

4650

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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

U. S. COAST & GEODETIC SURVEY
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State: California

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DESCRIPTIVE REPORT

Aero-
Topographic
XXXXXXXXXX
Hydrographic

Sheet No. 4650

LOCALITY

San Lorenzo to San Leandro Bay

San Francisco Bay

1931

CHIEF OF PARTY

O. S. Reading

DESCRIPTIVE REPORT TO ACCOMPANY

AIR PHOTO - TOPOGRAPHIC SHEET NO. 4650.

General Information. Square statute miles of area - 26.4.
Miles of shoreline - 12.3. Miles of river - 1.0.

For other reports affecting this sheet see report covering
topographic sheets Nos. 4429 and 4610.

Photographs O₁ to O₁₉ and D₁to D₇ cover the coastline from San
Leandro Bay to edge of sheet southeast of Mulford Landing; photographs
W₄₃to W₄₇ and E₁to E₁₆ cover the inland portion from San Lorenzo to
Melrose.

Time and date of photographs:

O	-	1:50 P.M.	May 2, 1931
D	-	2:10 P.M.	May 2, 1931
W	-	3:00 P.M.	May 2, 1931
E	-	1:30 P.M.	May 2, 1931

Stage of tide at time and date of coastal photographs is one foot
below high water (c.f. tide tables).

Control. This consists of triangulation (1927 North American)
established by Mussetter in 1925, G. C. Jones in 1929 and 1930; theodo-
lite three point fixes by M. H. Reese in 1931. Supplementary control
consists of two third order traverses by Reese(1931). (Traverse turning
points are shown by red circles).

The traverse beginning at Mulford Landing was adjusted for azimuth
by swinging traverse about point "B" so that point "C" is moved 20 meters.
This adjustment affects all points in a northwesterly direction, except
"A" and "B". Points D, E, F, etc., are moved proportionately in a north-
westerly direction. This adjustment gave a good alignment of all other
points, including station "Transmission Tower, 1931", which is only 430
meters from the end of the traverse.

Station "Tree, 1931" latitude, 37° 46' 09.56", longitude 122° 09'
38".67 was used for control, although it falls without the limits of the
sheet.

Compilation. The radial line method of compilation was used. The
projection was laid on a 1:10,000 scale multiplied by a factor of
1:01 (scale factor as determined from "O" photographs).

Photostat copies of alternate pictures of "E" flight to approximate
scale of projection were required in order to compile the area covered
by those pictures.

The "W" photographs covering the area in the vicinity of San Lorenzo are considerably larger in scale than the scale of projection. Of these photographs, the "D" wing picture, upon which falls Station "Transmission Tower, 1931", was missing. These facts coupled with a lack of other control made the compilation in this area ~~extremely~~ uncertain. It is believed that the maximum error of plotting in this locality may be as great as five meters.

Considerable difficulty was experienced in delineating the shoreline east of Station, "Farm, 1925". Along this coast there is a windbreak of trees which photograph with their shadows and images cast across the shoreline causing uncertainty as to its position.

Two radio towers, latitude $37^{\circ} 44'$ longitude $122^{\circ} 15'$ were located with the help of topographic sheet No. 4429.

The Sanborn Maps of the city of Oakland and vicinity, the City of San Leandro, were used in securing the names for the street layout.

Comparison with other Surveys. The junctions with sheet No. 4670 on the northwest and sheet No. 4649 on the southwest, are satisfactory. No appreciable discrepancies were noted with previous surveys.

Landmarks. These are to be furnished by the Commanding Officer of the Steamer GUIDE.

Recommendations for Further Surveys. This compilation is believed to have a probable maximum error of three meters in places of well defined detail of importance for charting. The accuracy of the sheet is believed to be uniform, except possibly for the area inshore and south of San Lorenzo shown on the W photographs.

Respectfully submitted:

Approved:

Leonard A. McKean

J. S. Borden

May 1, 1933.

APPROVED

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