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

State: California

DESCRIPTIVE REPORT
Aerial
Topographic
Hydrographic
Sheet No. 4642

LOCALITY
San Francisco Bay
Pt. San Mateo to Steinbergen
Slough

1932

CHIEF OF PARTY
O. S. Reading
This is a compilation of five lens photographs, made up of three flights, taken with T-3 camera No. 30-1 by the U. S. Army Air Corps; one flight, P-14 through P-34, taken May 8, 1931, at 11:20 A.M., direction of flight northwest, extending the length of the sheet through the foothills, and two flights, A-1 through A-10, taken April 29, 1931, at 2:30 P.M., direction of flight northwest, and AA-27 through AA-35, taken May 7, 1931, at 12:00 noon, direction of flight southeast, each extending half the length of the sheet along the shore.

Low tide in San Francisco Bay on April 29, 1931, occurred at 3:53 P.M., at Point San Mateo.

LIMITS OF SHEET

This sheet includes the area from the southern shore of San Francisco Bay to about two to four miles inland and from Pt. San Mateo to Steinbergen Slough.

CONTROL

This sheet is controlled by several triangulation and topographic stations, a traverse originating at Brownstone Archway, and T-4505. Two triangulation stations were apparently spotted incorrectly by the field inspection party, Windmill on Ranch and Radio Pole. The computations for the former were checked and found correct, indicating that the error must have been in the spotting. In the case of the latter, by the use of the stereoscope, the station was found to be at the opposite end of a house. The field spotting had been the chimney of this house. Two topographic stations were found in error, Arcade Tower and Air Beacon. The spotting of Air Beacon was also an illustration of the hurried method used by the field inspection party. It was shown on two photographs and the difference in spotting was some one hundred and fifty meters. Difficulty was experienced in tying in to the traverse, several plots and adjustments being necessary. An error of one hundred feet was discovered in the computation of this traverse.

COMPILATION

A spotting plot was made of the three flights to determine their scale. Since flight P extended the full length of the sheet, it was decided to construct the sheet to this scale. A projection was laid out on the celluloid sheet using a scale factor of 1.094 x 10,000 and all control plotted. The shoreline of T-4505 was traced in blue ink. The other two flights were photostated to this scale. A radial plot was made tying in the three flights. Tilted photographs, the fact
that the center pictures of flight P contained elevation, and faulty spotting of control stations caused considerable difficulty.

CHANGES

The projection of this sheet is of the new 1927 datum. The intersection projection is of the datum used immediately prior to 1927.

In general, the shoreline of this sheet agrees with that of T-4505 with the following exceptions: At Lat. 37° 34½', Long. 122° 18½', where San Mateo Creek empties into the bay, there is an inshore shift; at Lat. 37° 34½', Long. 122° 15½', the spit at the bridge is shifted slightly; at Lat. 37° 33', Long. 122° 14', the east end of the island is shifted northward. There are several slight shifts in the sloughs. Comparisons have been made with the current hydrographic sheet, H-5133, and this sheet (T-4642) fits the hydrography very much better than T-4505.

The transmission towers on T-4505 were apparently put in very roughly; however, those used as topographic stations check fairly well. Four are listed with landmarks for charts in this report.

At the time of the photographs, Port San Francisco (at Belmont) had a very narrow channel, with a marshy strip remaining alongside the channel between the dikes. The field inspection party noted, however, that dredging was in progress. It has been learned that there is a recommendation for the name "Port San Francisco" to be changed. At the present time, no change has been made.

Attention is called to the two rocks awash off Pt. San Mateo. There are two more or less recent topographic sheets of this area, one showing rocks awash, the other showing islands. In the verification of H-5129, an investigation was made by the cartographer and it was decided to show rocks awash. The basis of this decision will be found in the descriptive report of H-5129.

LANDMARKS

A list of prominent objects was furnished with T-4505. The corrected topographic sections appear with this report. It is suggested that the cartographer refer to the photographs in compiling the chart of this area.

NAMES

Names appearing on this sheet were taken from chart 5530, T-4505, field inspection notes, and the Sanborn maps.

SYMBOLS

The standard topographic symbols were used throughout.
REMARKS

More accurate and rapid compilation could be made if the field inspection was done with a little more care and understanding of the needs for certain data necessary for compilation.

Respectfully submitted,

Frank C. Erskine
Jr. Cartographic Engineer

June 24, 1932.

Approved and forwarded

O. Reading

APPROVED

K.T. Adams
FIELD RECORDS (O)

Chief, Division of Charts

L.O. Howard

Chief, Div. of Hyd’y and Top’y
LANDMARKS FOR CHARTS

Director, U.S. Coast and Geodetic Survey:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

O. S. Reading
Chief of Party

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
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<td>O 1</td>
<td>D.M. Meters</td>
<td>O 1</td>
<td>D.P. Meters</td>
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<tr>
<td>Arcade Tower</td>
<td>Stations changed by Aéro-topographie Sheet #4642</td>
<td>37 30</td>
<td>1352</td>
<td>122 15</td>
<td>(490)</td>
</tr>
<tr>
<td>Air Beacon</td>
<td>(551)</td>
<td>1333</td>
<td></td>
<td>131</td>
<td>(141)</td>
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<tr>
<td>TRAN</td>
<td>(1619)</td>
<td>122 18</td>
<td></td>
<td>1422</td>
<td>45</td>
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<tr>
<td>LINE</td>
<td>(1637)</td>
<td>213</td>
<td></td>
<td>1429</td>
<td>45</td>
</tr>
<tr>
<td>IS</td>
<td>(1285)</td>
<td>565</td>
<td></td>
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<td>505</td>
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<tr>
<td>SAN</td>
<td>(1360)</td>
<td>420</td>
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<td>766</td>
<td>706</td>
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</table>

Note: These objects are listed in the descriptive Report of Topographic Sheet Zeta No. 4648.

The above shows the corrected positions but no information as to their desirability for landmarks is obtainable from the Photograph. This form was not immediately

and the report of Lt. J. Jones of 1931 shall be consulted for landmarks recommendations.

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tail stack, red chimney, radio mast, etc. Generally, flagstaffs and like objects are not sufficiently permanent to chart.
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. 4642

State... California

General locality... San Francisco Bay

Locality... Pt. San Mateo to Steinbergen Slough

Scale... 1:10,000 Date of survey... Photos taken... 19...

April 29, May 7, May 8, 1931

Vernaek Army Air Corps Agroplane

Chief of Party... O. S. Reading

Surveyed by... F. G. Erejine

Inked by... F. G. Erejine

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

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

Instructions dated... 

19...

Descriptive Report T4642 Supplemental
4/11/39

The area shown in red on T4642 Supplemental has been corrected to perfect the
junction with T4643. This
connection involves one new information
since the date of the original photographs.

In addition to the areas shown in
red on T4642 Supplemental the N.A. 1927
Datum projection has been corrected as
follows:

The sheet was originally plotted on
North American Datum and the projection
was correct after completion of the drawing
of the North American 1927 Datum. Datum was added
by stepping or laying off distances from
the original North American projection. An
error was made in laying down the
N.A. 1927 Datum. This was later found
and has been corrected in April 1939. The error
was 0 to 0.07 mm.

J. G. Jones