<table>
<thead>
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<th>Type of Survey</th>
<th>Topographic</th>
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<td>Field No.</td>
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<td>Office No.</td>
<td>2206</td>
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<tr>
<td>State</td>
<td>California</td>
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<td>General locality</td>
<td>San Francisco</td>
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<tr>
<td>Locality</td>
<td>Bay</td>
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<td>CHIEF OF PARTY</td>
<td>A. P. Rodgus</td>
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<td>LIBRARY &amp; ARCHIVES</td>
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U. S. COAST AND GEODETIC SURVEY.


State: California.

DESCRIPTIVE REPORT.

Topographic Sheet No. 2206.

LOCALITY:

San Francisco Bay.

Hunters Point to San Bruno.

1896.

CHIEF OF PARTY:

Aug. H. Rodgers, Assistant.
Resurvey of San Francisco Bay,
California, 1894.
Descriptive Report to Accompany Topographic Sheet,
Extending from Hunters Point Southward to Point San Bruno.

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**Triangulation.** Point Avisedera Station at the northern end of the limits of the sheet, was so far distant from Sierra Point Station 6280 meters to the southward, that I found it expedient to interpolate new trigonometric stations between the two for the use of the topography. Both Point Avisedera Station and Stony Hill Station, the latter at the extreme northern limit of the sheet, were recovered.

The bottle buried in 1850 or 1851 as the sub-surface mark at Stony Hill Station was uncovered and found intact.

At Point Avisedera Station two of the witness stones, described as placed six feet from the center, at surface of ground were not found, and from the description I was led to believe the single stone block in evidence was the center, and I occupied the position, but computation showed it to be one of the witness stones and gave direction and distance to the sub-surface center block which I then reoccupied. At Sierra Point Station only the fragment of a bottle, described as sub-surface center mark, could be found and whether that was in true position could only be proved by occupation and trigonometric determination. The evidence of computation showed it to be either entirely unmoved or so close as
to be within the limit of error determinable by any but elaborate observation. San Bruno Point Station has been occupied and re-marked by Civil Engineers making a local survey, and there was no direct evidence that they had taken the trouble to exactly locate the station over the original one. The position is now destroyed by being selected as the site for an oil tank. I specially mention these details in order to emphasize the necessity of careful marking of stations; this cannot well be done in the progress of a rapid trigonometric survey where a new station may be occupied each day. The cost of the stone blocks for permanent marks and their transportation would make serious inroad upon allotments never more than large enough.

**Topography.** The shore-line was resurveyed over the entire length of the sheet, the fast land shore was found unchanged but the salt-marsh shore-line had receded from ten to forty or fifty meters in extreme cases. Owing to improvements made and projected in the water frontage of the new town first called Baden and later South San Francisco, I made a careful resurvey of the sloughs or estuaries immediately south of Point San Bruno, finding some changes, but as these salt-marsh-lands are all destined to reclamation, and some of them already dyked to exclude the bay water, it does not seem of importance to closely determine the changing banks of the sloughs, and I therefore confined my attention principally to the bay shore-line. South of San Bruno Point the bay shore is fringed with salt marshes until about one mile north of San Mateo Point, and is generally described in
The principal wagon road upon the sheet is known as the San Bruno road from its rounding the eastern water-front of San Bruno Mountain, it is the main wagon road from San Francisco leading to connections at San Mateo, Redwood City, San Jose, and intermediate villages. The other principal road paralleling the San Bruno, is known as the old County road; it was surveyed in the San Frances Peninsula Survey and its location has remained the same.

The same description applies to the Central Pacific R.R., a new part of the road is shown in the southern portion of the sheet until it is brought into junction with the margin of the Peninsula Survey above mentioned.

The sheet embraces the southern suburb of San Francisco near Hunters Point, and the only other town is Baden or South San Francisco shown upon the sheet. This was started as a speculation, the nucleus being the capital invested in an elaborate abattoir and beef and pork packing establishment. The brick chimney of the abattoir proved an excellent signal for the survey and was trigonometrically determined under the name "Baden Chimney Station."

The town has never grown beyond the character of a scattered village, although many expensive and excellent buildings were erected in expectation, not realized.

Please note that a collection of Chinese shrimp fisher-
buildings surveyed within limits of the sheet herein described, have been moved, land lease having expired, from Point San Bruno to a location on the shore-line two miles west of San Mateo Point.

San Bruno Mountain, 1300 feet elevation, is a marked geographic feature within the area of the sheet, and was included in the Peninsula Survey published in 1869; to this date its abrupt slopes and rugged outlines have prevented attempts at improvement and it remains unchanged.

Streams &c. There are no streams beyond the size of rivulets within the area of the sheet.

Respectfully submitted,

[Signature]

In forwarding the accompanying tracing from U.S. War Department, of the shore line of San Francisco Bay, from Point Ariesum (or Point Arguello) on this side, I desire

As shown in advance of the science extension of this work, the character of the change which the re-division will exhibit

I had expected to be able to add the changed features of the topography by interpolation, and bound in as practicable to make an

acceptable margin between the old and new work; finally, in every way, more satisfactory to re-division of the shore

line do now.

It is a question how much,
In addition to the short line, please be
embraced by the present De- survey—
whether County roads and railroads
adjacent to the short line or within the
limits of the aerial sheet. For military
purposes, these features have great value when
surveys occur in modern war with
speed. Movements of troops, ships, and
other units may be readily included and added to the
usefulness.

I have the honor to append to
this letter such remarks, in the form
of notes as occur to me in comparing the
former and current survey.

Yours respectfully,

[Signature]

[Name]
Notes to accompany tracing of uninked sheet showing resurvey of Shore-line of San Francisco Bay, California, from Point Avisadera (Hunters Point) Southward.

Commencing at Point Avisadera (commonly known as "Hunters Point" from the name of its earliest owner) a comparison of old and new surveys shows little if any change in the fast-land shore line. I call attention to the removal of the floating dock shown in former surveys, adjacent to the Hunters Point Dry Dock. The floating dock referred to has been moved northward along the San Francisco City-front.

Marsh Shore-line. In the Sight or indentation approximately one and one-half miles westward from Point Avisadera, a radical change has taken place. The marsh-land area in the Sight, which had at one time been reclaimed from the flow of the tides by the building of a bulk-head and was the site of a race-track, has been eroded and degraded below its former level, so that at high-tide it is, except in a few small detached spots of higher level, entirely submerged, and the track alluded to, a well known feature shown upon our publication entitled "Peninsula of San Francisco", hardly a vestige remains.
Following the bay shore from the right first mentioned southward, past Double Rock A Candle Stick Point A and South Point A there seems to be but little change except in the marsh land margins, and these seem to have invariably reseeded from erosion.

This holds true between South Point A and Clam Point A, the only change being in the salt-marsh shore line or in added buildings on the shores.

Between Clam Point A and Oyster Point A no changes have taken place in the shore-line and no new features occur except the buildings on piles over the water-line, belonging to "Ewells Dairy".

Under Point San Bruno, a company of Chinese have for several years established a "shrimp fishery". The tracing shows their wharves and building, both of which are frail, cheap structures; a similar company of fishermen is established a quarter mile westward from Point Avisadera. Each of these fisheries employs about ten men who appear to devote themselves exclusively to shrimp fishing and drying. As many as half-a-dozen boats are daily employed in catching these diminutive crustacea, which are landed in huge Chinese baskets and spread in a thin layer over the drying ground, and after numberless turnings to ensure proper curing, they are hulled and sacked for transport to China.
Point San Bruno and the Salt marsh area adjacent and westward from it, now form the water-front of South San Francisco, known at one time as "Baden."

"The Chicago Western Refrigerated Meat and Packing Company" and the "South San Francisco Land and Improvement Company" projected quite extensive changes on this water-front, but most of them are still in the future. The changes actually made by bulkheading, excavating a dock and channel, and by pumping dredge material over the salt marsh area to raise its level above tide are shown by the tracing.

From South San Francisco southward to the southern limit of the topographic sheet as shown by the tracing, no changes have occurred in the shore line except that marsh margin has been eroded and receded from its position thirty years ago. The only explanation of this recession of marsh shore line is that it occurs upon a shore exposed to the winds and seas of our southeast storms, to which it is a "lee shore". Assuming that both the earlier and recent surveys were close and accurate, the inference to be drawn from this recorded fact is that although in the general lapse of years salt-marsh areas increase and encroach upon adjacent water areas, it is not always by a regular and uninterrupted progress from year to year. That the negative statement is true there are notable instances in other portions of the Bay of San Francisco.
Within the southern limits of the original sheet as shown by the tracing, is embraced a portion of the buildings and enclosures of the Moraghan and Morgan Company's Oyster-beds. The western shore of the south arm of San Francisco Bay is quite largely devoted to oyster culture and the buildings and staked enclosures form quite a conspicuous feature whether seen from the waters of the Bay or from the adjacent land. This industry gives employment in office and on the oyster beds to about 150 men.

The buildings and enclosed beds continue for about two miles south of the limit of the sheet from which the accompanying tracing is made and are embraced on the next sheet. It is a notable fact that although the south arm of San Francisco Bay is filled with dead shells of oysters, the diminutive native oyster of the Pacific Coast is practically extinct in the waters of San Francisco Bay, and the only oyster occupants of the present beds are those imported by rail from Connecticut and New York shores.

These oysters are brought across the continent when about half grown, are planted in San Francisco Bay and kept about three years before sufficiently developed for market, it is stated that although the normal increase from the oysters imported and planted in San Francisco Bay, would in Eastern beds mount up to forty or fifty millions annually, it has never exceeded about three hundred thousand here, and these not available for transportation owing to
thinness of shells making it necessary to market them in San Francisco or in towns near by.

The oyster-beds of San Francisco Bay with close-staked enclosures, "sting ray tight" to protect the bivalves from their natural enemy the "sting-ray", form a somewhat prominent factor in hastening the shoaling of the waters of the south arm of the Bay, one of the many factors which seem to be the inevitable accompaniment of settlement, increase of population, business enterprise and so called "improvements". While such improvements are inevitable they should still be under some Governmental supervision and regulation. The shore-line has been resurveyed within the limits of a second sheet as far south as Point San Mateo, where as before reported, I found it imperative to carry forward triangulation to support the topography.

Respectfully submitted,

[Signature]