5195

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Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Photo
Topographic } *Sheet No.* T-5195
~~*Hydrographic*~~ (22)

State FLORIDA

LOCALITY

ST. JOHNS RIVER
MURPHY ISLAND -
SEVEN SISTERS ISLANDS

1937

CHIEF OF PARTY

Hubert A. Paton

U. S. GOVERNMENT PRINTING OFFICE: 1934

5195

Applied to Chart Comp 687 November 22, 1939 H.E. MacSwan
Applied to Chart #686(E) Dec. 28, 1939. L.A.M.

Form 537a
Ed. Nov., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

PHOTO 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. 22

REGISTER NO. T-5195 T5195

State Florida

General locality St. Johns River [illegible]s

Locality Murphy I. — Seven Sisters Islands

Scale 1:10,000 Date of ~~survey~~ photos Feb. 28 & March 1 1935

Vessel Party No. 26

Chief of party Hubert A. Paton

Surveyed by See page 2

Inked by W. H. Burwell and D. B. Gaines

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 Dec. 1935, January 1937.

Compilation completed January 1937

NOTES ON COMPILATION

Sheet No. 22 (Field)

Register No. T-5195

Photos: Five Lens, Flight No. 16, Nos. 679 - 690 incl. Mar.1,1935
Flight No. 13, Nos. 319 - 333 incl. Feb.28, 1935

Scale Plot: by T. M. Price and H. A. Paton

Scale Factor Used: 1.0

Projection by: Washington Office.

Control Plotted by: H. A. P. 2/18/36

Control Checked by: T. M. P. 2/19/36

Topography Transferred by: W. H. Burwell, 7/9/36

Topography Checked by: H. A. P.

Smooth Radial Plot by: H. A. P.

Shoreline inked by: W. H. B. July, 1936

Other Details Inked by: D. B. Gaines, October - January, 1937

Area of Detail Inked : 18.0 Square Statute Miles

Length of Shoreline (over 200 m. wide) 11.7 Statute Miles

Length of Shoreline (under 200 m. wide) 22.4 Statute Miles

Reference station: Middle, 1932
Datum: N.A.1927
Lat. 29° 34' - 10.05" (309.4 m) unadjusted
Long. 81° 38' - 34.82" (937.2 m)

Descriptive Report

for

Photo Topographic Sheet No. 22 (Field)

Register No. T-5195

April, 1937

General Information:

This Sheet was compiled from photographs taken by the U. S. Army Air Corps, using a five lens camera, No. 32-2. The sheet was covered by two flights, Nos. 13 and 16, both flown in a north and south 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 less than one foot, so the stageof the tide was not important.

Control:

Triangulation - Control for this plot was obtained from the adjusted first order stations established in 1933 by H. C. Warwick, and the unadjusted field positions of the second order stations established by K. G. Crosby. The closure on the latter are were so small that no adjustments were necessary.

Traverses - After the sheet had been finished, the Florida Mapping Project, a W. P. A. organization, furnished this party with the geographic positions and descriptions of four traverse stations, located in the south east corner of the sheet. These stations had been established in 1935 by the State Control Survey and were of third order accuracy. Diligent effort had been made to secure all such information before the sheet was started but their existance had been carefully kept a secret. However, these four stations were plotted on the sheet and spotted on the photos by field inspection, and no adjustments to the plot were found necessary. As soon as all these traverse stations, in the area covered by this project, have been recovered, a complete report will be submitted to the office, giving descriptions, geographic positions, progress sketch, closure data, etc.
shown on T-5195 as follows: A B.T. 16 (Fla. Geod. S., 1935)

Graphic Control Sheets - Considerable control was secured from the G. C. Sheets PP, QQ, and RR, surveyed by this party in 1935, on a scale of 1:5000. Some of these points were described H.& T. Stations but others were temporary structures, such as fish traps.

The above sources furnished adequate control and no additional points were needed. Station Female as spotted on the photos would not check the plot. The field inspection at this station was very difficult and some mistake had been made in identifying the reference points. Since there was suffieient control without this station, no further attempts were made to use it.

Radial Plot:

The five lens pictures were not mounted in accordance with the calibration tests furnished by the office for this camera. Instead, match distances were taken on the inner edges of the wings before they were trimmed. While mounting the photos, it was noticed that the details would not match with the B print and a large number of measurements were taken between pairs of points that could be found on both the B print and the wing prints. It was found that the scale of the wing prints averaged about 1 % larger than the B prints but that individual values were quite erratic. . On account of this method of mounting the pictures, an unusual amount of difficulty was encountered in the radial plot. Radial points on the B prints and near the center line of the wing prints would check the intersections and control points in these portions of the photos could be made to "hold". All other radial lines had a tendance to fall on the side away from the center line of the wing. It has since been found, in the plot of other sheets, that the radial lines will check much better if the photos are mounted in strict accordance to the calibration tests and no attention paid to the matching of detail. Of course, with this latter system of mounting, it is impossible to trace detail across the junction of the wing print with the B print, but this is a minor disadvantage in comparison with the difficulty in making the plot with the former system of mounting, and 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 pricked, all radial lines that did not check were corrected or rejected. In the case, where it was evident the point had been pricked correctly, and where the radial line would have checked if the wing had been mounted in accordance with the calibration tests, a single line was drawn through the circle around the radial point, and such points were used in the tracing of the details.

General Description of Topography :

In general, the shores of the St. Johns River and the minor streams are lined with densely forested swamps, composed mainly of deciduous trees with some cypress. The water in the swamp varies in depth from a few inches to several feet, depending upon the locality and the stage of the river, and wet ground extends almost to the outer edges of the forests where scattered pine and scrub oak are found. In order to save time in tracing of details, the center portions of all large swamp areas were "faded out" and left blank, and notation made on the overlay that these were densely wooded. blank areas filled in upon review.

No solid line was drawn to mark the shore lines in such areas, but a deciduous tree symbol was used instead. The tree trunk line was taken as the limits of navigation and the outer edge of the symbol made to coincide with them. Wherever the shore consisted of solid ground or grassy marsh, a solid shore line was used. See vicinity of Buffalo Bluff for example of high ground and portions of the Seven Sisters Islands for example of the grass marsh line.

The shore line had been inked by Mr. W. H. Burwell, prior to his death. He had not completed the tree symbols in the swamp areas, merely showing the shoreline with the outer half of the symbol. The sheet was them sent in to the office for enlargement to the scale of the hydrographic sheet, and our attention was called to the fact that the symbol was too heavy for good reproduction. When the remaining details were inked by Mr. D. B. Gaines, care was taken to make the symbols much lighter. On all sheets inked since that date the entire symbol is kept much lighter than was used on this sheet. .

The swamps in this area have a definite trend along the streams and there are few off lying clumps of trees. In other words, the shoreline is not ragged as in some other regions. The few scattered cypress trees that remain from the heavy logging operations are indicated with the open center symbol to distinguish them from the pine trees on higher ground.

Roads:

All roads shown with a double solid line are paved. The double dashed lines indicate improved dirt roads, generally well graded with ditches one either side, and in constant use by motor traffic. The single dash line indicates unimproved dirt roads and trails, some in fair condition and used occasionally by automobiles, and others hardly noticeable on the ground and passable only for foot traffic. In the two years since the pictures were taken, many of the roads have become overgrown, and if the pictures were taken today they might not show as plainly as they did in 1935.

Piling:

In several places in the river, long rows of piling are to be found. These are generally the results of logging operations, and show where the rafts were assembled. A row of small circles was used to indicate these pilings. In many places, rows or clusters of small stakes were found, which were generally the remains of fish traps. They were indicated by a short dash line. Most of these details were located by the G. C. Surveys and transferred to this sheet. . Symbols for piling and fish stakes have been modified on later sheets of this party.

Orchards:

The symbol for orchards was used quite extensively in this sheet and it indicates in every case some type of citrus fruit. Some of the orchards were very old and the trees in poor condition, but the same symbol was used for all groves.

Miscellaneous:

The lumbering industry in this state has a method of dragging out the trees from swampy areas to a central point on the shore where log rafts could be assembled. Evidence of these old drag lines can still be seen on the photographs and were indicated in a few places on the sheet by placing the tree symbols in rough rows. These old drag lines are now overgrown on the ground and they are not as conspicuous as they would seem to indicate on the photographs.

On the west side of the sheet, there was found evidence of

the street system of a proposed townsite - St. Johns Manor. This is one of the many dream cities that died aborning in the land boom around 1925. Some of the local inhabitants still refer to the area by the above name. The clearing for the proposed streets are now overgrown with scrub oak and pine.

Water hyacinth is foundin all the atreams in this area in varying amounts. Trout Creek was always found clogged with it but the other streams were generally open. See Descriptive reports for the G. C. and Hydro sheets of this area for further discussion of this condition.

In the southwest corner of the sheet is found a portion of the excavation of the proposed Atlantic Gulf Canal. (Sometimes called the Florida Cross State Canal.) The construction of this canal was begun after the photos were taken and now has been discontinued. In the portion shown on this sheet the top soil had been removed to a depth of about six feet and the dirt piled on either side of the ditch. The bottom of the canal is still well above the ground water line. The U. S. Engineers furnished this party with a map, scale 1:10,000, showing the location of the canal and this was traced to the sheet. The projection on their map was not on the same datum as this sheet, so it was oriented by means of details along the river. Thorough field inspection in January, 1937, was made in this area to show the present conditions of the clearings and excavations.
Above U.S.E. Map filed in Air Photo Unit.

Buildings:

Nearly all building that can be seen from the water have been shown - being transferred from the G. C. Sheets where not visible on the photos. All other buildings that could be identified under the stereoscope were inked. In a few cases, small shacks and unimportant buildings could not be seen due to the overhanging trees and have been omitted. In the northwest corner of the sheet, it was desirable to trace details out beyond the usual limits on the wing prints, and it was necessary to do considerable additional field work. Measurements were taken to nearly all the buildings in this area to insure accurate location.

Two abandoned railway beds are indicated by a long dashed line. A rude trail is found on this embankment in many place.

Bridges:

There is only one important bridge on this sheet - a steel swing span on the A. C. L. Railroad. Its vertical clearance (closed) is 8.1 feet at Mean Sea Level. Horizontal clearance clearance in the north opening is 95 feet. A telephone or telegraph line is found on either side of the bridge and in the open span these lines are carried under the water by means of cables. Note for Bridge Data

Use the information given in U.S.E Bridge Book Revised to 1935:

Vertical Clearance (draw closed) 6½ ft. at H.W.

Horizontal Clearance { North Chan. 95 ft. / South Chan. 89 ft.

Geographic Names:

A complete list of names are here given, with their source indicated by means of the following symbols :

Symbol	Name of Map, etc.
29	Hydrographic Sheet No. 29.
PP	Graphic Control Sheet PP.
QQ	" " " QQ
RR	" " " RR
508	U. S. C. & G. S. Chart No. 508
DA	U. S. Dept. of Agriculture, Ocala National Forest Map.
For	Florida Forest Service, District No. 4 Map.
GS	Geological Survey, Palatka, Quadrangle.
Fla	" " , State of Florida Map.
Oc	" " , Ocala Division Map.
SRD	Putnam County Map, State Road Department.
Co	Official Putnam Co., Map - published in 1914.
LU	Local Usage - name in common use.
13-B	U. S. Engrs. Atlantic Gulf Canal photo compilation.

Seven Sisters Islands, 508, GS, DA.

Stokes Island, 508, Co, GS, DA.

Stokes Landing, 508, Co, DA.

Buffalo Bluff, 508, - This name is shown one mile farther south on Co, GS, and DA. Shown in the vicinity of Satsuma on Oc but this is a small scale map and there was not sufficient space to put it in its proper place. Recommend that is be shown as indicated on overlay.

Horse Shoe Point, PP. (ON QQ and 508 this is shown as Horseshoe but the word "Point" should be added for clarity.)

Trout Creek, QQ, RR.

Barrentine Creek, QQ, RR.

Murphys Island, PP, QQ, Co,- On Some land plats it is shown as Murphy Island and on others it is shown as Murphys Island. Common usage favors the latter term.

Murphys Creek, same as above. On one old land plat it was shown as "Outlet of Dunns Creek", but this term is not in use on any other map.

St. Johns Manor, LU.

St. Johns River, 508 and others. All in agreement.

Rodman Road, 13-B, LU.

Mud Lake, 13B, Co, GS, LU.

State Highway No. 3, 13B, SRD, LU.

U. S. Highway No. 17, 13B, SRD, LU.

Scenic Parkway, SRD. Sometimes called the Silver Lake Road but the other term is in use on maps and is recommended.

Satsuma, Fla, For, LU, SRD. Formerly called Satsuma Heights and shown thus on Co, GS, and Oc. Probably referred to a settlement on the river and the term was transferred to the town on the railroad when the latter was constructed.

Rodman Lbr. Co. R. R. - Co, Shown as the Wilson Lbr. Co. R. R. on land plats but since the rails have been removed and the road abandoned, the former term may be better..

Lumber R. R., Co.

Penial, 13B, Co, LU.

J. W. Jones Lbr, Co Mill, QQ. Shown as Hodges Mill on Co, and GS. The Jones term in now in use.

Oklawaha Valley R. R., GS.
Browns Landing, PP, and land plats.
Polly Creek, QQ, PP.
Polly Island, QQ, PP.
Trout Island, 29.

All of the above names are shown on the overlay sheet and their adoption is recommended. The following names are not recommended.:

Bear Island, shown on Sheet No. 29. This name applies to an island near the mouth of the Oklawaha River and it should not be given to the Seven Sisters Island on which Station Sister is located.
Penial Station, shown on the rairoad on County Maps. This stationn is no longer in existance.
Rose Creek, this name occures in the Light List for Beacon No. 61. It could not be determined what creek it referred to, and the term is not in common use.

General Information:

A careful comparison has been made with all the maps, charts and sheets of the area and the information shown on this sheet is believed to be complete for all charting purposes. The width of the streams is a little greater than that shown on the U. S. Engrs. photo compilation of the area. It is believed this is due to the practice of showing the tree symbol so that the outer edge coincides with the general tree trunk line instead of the outer limits of the overhanging branches.

A rough tracing of the shoreline in the vicinity of the Seven Sisters Islands was made by Ensign Price's party for the hydrographic surveys before the radial plot was started. A red pencil was used on the photos and unfortunately this would not erase. This line does not necessarily indicate the final accepted position of the shoreline.

Of the two draftsman who worked on this sheet, one is dead and the other has been discharged. This report has been prepared by the undersigned.

Respectfully submitted,

Hubert A. Paton

Hubert A. Paton,
Chief of Party.

Notes in red by
T. M. Price
March 4 1938
upon review

REVIEW OF AIR PHOTO COMPILATION NO. T-5195

Chief of Party: Hubert A. Paton, Lieut. C&GS Compiled by: See Page 2

Project: HT168, St. Johns River, Florida Instructions dated: 3/4/35
12/5/33

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)

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) G. C. Sheets for the area were used.

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) U. S. Engrs. photo compilation 13 B was used by holding Horse Landing, (on Sheet T-5152) and the general trend of the shoreline, with proper allowance for slight differences in scale. This U.S. Engrs. print gave location for the abandoned Fla. Ship Canal. Filed in Air Photo Unit.

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.

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) Very little tidal range in this area. Outer edge of swamp areas taken as the only shore line.

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-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 have been described and submitted previously with the G. C. Sheets.

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 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)

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)

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

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

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.

    2. The degrees and minutes of Latitude and Longitude are correctly marked.

3. All station points are exactly marked by fine black dots.

4. Closely spaced lines are drawn sharp and clear for printing.

5. Topographic symbols for similar features are of uniform weight.

6. All drawing has been retouched where partially rubbed off.

7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

16. No additional surveying is recommended at this time.
None recommended.

17. Remarks: The photos for this sheet will not forwarded until the adjoining sheets are completed.

18. Examined and approved;

Hubert A. Paton
Hubert A. Paton, Lieut., C&GS
Chief of Party

19. Remarks after review in office:

Reviewed in office by: T. M. Price
March 4, 1938

Examained and approved:

K. T. Adams
Asst Chief, ~~Section of Field Records~~ Division of Charts

L. O. Colbert
Chief, Division of Charts

Fred. L. Peacock
Chief, Section of Field Work

Chief, Division of Hydrography and Topography.

REVIEW OF AIR PHOTOGRAPHIC SURVEY T-5195

DATA RECORD

Triangulation: 1933, 1935.
Photographs taken February and March, 1935.
Field Inspection: December 1935 and January 1937.
Planetable graphic control surveys: July 1935, February 1937.
Rec. stas. of less than 3rd order accuracy: 1935, 1937.
Hydrographic surveys: 1935, 1937.
Traverse (Florida Mapping Project, W. P. A.): 1935.

The field inspection was for the purpose of interpreting the photographs. The detail of T-5195 is of the date of the photographs except for the following:

(1) From 1935, 1937 graphic control surveys:

(a) Stakes, piles, poles, certain wrecks, logs awash.
(b) Certain small piers and small houses.
(c) Recoverable hydrographic and topographic stations, including the aids to navigation and bench marks.
(d) Horizontal clearance of ACL R.R. bridge.

(2) From 1935, 1937 hydrographic surveys:

(a) Foul area at Stokes Landing; dock ruins at Lat. 29° 35.1', Long. 81° 40.2'.
(b) Identification of certain obstructions as stakes or piles, and heights thereof. Non-existence in 1937 of certain stakes shown on 1935 surveys.

(3) From U. S. Engineers

(a) ~~Vertical clear~~ Clearances. of ACL R.R. bridge from U.S.E. bridge book, 1935 edition.
(b) Abandoned Atlantic-Gulf Canal from a U.S.E. map (see P. 6, descriptive report).

COMPARISON WITH RECENT GRAPHIC CONTROL SURVEYS.

T-6391a (1935) 1:5,000
T-6392 (1935) 1:5,000
T-6393 (1935-1937) 1:5,000

General.

(1) The graphic control surveys are on 1:5,000 scale whereas T-5195 is on 1:10,000 scale.

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

(3) In general, the aerial photographs show the detail clearly and the field inspection was adequate. T-5195 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-5195, the latter should now be taken as correct.

(4) All detail on the above graphic control survey within the area of T-5195 is now shown on T-5195, except:

(a) Magnetic declination
(b) Temporary topographic stations
(c) Location of Buffalo Bluff Tide Station (this appears on the contemporary hydrographic sheet covering the area).
(d) Detail no longer existing or changed.

DETAIL COMPARISON

T-6391a

(1) Latitude 29° 35.7', Longitude 81° 38.5'. Two long rows of piling were shown on T-5195. These were called stakes on T-6391a and H-6239. Sounding records noted them as stakes. Changed to stakes on T-5195 upon review.

(2) Shoreline differences of 15 m. near temporary stations VEN, UTE, and SIL. Evidently caused by difference of opinion rather than error. The tree line is very irregular and the position of the limits of navigation is subject to various interpretations. T-5195 accepted as correct.

T-6392

(1) Piling near Lt. 80A transferred to T-5195 upon review.

(2) Recoverable stations STA and LIT marked (d) on T-5195 but not on T-6392. No descriptions in files. The (d) was removed from T-5195 and descriptive name added.

(3) Benchmarks F-19, G-19 and Tidal Bench Mark No. 1 were transferred to T-5195 from T-6392 upon review and shown with standard rec. H. & T. station circle.

(4) Vertical clearance of ACL R.R. bridge is referred to mean sea level on T-6392. The clearances ~~referred to high water~~ as given in the U. S. E. 1935 bridge book ~~was~~ were indicated on T-5195 upon review, instead of the other.

(5) Latitude 29° 34.6', Longitude 81° 41.5'. Fish trap stakes reported gone in 1937 according to H-6130. Not on T-5195. Note placed on T-6392.

(6) Temporary station DOK. Small pier transferred to T-5195 upon review.

(7) Latitude 29° 34.6', Longitude 81° 41.2'. Line of piles shown on T-6392 and T-5195. Marked stakes on H-6130. Sounding record noted them as stakes when line passed through. Changed to stakes on T-5195 and noted on T-6392. Same at latitude 29° 35.8', longitude 81° 40.1'.

(8) 10 m. difference in shoreline found in various places, due to planetable sketching and difference in opinion. T-5195 accepted as correct.

T-6393

(1) Stokes Landing. A non-standard symbol shown alongshore south of dock, without explanation. Shown on H-6130 as piling south of dock and foul area north. Information came from sketch on boat sheet. Transferred from H-6130 to T-5195 upon review and noted on T-6393.

(2) Latitude 29° 33.9', Long. 81° 41.7'. Pier transferred to T-5195 upon review.

(3) Latitude 29° 33.1', Longitude 81° 41.9'. Log awash shown with rock awash symbol. Changed on T-5195 upon review to the symbol used on this sheet for piles.

(4) 10 to 25 m. difference in shoreline found in numerous places. Considered due to planetable sketching and difference of opinion, because of irregular nature of tree line and various interpretations that could be given to the limit of navigation. T-5195 accepted as correct.

(5) Lat. 29° 34.3', Longitude 81° 41.2'. Difference of 60 m. in shoreline rodded in by planetable. T-5195 correct. Error in rod reading evident.
Latitude 29° 33.3', Longitude 81° 41.9'. Difference of 35 m. Same condition as above.

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-5195 but no detail comparison is considered of any value. T-5195 is adequate to supersede.

COMPARISON WITH RECENT HYDROGRAPHIC SURVEYS.

H-6130 (1935-1937) 1:5,000; H-6131 (1935-37) 1:5,000; H-6239 (1935) 1:5,000.

General

(1) The above hydrographic surveys are on 1:5,000 scale whereas T-5195 is on 1:10,000 scale.

(2) The shoreline on the hydrographic surveys was transferred from the air photo surveys by projector. It was considered unnecessary in this review to check the accuracy of the transference of the topographic detail. If there were any small changes made in the position of the topographic features shown on the hydrographic sheet or any small errors made in its transference, this review would not disclose it. The purpose of this comparison was to see that there were no apparent conflicts, and to insure the appearance on the hydrographic sheets of all shoreline topography shown on T-5195.

(3) There is no conflict between the soundings shown on the above hydrographic surveys and the topographic detail from T-5195.

(4) Stakes, piles, stumps, and snags originating with the hydrography were not transferred to T-5195.

H-6130

(1) Shoreline features appearing on T-5195 and not on H-6130 as follows:

Lat. 29° 34.8',	Long. 81° 40.2'	small pier
29° 34.9',	Long. 81° 40.2'	several isolated trees offshore
29° 35.3',	Long. 81° 40.8'	small pier
29° 35.1',	Long. 81° 40.8'	small pier

It is considered that these features still exist. They were not added to H-6130 at the time of this review, but have been called to the attention of the hydrographic verifying unit.

(2) Lat. 29° 35.3', Long. 81° 40.3'. An isolated tree (temp. station ~~#D~~ 15) is shown 5-6 m. offshore on H-6130. The position of this tree plots right on the shoreline on T-5195. Photos examined and no tree offshore could be seen. It is considered that the shoreline on H-6130 is slightly in error at this point and that T-5195 is correct.

COMPARISON WITH CHARTS

Chart 508 (edition 11/12/36) scale 1:80,000.

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

REMARKS

Rec. H. & T. stations.

(1) 7 stations described on Form 524 appear on this sheet. The descriptions are filed as follows:

WET, SEV filed under number T-6391a
ACO, ATE, SIR, LEM Filed under number T-6392
BEN " " " T-6393

(2) These stations were located by planetable and were used as additional control for the radial plot of T-5195. A check on their position was obtained in this way.

(3) Station LEM, located in the 1937 additional work on T-6392, was transferred to T-5195 upon review.

Traverse stations, Fla. Mapping Project were shown as A on T-5195. If later found to be of less than 3rd order accuracy, it will be necessary to change to ⊙

Landmarks.

The beasons which appear on the chart in this area were established in 1937, after the surveys had been completed. No positions are available for them except bearings and distances as furnished by the Lighthouse Service. They therefore do not appear on T-5195.

All other landmarks in this area were reported on Form 567 in connection with the graphic control sheets.

It should be noted that light 80A is charted approximately 140 meters too far north. Reported to Nautical Chart Section.

Changes.

The following changes have been made to this sheet upon review:

(1) See various items listed under "Comparison with Recent Graphic Control Surveys", and "Data Record, Paragraph (2)" in this review.

(2) Lat. 29° 34.9', Long. 81° 40.4'. Two isolated trees offshore, indicated on the field prints, were added.

(3) Lat. 29° 34.5', Long. 81° 40.8'. Shoreline changed approximately 10 m. to agree with photos and T-6392.

(4) The road coming down to the shore at Buffalo Bluff was changed from a single dashed line to a double dashed line. Although doubtless a private road, it is important enough to chart. (5) Blank areas of woods and swamp were filled in. (6) Bluff at Buffalo Bluff extended

Accuracy.

No statement of accuracy is given in the descriptive report but from a review of the sheet it is believed that a probable error of 6-8 meters obtains.

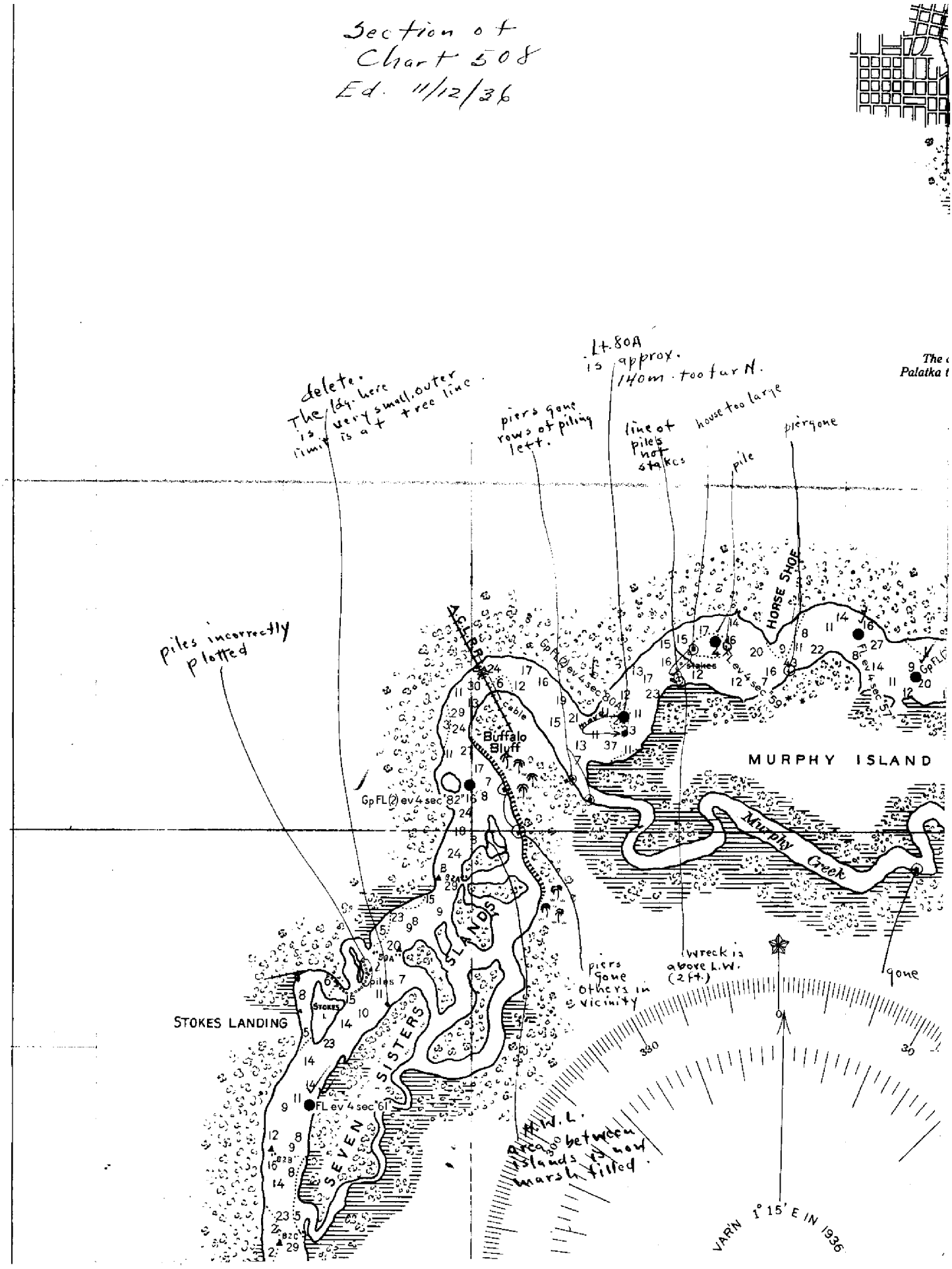
Additional Work.

This survey is complete and adequate for chart compilation except for the location of certain beacons recently established.

March 4/1938

T. M. Price Jr.
T. M. Price Jr.

Section of
Chart 508
Ed. 11/12/36



GEOGRAPHIC NAMES

Survey No. T-5195

Name on Survey	A: On Chart No. 508	B: On previous survey No.	C: On U.S. quadrangle Maps	D: From local information see D.R.	E: On local Maps see D.R.	F: P.O. Guide or Map	G: Road Map Ocala Nat'l Forest Map	H	K: U.S. Light List	
✓ Mud Lake			✓	✓	✓					1
St. Johns Manor				✓						2
Atlantic Gulf Canal										3
✓ Penial			✓	✓	✓					4
✓ St. Johns River	✓									5
✓ Stokes Island	✓				✓					6
✓ Stokes Landing	✓				✓					7
✓ Seven Sisters Islands	✓		✓				✓			8
✓ Trout Creek	GNS									9
✓ Trout Island	GNS									10
✓ Barrentine Creek				see ✓ D.R. T-6292						11
✓ Buffalo Bluff (R)	✓		✓			✓				12
✓ Horseshoe Point	Horse Shoe Pt									13
✓ Murphy Island	Murphy Island									14
✓ Murphy Creek	Murphy Cr.									15
✓ Polly Island				✓ D.R. T-6391a						16
✓ Polly Creek				✓ T-6391a						17
										18
										19
										20
										21
										22
(R) - Referred to USGB										23
										24
Names underlined in red approved by GFE on 3/3/38										25
										26
										27

M 234

	Remarks	Decisions
1		
2	No settlement - only a proposed townsite	
3	work on canal abandoned -	
4		
5		USGB decision
6		see H-6130
7		" "
8		" "
9		" "
10		" "
11	A family name - probably spelled ok	
12	on USGS Quad. "Buffalo Bluff" is more to south 4/21/38	Revised Decision ~~Buckaleu Bluff~~ ~~USGB decision~~
13		Murphy Island USGB decision
14		see H-6130
15		" "
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

M 234

M-350

T-5195

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. REED, JR.

Intersections inked by H. D. REED, JR.

Points used for plotting grid:

x = 275,000 FT y = 1920,000 FT.	x 305,000 y 1,900,000
x 305,000 y 1,920,000	x y
x 290,000 y 1,910,000	x y
x 275,000 y 1,900,000	x y

Triangulation stations used for checking grid:

X = 295,585.99 - Y = 1,903,848.40

1. Middle, 1935 (Ref. Stn.) *
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Plotting of 9 datum pts checked by grid values Egg

5195

Geodetic positions from transverse Mercator coordinates

State Fla. East Station x 275,000 y 1,920,000

x		log S_g	
C		log (1200/3937)	9.48401583
x' (=x−C)	−225,000	log (1/R)	
$x'^3/(6\rho_o^2)_g$	− 4.35	log S_m	4.83621550
S_g	224,995.65	cor. arc to sine	− 834
		log S_1	4.83620716
log S_m^2	9.672431	log A	8.50936737
log C	1.160190	log sec ϕ	0.06079128
log $\Delta\phi$	0.832621	log $\Delta\lambda_1$	3.40636581
		cor. sine to arc	+ 1106
y		log $\Delta\lambda$	3.40637687
ϕ' (by interpolation)	29° 36′ 55.″5571	$\Delta\lambda$	2549.″0413
$\Delta\phi$	− 6.8018	λ (central mer.)	81° ′ ″
ϕ	29° 36′ 48.″7553	$\Delta\lambda$	42 29.0413
		λ	81° 42′ 29.″0413

Station x 305,000 y 1,920,000

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	8.50936736
log C	1.160190	log sec ϕ	0.06079330
log $\Delta\phi$	0.708329	log $\Delta\lambda_1$	3.34422408
		cor. sine to arc	+ 831
y		log $\Delta\lambda$	3.34423239
ϕ' (by interpolation)	29° 36′ 55.″5571	$\Delta\lambda$	2209.″1866
$\Delta\phi$	− 5.1089	λ (central mer.)	81° ′ ″
ϕ	29° 36′ 50.″4482	$\Delta\lambda$	36 49.1866
		λ	81° 36′ 49.″1866

(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

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

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

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

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

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

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

5195

Geodetic positions from transverse Mercator coordinates

State Fla. East Station x 290,000 y 1,910,000

x		$\log S_g$	5.32221197
C		$\log (1200/3937)$	9.48401583
$x' (=x-C)$	-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
$\log S_m^2$	9.612507	$\log A$	8.50936797
$\log C$	1.159707	$\log \sec \phi$	0.06067392
$\log \Delta\phi$	0.772214	$\log \Delta\lambda_1$	3.37628797
		cor. sine to arc	+ 963
y		$\log \Delta\lambda$	3.37629760
ϕ'(by interpolation)	29° 35' 16".5558	$\Delta\lambda$	2378".4696
$\Delta\phi$	- 5.9185	λ (central mer.)	81° ' "
ϕ	29° 35' 10".6373	$\Delta\lambda$	39 38.4696
		λ	81° 39' 38".4696

Station x 275,000 y 1,900,000

x		$\log S_g$	5.35217412
C		$\log (1200/3937)$	9.48401583
$x' (=x-C)$	-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
$\log S_m^2$	9.672431	$\log A$	8.50936858
$\log C$	1.159223	$\log \sec \phi$	0.06055460
$\log \Delta\phi$	0.831654	$\log \Delta\lambda_1$	3.40613034
		cor. sine to arc	+ 1104
y		$\log \Delta\lambda$	3.40614138
ϕ'(by interpolation)	29° 33' 37".5542	$\Delta\lambda$	2547".6595
$\Delta\phi$	- 6.7866	λ (central mer.)	81° ' "
ϕ	29° 33' 30".7676	$\Delta\lambda$	42 27.6595
		λ	81° 42' 27".6595

(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

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

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

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

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

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

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

Geodetic positions from transverse Mercator coordinates

State Fla. East Station x 305,000 / y 1,900,000

x		log S_g	5.29002831
C		log (1200/3937)	9.48401583
x' (=x−C)	−195,000	log (1/R)	2555
$x'^3/(6\rho_o^2)_g$	− 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	8.50936857
log C	1.159223	log sec ϕ	0.06055662
log $\Delta\phi$	0.707362	log $\Delta\lambda_1$	3.34398861
		cor. sine to arc	+ 830
y	1,900,000	log $\Delta\lambda$	3.34399691
ϕ'(by interpolation)	29° 33′ 37.5542	$\Delta\lambda$	2207.9890
$\Delta\phi$	− 5.0976	λ (central mer.)	81° ′ ″
ϕ	29° 33′ 32.4566	$\Delta\lambda$	36 47.9890
		λ	81° 36′ 47.9890

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

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

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

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

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

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

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

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla (East) Station Middle 1935

ϕ 29° 34' 10.05

λ (Central meridian) 81° 00' "

λ 81 38 34.82

$\Delta\lambda$ (Central meridian−λ) − 38 34.82

$\Delta\lambda$ (in sec.) − 2314.82

log $\Delta\lambda$	3.36451722	log S_m^2	9.589090
Cor. arc to sine	− 912	log C*	1.159 409
log $\Delta\lambda_1$	3.36450810	log $\Delta\phi$	0.748 499
log cos ϕ	9.93939848		
colog A	1.49063166	ϕ	29° 34 10".05
log S_1	4.79453824	$\Delta\phi$	+ 5.6040
Cor. sine to arc	+ 688	ϕ'	15.6540
log S_m	4.79454512		
log 3937/1200	0.51598417	Tabular difference of y for 1" of ϕ'	
log R	− 2555		
log S_g	5.31050374	y (for min. of ϕ')	
log S_g^3	15.9315112	y (for seconds of ϕ')	+
log $1/6\rho_0^2R^2$	4.5821873	y	1,903,848.40
log $(S_g^3/6\rho_0^2)_g$	0.5136985		
		log sin $\frac{\phi+\phi'}{2}$	
S_g	204,410.75	log $\Delta\lambda$	
$(S_g^3/6\rho_0^2)_g$	3.26	log $\Delta\alpha_1$	
x'	− 204,414.01		
	5	log $(\Delta\lambda)^3$	
	~~2,000,000.00~~	log F	
x	295,585.99	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.

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H
No. T 5195

received
registered
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25		[illegible]	Refer to Page 6 of Desc. Report
26			
30			
40			
62			
63			
82	Capt Ellis	EOR	Refer to Page 4 of Review
83			
88			
90			

RETURN TO

82	Mr. Read

6130
31
6239