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Form 504
Ed. June, 1928

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

U. S. COAST AND GEODETIC SURVEY
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DEC 13 1932

State: California

Acc. No.

DESCRIPTIVE REPORT

Photo-
Topographic
Hydrographic

Sheet No. 4670
4670a

LOCALITY

Oakland and Alameda,
California

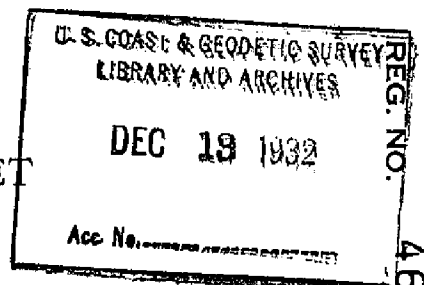
19 32

CHIEF OF PARTY

O. S. Reading

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

A E R I A L
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. _____

REGISTER NO. 4670

State California

General locality ~~San Francisco Bay~~ Oakland

Emeryville to San Leandro Bay

Locality ~~Gardula XXXXX XXXX XXXX XXXX~~

Scale 1:10,000 Date of ^{compilation} ~~survey~~ July - Sept. 1932

Vessel Army Air Corps Plane

Chief of Party O. S. Reading

Compiled
Reviewed by H. E. MacEwen

Inked by H. E. M.

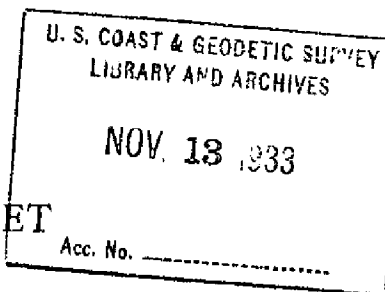
Heights in feet above_____to ground to tops of trees

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

Instructions dated _____, 192

Remarks: This sheet is a compilation by the radial line method of 5 lens aerial photographs, Numbers E15 to E30 and C-1 to C-17. Taken May 2, 1931, reduced to 1:10,000 and printed by photolithographic process.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



REG. NO. 4670A

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 No. _____

REGISTER NO. 4670 A

State California

General locality Oakland

Locality Emeryville to San Leandro Bay

Scale 1:10,000 Date of photos survey, 19 32

~~Vessel~~ Army Air Corps plane

Chief of party O. S. Reading, Washington office

compiled ~~Surveyed~~ by L. A. McGann

Inked by L. A. McGann

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated _____, 19 _____

Remarks: This sheet shows in red corrections applied to

T-4670 from 5 lens air photos taken by the Army Air Corps

on 1932. ***

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO.

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 No. *4670 B*

REGISTER NO.

State *California*

General locality *Oakland*

Locality

Scale *1:10 000* Date of *compilation* *Feb.*, 19*36*

Vessel *Compiled in Washington office*

Chief of party *See report at back for*

Surveyed by *Sources of information*

Inked by

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated, 19

Remarks: *This sheet shows corrections and additions to T4670 the original survey and to T4670 A the first correction sheet to T4670*

Descriptive Report to Accompany
Air Photo Topographic Sheet No. 4670,
Emeryville to San Leandro Bay, California.

This sheet is a compilation of air photographs taken by the U. S. Army Air Corps' 5 lens camera, type T-3-A, No. 30-1, carrying 6" F-6.8 lenses. Photographs E-15 to E-30, direction of flight northwest, were taken 1:30 P.M., May 2, 1931, and photographs O-1 to O-17, direction of flight to the southeast, were taken 1:50 P.M., May 2, 1931. A Fairchild plane, piloted by Lieutenant Wallace with Captain Hill as observer, was used. The altitude maintained was approximately 5000 feet giving an average scale of 1:9,910 to the photographs. A scale factor of 1:009 was actually used in making the projection for the finished celluloid plot.

Limits.

The area of this sheet is covered by two strips of photographs, extending from Emeryville on the north to San Leandro Bay on the south and including the city of Oakland from Emeryville to High Street and all of Alameda including the harbor facilities of both Oakland and Alameda.

Control

Use was made of all existing triangulation. Some material was taken from the U. S. Publication^{Nº} on Triangulation in California. Points from triangulation schemes executed in 1920-1925-1928 and 1929 were also used. All points used as triangulation were identified in the field inspection. (See Remarks par. 2.)

In addition to the above control two street traverses were utilized. The street traverses were plotted from theodolite angles and taped distances, azimuths being obtained from solar observations with a theodolite.

Compilation

The projection was constructed on celluloid to the approximate scale of the photographs using a scale factor of 1:009 as developed by a broken line plot.

All triangulation that could be identified on the photographs were marked for use in the radial plot. The triangulation stations were plotted on the projection. Turning points of tape traverses are shown by small red circles.

Comparison with Existing Topographic Surveys.

a. Topo sheet No. 3653a, executed in 1917, agrees favorably with this sheet in its main features.

b. T-3661 surveyed in 1917 (Alameda) shows that changes have taken place at the Neptune Beach Amusement Park and in latitude $37^{\circ} 45.3'$, longitude $122^{\circ} 14.8'$. This is due to cultural development.

c. T-3795 surveyed in 1919 is in good agreement except in a few instances where changes due to waterfront development and accretion or erosion of shoreline due to natural causes have taken place.

d. T-4428 surveyed in 1929 compares favorably with this survey.

e. T-4429 surveyed in 1929 shows differences at latitude $37^{\circ} 45.55'$, longitude $122^{\circ} 13.3$, section of the pier structure having disappeared, leaving dolphins exposed, the outer one of which shown on 4429 is lost according to the field inspection made in connection with this survey. At latitude $37^{\circ} 45.3'$, longitude $122^{\circ} 14.8'$ fill has caused a change in the shoreline as shown on 4429. The agreement is good otherwise.

f. T-4680 surveyed in 1932 should be referred to for additional topographic information in the area between Alameda Airport and San Francisco Bay Airdrome. The shoreline is continually being altered by fill in the vicinity of the new Army Air Corps Base. An extension of the Alameda Belt Line shown on 4680 together with an additional building at San Francisco Airdrome and an orange and black tank 440 meters east by south from South Power Tower appear on 4680 and are developments made subsequent to the taking of the photographs.

g. A series of earlier sheets (358, 360, 481, 592, 1623, 1625, 2244, 2939, 2940 and 4119, which covers control only) were examined and found to be superseded by more recent work.

Names

The names appearing on this sheet were taken from chart No. 3350, the Sanborn Maps and the Map of Oakland Harbor by the Board of Port Commissioners of Oakland, California. Several differences in the names of streets were found in comparing these sources. Where a difference occurred between an old Sanborn Map and the very recent Harbor Map of Oakland, the latter was accepted.

Symbols

The standard topographic symbols were used, with the following variations for the purpose of bringing out certain features more clearly: A double full line for all improved, graded and paved streets and highways, and a single dash line for trails. Where tule grass grows in water a broken marsh symbol was used, and where definite limits could be distinguished, it was bounded by a fine dash line.

Ample notes were made on the field photographs during a field inspection of the area, from which the culture was obtained.

Remarks

1. The two traverses mentioned in the paragraph on "Control", page one above, are located and identified as follows: The Broadway traverse begins at the intersection of 14th and Washington Streets at point A, proceeds east along 14th to Broadway (point B on the east curb) and follows Broadway along the east curb through point D at the intersection of Broadway and Moss Avenue, and thence off the limits of the sheet.

The High Street traverse begins at point A southwest of Large Gas Bin on Clement Street and proceeds northwestward to Point C, the intersection of High Street and Alameda Avenue and thence northeastward on High Street to point E at the intersection of High Street and Brookdale Avenue, continuing along High Street off the limits of the sheet.

2. Steel stack Alameda, 1916, is apparently lost. This triangulation station was located in 1895. In 1916 it was relocated and named Alameda Steel Stack. In 1929 the original 1895 stack and the 1916 stack were reported as identical. However, in 1932 the 1916 stack was reported destroyed by fire and according to the owners a new concrete stack erected over the same spot. The control plot of this sheet locates on well controlled photographs two stacks neither one of which agrees with the 1916 location which was plotted as an original control point. These two stacks located on the photographs agree with two stacks located on topo sheet 4680. It is the opinion of the writer that steel stack Alameda, 1916, does not exist at the present time, was destroyed in 1917 and was not, as reported, rebuilt in exactly the same spot as a concrete stack. This point was not used as control.

3. County Court House Dome Flagstaff 1881 does not exist at the present time. The field inspection reports that the center of the skylight is the same as the center of the Dome and is the point where the original flagstaff was. This point was used.

4. There are not sufficient data to plot concrete stack at Borax works latitude $37^{\circ} 46.6'$, longitude $122^{\circ} 17.6'$ from the photographs.

5. Changes in the shoreline on the northeast side of Government Island are probably due to fill since comparison with previous surveys shows that the high ground has remained unchanged.

6. Two destroyer hulls have been added to the number scuttled along the breakwaters around Yacht Harbor near Alameda Airport; one on the inside of the long breakwater at the end and one along the small outer breakwater. See sheet T4680.

7. New buildings exist at the Port of Oakland at the present time that do not appear on the photographs. These have been included on the most recent chart compilation of this area.

8. The area covered by this sheet is too large to be included on one standard size Whatman's sheet 31" x 53" and was, therefore, printed in two sections for filing.

Respectfully submitted,

H. E. MacEwen

Assoc. Cartographic Engineer

DESCRIPTIVE REPORT
to Accompany
AIR PHOTO-TOPOGRAPHIC SHEET NO. 4670-A
SAN FRANCISCO BAY, CALIFORNIA
1933

1. General Information:

This sheet shows in red corrections applied to sheet T-4670 from 5-lens air photographs taken by the U. S. Army Air Corps at 1932; type T3A camera No. 31-81.

2. Methods:

The corrections were obtained by a radial line plot on celluloid and transferred to the sheet by tracing.

3. Control:

The control for the radial line plot was obtained by tracing on the celluloid, from T-4670, triangulation points, and points of detail identified on the photographs.

Respectfully submitted

L. A. McGann

Leonard A. McGann

Approved and forwarded.

B.G. Jones
For O.S. reading

Descriptive Report to accompany
AIR PHOTO COMPILATION T 4670B
Oakland, California

This sheet shows additions and corrections to T 4670A, (areas outlined in red).

Sources of information:

Triangulation: 941,GTZ,G-2951, 1935

Photographs:

Acc. Nos. F 37 and F 38, 5-lens, taken May 2, 1931

F 59 and F 60, 5-lens, taken 1932

F 62a, single lens, taken Aug. 17, 1934

F 62b, single lens, taken May 17, 1935

Blue prints Nos. 29303, 28735, 28736, 28737, 27604, 27605,
27944 and 28812

Chart letter No. 61 (1936)

Compilation

The Inner Harbor was revised for practically its entire length from photographs taken in 1932. The revision includes not only changes since the original compilation but also errors ^{in the original} due to inadequate field inspection along the waterfront.

The two traverses used to control the original plot (page 1, descriptive report T 4670) and shown on the original compilation have been removed from this sheet. The records for these traverses are not on file. *The stations are not recoverable*

The lights in the Outer Harbor are not shown on this sheet. The ones west of Long. 122° 20' have been removed. The others have been shifted since the date of T 4670A. Accurate positions for these lights are not available at this time.

^{made in this office}
~~photo compilation~~ The Key Route Pier was revised from blue print #29303 (an air *photo compilation*) and the bridge added. The bridge roadway is shown on this sheet.

The pipe line extending from the spoil bank at lat. 37° 49 3/4', long. 122° 19' into the Outer Harbor has been omitted from this sheet. This is a dredging pipe line and is of a changeable nature.

The bridge clearances are from Lists of Bridges over the Navigable Waters of the United States, 1927.

Poor assembly of the four negatives for the original plate caused an offset in the streets at Broadway (lat. 37° 48', long. 122° 16.5'). A new plate was made which will be photographed on two negatives for the files.

Frank G. Erskine

Feb. 4, 1936.

Frank G. Erskine

DESCRIPTIVE REPORT FOR SUPPLEMENTAL T-4670B

December 20, 1937

1. Corrections noted in red applied to Supplemental December 20, 1937. These include corrections to junction with T-4671 as made from the original photographs.
2. Corrections in blue applied to Supplemental July 20, 1939. These indicate the area covered by planetable survey T-6666 (1:20,000) 1938.
3. Corrections noted green, applied to Supplemental September 17, 1940. These items were originally plotted in the air photo unit in 1932 but were accidentally left off the subsequent sheets T-4670A and T-4670B. They have been added to T-4670B Supplemental at this date to complete the details on that sheet. The only item affecting the chart is the tower at Lat. $37^{\circ}49'$, long. $122^{\circ}17'$. This was reported to the chart standards at the time of its location in 1932 and was subsequently added to Chart 5535.

B. G. Jones