

# 8421

Diag'd..on diag. ch. No. 1249-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey TOPOGRAPHIC

Field No. T-8421 Office No. \_\_\_\_\_  
LAKE WORTH

### LOCALITY

State FLORIDA

General locality FLORIDA EAST COAST

Locality LAKE WORTH - PALM BEACH COUNTY

1945

CHIEF OF PARTY

Lt. Comdr. J. C. Bose

LIBRARY & ARCHIVES

DATE March 23, 1948

8-1870-1 (11)

# 8421

10 1 1946

Department of Commerce  
U. S. Coast and Geodetic Survey

Refer to No. 73

LETTER TRANSMITTING RECORDS

Washington, D. C.  
21 April 1948

TO: The Director  
U. S. Geological Survey  
Washington, D. C.

Attention: ~~Mr. C. F. Fueschel~~ Mr. C. F. Fueschel  
Chief, Cartography and Editing Section

Records of topographic mapping as listed below were forwarded to you by Truck on 21 April 1948 for reproduction. Please receipt the original and return it to the Chief, Division of Photogrammetry of this Bureau, and retain the duplicate for your files. The items marked \* should be eventually returned to this Bureau for our permanent files.

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Data for publication of Lake Worth, Florida  
7-1/2 mm. Quadrangle, (T-8421).

1. ✓ Manuscript mounted on drawing board with woodland overlay in two sections.
2. ✓ Name overlay
3. ✓ Road overlay
4. Smooth drawings as follows:
  - (a) ✓ Black
  - (b) ✓ Brown
  - (c) ✓ Dark Blue
  - (d) ✓ Light Blue
  - (e) ✓ Green
  - (f) ✓ Extra blue line for military grid
5. ✓ Color process proof (without names).  
Corrections noted on this proof have been made on the drawings.
6. ✓ Descriptive report.

Received the above: 4/21/48

Date

Chief, Division of Photogrammetry

Number 27

  
U. S. Geological Survey

DATA RECORD

T- 8421

Quadrangle (II): **Lake Worth (T-8421)**  
Declination **1° 15' East**

Project No. (II): **C.S. 312 A**

Field Office: **Tampa Florida**

Chief of Party: **J. C. Bose**

Compilation Office: **Tampa, Florida**

Chief of Party: **J. C. Bose**

Instructions dated (II III): **5/25/45**

Copy filed in Descriptive  
Report No. T- (VI)

*Division Photogrammetry  
Office Files.*

Completed survey received in office:

Reported to Nautical Chart Section:

Reviewed: **25 Oct. 46**

Applied to chart No.

Date:

Redrafting Completed:

Registered: **12 March 1948**

Published:

Compilation Scale: **1:20,300**

Published Scale: **1:24,000**

Scale Factor (III): **.98522**

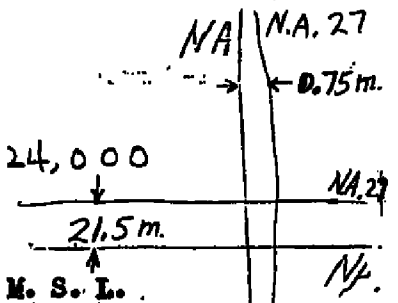
Geographic Datum (III): **N.A. 1927** ✓

Datum Plane (III): **M. S. L.**

Reference Station (III): **Alling, 1929**

Lat.: **26° 34' 19.553 (601.8m)** Long.: **80° 02' 20.690 (572.6m)**

Adjusted  
~~Unadjusted~~



*See Review Report*

State Plane Coordinates (VI):

*Florida, East Zone*

x = **814,084.43** feet

y = **814,774.08** feet

Military Grid Zone (VI)

*"B" (no overlapping zone)*

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
12107	11/25/42	10:37 AM	1:20300	4.6 above MLW
12148	"	11:21 AM	"	3.9 " "
12149	"	11:21 AM	"	3.9 " "
12150	"	11:21 AM	"	3.9 " "
12108	"	10:37 AM	"	4.6 " "
11852	11/14/42	11:38 AM	"	5.2 " "
11921	"	1:37 PM	"	5.0 " "
11922	"	1:38 PM	"	5.0 " "
11850	"	11:37 AM	"	5.2 " "
12151	11/25/42	1122 AM	"	3.9 " "
1518 to 1526	3/9/45	9:45 AM	1:20,000	0.2 " "

Tide from (III): <sup>9 lens</sup> Mayport  
 Single lens Hillsboro Inlet (Ref. Sta.)  
 Mean Range: 2.8 feet

Spring Range: 3.3 feet

Camera: (Kind or source) U. S. C. & G. S. 9 Lens, 8 1/2 focal length

Field Inspection by: H. A. Duffy and Frank Elrod

date: June, 1944  
July, 1945

Field Edit by: J. K. Wilson

date: Spring 1946 (?)

Date of Mean High Water Line Location (III): June, 1944

Projection and Grids ruled by (III) Washington Office

date: June, 1944

" " " checked by: " "

date: " "

Control plotted by: J. Collins

date: 7/21/44

Control checked by: R. Dossett

date: 7/22/44

Radial Plot by: Tampa Office

date: August, 1944

Detailed by: V. F. Simmons and R. Dossett

date: August, 1944  
August, 1945

Reviewed in compilation office by: J. Giles

date: October, 1945

Elevations on <sup>Manuscript</sup> ~~Field Edit Sheet~~ checked by: R. Dossett

date: October 1945

STATISTICS (III)

Land Area (Sq. Statute Miles): **44.7**

Shoreline (More than 200 meters to opposite shore): **29.0**

Shoreline (Less than 200 meters to opposite shore): **11.5**

Number of Recoverable Topographic Stations established: **15**

Number of Temporary Hydrographic Stations located by radial plot: **2**

Leveling (to control contours) -- miles: **68.0**

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Compilation Party, or, (VI) the Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

Remarks:

DESCRIPTIVE REPORT TO  
ACCOMPANY  
QUADRANGLE No. 8421 (LW)  
Project CS-312  
May 17, 1945

1 DESCRIPTION OF THE AREA

This 7½ minute quadrangle lies within Palm Beach County on the East Coast of Florida. It is bounded on the north by Lat. 26° 37' 30" on the south by Lat. 26° 30' 00" on the west by Long. 80° 07' 30" and on the east by the Atlantic Ocean. The area contains 44.7 square statute miles of land with elevations ranging from mean sea level to about 50 feet on the west one of two ridges which run north and south and parallel to the Atlantic Ocean beach.

Of the two ridges mentioned above, one runs parallel and close to the beach; the other bisects the quad. from north to south and about 1½ miles inland. Just west of the highest ridge formation lies an area of drained lake bottom which extends the full length of the quad. and is crisscrossed with a system of drainage and irrigation ditches with water controlled by pumps and locks to promote cultivation.

The principal cultural features are the Florida East Coast Railroad (double track), the Seaboard Air Line Railroad running roughly parallel and near the coast; Intercoastal Waterway runs through the quad. following near the center of Lake Worth. There are two highways running north and south through the quad., U.S. Highway No. 1 being the principal road, follows close to the west shore of Lake Worth, the other being Florida State Highway No. 140, running close to the Atlantic Ocean Beach. The principal incorporated cities are Lake Worth, Lantana, Manalapan, Ocean Ridge, Boynton Beach and a small portion of Palm Beach. One other city was abolished, very recently, by an act of the state legislature, but proceedings are in progress to reestablish "Greenacres City" under a new charter, but at the present date no city, by this name, legally exists. There are numerous small settlements, also several boom time developments which have been abandoned to scrub growth and brush in recent years.

There are spots of cultivation scattered throughout the quad. in the lower ground where the water table is high and can be supplemented with irrigation.

The vegetation is composed of pine, palm, palmetto, oak scrub, and grass with mangrove bordering all of the inland tidal water. The higher ridges are covered with pine, palmetto, and considerable areas of oak scrub. The flat land of the western half of the quad. is covered with pine, grass, and scattered palmetto and brush. The lower ground not under cultivation is covered with grass and scattered palm hummocks. There small amounts of cypress in a few of the intermittent ponds.

The work in this area was carried on during one of the driest periods, according to local residents, of any extent in the last ten years; consequently, very few intermittent ponds contained water.

## 2 COMPLETENESS OF FIELD INSPECTION

The field inspection was done in accordance with instructions dated November 6, 1942 to War Mapping projects and supplemental instructions issued for this project. A large part of this inspection was done by George C. Whitehurst, Jr. Eng. Aid. While this area was recently inspected for planimetric maps, the inspection had to be supplemented in numerous cases to conform with recent instructions.

All important features such as new buildings, ditches, and new cultivation were added to give the latest possible data for mapping and is complete as of date of inspection.

## 3Y INTERPRETATION OF PHOTOGRAPHS

The color tone of the photographs varies from almost black in deep water and small spots of muck to white in clean sand areas. Heavy growths of pine appear smooth and have a dark steel tone, heavy palm is of lighter tone with a pebbly texture, grass is a light gray tone, brush is a dark greytone with a mottled texture, palmetto gives a light grey tone with velvety texture. Intermittent ponds vary from light grey in sand and grass bottoms to almost black in the ones with wet mud bottoms. In every case a well defined berm outlines these intermittent ponds.

## 4. HORIZONTAL CONTROL

All horizontal control was recovered in this quadrangle during the field inspection for planimetric mapping. Note: See paragraph 12 this report.

## 5 VERTICAL CONTROL

All of the U.S.C. & G. Survey bench marks were recovered during the field inspection for planimetric mapping and transferred to field prints Nos. 11852, 11921, 11922A, and 12149. Using these bench marks as a base, fly level lines were run, with a Wye Level, between B.M's with intermediate lines to give an overall, well distributed, coverage of vertical control. Along these lines of levels temporary B. M.s were established at about  $\frac{1}{2}$  mile intervals at identifiable picture points. Where suitable surfaces were available, such as hard surfaced roads, a bottle cap was used as a mark, but where no such surface was available, stakes were driven flush with the ground and a guard stake driven nearby showing the station designation. All level lines were run well within the required accuracy, adjusted, and carefully checked. All level elevations were spotted and inked in blue with the station numbers identifying it.

## 6 CONTOURS AND DRAINAGE

The contouring was done in accordance with instructions for this project, on photographs Nos. 11852, 11921, 11922A, 12149 using standard planimetric methods, supplemented in a few cases by pacing and hand leveling.

A large portion of the area contained an elaborate system of drainage and irrigation ditches which interrupted the normal course of the contours. In these cases the direction of the contour at the break was indicated, the point

at which the contour turned on the spoil or within the ditch was also indicated with frequent elevations spotted on the spoil banks and water level of the ditches. The spoil bank symbol was used to indicate a continuance of the spoil even though a contour was turned due to variation in elevation of the spoil. Different elevations on water level in the same ditch indicates the fluctuation caused by control by pumps and locks rather than slope of the grade in the ditch.

All planetable traverses of three setups or more were tied back to level points with a closure of 0.3 foot or less.

There is no natural drainage in this quadrangle.

#### 7 MEAN HIGH WATER LINE

The mean high water line was established on the planimetric field prints by frequent measurements from picture points and by sketching between these points. No radical changes were found during the contouring of this quadrangle, but frequent checks were made by short stadia shots as a test. In general the M.H.W. line parallels the five foot contour at a distance of between five and ten meters. In addition, distances were taped at each Topographic station and checked against the planimetric ozalid or field print.

#### 8 LOW WATER LINE

No additional investigation was done except to note that the L.W.L. as shown on the planimetric field prints is adequate and up to date.

#### 9 WHARVES AND SHORELINE STRUCTURES

During the investigation by this party no changes were noted from those shown by the planimetric inspection.

#### 10 DETAILS OFFSHORE FROM HIGH WATER LINE

No details requiring further investigation by the Hydrographic party were noted during this inspection.

#### 11. LANDMARKS AND AIDS TO NAVIGATION

A check was made on the investigation by the planimetric inspection party, but no apparent changes were noted.

#### 12 HYDROGRAPHIC CONTROL

In Lake Worth, the Intercoastal Waterway and along the Atlantic Ocean enough Topographic stations were established, along with permanent natural objects, triangulation stations, and U.S.E.D. control, to give a spacing of approximately one mile between these stations. All established Topographic stations were submitted on form No. 524. Topographic stations MAN and EEL are U.S.E.D. stations "31" and "30" respectively, for which no coordinates are available at this time and should be used as topographic stations only. 524 cards on file in Div. of

*Photogrammetry General Files.*

#### 13 LANDING FIELDS AND AERONAUTICAL AIDS

Two airports fall within the limits of this quadrangle. The first is a small



private field about  $1\frac{1}{4}$  miles west of Lake Worth. It has only limited facilities for very small planes.

The other is located about 2 miles west of Lantana and is named "Palm Beach County Park Airport". It has paved runways with adequate facilities for commercial air transportation. The only aeronautical aid falling within this quadrangle is located at this airport and was reported and adequately tied in by the planimetric field inspection.

#### 14 ROAD CLASSIFICATION

All roads were classified in accordance with instructions for this project. Reference to planimetric field prints should be made for width of roads, these measurements are complete as to main and connecting roads or streets and boulevards of over 10 meters with appropriate notes at points of change.

In numerous cases of 4U roads, these were deleted because of small relative importance and changing from year to year.

#### 15 BRIDGES

All bridges in this quadrangle were classified in accordance with instructions for this project by George E. Varnadoe, Prin. Photo. Aid.

#### 16 BUILDINGS AND STRUCTURES

All habitable buildings were circled except in urban areas. Barns, packing sheds, or other buildings of sufficient topographic importance were labeled. All public and semi-public buildings were labeled.

#### 17 BOUNDARY MONUMENTS AND LINES

All city boundaries were secured from the city hall of each city, from existing local maps and charted descriptions.

Precinct boundaries were secured from the registrar's office at the county court house West Palm Beach, Florida.

None of these boundaries are monumented except by section corners and otherwise follow topographic cultural features or a chartered description.

Due to a special request from the Tampa compilation office as to boundary monuments of the Palm Beach County Park Airport, a thorough investigation was made and revealed that the boundary is fixed by description without monuments. This boundary is shown on the field print with appropriate notes.

#### 18 GEOGRAPHIC NAMES 814<sup>v</sup>

A thorough investigation and a special report was submitted during the field inspection for planimetric mapping, by Lowell I. Bass, Jr. Eng. Aid.

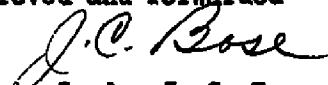
19 SECTION CORNERS

All of the section corners falling within this quadrangle were searched for or recovered. Those marks recovered are submitted on picking cards with a short description. Only those marked in some manner are submitted.

Respectfully submitted

Harold A. Duffy  
Prin. Photo. Aid.

Approved and forwarded

  
Lieut. Comdr. J. C. Bose  
Chief of Party

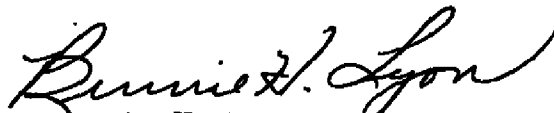
RADIAL PLOT REPORT  
FLORIDA EAST COAST (PARTIAL)

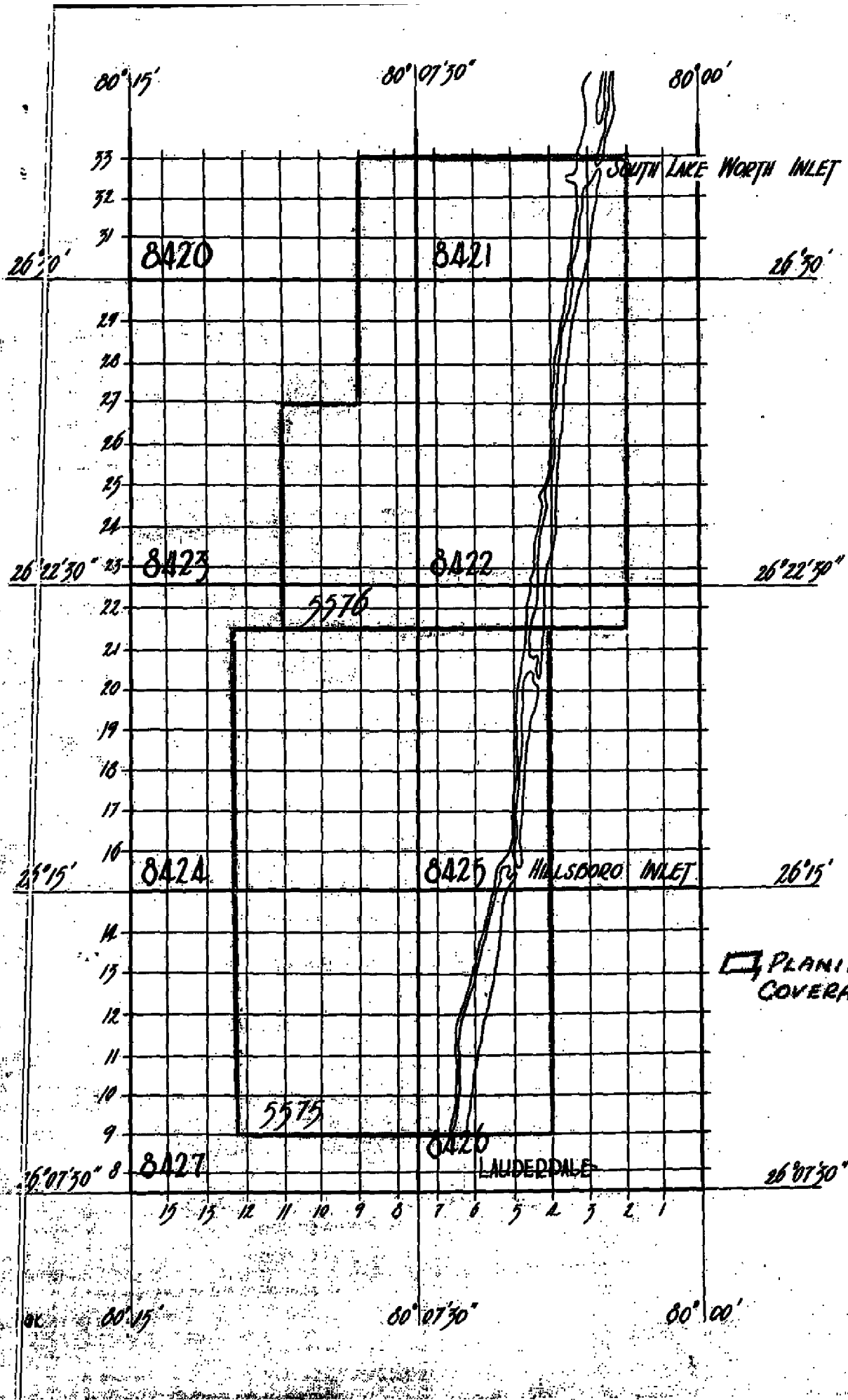
Since this report covers an area which was originally planned as a planimetric mapping project and the plot was completed with this in view, it has been necessary to prepare supplements to the original report.

That portion of the radial line plot which covers planimetric maps for sheets - T-5575 and T-5576 will be covered in this report under the heading "PROJECT 308 A (PARTIAL)". Since there was considerable uncertainty as to the extent of revision necessary to correct previous compilations under instructions dated January 27, 1944, it was decided that the N. A. Datum of the Original compilations should be used.

Report of the supplemental radial plot which was required to fill out the area covered by Quadrangles T-8422 thru T-8427 is enclosed herein. There is also enclosed herewith, a sketch showing the relative positions of the parts of projects 312 and 308 A covered by this report.

An additional supplement to this report covering the unfinished parts of Quadrangles T-8420 and T-8423 will be forwarded at a later date.

  
Bennie H. Lyon,  
Chief Engineering Draftsman.



PLANIMETRIC  
 COVERAGE

26 &amp; 27.

## MAIN RADIAL PLOT

## Project 308 A (Partial)

This plot consisted of two sheets, T-5575 and T-5576. Due to the fact that this job was a revision of previously compiled sheets, it was necessary to convert the majority of control from North American 1927 Datum to North American Datum.

Scale plots were run by two different methods and the photograph scale was determined to be 1:20,300. In order to save several days wait it was decided to lay out projections on a 1:20,300 scale and complete a test plot in this office prior to receiving projections from the Washington Office. After laying the plot, checks were made upon it, which proved that it would not be necessary to re-lay it. This check will be discussed in this report under the heading "Areas of Questionable Accuracy".

In this plot, two inaugurations were made in the method of picking secondary control. First a circle with a 1 1/4 inch radius was drawn upon each of the 9 lens photographs. In no case was secondary control picked outside this circle. Primary control which fell outside the circle was drawn upon the templates with red ink with the intention of disregarding it in the event any difficulty due to excessive distortion near the extremities of the photograph or of the template, should be encountered in holding it. In this particular plot, at least 95% of the control which was outside the circle held tightly. However, the experiment is to be carried on in all areas where photograph coverage permits, in order to enable a definite conclusion to be made concerning regularity of distortion near the outer edges of photographs. Second, all secondary control was picked in a regular scheme of quadrilaterals, 5 inches on a side, This was done in order to determine whether equal distribution of control in all directions upon each photograph would have any effect upon the strength of the graphically determined triangulation scheme, as represented by the radial plot. Excellent results were obtained, and this method is to be adopted for all future work in this office.

A regular discussion of the Radial Plot follows:

(A)	Control Density	Control stations within limits of plot-
Sheet #	T-5575	26
Sheet #	T-5576	17

### Identification of Control

Identification of all control within in this plot was found to be excellent. One triangulation station VILLA RICA TANK, BALL ON TOP, 1934 was found to cut in approximately 363 meters N. E. of the plotted position. Doubt was expressed by the field party that this tank was the correct one.

#### (B) Photographs

The following nine lens photographs were used:

12151	-	12159	Inclusive
11922	-	11930	"
11841	-	11844	"
11846	&	11848	"

All photographs were closely examined for possible discrepancy in the matching of chamber junctions. Very few cases of this were encountered, and those which were observed were clearly marked upon the photographs involved.

The photographs used were unmounted acetate impregnated, therefore, it was necessary to use the metal template for the elimination of the effect of paper distortion.

#### (C) Closures and Adjustment

Regular procedure was followed in laying templates with the strongest fixes first, then progressively laying through photographs with weaker fixes. All azimuths to adjacent centers were held and excellent intersections were obtained throughout. Some tilt was observed, but in no case was it sufficient to cause difficulty in completing a strong plot.

#### (D) Areas of Questionable Accuracy

After the Radial Plot was completed, geographic positions were obtained and plotted for the following horizontal control stations which had been cut in by radial intersection in the main plot:

R-2	(Fla. Geo. Survey) 1934
R-4	" "
R-5	" "
R-8	" "
R-9	" "
R-10	" "
R-11	" "
R-12	" "
R-13	" "
R-14	" "
R-15	" "


*See map  
with marks on  
clearing 10 10 10*

The maximum difference noted in this procedure was 0.2 millimeters and the average difference was approximately 0.1 mm., therefore, it is believed that this plot falls well within the prescribed accuracy requirements.

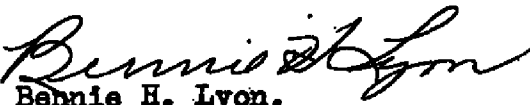
(E) General

Secondary control was shown on the projection with double blue circles of 2.8 mm. and 1.5 mm. radius. Centers were shown with double blue circles 4.0 mm. and 2.8 mm. radius. Approximately 90% of the additional or detailing control points were selected and cut in by the control section. These points were shown upon the projection with 2.0 mm blue circles. The survey sheets were then released to the draftsman with the instructions that any further additional control should be cut in by the individual draftsman and shown on the survey sheet with a 2.0 mm. circle of purple ink.

Approved by :

  
J. C. Bose,  
Chief of Party.

Respectfully submitted,

  
Bennie H. Lyon,  
Chief Engineering Draftsman.

MAIN RADIAL PLOT  
PROJECT 312 (PARTIAL)  
SUPPLEMENTARY

Upon receipt of instructions dated August 23, 1944 concerning the change over from planimetric mapping on the Florida East Coast to topographic quadrangles, it became necessary to make additions to the main radial plot which had already been completed for sheets - T-5575 and T-5576 in order to complete the area as far west as Longitude  $80^{\circ}15'$  west and as far south as Latitude  $26^{\circ}07'30''$ .

Investigation disclosed that the original survey sheets for the planimetric maps had become considerably distorted from their Original 1-20,300 scale, therefore it became necessary to lay out new base grids in order to obtain a common scale for the radial plot extension. This plot extension has been completed in the western portion of Quadrangle # T-8423 only so far North as Latitude  $26^{\circ}27'$ . This latitude is coincident with the north limit of the south half of Planimetric sheet # T-5576.

After completing the radial plot extension it was decided that, in view of the distortion which existed in the planimetric maps, the most practical method of completing full Quadrangle Coverage would be to project each half planimetric sheet west to the quadrangle limits - By this method, a minimum of junction between different scale sheets was possible.

(A) Control

In addition to the Control which had been previously used in the Original plot, the following stations were established by traverse for the Westward and southern extension of this plot.

Quad. T-8427	PP1	-	1945
	PP2	-	1945
	PP3	-	1945
	PP4	-	1945
	PP5	-	1945

Quad. T-8424	FIP.B	-	21	-	1945
	FIP.B	-	4	-	1945
	FIP.B	-	3	-	1945

By the use of the additional control in sheet T-8424, it was discovered that slight errors in the radial plot existed at approximately Longitude  $80^{\circ}10'$  to  $80^{\circ}12'$  and Latitude  $26^{\circ}18'$  to  $26^{\circ}20'$ . In rectifying these slight errors, it has been necessary to change some of the existing detail.

(B) Photographs

Photograph coverage for this portion of the area was very good. In addition to the photographs used in the previous plot, the following nine lens photographs were used to complete the radial plot for the Quadrangles 12164 through 12171.



No tilt sufficient to interfere with the accuracy of the plot was observed. The photographs used for this plot were printed on unmounted positype paper; therefore, it was necessary to treat for paper distortion.

Secondary Control was picked, and azimuths were put on by members of the Control Section. The stereoscope and radial liner method was used for obtaining azimuths.

(C) Closures and Adjustments.

Templets were made for the photographs listed above, and for photographs 12152 through 12159.

Secondary Control from the previous radial plot was held in addition to existing primary control, and with the exception of the area heretofore described, no difficulty was encountered. Excellent intersections were obtained through out.

(D) Areas of Questionable Accuracy

It is believed that with the additional control which was established for this plot, all parts fall within the prescribed limits of accuracy.

(E) General

Secondary Control was shown on the projection with double blue circles of 2.8 mm. and 1.5 mm., while photograph centers were shown with double blue circles of 4.0 mm., and 2.8 mm. radius. The sheets were released to the draftsman for the addition of detailing points.

Approved by:

*J. C. Bose*  
J. C. Bose,  
Chief of Party.

Respectfully submitted,

*Bennie H. Lyon*  
Bennie H. Lyon,  
Chief Engineering Draftsman.

COMPILATION REPORT  
To Accompany Quad. Lake Worth (T-8421)  
Project C.S. 312

26 & 27 CONTROL AND RADIAL PLOT

*See Review Report for list of control stations.*

A special report has been submitted under separate cover by B. H. Lyon.

*Filed in Division Photogrammetry General Files.*

28 DETAILING

The entire area of this Quad. was originally detailed according to Planimetric instructions dated January 27, 1944. The area embraced between Lat.  $26^{\circ} 33'$  and  $26^{\circ} 37' 30''$  was originally detailed as planimetric map T-5577. The area from  $26^{\circ} 33'$  southward to  $26^{\circ} 30'$  was originally detailed as planimetric map T-5576.

In converting from planimetric to topographic specifications according to latest instructions for this project. No attempt was made to erase the woodland vegetation outlining or symbols that were shown on the planimetric sheets; instead, an overlay (extra polyconic projection received from the Washington Office) was used. The radial points were transferred to this overlay sheet and the limits of the woodland vegetation taken directly from the photographs, being delineated according to instructions dated June 30, 1945. The woodland vegetation as originally delineated should be ignored. Only the ponds, marsh areas, intermittent ponds, etc. should be taken from the original planimetric drawing.

In connection with the vegetation, attention is called to that area through the approximate center of the Quad. (Long.  $80^{\circ} 05'$ ). Where the terrain is low ground and apparently is reclaimed everglades or marsh and in which the vegetation growth is extremely sparse. There is a clear line of demarcation separating this area from that of the areas to the east and west. It is believed by the draftsman that this area should be delineated on the final draft as scattered softwoods except for those areas that have been otherwise outlined.

The contours have been shown on the back of the sheet in red acetate ink and political boundaries in blue acetate ink.

All new ditches, roads, and buildings have been added from latest field inspection notes, and drafted in as located by the field inspection.

The field inspection for this quadrangle was adequate.

The contours as located by the field man (H.A. Duffy) were clearly shown and easily interpreted.

29 SUPPLEMENTAL DATA

A subdivision map of Lake Worth, furnished by the field party was used to name "Ocean Blvd.", "Dixie Highway", and the "Municipal Golf Course".

30 MEAN HIGH-WATER LINE

This paragraph has been covered in the field inspection report sub-

mitted by H. A. Duffy.

31 LOW WATER AND SHOAL LINES

The approximate low water line has been shown by a dotted line.

32 DETAILS OFFSHORE FROM THE HIGH WATER LINE

All rocks appearing along the shoreline of both the Atlantic Ocean and Lake Worth have been indicated by symbol and labeled awash or otherwise. Oyster bars in Lake Worth have been shown by dotted lines.

33 WHARVES AND SHORELINE STRUCTURES

No wharves appear along the main shoreline. All seawalls or bulkheads have been delineated and appropriately labeled.

All small boat docks, boat slips and marine railways appearing along the shoreline of Lake Worth have been delineated, and labeled as recovered by the field inspection.

34 LANDMARKS AND AIDS TO NAVIGATION

Landmarks and aids to navigation have been listed on form No. 567, and made a part of this report.

*Filed in Nautical Charts, Chart Letter #783, 1945  
Carbon copy in appendix included J.R.  
in this report.*

35 HYDROGRAPHIC CONTROL

Fifteen (15) topographic stations have been located by radial plot on this quadrangle, for use by the hydrographer. See the field inspection report for further information.

36 LANDING FIELDS AND AERONAUTICAL AIDS

See field inspection report for information on this paragraph.

37 BRIDGES AND OVERHEAD WIRES

All bridges over navigable waters have been classified according to the latest instructions. Bridges with draws have been classified according to type and the horizontal, and vertical clearances indicated as per the latest information obtained in the field. Fixed bridges over small streams or canals have been shown by symbol only, and the clearances indicated where recommended by the field inspector.

38 SECTION CORNERS

Twenty-nine (29) section corners were recovered in the field, which have been located on the sheet by radial line intersection. They are shown on the drawing by small black crosses  $\frac{1}{2}$  cm long with the numbers of the sections in their respective corners.

*See also special report on section lines  
at back of disc. report T8420.  
DJG*

44 COMPARISON WITH EXISTING TOPOGRAPHIC QUADRANGLES

No topographic quadrangle was available for a comparison.

45 COMPARISON WITH NAUTICAL CHARTS

A comparison was made with U.S.C. & G.S. nautical chart No. 1248, published in August 1937 and revised to April 3, 1942. Also U.S.C. & G.S. nautical chart 846 published February, 1938 and revised to January 12, 1942. They were in general agreement with this compilation, with two exceptions. A small island at the mouth of West Palm Beach Canal in Lake Worth has disappeared. Two islands to the southwest of the above, about 400 meters have merged into one.

Respectfully submitted,

*Rudolph Dossett*  
Rudolph Dossett  
Prin. Photo. Aid

Approved and forwarded:

*J. C. Bose*  
Lieut. Comdr. J. C. Bose  
Chief of Party

OFFICE INSPECTION OF T-8421

1. The area covered in this report includes the northern  $4\frac{1}{2}$  minutes of T-8421 and the southern  $1\frac{1}{2}$  minutes of T-8418. The southern 3 minutes of T-8421 was not available. Because of the urgency in completing the office inspection, it was decided to proceed with it in this instance on a planimetric basis rather than on a quadrangle basis as originally planned.

2. The projection on this portion of T-8421 is on the NA 1927 datum. The projection on the southern portion may be on the NA datum, and can be converted to NA 1927 on the blue line black plate. *See review report.*

3. During compilation, some of the contours were not interpreted correctly from the photographs. These have been corrected on the manuscript. Not all of the spot elevations have been transferred to the manuscript. If this were done, there would still be an inadequate amount of spot elevations in the spoil and levee areas along the ditches. Where two or more different contours run parallel with a ditch, they may be shown with hachures or spoil area symbols and spot elevations. It is, therefore, necessary to obtain additional elevations during field edit. It should not be assumed that the places indicated on the Discrepancy Overlay are the only areas where additional spot elevations should be obtained.

4. Notes have been made on the discrepancy overlay where contouring is incomplete or in doubt. Additional cases may be found by the field edit party.

5. Roads and streets on this sheet have been classified according to the original planimetric system of double full or double dash line roads noted as Rd 1 and Rd 2. Reclassification according to the 30 June 1945 instructions should be made during field edit. Any additional state or federal routes should be indicated on the field edit sheet.

6. The urban limits of Lake Worth have been redefined in the Washington office. It will be necessary to compile more houses on the manuscript.

7. Send plat of section corners and maps or descriptions of other boundaries to the Washington office.

8. Check and complete vegetation classification shown on overlay. Indicate type of vegetation in swamp areas.

9. When field edit is complete, any extensive but necessary compilation should be done in the Tampa office before forwarding to Washington. This would probably include: the reclassification of the roads on the manuscript, completion of vegetation classification, and additional houses and buildings around Lake Worth. It will not be necessary to make every addition or correction indicated by the field edit party.

The photographs needed for any of this compilation will be transmitted to the Tampa Office.

11-29-45 J.L.P.

FIELD EDIT REPORT  
QUADRANGLE T-8421  
PROJECT CS 312-A

No. 46 METHODS:

In checking the map compilation all roads were traversed by truck. Because of the lack of roads walking was necessary in many places. All buildings, ditches, roads, etc added to map compilations were plotted by measurements from topographic features, excepting in numerous places where planetable methods had to be used.

The area along the intracoastal water way was done by truck, because of the presence of adequate roads.

No. 47 ADEQUACY OF THE COMPILATIONS

The compilation was adequate and correct except for the conflict between the old planimetric inspection and the more recent field inspection of this area.

Throughout the entire quadrangle the draftsman seems to have used the old planimetric inspection as being more correct. It was stated very clearly in Mr. Duffy's descriptive report that the more recent field inspection superseded all other inspections.

In the city of Boynton Beach there has recently been built a new fire station and City Hall. Sufficient notes have been shown on the sheet showing these new buildings. The old fire station and City Hall still exist but these will appear only as buildings on the map.

Attention is called to the towns of Boynton Beach, Lantana and Lake Worth where many streets have been deleted. These streets were part of an old subdivision that were visible on the photographs but have now grown up in brush.

Three (3) submarine cable crossings have been shown on the field edit that were not shown on the original field inspection.

Many contours did not have sufficient elevations especially on spoil banks as has been stated in previous reports. Most of the water elevations are subject to change because of irrigation pumps and locks. However, all water elevations asked for on discrepancy overlay were given.

} This data  
was asked  
for in a few spots  
to discover where some  
of the contours crossed  
the canals.

J. P. Riker

Attention is called to a canal in the extreme north central portion of this quadrangle. There is a ten (10) foot contour which begins in quadrangle T-8418 at the head of this canal and runs south through the entire quadrangle T-8418 along this canal. Sufficient notes were shown on the original field contours showing that this canal drains to the south.

Attention is called to the central portion of this quadrangle at Lake Osborne. At the northern portion of this lake dredging work is now in progress and the entire shoreline will probably be changed. Sufficient notes on photographs have been shown to show extent of dredging work.

The southern portion of this lake's shoreline is subject to small changes. Because of the irrigation pumps, canals, locks, etc., the water elevations in this lake changes from day to day.

A very thorough field inspection was made around the edge of this lake showing marsh, shoreline, water vegetation, etc., during this field edit for purpose of showing more clearly where shoreline would be at higher or lower water levels.

Attention is called to the north central portion of this quadrangle where a new road has just been built.

Attention is called to latitude  $26^{\circ} 33''$  and longitude  $80^{\circ} 30''$  where a private under pass is now being constructed. No plat was available.

Many landmarks that have already been charted were questioned on the discrepancy overlay. These landmarks were investigated and found to be in good condition. All of these landmarks are triangulation stations.

NO. 48 VERTICAL ACCURACY TEST:

The vertical accuracy test was done on a copy of the map compilation. This work was done during field edit by a four-man planetable party in the central portion of this quadrangle near Lake Osborne.

Ninety (90) per cent of the points tested fell within our standards of accuracy. A fly level elevation was used to begin from and this line was tied into another fly level elevation. The vertical closure was 0.3 foot. The horizontal closure was ten (10) meters.

*Included in  
appendix  
abstract of  
Descriptive  
Report.  
J.R.*

NO. 14 ROAD CLASSIFICATIONS

All roads were reclassified according to instructions dated 30 June 1945. Filed in Division of Photogrammetry Office Files.

NO. 49 WOODLAND:

Some few woodland changes have been made, in most instances, where draftsman was in doubt.

NO 50 HORIZONTAL CONTROL:

Three (3) USED traverse stations were recovered and pricked on nine (9) lens and single lens photographs along the intracoastal water way and shown by a red circle on the photographs. A pricking card and a recovery card are being submitted for each of these stations. ] *Photogr Div. General Files*

NO. 18 GEOGRAPHIC NAMES:

*BY ✓ List of approved geog. names attached to this report.*

Geographic names for this quadrangle will be submitted in a special report by Mr. Lowell I. Bass. Attention is called to the name Greenacres City. This name does not now appear on the map compilation. I refer you to Mr. Bass's report.

Attention is called to the name Hypoluxo. This name should appear on the map compilation. ✓

Attention is called to the name Manalapan. This name is correct. ✓

Bridge names such as Boynton Bridge, Lantana Bridge and Lake Worth Bridge have been added. *see name list* ✓

This map manuscript was examined for possible errors by Mr. E. Harvel. Mr. Harvel has been a resident of this county for over forty years. He found no errors. Mr. Harvel's address is Delray Beach, Florida.

Respectfully submitted

*Joseph K. Wilson*  
Joseph K. Wilson,

Photogrammetric Aid

Forwarded thru:

*George E. Morris, Jr.*  
George E. Morris, Jr.  
Chief of Party

*Most of Field Edid corrections were made in the Tampa Office.*

*J.R.*



T-8421 will be smooth drafted in the Division of Photogrammetry, after which it will be forwarded to the Geological Survey for publication. The following data regarding T-8421 are filed and may be obtained as follows:

- (a) The 1:20,300 scale manuscript corrected after field edit is filed in the Div. of Photogrammetry and may be obtained on request.
- (b) The field edit sheet is filed in the Division of Photogrammetry.
- (c) The descriptive report, together with a 1:20,000 scale photographic copy of the manuscript, is being registered in the Coast and Geodetic Survey archives at this time. When T-8421 is published, a cloth-backed color print will also be registered in the archives. The descriptive report may be obtained on request.



B. G. Jones  
Technical Assistant to the  
Chief, Div. of Photogrammetry  
March 16, 1948

Division of Photogrammetry  
Review Report of  
Topographic Map Manuscript T-8421

Subject numbers not used in this report have been adequately covered in other parts of the Descriptive Report.

26. Control.-

The triangulation stations shown on this map manuscript have not been listed on either the compilation report or the special report on control and radial plot. They are:

Alling, 1929	Holton, 1934
Hawlover, 1929	Lake Worth, Low Water Tank, 1929
Bray, 1934	Boynton, Black Tank, 1934
Kirk, 1934	Delray, North Base, 1934
Lantana, High Silver Tank, Finial, 1934	
Lake Worth, Large Black Tank, Finial, 1934	

The U.S.E.D. stations in this area were recovered but not used. They are shown on the map manuscript by the circle symbol.

28. Detailing.-

Contours were corrected to:

1. Agree with the results of the vertical accuracy test.
2. Better fit ponds, marsh and swamp areas.
3. Clarify their position when crowded along roads and canals.

Depression contours incorrectly symbolized were corrected.

Additions and corrections to vegetation, marsh and swamp areas were made on the vegetation overlay.

Grass in water areas was added in Lake Osborne.

39. Datum.-

The map manuscript for this quadrangle has been compiled in two parts; the northern part is on the North American 1927 datum, the southern part is on the North American datum.

It is recommended that the transformation of the southern part to the North American 1927 datum be performed in the drafting process. The Drafting Section can prepare a metal mounted bristol board base on which both datums have been drafted. The northern part of the manuscript will be processed onto this board holding

to the N. A. 1927 datum of the map manuscript and the same datum on the board. The southern part of the map manuscript will be processed on to the board holding to the N. A. datum of the map manuscript and the same datum on the board. On the final map drawing only the North American 1927 datum will be drafted.

Before drafting the blue lines, the projection and state grid will be checked and the military grid ticks will be plotted by the Review Section.

43. Comparisons with Previous Topographic Surveys.-

T-1649	1:40,000	1883
T-1657	1:40,000	1884
T-4462a	1:20,000	1927
T-4463a	1:20,000	1927

These surveys are all superseded in common areas by T-8421.

45. Comparisons with Nautical Charts.-

Chart 846	1:40,000	8/17/46
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Cables crossing the Intracoastal Waterway at 26°35' are not shown on the chart.

Chart 1248	1:80,000	3/30/46
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A light for coastal shipping, Light Navigation, listed in Chart Letter No. 783-1945 and described on form 524 is not shown on this chart.

This map manuscript has not been applied to nautical charts.

48. Accuracy Tests.-

The vertical accuracy test run in this area meets the accuracy specifications for the Project, ~~it is believed that~~ This map manuscript complies with the national standard map accuracy requirements.

49. Drafting Overlay.-

<sup>drafting</sup> An overlay has been made, by the reviewer, showing road classifications, vertical and horizontal control, spot elevations, urban area limits, town distances, etc. Streets and roads in urban areas, indicated as Class 2 by the Field Edit Party, will be shown as Class 3, excepting state and federal routes.

Reviewed by:

Jack L. Rihn  
Jack L. Rihn  
25 Oct. 1946

Reviewed under direction of:

S. V. Griffith  
S. V. Griffith  
Chief, Review Section

APPROVED BY:

B. J. Jones # 3/48  
Technical Assistant to the  
Chief, Div. of Photogrammetry

W. P. Rittenburg  
Chief, Nautical Chart Br.  
Division of Charts

K. T. Adams  
Chief, Div. of Photogrammetry

C. K. Green  
Chief, Div. of Coastal Surveys

INSTRUCTIONS FOR SMOOTH DRAFTING T-8421

This instruction for drafting shall remain in the descriptive report after the review. Responsibility for completion of certain items shall be initialed and dated as indicated.

The manuscript is in two sections, numbers 2 and 3. (See diagram in File Unit.) Both sections are at present filed in envelope T-8421.

Section 3 (north part) is on North American 1927 datum. Section 2 (south part) is on North American datum.

Section 3 is badly warped from having been left against a radiator. The eastern limits of the quadrangle, that is east of  $80^{\circ}02'$ , are not shown on either section.

Bluelines will be prepared as follows:

1. Order a metal-mounted projection with state grids (scale equal to manuscripts as they now stand), North American 1927 datum, and have the North American projection ruled in one-minute intervals in blue. This projection to be checked in the Review Section.

Special projection for blueline base checked by Howard R. Thune, date March 20, 1947.

2. Positive prints of the manuscript (sections 2 and 3) will be made and stuck-up on the base projection and then photographed for bluelines.

3. If the method indicated in 2 does not work, the original manuscript sections 2 and 3 may be cut up if necessary and fastened on the base projection.

4. The mark up of the manuscript on the base projection shall be checked for datum by the Review Section.

Mark up checked for correct datum by Jack R. Kelly,  
date March 21, 1947.

5. After receipt of satisfactory blue-  
lines, the Review Section will further check the  
blue-lines for accuracy by scaling a few of the  
triangulation stations against their North American  
1927 positions.

Transfer to North American 1927 datum checked by  
Howard W. Thuse, date June 1947.

If the North American datum projection lines drawn  
on the base show up on the blue-lines at all, leaving any  
question as to which projection to ink, consult the Review  
Section.

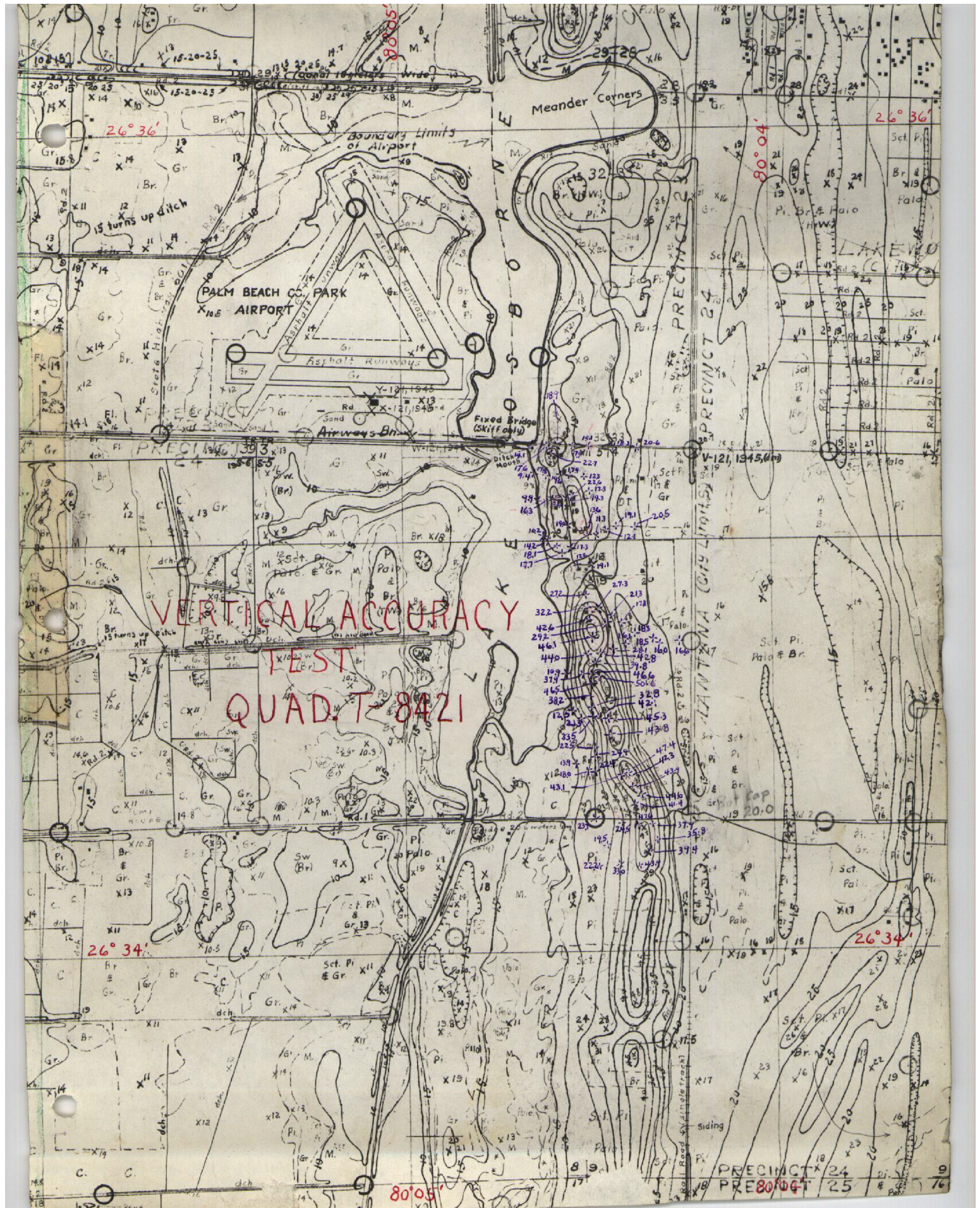
In view of the questions raised in the review of  
T-8420 regarding land lines, consult the Review Section  
for reassurance that these are correct on T-8421 before  
inking them.

*B. G. Jones*  
B. G. Jones

*The section lines have been verified; they are now  
correctly shown on the manuscript for T-8421.*

*J/R.  
15 Aug 47*





26°36'

26°36'

80°04'

VERTICAL ACCURACY  
TEST  
QUAD. T-8421

26°34'

26°34'

80°05'

PRECINCT 24  
PRECINCT 25

PALM BEACH CO. PARK  
AIRPORT

Meander Corners

Fixed Bridge  
(Skiff Only)

PRECINCT 24  
PRECINCT 25

LAKE WOOD

Airways Br.

Airways Br.

PRECINCT 24

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GEOGRAPHIC NAMES

Survey No. T-8421

LAKE WORTH 7 1/2' quad.

1 Name on Survey

	A	B	C	D	E	F	G	H	K
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
<u>Florida</u>								USGB	1
<u>Palm Beach County</u>									2
<u>Atlantic Ocean</u>									3
<u>Intracoastal Waterway</u>								USGB	4
<u>Florida East Coast Railway</u>									5
<u>Seaboard Railway</u>									6
<u>U.S. No. 1</u>									7
<u>State A1A</u>			(not No. 140)						8
<u>State 804</u>			(Not 195: East-west at Boynton Beach)						9
<u>State 809</u>			(North-south at long. 80 06'24")						10
<u>State 805</u>			(To NW and then N from Lantana)						11
<u>State 802</u>			<sup>174</sup> (not 172: East-west at Lake Worth)						12
									13
<u>Ocean Ridge</u>									14
<u>Boynton Beach</u>			(town)						15
<u>Boynton Beach Bridge</u>									16
<u>Boynton Canal</u>									17
<u>South Lake Worth Inlet</u>									18
<u>Manalapan</u>									19
<u>Hypoluxo Island</u>									20
<u>Hypoluxo</u>									21
<u>Lantana</u>									22
<u>Lantana Bridge</u>									23
<u>Lake Osborne</u>									24
<u>Palm Beach County Park Airport</u>									25
<u>Lake Worth</u>			(lake)						26
<u>Lake Worth</u>			(city)						27

GEOGRAPHIC NAMES

Survey No. T-8421

2 Name on Survey	A On Chart No.	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
<u>Palm Beach</u>	(a small section of it here, on outer beach)								1
<u>Greensboro City</u>	(altho the descriptive report states this place has no legal existence, the most recent Postal Guide lists it as a postoffice)								2
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Names underlined in red are approved 12/22/47 L.H.

