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Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: Florida

11-5013

DESCRIPTIVE REPORT.

Aerial Phototopographic Surveys

Air-Photo... Sheet No. 4388 4389

LOCALITY:

Florida West CoastEsterio Island to Sword Pt.~~Caloosahatchee River and Esterio~~
~~Island~~Little Hickory Pass to Esterio I.~~Esterio Island to Big Hickory~~
~~Pass~~1927

CHIEF OF PARTY:

R. P. Eyman, Str. Hydrographer

Guy Kirksey, Pilot

O. S. Reading, Photo-Reduction

Descriptive Report to Accompany Air
Photo Topographic Sheets.

No. Caloosahatchee River and Estero Island.

No. Estero Island to Big Hickory Pass.

These two sheets are a compilation of aerophotographs Nos. 132 to 170 (second roll) taken with Air Corps tri-lens camera No. 11. A Loening amphibian plane piloted by Lieutenant Guy Kirksey was flown at an altitude of a little less than 8000 feet, giving an approximate scale of 1:15,500 to the photographs. The photographs were taken on February 23, 1927, at about eleven A. M. and within half an hour of low water by the tide tables.

Compilation. - Projections on the approximate scale of the photographs as determined by a preliminary mosaic were laid down on celluloid. The triangulation was plotted on these projections, and Photostats from topographic sheets Nos. 4288, 4288a and 4289 to the scale of the projections were traced thereon in blue ink. A radial line traverse was then plotted on the celluloid from the photographs holding to the control and to the general trend of the topography. The photographic plot required no appreciable adjustment north of latitude $26^{\circ} 28'$ and only small adjustments between latitude $26^{\circ} 28'$ and station Carlos in latitude $26^{\circ} 23'$. South of this latitude between stations Carlos and Hickory it was necessary to reduce the distance ^{along the beach} 160 meters or about 1 in 38 while inshore along the railroad only a 30 meter reduction was required. It is believed that this extraordinary difference was due to the banking of the plane at the start of the strip, and the difference has been proportioned between the several photographs in accordance with this theory. The adjustment required is so great that considerable doubt must remain as to the location of the intervening topography. But because Big Hickory Pass, midway between the control stations, is constantly changing and the Imperial River, the only important inshore waterway, is shown on photo 168, which has two control stations, it is believed that the adjustment may safely be used for a 1:80,000 chart until the locality becomes of sufficient importance to warrant further surveys.

The detail was traced directly from the photographs making such slight adjustments by eye as were required to fit the central portions of the pictures to the radial control net. The celluloid sheets were then reduced to 1:20,000 scale and printed on Whatman's paper by photolithography. An additional print on Whatman's paper, two boat sheets and five chart paper sheets were made at the same time.

Changes. - The topography of the photographs agreed closely with that of the plane table sheets with the following exceptions:

The roads in the vicinity of latitude $26^{\circ} 31'$, longitude $81^{\circ} 58'$ as sketched on sheet 4288 were considerably in error. The inshore azimuth of the main highway from Punta Rasa to Fort Myers was also changed.

The photographs agree with sheet 4288a in the vicinity of Estero Island Bridge except that the canals on Estero Island are incorrectly shown on that sheet. Sheet 4288 shows the correct relation of these canals. *These canals have been erased from T. 4288a. E.P.*

Several small changes were made in the highwater line as shown on sheet 4288 to the south and east of Punta Rasa. The changes made were generally due to obvious mistakes in sketching, particularly in the vicinity of small streams which are clearly shown by the photographs.

The changes at the southern limit of sheet 4289 in the mangrove islets are obviously due to the topographers sketching beyond rod readings.

The changes in the high water line and at the entrances to the passes are believed to be due to storms and wave erosion.

High Water Line. - The outer limits of the mangrove on these sheets have been shown with a full line. Much of the value of the shoreline topography from the air photographs lies in the use of small indentations for the identification of position by passing boats. The significant shape of these indentations and points would be lost if the mangrove symbol without limiting line were used. A limiting line, perhaps much finer than the usual high water line is also recommended for the chart of the locality for the same reasons.

Names. - The names on these sheets were taken from those appearing on chart 1255 and the topographic sheets. The difference in spelling between Bowditch Point on the topographic sheets and in the triangulation and Bodwitch Point on the chart was not noted in the field. The spelling of the triangulation and plane table sheets was adopted pending further information. The following names are thoroughly established in local usage: Tamiami Trail, Estero River, Imperial River, Mound Key. *To be published*
Punta Blanca Cr. (T. 4288) Glover Bight, Iona Cove & Iona Pt. (T. 4288) H.P.

Landmarks and List of Prominent Objects. - The selection of landmarks in addition to those recommended in the reports of the plane table sheets is deferred until the hydrographic examination.

Details Requiring Further Examination. - The topographic symbols used depend on general observations while passing along roads and not on an actual inspection of the ground. It is desirable that the symbols used be compared with the appearance of the country from the launch; also that all houses or other conspicuous objects appear on the sheet as far as this may be done without undue delay during the hydrographic examination. Landmarks from Estero Island south :

are also to be selected and listed at this time.

For the reasons mentioned in the paragraph on compilation, an investigation of the extraordinary adjustment between stations "Carlos" and "Hickory" may be deferred until the development of the country warrants a resurvey.

O. Reading

- T. 4388 - There is, in general, excellent agreement between this sheet and T. 4288 which was made 5 months later. The most noticeable disagreements are at the eastern end of the mangrove island west of Shell Pt., the omission of the sand island at Lat. $26^{\circ} 31'$, Long. $82^{\circ} 01'$, and the omission of the three sand islands south of Punta Rasa. The photographs appear to me to confirm the representation of the islands as shown on T. 4288.
- T. 4389. This sheet is adequate. The house on Black I. (T. 4289) does not appear on the photograph. It is recommended that the cartographer consult the photographs when compiling the chart. It is suggested that the ruling of cultivated fields be diagonal, rather than horizontal, to avoid the similarity to marsh ruling. Also that the boundary lines of the cultivated fields conform to the standard symbols to avoid confusion with drainage canals.

E. Pelee

June, 1929

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REG. NO.

4388

AIR 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 Letter

REGISTER NO. 4388

State Florida

General locality West Coast, at Caloosahatchee River

Locality Caloosahatchee River and Estero Island to Sword Pt.

Scale 1:20,000 Date of survey February 23, 19²⁷

Vessel Str. Hydrographer standing by Army Amphibian Plane

Chief of Party R. P. Eyman, Guy Kirksey, Pilot

Surveyed by Photographs reduced by O. S. Reading

Inked by H. C. Walker

Heights in feet above none to ground to tops of trees

Contour Approximate contour Form line interval _____ feet

Instructions dated _____, 19

Remarks: Compilation of air photos No. 132 to 153, inclusive.

second roll 1927. Sheets accompanied by one print on Whatman's paper and two prints on boat sheet paper.

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AIR 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 Letter

REGISTER NO. 4389

State FloridaGeneral locality West CoastLocality Little Hickory Pass to Estero Island
Estero Island to Big Hickory Pass

Aerial Phototopographic Survey

Scale 1:20,000 Date of survey February 23, 1927Vessel Str. Hydrographer standing by Army Amphibian PlaneChief of Party R. P. Eyman, Guy Kirksey, PilotSurveyed by Photographs reduced by O. S. ReadingInked by J. S. MortonHeights in feet above none to ground to tops of treesContour Approximate contour Form line interval feet

Instructions dated, 19

Remarks: Compilation of air photos No. 154 to 170, inclusive,
second roll 1927. Sheets accompanied by 1 print on Whatman's
paper and 2 prints on boat sheet paper.

APPROVED

K.T. Adams

FIELD RECORDS (O)

J.B. Border

Chief, Section Field Work

L.O. Tolbert

Chief, Division of Charts

G. Hude

Chief, Div. of Hyd'y and Top'y