4556

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director

4556

State: Florida

DESCRIPTIVE REPORT

Photo | Topographic / ~~Hydrographic~~ | Sheet No. 4556

LOCALITY

East Coast ~~of Florida~~
Buck Pt.
~~Cocoa Beach~~ to Melbourne

1930

CHIEF OF PARTY

O. S. Reading

U. S. GOVERNMENT PRINTING OFFICE: 1929

Form 537a

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4556

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. 4556

State Florida

General locality East Coast

Locality ~~Cocoa Beach~~ Buck Pt. to Melbourne

Scale 1:20,000 Date of ~~survey~~ photographs April 29 & 30, 1928

~~Vessel~~ Leoning Amphibian Airplane

Chief of Party O. S. Reading

Surveyed by M. H. Reese

Inked by M. H. Reese

Heights in feet above ..... to ground to tops of trees

Contour Approximate contour Form line interval ..... feet

Instructions dated (Control & Compilation) June 6, 1929

Remarks: Compilation of four-lens air photographs Nos. 686-714 and 924 to 933. Reduced to 1:20,000 and printed by photo-lithographic process.

U. S. GOVERNMENT PRINTING OFFICE: 1926

DESCRIPTIVE REPORT TO ACCOMPANY
AIR PHOTO TOPOGRAPHIC SHEET
No. 4556 - COCOA BEACH TO MELBOURNE

This sheet is a compilation of air photographs taken by the Army Air Corps 4-lens camera No. 261. Photographs 686 to 714, direction of flight to the northward, were taken April 29, 1928. Photograph No. 686 was taken about 10:17 A.M., and photograph No. 714, which terminates this sheet, was taken about 10:30 A.M. A Loening amphibian plane was piloted by Lieutenant J. A. Dexter at a height of approximately 10,300 feet, giving an average scale of 1:19,050 to the photographs. A factor of 1.05 was actually used in making the projection for the photographs. A low tide of -0.1 as taken from the tide tables occurs during the time the photographs were taken for this sheet. These data apply to the outer coast, as no tidal data were available for Indian and Banana Rivers.

LIMITS.

The area of this sheet is covered by a single strip of photographs, extending about three miles west of Indian River. The northern limit of this sheet is latitude 28-18 and the southern limit is latitude 28-06.

The outer shoreline was unphotographed beginning at latitude 28-08.1 and extending to latitude 28-14.0. This was caused by the film being torn in the fourth chamber of the camera. The area that was unphotographed has been left blank on this sheet. The outer shoreline for this area may be obtained from topographic sheet No. 4544, which was executed in April, 1930, by ground surveys.

Only three lens photos were obtained.

CONTROL.

The scheme of triangulation that was executed in 1930 along the outer coast and portions of Banana and Indian Rivers was used as the main control; use was also made of all the old triangulation stations that were recoverable. Topographic sheet No. 4544 was used as the control for the outer coast.

In addition to the above mentioned control, two taped road traverses and a railroad traverse were utilized. The road traverses were plotted from sextant angles and taped distances, azimuths being obtained from solar observations with a theodolite. The railroad traverse was plotted from data obtained from the Florida East Coast Railway.

COMPILATION.

A projection was made on the culluloid to the approximate scale of the photographs, using scale factor 1.05 as obtained from the preliminary radial plot.

Photostats were made of topographic sheets 1450b and 1460 to the scale of the projection, and the shoreline was traced on in blue.

All triangulation stations that could be identified on the photographs were marked for use in the radial plot. The triangulation stations were plotted on the projection. The turning points of the tape traverses, azimuth stations, plusses to roads, trails, etc., are shown by small red circles.

After this information was plotted on the projection, a radial line graphic traverse was plotted holding to the control and the general trend of the old topography. After the radial plot had been made, it was noted that the scale of the photographs was larger in the southern portion of the sheet than in the northern portion of the sheet. This was due to the plane decreasing in altitude in flying northward.

DIFFERENCES FROM OLD TOPOGRAPHY.

In general, the differences in topography between the photographic sheet and the topographic sheets of 1876-77 (Sheets 1450b and 1460) are very small. The differences that do occur in most cases are probably due to erosion, as the shoreline on this sheet is sandy and low. There is some difference in the sand spit in Elbow Creek, which is probably due to dredging in the channel.

NAMES.

The names appearing on this sheet are those appearing on chart 162 and the state highway map of this vicinity.

SYMBOLS.

The standard topographic symbols were used with the following special symbols in order to bring out the topographic character of the locality: A single full line was used for a ditch, a double full line for all improved graded and paved highways and streets, a double dashed line for all unimproved but graded roads, and a single dashed line for trails. Where the marsh grass grows in the water, a broken marsh symbol was used, and where definite limits could be distinguished, it was bounded by a fine full line.

The culture was noted on the photographs from the principal highways and the roads traversed during a limited field inspection. At inaccessible places, the culture was interpreted in the office from the similarity noted to that obtained from full inspection.

SUB-PLAN.

The area east of Banana River north of latitude 28-14.0 was photographed April 30, 1928, around 10:40 A.M. The ~~camera jammed~~ film was exhausted at latitude 28-14.0, thus missing a strip of the outer shoreline between latitude 28-08.1 and latitude 28-14.0. The photographs extended for Nos. 924 to 933. A low tide, -0.3 of a foot, occurs about the time the pictures were taken.

The compilation of this strip was done in exactly the same manner as the main flight strip. Due to the fact that there was a large difference in the two scale factors of the two strips, it was necessary to make a separate projection for this strip. The scale factor obtained from the preliminary radial plot was 1.071 or an approximate scale of 1:18,675.

Respectfully submitted,

Marshall H. Reese
Aid, C. & G. Survey.

APPROVED:

O. S. Reading,
Chief of Party.

APPROVED

K. T. Adams
FIELD RECORDS (C)

F. S. Borden
Chief, Section Field Work

L. O. Colbert
Chief, Division of Charts

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