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Form 501

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey *Topographic*
 Field No. *1847* Office No. *1848*

LOCALITY

State *California*
 General locality *Suisun*
 Locality *Bay*

~~1848~~

CHIEF OF PARTY
L. A. Sengstaller

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U. S. COAST AND GEODETIC SURVEY.
F. M. Thross, Superintendent.

State: *California.*

DESCRIPTIVE REPORT.

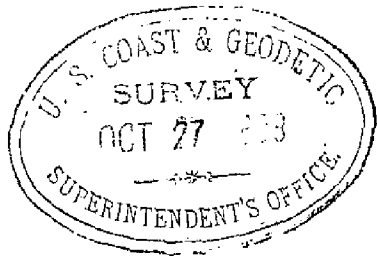
Topographic Sheets Nos. *1847*
1848 + *1848.*

LOCALITY:
Mission Bay.

1888.

CHIEF OF PARTY:
L. A. Sengstaller.

Give here full address to which reply should be sent: *P. O. Box 2512 San Francisco Cal*



U. S. Coast and Geodetic Survey,

Sub Office San Francisco Cal

Oct. 20th, 1858

Mr. F. M. Thom

Superintendent U.S. Survey

Washington D.C.

Sir

In the Co. Survey (Topography) of Suisun Bay Sheet No. 1 of the eight executed by me, this day forwarded, presents perhaps, the most marked and important subject in the Series and for which I respectfully submit the following descriptive Report.

The essential features in changes or improvements as compared with the original works of locality, (executed about 20 years ago) are first, the great and rapid formation of Tides, bordering the marsh, and second the reclamation of marsh lands and attendant constructions of levees and dikes.

Regarding the rapid formation of tides and its consequent encroachment, I would call particular attention to the results recently obtained at the Head of Suisun Bay.

From the mouth of Peering river, northward and passing
the entrance to Grizzly Slough, thence along the shore of
Grizzly Island to Newton (2) S^W, upon examination, the
greatest encroachment of tides will be found to exist off the
mouth of Grizzly Slough, the Head of the Bay, where since
the preceding survey was made, it has not only and practically
advanced, but so rapidly advanced into the waters of
Beaver Bay that now it extends at that Point one mile
outside of the original shore line. Again from Peering
river, passing Grizzly Slough and following the tide shore
of Grizzly Island there exist a half dozen little tide
islets, which it is quite apparent in but few years
will become connected with the present defined tide line
or shore.

The formation of tides as represented by the
Topography, naturally include but a part of the encroachment,
for the settlement of mud, sand and all character of
debris flowing in or out upon reaching, as it is natural
to expect at the Head of such a Bay, waters un-influenced
by currents must become rapidly deposited, but this
determination can only be obtained from Hydrographic
operations as the rise and fall of but one inch in the tides
over such gradual slopes, may make a difference of many

yards in distance, which I would also state from the soft character of mud, landing or trading an impracticable to the Topographer and consequently low water lines indeterminate.

High water lines are equally unapproachable or indeterminate from the same reasons, but from my observation, generally speaking at ordinary or mean high tides, but little, if any water flows in or beyond the edges of such lands, while this latter, is usually found low one hour after H. M.

Regarding the reclamation of these marsh lands, it is quite evident, the constructions of levees and dams, prove a serious factor in the apparent destruction of natural ways, with an attendant effect in proportion at their sources of outflow. The reclamations upon Griggs and Hammond Islands have existed for some years, and I find the streams of both below existing dams to have much filled up with sediment, while above the dams where levees exist upon one or both sides of a creek its filling in is even greater, but upon Simmons Island un-reclaimed, its creeks much more nearly retain their original values. This Island however, since the work was done, has been reclaimed by a thorough construction of levees and dams, the material for which is obtained from the marsh, cut into blocks of mud, cut as near as possible to the site of construction and in the levees, four rather, six

which eventually flank them by ditches.

The commercial interests or values of these lands are entirely confined to stock raising and dairying, and seem to be specially adapted to the purpose, green feed being available through the entire year by occasional change of Pasture upon which exist many varieties of nutritious grasses, Cyperaceae, Gramineae, Juncaceae, Smilacaceae and others.

When these Pastures during the Summer and Fall months are said to afford good feed to stock, it is well known it is well known within the above periods the adjacent or proximate up-lands offer little or no food to stock. The Winters are not essentially severe, excepting that during the prevalence of rain storms, the only shelter available to stock is the lee of hills, which under the ill conditions they may not necessarily reach or find.

Periodically and subsequent to rain storms, a cold spell may prevail for two to three days, and very exceptionally, as during last Winter a cold wave prevailed for about ten consecutive days.

From my observations during the prevalence of storms or subsequent cold spells, stock is so exposed, that heavy losses are not infrequent. Protection or greater comfort and safety to stock could be readily brought about

by the interspersed or grouped introduction of any trees of rapid growth susceptible of Epistemon upon such lands, as they would at small expense and very good effort stock, exceeding shelter, as well as relieve the owner from un-expected and perhaps large losses.

Upon such lands I have observed the Eucalyptus Wilton, Java and Java varieties of fruit trees, the first mentioned is doubtless the most applicable, its growth being particularly rapid would soon furnish the desired shelter and doubtless after a few years fuel.

The title lines upon this sheet will be found enclosed by a faint line, owing to the fact that the inking of the sheet was commenced before the circular directing otherwise was received.

Sheet No 2 also transmitted is practically a part of Sheet No 1 and does not seem to call for a special descriptive Report.

Yours very respectfully,
Louis St. Engelhard.
Asst. U.S. Geol. Survey.