

4641

U. S. COAST & GEODETIC SURVEY  
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Form 504  
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

Topographic

~~Hydrographic~~

Sheet No. 4641

LOCALITY

California

San Francisco Bay, Pt. San Bruno

to Pt. San Mateo.

1932

CHIEF OF PARTY

O. S. Reading

U. S. GOVERNMENT PRINTING OFFICE: 1920

This sheet was compiled by the radial line method from five lens aerial photographs taken by the Army Air Corps with a type T-3-A camera. The photographs used for this compilation were Flight M, nos. 1 to 10, extending from latitude  $37^{\circ} 36.2'$ , longitude  $122^{\circ} 23.8'$  northward along about the center of the sheet; and Flight P, Nos. 1 to 14, extending from latitude  $37^{\circ} 36.4'$ , longitude  $24.2$  southeastward to the southern extremity of the sheet. Flight M was photographed from 1:10 to 1:20 P.M., May 7, 1931; Flight P was photographed from 11:20 to 11:35 A.M. May 8, 1931.

#### Datum

The compilation was made on 1927 N.A. Datum. A projection on the N.A. Datum prior to the 1927 adjustment is also shown.

#### Junction with other Surveys.

The sheet joins air photo sheet No. T4640 to the north and air photo sheet No. 4642 to the south.

#### Control

Control for this survey was furnished by previously established triangulation and by the following supplemental stations which were established in 1931:

Stations "Point on Roof of California Country<sup>Club</sup>", "City Hall Dome South San Francisco", and "N.W. Corner Covered Reservoir" were established by 3 point fix positions. These stations were observed with a theodolite and are within the accuracy necessary for controlling the plot. They are not of sufficient accuracy to be classed as triangulation and are shown inscribed in small black circles on the sheet.

Topographic stations "Black Tank" and "Brownstone Archway" were scaled and plotted by their geographic positions from T4439 and used as control points on this sheet.

The south end of the compilation was controlled by a tape traverse, the stations of which are shown plotted and inscribed in small red circles on the sheet. This traverse was started from the Plane Table position of Brownstone Archway (T4439) and was not closed on any fixed point. The azimuth of the traverse was determined by sun observations. In plotting the traverse an error of 100 feet was found in the field computations and was corrected. Reference is made to the strength of the control furnished by the traverse in a following paragraph headed COMPILATION.

### Topographic Signals

Narrow wagon roads and trails within the cultivated areas are shown by single black broken lines.

Buildings are shown by hatchuring except for small buildings which are shown in solid black.

### Streams

The streams in this locality were apparently dry when the photographs were made and all of them are probably intermittent streams. They are shown as intermittent streams on this sheet. The Geological Survey map also shows only intermittent streams in this area.

### Names

Names shown on this sheet were taken from U. S. Coast and Geodetic Survey charts, Sanborn maps, and the Field Inspection.

The Field Inspection states that the name "Mills Field, San Francisco Airport" has been changed to "San Francisco Airport".

The Field Inspection gives the name of the Interurban Line shown on the sheet as the Market Street Railway. The Geological Survey map gives the name as the United Interurban.

### Compilation

This compilation was made on a scale of 1:9416 which was the average scale of the photographs as determined by a preliminary Spotting Plot. The compilation was reduced to a scale of 1:10,000 and printed by photo-lithographic process.

From Millbrae Avenue (latitude  $37^{\circ} 36'$ , longitude  $122^{\circ} 23'$ ) northward to the northern end of the sheet, there was ample well distributed control and the plot was made without difficulty.

From Millbrae Avenue (Photo P6) the Plot was carried southward to close on the traverse shown plotted on the sheet. This was a span of 8 photographs over a distance of 2 miles and the first plot showed a closure of about 20 meters. This section of the plot was rerun several times and adjusted to effect a closure on the traverse. There was also considerable difficulty in closing the plot on this traverse on the northern end of sheet 4642. Since the traverse started from and was computed from a plane table position, its accuracy is questionable and it can not be considered as strong control. However, it was necessary to use it as the only control available in that section of the Plot. The compilation immediately adjacent and for perhaps  $1/2$  mile northwest and southeast of this traverse, both on this sheet and on T4642 can not be considered to be as accurate as the rest of the work on those sheets and may be subject to some revision by a stronger controlled survey.

All prominent objects, such as towers, stacks, and buildings, are located on this sheet by an intersected point. The shoreline, roads, streets, and railroads have been carefully located by frequent intersected points. The towers of the transmission line shown on this sheet furnish good permanent objects for local planetable surveys. At least one tower in each group of three has been located by an intersected point. The positions of several of these towers are shown on the sheet by small black dots inscribed in black circles so that field parties using the sheet will understand that they represent actual locations.

#### Comparison with other Surveys

There are considerable differences between this sheet and T4439 and T4603. These differences are due partly to changes in the shore line and to the necessary stretching between rod readings.

The Transmission Line is incorrectly shown both on T4603 and T4439. One section of this line on T4439 is about 225 meters out of position.

The Tower at Millbrae (Oil Derrick on Hill T4439) is located about 13 meters southwest of the position on T4439. The tower was located by a rather weak intersection on T4439. The tower is built around a standpipe of the San Francisco Water Department and is not an oil derrick.

The South Tank, Shell Oil Company, is located about 7 meters north-east of the position of Twin Shell Oil Tank on T4439. There are three tanks here now instead of the two standing in 1929.

There is considerable difference between location of the streets in vicinity of ~~Monel~~ Avenue, Burlingame, and a short section of the shoreline at foot of ~~Monel~~ Avenue on this sheet and on T4439. The differences are not of a kind to be <sup>caused</sup> ~~covered~~ by the adjustments of the plot on this compilation.

There is also considerable difference with T4603 in location of the shoreline near the foot of Broadway Street, Burlingame. Part of this difference is caused by some filling having been done since the survey on T4603. The shoreline northwest and southeast of this section checks much more closely and the difference here seems largely due to errors in the planetable work. Adjustments of the minor control plot might throw the whole shoreline somewhat out of position, but the relation of its several parts would be consistent.

T4603 shows a stack on the wreck at latitude  $37^{\circ} 35' 18''$ , longitude  $122^{\circ} 21' 18''$ . The Field Inspections state that this is a mast and it is <sup>not</sup> ~~not~~ named on this sheet.

The following is a list of permanent objects located on this sheet:

Name	Lat.	D.M. (meters)	Long.	D.P. (meters)	Remarks
Lone tree	37° 38'	959 (891)	122° 23'	1031 (440)	Shown also on T4603
Transmission Tower	37 38	1597 (253)	122 24	334 (1137)	East one of group of 3.
Transmission Tower	37 38	1156 (694)	122 24	333 (1138)	East one of group of 3.
Transmission Tower	37 38	708 (1142)	122 24	332 (1138)	East one of group of 3.
Transmission Tower	37 38	248 (1602)	122 24	359 (1112)	East one of group of 3.
Transmission Tower	37 37	1364 (486)	122 24	273 (1199)	East one of group of 3.
Transmission Tower	37 37	668 (1182)	122 24	143	East one of group of 3.
Transmission Tower	37 37	217	122 23	1440 (32)	East one of group of 3.
Black tank	37 37	169	122 24	583 (889)	Shown also on T4439 & T4603.
Light, San Francisco Airport	37 37	842 (1008)	122 23	636 (835)	Near east end of gable of roof of highest building.
Tower	37 36	587 1264	122 24	74	Wood tower built around a stand pipe. <i>Shown also on T4439 and T4603</i>
Transmission tower	37 36	1624 (226)	122 23	1268 (204)	East one of group of 3.
Transmission Tower	37 36	1051 (799)	122 23	571 (901)	East one of group of 3.
Transmission Tower	37 36	1250 (600)	122 23	910 (560)	East one of group of 3.
Transmission Tower	37 36	507 (1343)	122 23	185	East one of group of 3.
Tank at West Coast Porcelain Mfgs. Plant	37 36	48	122 23	156	This tank is described as Tall Silver Water Tank on T4439 & T4603.

Name	Lat.	D.M. (meters)	Long.	D.P. (meters)	Remarks
Apex of a V-shaped sign	37° 36'	700 (1150)	122° 22'	1125 (347)	
Transmission Tower	37 36	38	122 22	1258 (214)	Northeast one of group of 3.
Transmission Tower	37 35	1511 (339)	122 22	669 (803)	Northeast one of group of 3.
Transmission Tower	37 35	1119 (731)	122 22	66	Northeast one of group of 3.
Mast of Wreck	37 35	1498 (352)	122 21	1167 (305)	T4603 shows a stack here but the field inspection states that it is a mast that shows here instead of a stack.
Transmission Tower	37 35	860 (990)	122 21	1138 (334)	Northeast one of group of 3.
Transmission Tower	37 35	650 (1200)	122 21	697 (775)	Northeast one of group of 3.
S. one of 3 tanks	37 35	526 (1324)	122 21	868 (604)	This is one of 3 cylindrical tanks of Shell Oil Co. <sup>South</sup>
Transmission tower	37 35	578 (1272)	122 20	1230 (242)	North one of group of 3.
Brown stone archway	37 35	410 1440	122 20	1229 (243)	Shown also on T4603 & T4439

Landmarks for Charts

No new landmarks for charts were recommended by the Field Party. Several landmarks located on T4439 and on T4603 are also located on this sheet and are listed on the attached\* Form 567 with the geographic positions as determined by this compilation. The differences in positions of these objects are discussed under the paragraph of this report headed "Comparison with Other Surveys."

The transmission towers shown on this sheet show up prominently on the photographs and probably are prominent objects as seen from the bay.

Respectfully submitted,

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

Approved:

*O. S. Reading*  
O. S. Reading

\* Form 567 has been submitted as a chart letter and is not attached to this report.

*B.G. Jones*

APPROVED

*K.T. Adams*  
FIELD RECORDS (C)

*T.S. Borden*  
Chief, Section Field Work

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

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AIR PHOTO TOPOGRAPHIC TITLE SHEET

Acc. No. \_\_\_\_\_

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. 4641

State California

General locality San Francisco Bay

Locality Pt. San Bruno to Point San Mateo

Scale 1:10,000 compilation Date of ~~survey~~ June-July, 1932

Plane ~~Waller Army Air Corps Plane~~

Chief of Party O. S. Reading

Compiled ~~surveyed~~ by B. G. Jones

Inked by B. G. Jones

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

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

Instructions dated \_\_\_\_\_, 19\_\_\_\_

Remarks: This sheet is a compilation by the Radial Line Method from 5 lens air photographs Nos. M1 to 10 and P1 to 14

Date of photographs: M Flight 1:10 to 1:20 P.M., May 7, 1931

P Flight 11:20 to 11:35 A.M., May 8, 1931.