I have the honor to make the following report of the progress of my party from April 12th to this date.

17

Number of miles of shore line.

35

Number of miles of shore line of Rivers through.

34

Number of miles of Roads.

Total 844

Area of Country surveyed, 10,737 miles.

The survey was made on the scale of 1/20000, and extends from the mouth of the Pajaro River northward to the most elevated by Ander B. D. Colby, which together with the work of Mr. Harris, made a complete topographical survey of Monterey Bay.

The country between the Pajaro and Salinas Rivers is in all respects similar in its formation to that from San Lorenzo River to the Pajaro, which had been surveyed and reported upon by Mr. Harris.

Extending from the mouth of the Pajaro to the Salinas River is a range of low sand hills between which and the older formation lay several ponds. These make the former bed of the Pajaro, it having evidently at one time formed its way to the Ocean through this channel, but by an accumulation
of its bays, during the minor months, it busts.
The narrow strip of beach which separates it from the sea, and thus forms for itself a sort of more inner outlet; this near month, if we may so call it, is frequently closed by a sandthrown up during the prevalence of gales. This part of the Country is peculiarly adapted to grazing, since fresh water is plenty and the joys that prevail during the summer time afford sufficient moisture to promote and keep alive the grasses, during the dry season.

Dr. Swain's in his Report on the "Ecology of the Coast Mountains" says in speaking of this part of the Coast, "There is no part of this State in which it is more suited to which possesses the same natural advantages for fruit culture, while artificial irrigation is unnecessary. in other parts of the State, in order to sustain the vitality of the tree, it requires regularly each night by aqueous exhalations from the ocean, and that during 5 months of July and August. Last Summer, at this entire country, a sufficient amount of moisture deposited each night to wet the leaves of plants very densely, and during the heavy fog, sufficient to keep the ground more under medium sized trees until mid-day. The valley of the Salinas is watered.
Through its whole extent by the river of the same name, and near the coast several sloughs take their rise, and empty into the river near its mouth; neither the river or the sloughs are navigable, but for a short distance for boats of light draft. In summer the Helmas is a magnificent stream navigable, were it not for the quick sands; at almost any point there runs from its mouth, and in winter a rushing torrent that destroys large tracts of fertile country by overflowing its banks, and depositing on the low lands sand and gravel, frequently to the depth of two and a half feet.

Dr. Tressel estimates the amount of arable land in the Helmas Plains at seven hundred and eighty-four miles; this he says is confined to the lower terrace only, as the upper terrace is considered as a grazing country alone.

In the Helmas there are evidences of frequent change in the beds of streams; these were formerly joined and represented as they now appear, in some of the old beds, we still find sand, and this year can only be traced as a slight depression in the plain. The river frequently along the river forms for itself a new outlet, at the place marked A on the described section, which was the Old river before last and for that reason...
Proposed that Point an

north point, &c. Not the mouth of the Salinas in

south of the Salinas. The Character of

the country undergoes a striking change. The row

is a loose dry sand that produces Spanish

but the coarsest grapes, and in the distance

of 12 miles water, fit for use, could only be

in the locality. By digging a well 5 feet deep on

margin of one of the brackish salt lakes founds

Martha B and the Recreation

I have the honor to be

Prof. A. W. Bache

Superintendent

Washington D.C.

17th March
Department of Commerce and Labor
COAST AND GEODETIC SURVEY
O. H. Wittmann
Superintendent.

State: California

DESCRIPTIVE REPORT.

Locality:
From Pajaro River
Southward Supplementary Survey

1910

Chief of Party:
J. Westdal
No. 473. This sheet extends from the Pajaro mouth 2 to 1 1/2 miles north of Moss Landing. Sand dunes extend along all this coast, except at the rivers mouth, making very little of the country visible from the sea. Between the Pajaro and Salinas river mouths there is good farming land, hay and barley being the main crop.

Pauls Island or the area just north of Elkhorn slough is partially reclaimed and is used for grazing. From Elkhorn slough northward there is good agricultural land. The mouth of the Pajaro is constantly changing its position owing to the shifting sand bars. The Salinas river has changed greatly, the river now has its mouth (32) miles south of A Castroville, and the river shown on this sheet is little more than a slough, and is shoaling up yearly. Elkhorn slough, (Road-house slough on old chart) runs back several miles and years ago a small steamer towed barges to Moss Landing on it. At present there is not enough water for any navigation. In Sept. 1909, the U. S. Engineer Corps made a survey here for a proposed inland harbor. From Moss Landing the narrow gage R. R. follows closely the river to the end of the sheet.

Roads. The only important road on this sheet is the county road from Watsonville to Salinas, it is a well improved road with a concrete fill bridges over the Elkhorn and next slough and is a great automobile thoroughfare.

Railroads. The only R. R is the P. V. C. R. R. narrow gage which runs from Watsonville to Speckela. It follows the Pajaro river to its mouth, then along edge of sand dunes to Salinas river, which it then follows to the end of the sheet. It has an oiled roadbed and runs one train a day each way.
At Moss Landing there is a good wharf at which vessels can lie at any
time in the year. At present the wharfagent says there is 55' at the end.

There is not much business done here as a steamer calls only once every 10-days.

There are (3)- large warehouses for farm produce.

The only prominent landmarks are the warehouses and wharf at Moss
Landing. The flag pole 5/8 -mile N. W. of Moss Landing shows up over the trees
from the ocean. The woods and trees shown near Moss Landing stand out very
plainly. They are often visible from Monterey and Santa Cruz.

Submitted by
Missors. Chad and Lukens
Descriptive Report of additional work on revision of Sheet No. 473.

"A Pajaro Mouth 2" to "A Castroville."

Pajaro River.—

The Pajaro River from its mouth to the limits of the survey, excepting for a short distance along the bluff 3/4 of a mile inshore, has low but well defined banks and there are no evidences of recent changes of its course. The land along the west bank of the river is low and flat and all under cultivation excepting in the vicinity of the slough abreast "A Pajaro Mouth 2" where there is pasture land, after passing the bluffs above mentioned, the land on the east bank of the river is somewhat rolling and nearly all under cultivation. The pond 1/2 mile East of the river and near the limit of the survey exists as shown on the original sheet.

Old Mouth of Pajaro River.—

Some slight changes have occurred in this vicinity as indicated by the new survey. The salt pond shown on the outside of the R.R. track, is connected by a small culvert with the inner lagoon, which is brackish. The upper lake which lies in hilly ground, has not changed since the original survey, the road which now (May 1910) terminates at the lower lagoon, is accessible from that end by fording the shallow end of the lagoon, from whence it leads across the R.R. track and loses itself in the sand dunes.

Elkhorn Slough.—

This slough is known on the old sheet as "Roadhouse Slough" and its northern part as Bennett's Slough. The principal changes seem to be a diminution both in width and depth of the main slough and its laterals, and a reduction of the marshy area in the vicinity. The wind-mills shown on the north bank of the Elkhorn are used for pumping water into the diked areas of the salt farm. The salt ponds shown in the resurvey are also diked and used for the production
of salt by the evaporation of the salt water. The North and West parts of the island shown are now used for pasture land.

Moss Landing Slough.

The flow in and out of this slough is now partially controlled by a gate at the crossing of the county road near Moss Landing. The marshy areas shown on the old sheet do not now exist. There is good pasture ground close up to the banks of the slough, and a short distance away on either side the land is under cultivation.

Salinas River.

The part of the Salinas River shown on this sheet is now very shoal and only navigable for small boats at high tide. The new mouth of the Salinas River near Mulligan Island is frequently closed by the action of the Sea and at such times there is an increased flow through this old channel. The outer shore line from A Castroville to Moss Landing, has a line of sand dunes as shown in the old survey. The ponds shown 1/3 mile inshore at the South limits of the old sheet exist. The marshy area shown is now used as pasture land but is said to be flooded at the times of the winter rains.

Respectfully submitted,

H. W. Rhodes

asst. C. G. S.