DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

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State: California

NOV 30 1931

DESCRIPTIVE REPORT

Topographic  Sheet No. 4605
Hydrographic

LOCALITY

South San Francisco Bay
Pt. San Mateo to Marsh Pt.

10830-31

CHIEF OF PARTY

G. C. Jones
DESCRIPTIVE REPORT

TO ACCOMPANY SHEET NO. 2

PROJECT NO. 70, INSTRUCTIONS DATED SEPT. 8, 1930

TOPOGRAPHY ALONG SOUTH SAN FRANCISCO BAY FROM

PT. SAN MATEO TO MARSH PT.

Chief of Party Field Work
DESCRIPTION OF AREA:

A cliff of 50 ft. elevation at Pt. San Mateo falls away gradually for about 450 meters to the southward where the coast land becomes marsh and lies at about mean high water.

Levese extend along or near the shore line converting former marsh to meadow lands. The sloughs have also been confined by levese and the reclaimed areas used as meadow lands or as evaporating ponds. The shore line of the latter is indicated by the inner edge of the confining levese.

Port San Francisco, plans of which are enclosed, is at present undeveloped. The channel indicated is the result of excavation for levee material and is not at project depth of 35' in channels and 40' in turning basins. The remainder of the area enclosed between the project levees as well as the area between the channel and the levee forming the northeasterm bank of Belmont slough is a tidal flat here at about 10 ft. below high water.

Tidal flats in the sloughs and along the bay shore for the entire length of the sheet were undetermined by topography and are therefore not indicated.

The area between Steinbergen and Redwood Sloughs, some of which was at one time reclaimed land, has again reverted to marsh due to the breaking and overflowing of the confining levees. These marshes lie about one foot below extreme high water. The area is traversed by numerous small sloughs.

Bay Shore Highway was under construction from Fifth Ave., San Mateo eastward to Redwood City. The width of the highway shown is the width of the surfacing to be applied as indicated by that section which had been rolled. The centerline of the fill was taken as the highway centerline south of the intersection of the highway and Lat. 37° 31' 

CHARACTER OF CONTROL:

Control was based on triangulation executed in 1925 augmented by additional triangulation and theodolite cuts by this party.
CLOSING ERRORS OF TRAVERSE AND THEIR ADJUSTMENT:

A traverse (3,8 miles) from triangulation Pt. San Mateo to triangulation Bridge closed to 8 meters and was adjusted on the sheet.

A second traverse (6.7 miles) beginning at Bridge and running down the bay to Belmont Slough then back to San along Belmont, Angelo and San Mateo sloughs failed to close by 40 meters.

The poor closure was attributed to abnormal sheet distortion which had taken place during the loop. (One sheet had previously been discarded because of excessive distortion which appeared after a few hours in the field; and it was believed a new projection made on this more thoroughly seasoned sheet would not be so affected.)

Adjustment was made upon three point fixes made at about 1 mile intervals along the traverse. These points were subsequently checked with short lines from additional triangulation control and graphic triangulation and found in correct position.

A third traverse (2.0 miles) from Highway to Babylon Roadhouse had a closure of 17 meters—the poor closure being again attributed to distortion and adjustment again being made on three point fixes.

THREE POINT FIX CONTROL:

The adjustment of traverses executed subsequent to the loop from Pt. San Mateo to Bridge was based upon the positions determined by strong three point fixes rather than by proportioning the error throughout the entire traverse.

Since the closing errors were due to abnormal distortion in the sheet which varied during the day with changes in temperature and humidity as well as from day to day, adjustment must be made on positions determined with sufficient frequency to ensure there being no appreciable error introduced by the varying distortion.

The accuracy of the fixes was shown by the short check traverses from subsequently located triangulation control stations.
In consideration of the above and because of the increasing tendency toward distortion (maximum scaled effect varying from 13 meters per mile expansion to 18 meters per mile contraction) the remainder of the topography on this sheet was located from three point fixes determined from nearby stations on or near the lines of contraction. The fixes were checked by traverse and cuts to fourth points.

JUNCTION WITH SHEET T4439:

The survey fails to join with the survey of 1929 sheet T4439 by about 10 meters at the junction of the Bay Shore Highway with the highway leading to the San Francisco Bay bridge. A like discrepancy appears in the transmission lines. The lack of similarity between that part of the Bay Shore Highway curve appearing at the extreme westerly part of this sheet and the former survey may be due to a change in the finished highway curve from that indicated by the construction work then in progress.

It is not believed that the discrepancy in the rock shore line of Pt. San Mateo can be attributed to recession.

TOPOGRAPHIC CHANGES:

The main channel of O'Neill Slough at its junction with Belmont Slough is now what was formerly a small interconnecting channel between O'Neill and Belmont Sloughs. The former channel has silted in so as to become impassable even for a small skiff.

All of the main sloughs west and north of Steinbergen Slough have been confined by levees leaving only a narrow belt of marsh along the edges of the sloughs. The areas thus reclaimed are either meadow lands or salt ponds.

Port San Francisco is in a state of undevelopment the levees indicating the limits of the project being the only work accomplished. No work is being done at the present time.

The solid ground in the vicinity of Marsh Pt., shown on present charts, is now marsh.
No oyster beds are now existant along the bay shore.

The hill just east of Belmont (Lat. 37° 31.1' Long. 122° 15.9') falls upon this sheet but is being removed to provide fill for the Bay Shore Highway now under construction. The northern half is at present removed; and because of the impermanence of the remainder, it was not contoured.

**GEOGRAPHIC NAMES:**

Slough names were taken from Coast Survey charts and differ somewhat from the commonly used local names. San Mateo slough is locally known as Seal Creek and Steinbergen slough as Smith slough throughout its entire length rather than just the upper reaches as shown on present charts.

\[Signature\]
Karl M. Eggen
DECK OFFICER

\[Signature\]
G. C. Jones
C. C. Jones, U. & C. E.
CHIEF OF PARTY

**SUPPLEMENTAL NOTE**

The area in the region of Triangulation Station KORTH mentioned in the final paragraph of the preceding page was refilled by dredging after the completion of the field work on this sheet. Topography was revised by Herman C. Applequist. Further revision will be necessary near the end of the field season by work now under way near Triangulation Station HIGH "H."
Second Supplemental note.

Revision of the area along the east side of the Bayshore Highway near the Post San Francisco development where changes have occurred since the completion of the sheet was made on Nov. 10, 1931 by H. C. Applequist. The sheet has been altered to agree with present conditions. The change consists of additional levees and filling in of grass and marsh areas.

A small island off the shore north of the entrance channel to Redwood Creek was thrown up by the dredge after the topography was done. This was sketched on from hydrographic notes. This island is almost certain to erode away in the comparatively near future, at least the elevation will soon be below mean high water. Its present elevation is 1 ft. above mean high water.

[Signature]
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<th>LAT.</th>
<th>D. E.</th>
<th>LONG.</th>
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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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 ...B..........

REGISTER NO. 4605

State......California

General locality......South San Francisco Bay

Locality......W. Shore, Pt San Mateo to Arwood Creek Marsh Pt.

Scale......1:10,000......Date of survey Nov. 1930 to Jan. 1931.

Vessel......Project #70

Chief of Party......G.C. Jones

Surveyed by......Carl H. Eggen

Inked by......Carl H. Eggen

Heights in feet above.....M.H.T. to ground to tops of trees

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

Instructions dated......Sept. 8, 1930......19

Remarks: Revision to Nov. 10, 1931 by H.C. Applequist.