

5199

4 Cards

51

5199

Form 504 Rev. Dec. 1933	
DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR	
DESCRIPTIVE REPORT	
Topographic } Hydrographic }	Sheet No. T-5199 (26)
State FLORIDA	
LOCALITY	
CRESCENT LAKE	
CRESCENT CITY	
Photographs 1938 taken March 1935	
CHIEF OF PARTY	
Hubert A. Paton	

Applied to Chart Comp. 686. January 1940. L.A. Mc G.

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. 26 T5199

REGISTER NO. T-5199

State FLORIDA

General locality CRESCENT LAKE

Locality CRESCENT CITY

Scale 1:10,000 Date of ^{photographs} survey March 1 and 13, 1935

Vessel AIR PHOTOGRAPHIC PARTY NO. 2-A

Chief of party Hubert A. Paton

Surveyed by See Page No. 2

Inked by " " " "

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 Winter 1935, Spring and Summer, 1938.

note in title as
July 1935 Bgf

NOTES ON COMPILATION

TOPOGRAPHIC MAP, NO. 26

REGISTER NO. T-5199

Photographs: Flight No. 18, Nos. 728-744, March 1, 1935
Flight No. 25, Nos. 946-947, March 13, 1935.
Flight No. 26, Nos. 966-970, March 13, 1935.

Scale Plot by: Hubert A. Paton,

Scale Factor Used: 1.00

Projection by: Washington, Office.

Control plotted by: W. C. Russell.

Control Checked by: H. A. P.

Topography Transferred by: W. C. R. and H. O. Fortin.

Topography Checked by: H. O. F.

Shoreline, Crescent Lake, Inked by: W. C. R.

Smooth radial plot by: W. C. R.

Other Detail Inked by: Henry O. Fortin.

Overlay Sheet by: H. O. F.

Area of Detail Inked: 20.6 sq.statute miles.

Length of Shoreline (Over 200 m) 27.8 " "

Length of Shoreline (Under 200 m) 11.4 " "

Length of Shoreline of Small Lakes 10.4 " "

Ref. Sta. Crescent 1935 Lat. $29^{\circ}26'25.894''$ (797.3m) [✓]
Long. $81^{\circ}31'24.858''$ (669.9m) ^{adjusted}

$x = 333,344.09$ Ft.

$y = 1,856,773.47$ Ft

DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC MAP, NO. 26

REGISTER NO. T--5199

September 26, 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 mainly by Flight No. 18. Three pictures from the north end of Flight No. 25 and pictures Nos. 966 to 970 of Flight No. 26 were used in the south and west parts of the sheet.

The photographs were taken at an elevation of approximately 5000 feet and their average scale was almost 1:10,000 exactly. The individual pictures were found to be within the allowable limits for tilt or scale differences.

In the southwest part of the sheet the radial points were located with acute intersection of the radial lines. There was also a scarcity of control in this section, so this part of the sheet is not believed to be as accurate as the other portions of the sheet.

CONTROL:

A total of nine triangulation stations were used for control on this sheet; two of which do not fall within the tracing limits, however. Triangulation Station Niles, 1935, fell too far out on the wing prints to be pricked accurately, and consequently this station could not be used for control.

Twelve control points were obtained from G. C. Sheets AAA, BBB, and CCC. The following are recoverable stations and their descriptions have been submitted to the office:

Wiedernoch, Ollie, Fence, Set, and Col.

The following are not recoverable:

Me, Lip, Fan, End, Corner, Como, and Ork.

Of the above signals, all checked with the exception of "ME". This signal ^{was not} pricked properly on the photographs.

Signal Set has been torn down and ^{was} not been shown with a circle on the sheet.

All of the control stations were on the North American, 1927, Datum, and were established in 1935 by Lieut. K. G. Crosby. They were all recovered at least once by parties on field inspection. Field values were used for all the stations when plotted on the sheet, but these values check very closely with the adjusted values which have been received recently.

Details on T 5199 are of the date of the photographs
except for;

1. The addition of the telephone line and the power line
noted on page 5.
2. Recoverable topographic stations and piling
from the 1935 Graphic Control Surveys

This information added in the office 10/18/38

B. G. Jones

JUNCTIONS:

This sheet is joined on the north by Sheet No. 5197; on the southeast corner by Sheet No. 5198; on the south by Sheet No. 5140; and on the southwest by Sheets Nos. 5150 and 5151. All junctions were satisfactory.

LANDMARKS:

The following landmarks and non-floating aids to navigation have been selected and reported previously:

Weidernoch Point Light No. 4 ✓
Carls Point Light No. 6. ✓
Crescent City Water Tank ✓
Large House at Neils Wharf. (Shown in outline-not circle)

In addition to the above, another object has been selected as a landmark and is submitted with this report on Form No. 567 *

SHED, N. Gab. (Col (d))

This is a prominent warehouse, situated in a small bight just west of Triangulation Station Torrey, 1935.

GENERAL DESCRIPTION OF TOPOGRAPHY:

The area delineated on this sheet covers the land around the west shore of Crescent Lake, and the area just south of Crescent City extending five miles to the westward.

The shoreline of Crescent Lake shown on this sheet is mostly solid ground, except around Weidernoch Point, Signal Ollie, and just west of Signal Col, where swampy areas are found. A moderately large swampy area is located at the southern end of this sheet. Here young pine and cypress are prominent with small patches of meadowland scattered in between.

Numerous citrus groves, ferneries, and small patches of cultivated lands were encountered on this sheet. There were also many uncultivated fields found in this area. The work of inking in this sheet was begun before the instructions to leave cultivated areas blank were received, consequently they have been shown with the customary symbols.

FIELD INSPECTION:

Field inspection by truck was made in December 1935 and during the spring and summer of 1938. Field inspection by boat was made in January, 1937. See also the opposite page.

ROADS:

Three first class roads are shown on this sheet, namely: U. S. Highway No. 17,
Union Avenue

the road that leads to Georgetown and Welaka.

✓ The second class roads are all graded roads, private roads, or dirt roads leading to the waterfront. None of the trails are recommended for automobile travel, although some of them are used by turpentine and logging trucks.

SWAMPS, PONDS AND LAKES:

Swamps have been described under General Description of Topography. There are numerous open, grassy, or intermittent ponds on this sheet. Any pond labeled "grassy pond" on this sheet is not to be used as a geographic name. There are several lakes on this sheet which have geographic names, the largest of which is Lake Stella.

STREAMS:

There are several small streams as well as intermittent streams on this sheet. The streams at the north end of the sheet has no name. The two main streams on the south end of the sheet are Tiger Branch and Jumping Gully Branch. These are properly labelled on the overlay sheet.

COMPARISON WITH OTHER SURVEYS:

An attempt was made to compare this sheet with a hydrographic survey of Crescent Lake made by the U. S. Engineers in 1912, but the difference in scales was too large to permit and effective comparison. No trace of the old dock at Newbold was found. However the name is still in local use and is retained.

CS 149M

CS 129M

CS 148M

✓ ↓ A comparison was made with the Graphic Control Sheets AAA, BBB, and CCC. The short portions of shoreline shown checks very well with the map drawing except just west of Weidernoch Point, where the shoreline is swampy and very irregular. Apparently the rod readings were taken where scattered cypress trees grow out in the lake, and the shore line was sketched in between. This does not represent the true shoreline and it is believed that this sheet interprets this phase of work more correctly than the G. C. Sheet.

TELEPHONE TOLL LINE AND POWER LINE:

The discussion of the telephone toll line has been covered fully in the descriptive report for Sheet No. 5197. By means of field inspection distances and angles this end of the line was tied in to the main telephone line which runs along the A. C. L. Railway tracks.

✓ The Florida Light and Power Co. high tension line was located by field inspection distances together with the blue prints of their line loaned to us by the company. As the distance from the power line to the centerline of the highway varied from 15 to 20 feet, it is shown on this sheet slightly exaggerated in order that it might print more clearly.

A tracing of the F. P. & L. Co. blueprints of the power lines in Crescent City was made to aid in the location of these details. This was supplemented with careful field inspection.

GEOGRAPHIC NAMES:

The names shown on the overlay were obtained from the following sources:

1. Name established by local usage.
2. Graphic Control Sheets AAA, BBB, CCC.
3. Soil Maps, Putnam County, U. S. Geological Survey, 1914.
4. Airway Map of Florida.
5. Map of Putnam County, by Heller and Murphy.
6. Official Map of Putnam County.
7. Palatka, Quadrangle map, U. S. Geological Survey, 1912.
8. Welaka Quadrangle, preliminary map by Florida Mapping Project.
9. Map of District Four, Florida Forest Service.
10. Official Road Map of Florida.
11. Map of Florida, U. S. Geological Survey, 1932.
12. Sectional Map of Florida, Dept. of Agriculture.
13. Orlando Sectional Aeronautical Chart.
14. Sinclair Road Map.
15. Intracoastal Waterway Map, U. S. Engineers.
16. Light List, U. S. Lighthouse Service.
17. Tracing from City Engineer's Map of Crescent City.
18. U. S. Engineers, hydrographic survey of 1912.

CRESCENT LAKE: See Descriptive report for Sheet No. 5197 for a discussion of this name.

LAKE COMO: Sources, 1, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, & 14. On this sheet, this name pertains to the A.C.L.Ry station on U. S. Highway No. 17, at the north end of the sheet. The town has a post office, a railway station, and large warehouse owned by Chase and Co.

UNION DOCK: Sources, 1 & 6. This dock is located at the end of Union Avenue and was at one time an important dock. At the present time there is only a few old piling to mark the location.

UNION AVENUE: Sources, 1 & 6. This avenue is a graded dirt road from Union Dock to U. S. Highway No. 17. From this point it is an asphalt pavement running southward to Crescent City Station.

CARLS POINT: Source No. 16. The point on the west shore of Crescent Lake on which Triangulation Station Burr is located.

OAKWOOD: Source No. 18. The locality south of Weidernoch Grove.

WEIDERNOCH POINT: Sources - 2, 16 and 18. A prominent point on Crescent Lake near the north end of the sheet. A good deal of difficulty was experienced in determining the correct spelling of this name. The inhabitants around this community spell it Wiedernoch and this form was used for the H. & T. station established by this party in 1935. However, all other maps use the former method of spelling and that form is recommended.

WEIDERNOCH GROVE: Sources - 1 and 18. The locality just south of Weidernoch Point, including the pier.

NEWBOLD: Sources - 1 and 18. The locality just north of Triangulation Station Burr, 1935. At one time a pier was located here, but at the present time no traces were found of it.

NEILS WHARF: Sources - 1 and 18. A prominent Pier just south of Station Burr.

TELOFA GROVE: Sources - 18. Local inhabitants could not recall this name, however the name was retained because the remains of an old pier was found close by.

ROUND LAKE: Sources, 1 and 6. A small lake about one mile west of Station Burr.

LAKE OMEGA: Source -1, and from an old map tacked up in the Crescent City Post Office. This is a small lake about 3/4 mile south of Round Lake.

LAKE ARGENTA: Sources 1, 17, and same map as above. This lake is just southeast of Lake Omega.

LAKE STELLA: Sources - 1, 3, 6, 17, and 18. The large lake just west of Crescent City.

CRESCENT CITY: All sources are in agreement on this name. This is the largest community on this sheet. Has a population of about 1000 people. Has a post office, bank, city park, town hall, high school, elementary school, and eight churches.

TROWEL LAKE: Sources- 1, 3, The lake due west of Lake Stella. On source No. 6, it is shown as Trowell Lake. It is also known by some of the local inhabitants as Bell Lake. The name TROWEL however is more common and is recommended for adoption.

LAKE LILLIE: Sources- 1, 3, and 6. The lake just southeast of Trowel Lake.

LAKE LULA: Sources- 1 and 6. A small lake just northeast of Dream Pond.

BIRD PONDS: Sources- 1 and 6. The two ponds northwest of Crescent City Station. On source No. 3 the name is shown as Bird Pond. Before the railroad was constructed this was one pond. Now there are two separate ponds. Some of the local people call the easterly one Bird Pond and some use the name for the westerly one. On source No. 6, the name is Bird Ponds, and that name is recommended.

DREAM POND: Sources- 1, 3, and 6. A large pond just south of Lake Stella. Sometimes called Cliff Lake from a resident who lives near it. Since he is still living, and the former name is still in use by some of the local inhabitants, it is recommended that the name Dream Pond be retained.

Crescent City Station: Sources- 1, 3, and 12. The railway depot on the A. C. L. Railway. This was formerly known as Crescent City Junction, see sources 1, 3, and 6. However the station is now called Crescent City Station by the Railroad and most of the local inhabitants and this name is recommended.

DENVER: Derived from sources Nos. 1, 3, 5, 6, 8, 12, and 14. This was a siding on the A. C. L. Railway just south of Crescent City Station. The siding has now been removed and the post office has been moved to Crescent City Station. However the community is still known as Denver, so the name was retained. On Source No. 3, the name is shown too far south. The name "Denver" is not applied to Crescent City Station, even though the post office of that name is located there.

WHITAKER LAKE. A small lake in the southeast corner of the sheet, (see field print C-947, flight No. 25). There is a negro community near the lake and a family by that name still lives alongside of it. No name was found on any other source for this lake, but since the people are still living the name is not recommended.

MILLERS DOCK: Sources- 1 and 18. A small dock just south of Crescent City.

TIGER BRANCH: Sources- 1, 3, and 6. A prominent creek at the southwest corner of the sheet.

JUMPING GULLY BRANCH: Sources- 1, 3, and 6. A prominent creek at the southern end of the sheet.

LONGS: Source- 8. A railway station at the southeast corner of the sheet. On source No. 6, it is shown as Longs Station, but the former name is more common.

GROVESDALE: There was a small community at the junction of Union Avenue and the dirt road just north of Trowel Lake. The inhabitants of this locality said there never was a railway station by this name, as shown on Source No. 6. The name is not in use at the present time, so it was not shown on the overlay.

SYMBOLS:

No standard symbol for vineyards was known, so a special symbol was used on this sheet in two different places where vineyards have been labeled on the overlay.

Ferrieres were shown in the same manner as on Sheets Nos. 5151 and 5152. The symbol for old tram road beds was also used on these sheets. A slight distinction was made between citrus and tung groves. All the tung groves were labelled.

MISCELLANEOUS:

Most all of the groves shown on this sheet are citrus groves and not all were labelled. All cultivated fields have the conventional symbol as explained before.

There are no navigable streams, ferry routes, or cable crossings on this sheet. At one time, a flat-bottomed boat ran on a daily schedule between Crescent City and Crescent City Junction, via Lake Stella through the old canals as shown, into Bird Ponds and up to what is now Crescent City Station. This canal is now clogged with hyacinth and is no longer in use.

A broken line has been drawn along the shore of Crescent Lake to indicate the outer limits of shoal water.

The old system of indicating the shore line in swampy regions with the tree symbol has been followed throughout on the sheet. Circular No. 1 had not been received when this work was done. Likewise the system of indicating the character of the roads is not in accordance with the circular.

The grassy pond as shown just north of Lake Stella was a proposed city park. See the city map of Crescent City which is forwarded with this sheet. At the present time this is nothing but a grassy pond with a city dump at the east end.

All buildings were omitted from the Crescent City area except those of a public nature. The orange groves were not shown in the city proper.

The sewage disposal plant in Crescent City was located by inspection and measurements taken in the field. The original data has been noted upon the field prints.

The two pilings just north of the wharf of Weidernoch Grove were located by sextant angles and cuts. The original data has been noted on the field prints.

Respectfully submitted,

Henry O. Fortin

Henry O. Fortin,
Lieut. (j.g.) C. & G. S.

T5199

Remarks

Decisions

1		U.S.G. B. Decision
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GEOGRAPHIC NAMES

Survey No. T5199

GEOGRAPHIC NAMES											
Survey No. T5199											
Name on Survey											
	A.	B.	C.	D.	E.	F.	G.	H.	K.		
<u>Crescent Lake</u>											1
<u>Lake Como (village)</u>											2
<u>Union Dock</u>											3
<u>Union Avenue</u>											4
<u>Carls Pt.</u>											5
<u>Oakwood</u>											6
<u>Weidernoch Pt.</u>											7
<u>Weidernoch Grove</u>											8
<u>Newbold</u>											9
<u>Neils Wharf</u>											10
<u>Telota Grove</u>											11
<u>Round Lake</u>						No.	293 815				12
<u>Lake Omega</u>						No.	294 815				13
<u>Lake Argenta</u>											14
<u>Lake Stella</u>											15
<u>Crescent City</u>											16
" " Station											17
<u>Trowel Lake</u>											18
<u>Lake Lillie</u>											19
<u>Lake Lula</u>											20
<u>Bird Ponds</u>											21
<u>Dream Pond</u>											22
<u>Denver</u>											23
<u>Millers Dock</u>											24
<u>Tiger Branch</u>											25
<u>Jumping Gully Br.</u>											26
<u>Longs</u>											27

Investigation and approval usually shown on this form are shown on Form A 712

Checked and approved by L. Heck on 11/1/38

M 234-18

Names in bold are approved

By L. Heck on 11/1/38

REVIEW OF AIR PHOTO COMPILATION NO. 5199

Chief of Party: Hubert A. Paton

Compiled by: Henry O. Fortin

Project: H.T. 168

Instructions dated: 3/4/35

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)
No charts have been published for this area as yet.
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) - - -
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 application to the charts. (Par. 28) A tracing of Crescent City and a blue print of telephone toll line are transmitted with this sheet.
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
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 nor 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."

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 broken line indicates the limits of shoal water. No other low water lines 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)

Submitted previously

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)

Most of the landmarks were submitted previously. One additional landmark transmitted with this report.

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)

There are 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 *adjusted* and the reference station is correctly noted. Yes.

14. ✓ Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

Yes

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. Yes

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. Acceptable
6. ✓ All drawing has been retouched where partially rubbed off. Acceptable
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: The sheet was accidentally torn after the compilation and inking had been completed. It may be found necessary to photograph and print the drawing on a new sheet of celluloid in order to have a more permanent record.

18. Examined and approved;

Hubert A. Paton

Hubert A. Paton

Chief of Party

19. Remarks after review in office:

Reviewed in office by: *L.C. Lande* ¹⁰ ~~10~~ 11/17/38

Section of Field Records

REVIEW OF AIR PHOTOGRAPHIC SURVEY T-5199 Scale 1:10,000

Photographs taken Feb. and March 1935. Compiled May to August 1938.

Chief of Party, H. A. Paton.

Inked in field by W. C. Russell, H. O. Fortin.

Refer to page 4 of descriptive report for the date of field inspection.

Contemporary Graphic Control Surveys

CS 129 M (1935), 1:10,000

CS 148 M (1935), 1:10,000

CS 149 M (1935), 1:10,000

The graphic control surveys were made chiefly for the location of hydrographic signals, and offshore details such as pilings, wrecks and aids. The differences between the rodged shoreline and this air photographic survey are probably due to rod readings taken in areas where scattered cypress trees grow out in the lake. See page 5 of the descriptive report for a more detailed discussion.

All detail shown on the above graphic control surveys and covered by this air photographic survey is shown on the air photographic survey except the following:

1. Temporary topographic signals
2. Magnetic meridian

Contemporary Hydrographic Surveys

H-6132 (1937), 1:10,000

H-6263 (1937), 1:10,000

The shoreline for the above hydrographic surveys was taken from the air photographic survey and is in agreement.

Magnetic Declination

Graphic control survey CS 129 M shows a magnetic declination of $0^{\circ} 30'$ East at Lat. $29^{\circ} 25'$, Long. $81^{\circ} 23'$; CS 148 M, a magnetic declination of $0^{\circ} 28'$ East at Lat. $29^{\circ} 30'$, Long. $81^{\circ} 33'$; and CS 149 M, a magnetic declination of $0^{\circ} 47'$ East at Lat. $29^{\circ} 27'$, Long. $81^{\circ} 31'$. The declinatoire was checked at Green Cove Springs, Florida, Magnetic Station, May 1935.

Charts

T-5199 falls outside the area of the present chart No. 508.

Recoverable Topographic Stations

All descriptions of described recoverable stations are filed under T-5199.

Remarks

The cypress shoreline was redrafted from an open tree symbol to a light line, in accordance with Field Memorandum No. 1, 1938. The shoreline drafted by the field party was in accordance with previous instructions.

The details of T-5199 are of the date of the photographs.

Additional Work

No additional topographic surveys are required for charting the area covered by T-5199.

Reviewed in the office by L. C. Lande, October 18, 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



G. H. de
Chief, Division of Hydrography
and Topography

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 S. KASS

Positions checked by S.K. (ON RULING MACHINE)

Grid inked on machine by S.K.

Intersections inked by J. Dunich

Points used for plotting grid:
Minute Intersections.

ϕ 29-28
 λ 81-34

ϕ 29-23
 λ 81-31

ϕ 29-28
 λ 81-31

ϕ
 λ

ϕ 29-26
 λ 81-33

ϕ
 λ

ϕ 29-23
 λ 81-34

ϕ
 λ

Triangulation stations used for checking grid: \triangle Checked by J.D.

1. ϕ 29° 24' 5.
2. λ 81° - 34'
3. Δ CRESCENT 1935 (REF. STA.) 6.
4. Zone Coord. $x = 323,344.09$
5. $y = 1,856,773.47$ 7.
6. $x = 333,344.09$
7. $y = 1,856,773.47$ 8.

5199

75129

(1)

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(CALCULATING MACHINE COMPUTATION)

State Tula Zone E Station _____

λ (Central meridian) 81° 34'

ϕ 29° 28'

λ 81 34

$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal) _____

$\Delta\lambda$ (Central meridian - λ) - 34

$\Delta\lambda$ (in sec.) - 2040

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	416.16
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+	Cor. for second dif.	+
H	88,349.128	V	1,054,244
a	- 0.749	Tabular difference of y for 1" of ϕ	
b	+ 9.247	y (for minutes of ϕ)	
H ($\Delta\lambda''$)	180,334.22	y (for seconds of ϕ)	
ab	- 6.93	Tabular y	1,865,904.57
x'	- 180,327.29	$V \left(\frac{\Delta\lambda''}{100}\right)^2$	438.75
	500,000.00		1,866,343.26
x	319,672.71	c	- 0.08
		y	1,866,343.18
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F' (\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta a''$	"
		Δa	"

$$x' = H\Delta\lambda + ab$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$x = x' + 500,000$$

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

T 5199

2

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(CALCULATING MACHINE COMPUTATION)

State Fla. Zone E Station _____

λ (Central meridian) 81° 1' "

ϕ 29° 28' "

λ 81 31

$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal) _____

$\Delta\lambda$ (Central meridian - λ) -31

$\Delta\lambda$ (in sec.) -1860"

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	345.96
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+	Cor. for second dif.	+
H	88.349128	V	1.054244
		Tabular difference of y for 1" of ϕ	
a	- 0.749	y (for minutes of ϕ)	
b	+ 8.743	y (for seconds of ϕ)	
H ($\Delta\lambda''$)	164.422.38	Tabular y	1.865204.51
ab	- 6.55	$V \left(\frac{\Delta\lambda''}{100}\right)^2$	364.74
x'	- 164 415.83		1.866,269.25-
	500.000.00	c	- 0.05
x	335,584.17	y	1.866,269.18
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F (\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta a''$	"
		Δa	0 ' "

$$x' = H\Delta\lambda + ab$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$x = x' + 500,000$$

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

T 5799

3

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(CALCULATING MACHINE COMPUTATION)

State Fla. Zone E Station _____

λ (Central meridian) 81° ' "

ϕ 29° 26' "

λ 81 33

$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal) _____

$\Delta\lambda$ (Central meridian— λ) - 93

$\Delta\lambda$ (in sec.) - 1980"

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	392.04
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+	Cor. for second dif.	+
H	88.428029	V	1.053552
		Tabular difference of y for 1" of ϕ	
a	- 0.737	y (for minutes of ϕ)	
b	+ 9.096	y (for seconds of ϕ)	
H ($\Delta\lambda''$)	175.087.50	Tabular y	1.853.788.73
ab	- 6.83	$V \left(\frac{\Delta\lambda''}{100}\right)^2$	413.03
x'	- 175.080.67		1.854.196.76
	500.000.00	c	- 0.08
x	324.919.93	y	1.854.196.68
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F(\Delta\lambda)''^3$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	"
		$\Delta\alpha$	"

$$x' = H\Delta\lambda + ab$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$x = x' + 500,000$$

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

75198

(4)

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(CALCULATING MACHINE COMPUTATION)

State Fla. Zone 6 Station _____

λ (Central meridian) 81° ' "

ϕ 29° 23' "

λ 81 34

$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal) _____

$\Delta\lambda$ (Central meridian $-\lambda$) - 34

$\Delta\lambda$ (in sec.) - 2040 "

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	416.16
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+	Cor. for second dif.	+
H	88.471324	V	1.052437
a	- 0.753	Tabular difference of y for 1" of ϕ	
b	+ 9.247	y (for minutes of ϕ)	
		y (for seconds of ϕ)	
H ($\Delta\lambda''$)	180.481.50	Tabular y	1.835, 602.68
ab	- 6.96	$V\left(\frac{\Delta\lambda''}{100}\right)^2$	437.98
x'	- 180.474.54		1,836,040.66
	500.000.00	c	- 0.08
x	319,525.46	y	1,836,040.58
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F(\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	"
		$\Delta\alpha$	"

$$x' = H\Delta\lambda + ab$$

$$y = \text{Tabular } y + V\left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$x = x' + 500,000$$

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

T 5199

(5)

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(CALCULATING MACHINE COMPUTATION)

State Fla. Zone E Station _____

λ (Central meridian) 81° ' "

ϕ 29° 23' "

λ 81 31

$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal) _____

$\Delta\lambda$ (Central meridian - λ) - 31

$\Delta\lambda$ (in sec.) - 1860 "

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	345.96
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+	Cor. for second dif.	+
H	88.471324	V	1.052437
a	- 0.753	Tabular difference of y for 1" of ϕ	
b	+ 8.743	y (for minutes of ϕ)	
		y (for seconds of ϕ)	
H ($\Delta\lambda''$)	164.556.66	Tabular y	1.835,602.68
ab	- 6.58	$V \left(\frac{\Delta\lambda''}{100}\right)^2$	364.10
x'	- 164.550.08		1,833.966.78
	500.000.00	c	- 0.07
x	335.149.92	y	1,833.966.11
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F(\Delta\lambda)''^3$	"
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	"
		$\Delta\alpha$	"

$$x' = H\Delta\lambda + ab$$

$$x = x' + 500,000$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

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

T 5199

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(CALCULATING MACHINE COMPUTATION)

State Fla. Zone E Station _____

λ (Central meridian) 81° ' "

ϕ 29° 24' "

λ 81 34

$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal) 4.0

$\Delta\lambda$ (Central meridian - λ) -34

$\Delta\lambda$ (in sec.) -2040"

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	416.16
Tabular H (even 10')	88.514552	Tabular V (even 10')	1.051319
Interpolated H (fraction of 10')	- 57742	Interpolated V (fraction of 10')	+ 1482
	88.456810	Cor. for second dif.	+ 4
Cor. for second dif.	+ 90	V	1.052809
H	88.456900		
		Tabular difference } of y for 1" of ϕ	
a	- 0.752		
b	+ 9.247	y (for minutes of ϕ)	
		y (for seconds of ϕ)	
$H (\Delta\lambda'')$	180,452,08	Tabular y	1,841,663.01
ab	- 6.95	$V \left(\frac{\Delta\lambda''}{100}\right)^2$	438.14
x'	-180,445.13		1,842,101.15
	500,000.00	c	- 0.08
x	319,554.87	y	1,842,101.07
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F (\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	"
		$\Delta\alpha$	"

$$x' = H\Delta\lambda + ab$$

$$x = x' + 500,000$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

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