935 and November 1937
Planetable graphic control surveys, 1935 to 1937
Hydrographic surveys, 1935 to 1937

The field inspection was for the purpose of interpreting the photographs. The detail of T-5152 is of the date of the photographs except for the following:

(1) From the 1935 and 1937 graphic control surveys:

(a) Stakes, piles, poles, wrecks, logs awash, snags, fish traps, and similar small offshore obstructions, and elevations thereof.
(b) Certain small piers and small houses.
(c) Recoverable topographic stations (identical with the aids to navigation on this survey).

(2) From the 1935 and 1937 hydrographic surveys:

(a) Elevations of certain piles.

(3) From 1937 field inspection:

(a) Changes in Lake Boulevard (a road). See page 5, descriptive report.

Recent Graphic Control Surveys

T-6391b (1935), 1:5,000
T-6393 (1935-37), 1:5,000
T-6394 (1935-37), 1:5,000

The graphic control surveys are on a scale of 1:5,000 whereas T-5152 is on 1:10,000 scale.

The graphic control surveys were made to locate signals, obstructions, aids to navigation; very little shoreline or other detail is shown.

In general the air photographs show the detail clearly and the field inspection was adequate. T-5152 has been carefully compared to and corrected against the field photographs and notes, the above graphic control surveys and the recent hydrographic surveys. In case of any difference between the above graphic control surveys and T-5152, the latter is correct.

All detail on the above graphic control surveys, within the area of T-5152, is now shown on T-5152 except:

Magnetic declination,
Temporary topographic stations,
Heights of piles, poles, stakes, etc. when bare greater than 1 foot.

For detail which was located by cuts or rod reading on the graphic control surveys there is agreement with the air photographic survey within 5-7 meters. A few differences as large as 15 m. are found, but these are due to sketching of indefinite swamp shoreline.

Previous Topographic Surveys

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

This is an inadequately controlled reconnaissance survey. It has been examined in connection with T-5152 but no detailed comparison was considered necessary. T-5152 is adequate to supersede the section of T-2027 which it covers.

Contemporary Hydrographic Surveys

H-6131 (1935), 1:5,000
H-6290 (1937), 1:5,000

The above h drographic surveys are on a scale of 1:5,000 whereas T-5152 is on a scale of 1:10,000.

The shoreline on the hydrographic surveyswas transferred from the air photographic survey by projector. The accuracy of the transfer was not checked in this review.

The following details on T-5152 have been omitted from the hydrographic surveys:

H-6131:

(a) Pier at lat. 29° 31.7', long. 81° 41'.

(b) Line of stakes at lat. 29° 32.8', long. 81° 41.9'. These may be gone since the photographs were taken but there is no note to this effect in either the hydrographic, graphic control, or air photographic survey descriptive reports.

H-6290:

(a) Stake, lat. 29° 29.85', long. 81° 41.0'.

The above omissions have been called to the attention of the hydrographic verifying unit.

Comparison with Chart 508 (Plate corrected to 11/12/36), 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.

Two aids to navigation and 4 other landmarks appear on this sheet. Forms 567 to cover these were submitted previously.

Aids to Navigation

The day beacons recently established in this area do not appear on this survey. The positions for these beacons have not yet been received from the field.

Heights of Obstructions

Where heights of piles, etc. as given by the graphic control survey party differed from those given by the hydrographic party, the latter's estimate was accepted as correct. A reference of the heights to M.L.W. or M.H.W. has been omitted from T-5152 because the range of tide is only 1/2 to 1 foot and the heights given of the objects are only estimates.

Remarks

Two stations described on Form 524 appear on this sheet; they are filed as follows: one under No. T-6391b, one under No. T-6394.

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

Drafting

The drafting was neat and the detailing complete; the review and preparation of this sheet for reproduction were 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 positions of 6-8 meters obtains for shoreline detail and of 8-10 m. for other detail (except for small streams through dense woods for which no check could be made).

Additional Work

This survey is complete and adequate for chart compilation.

Reviewed in office by T. M. Price, Jr., May 17, 1938.

Inspected by B. G. Jones.

Examined and approved:

Thos. B. Reed
Chief, Section of Field Records

Fred L. Peacock
Chief, Section of Field Work

K. T. Adams
Chief, Division of Charts

Chief, Division of Hydrography and Topography