

ANNUAL REPORT
OF THE
SURVEYOR-GENERAL
DECEMBER 15, 1852.

[GEORGE KERR, STATE PRINTER.

ANNUAL REPORT
of the
SURVEYOR GENERAL.

SURVEYOR GENERAL'S OFFICE,
Vallejo, Dec. 15, 1852.

Sir: -

In compliance with the Statute prescribing the duties of the Surveyor General, I submit the following Report: -

STATE MAP – THE PROGRESS OF ITS CONSTRUCTION.

The last Legislature, near the close of the session, passed an Act to “provide for a map of the State,” and appropriated the sum of three thousand dollars to carry out the work.

In a special report made from this office (in answer to a call from the Senate) on the 18th of February last, I set forth the importance and necessity of a correct map, and submitted an estimate of the amount that would be required to get one up. In the month of April a bill was introduced into the Senate, ordering me to compile as correct a map as could be made from data to be collected from various sources; this bill unanimously passed that body appropriating the sum of eight thousand dollars to carry out the design, but was met in the Assembly by a strenuous opposition, and the appropriation cut down to three thousand dollars.

Though it was well known to the friends of the bill, that this sum was totally inadequate to carry out its provisions *in full*, it was deemed expedient *to commence* the work and be governed by circumstances in its prosecution.

Accordingly, I immediately took steps to procure the necessary assistants and instruments, and to secure as full data as possible.

Knowing the importance of the work done by the United States Topographical Engineers in sections of the State where it is impracticable for a small party to go with safety, and more particularly the northern portion of the State, I made application, early in May, to General Hitchcock at Benicia, for copies of such maps as had not been published by the Government.

General Hitchcock expressed an interest in the work, and a desire to aid therein by furnishing all the information in his power. But as the regulations of the Topographical Corps made it imperative to have authority from the Bureau at Washington, before such information as was in the possession of the Topographical

Corps here, could be furnished, it became necessary to apply to Col. J. J. Abert, as Chief of the Corps of Topographical Engineers, for an order to that effect.

On this application being made through your Excellency, the necessary order was promptly issued by Col. Abert, and notice of it forwarded to me through Senator Gwin.

General Hitchcock, upon the arrival of the order to the Lieutenant Williamson, afforded every facility for the prosecution of the work, and the archives were opened freely for my examination.

The survey of the Salinas River and the Tulare Valley, from its head to the San Joaquin, and on both sides of the Lakes by Lieutenant Derby of the Topographical Engineers, and the surveys and explorations made by the corps for the last three years in the north part of the State and in Oregon, collated by the Lieutenant Williamson; also a map made by Geo. Gibbs, Esq., who accompanied Col. McKee, the Indian Agent, were used by me in constructing the map.

Having been informed that during the summer of 1851, Capt. Sitgreaves of the United States Topographical Engineers had come through from New Mexico, striking the Colorado high up, I immediately addressed Col. Albert the following note: -

[COPY.]

STATE SURVEYOR GENERAL'S OFFICE,
Sacramento, June 14, 1852.

SIR: -

Having been informed that Major Kendrick of the Army, and Captain Sitgreaves of the Corps of Topographical Engineers, on the crossing the country from New Mexico in 1851, struck the Colorado in the vicinity of the 35th parallel, and that Captain Sitgreaves had reported to you the result of his reconnaissance, I take the liberty of applying to you for a copy of the report and map if they have been published; or if they have not as yet been published, and it is compatible with the regulations of the Bureau, I desire to get a copy of so much as relates to the Colorado River.

I have been ordered by the Legislature of this State to collect all the data that can be obtained from various sources, and compile as complete a map of this State as is possible.

You are aware that a portion of the eastern boundary of this State is a diagonal line, running from the intersection of the 120th meridian and the 39th parallel to the Colorado at a point where the 35th parallel crosses it.

The determination of this point is of great importance to this State, and is one of those cases, where owing to a combination of untoward circumstances we are compelled to look to, and await, the action of the General Government.

Any information relative to this, or other matters connected with the geography of this State, will be thankfully received and duly acknowledged.

Please direct to me at San Francisco.

Respectfully your obedient servant,

(Signed)

WM. M. EDDY.

To COL. J. J. ABERT,
Chief of the Bureau of Topographical Engineers.

In answer to which the following reply was received: -

[COPY.]

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, July 17, 1852.

SIR: -

I have received your letter of the 14th of June, the report and map of the expedition under Captain Sitgreaves are not yet completed, as soon as these are completed and printed, copies will be sent to you.

I understand from Captain Sitgreaves that he encountered the Colorado, north of the 35th parallel, and, as he surveyed the river from that point down, his map will no doubt furnish much information.

Other reports of that country have been printed, as soon as we get copies of them I will see that you are supplied.

Respectfully, Sir,
Your obedient servant,

(Signed)

J. J. ABERT,
Col. Corps of Top. Engineers.

WM. M. EDDY, ESQ.,
Surveyor General, San Francisco, Cal.

I thus have secured to the State map the result of all the work of the Topographical Engineers in this State for the last four or five years, and the information gained is the more valuable, inasmuch as it covers the most dangerous portions of the State.

Much credit is due to Col. Abert for the promptness with which he responded to the application, and to General Hitchcock and his aid Major Townsend, and likewise to Lieut. Williamson, for the lively interest they have taken in the matter, and the facilities they have afforded.

In the mean time, knowing that the Assistants in the Coast Survey had completed the line of the coast from Initial Point, below San Diego, to Oregon, together with the survey of the islands along the coast and various bays, I addressed a letter to Prof. A. D. Bache, Superintendent of the Coast Survey, and the following correspondence took place:

STATE SURVEYOR GENERAL'S OFFICE,
Sacramento, May 28th, 1852.

SIR: -

By an Act of the Legislature of this State, "to provide for a Map of the State of California," passed May 4th, 1852, I am directed to include in said map "all data which can be obtained from the United States Coast Surveys," as well as other sources. The information collected under your directions in this State is of vast importance to us, and I trust it may be furnished this office at as early a date as possible. It is desired to include in the said map the work as far as completed, and also such work as may be added during this season. If compatible with the regulations of the Coast Survey, please forward me duplicate copies of such work as has been published, and authority to procure from the Assistants on this coast a copy of such work as may accrue up to the month of November of this year.

An answer at your earliest convenience, directed to me at San Francisco, is respectfully solicited.

Your obedient servant,

(Signed)

WM. M. EDDY,
Surveyor General.

PROF. A. D. BACHE,
Superintendent Coast Survey,

To which I received an answer through Capt. R. D. Cutts, Assistant on the Coast Survey, as follows:

[COPY.]

U. S. SCHOONER BALTIMORE,
ASTORIA, O., Sept. 7th, 1852.

SIR: -

I received to-day, from the Superintendent of the U. S. Coast Survey, a copy of a letter addressed by you to him, dated at Sacramento on the 28th May last, requesting to be supplied with all the data collected by the Coast Survey in California, in order that the same may be applied in the construction of the State Map ordered by an Act of the Legislature, passed May 4th, 1852.

By the regulations of the Department of the Superintendent is authorized to furnish information from the archives of the Survey on condition that the parties receiving it give full credit to the Coast Survey for such information, and also pay for the cost of copying, drawing, etc.

The estimated expense of supplying you with the data required is stated by the Assistant in charge of the office in Washington, to be about \$300.

I have been requested by the Superintendent to inform you of the above regulation, and to enquire if the arrangement with respect to the expense would be satisfactory to you.

As I shall not return to California until October, it would materially hasten the matter were you to direct your reply to this note to Prof. A. D. Bache, Washington City.

I am very respectfully, etc.,

(Signed)

RICHARD D. CUTTS.

To WM. M. EDDY, ESQ.,
State Surveyor General.

[COPY.]

STATE SURVEYOR GENERAL'S OFFICE,
Vallejo, Sept. 25, 1852.

SIR: -

I have just received from R. D. Cutts, Esq., Assistant on the U. S. Coast Survey, a letter dated at Astoria, Oregon, informing me of the regulations of the Department in reference to information furnished from the archives.

I will conform to the regulations and give "full credit" upon the face of the map, and will pay the office charges as you may see fit to direct.

Please forward me at once a duplicate copy of all such matter as has been printed, and a copy of that still unpublished, at the earliest possible moment.

I am desirous of completing the map by the 1st of January next, and therefore permit me to solicit the forwarding of the printed matter by the mail of the 5th of November, and the other by the mail of the 20th of November.

Please direct your communications to me at San Francisco.

Very respectfully,
Your obedient servant,

WM. M. EDDY,
Surveyor General.

To PROF. A. D. BACHE,
Superintendent U. S. Coast Survey.

[COPY.]

OFFICE COAST SURVEY,
Washington City, Nov. 3, 1852.

SIR: -

Yours of the 25th of September, addressed to the Superintendent, has been received, and by his direction I hasten to reply, that I this day send by mail, addressed

to you at San Francisco, a roll containing the following published maps to wit: (two copies of each)

McArthur's Reconnaissance.
San Diego Bay.
Trinidad Bay.
Point Conception.
Point Pinos.
Mare Island Straits.
San Francisco City.
Monterey Harbor.
Catalina Harbor.
San Pedro Bay.
San Francisco Bay.

The roll will then go to the steamer of November 5th. Tracings of all the unpublished surveys of the Western Coast will be made and forwarded by steamer of November 20th.

Yours, etc.,

(Signed)

ISAAC D. STEVENS
Assistant in charge of office.

WM. M. EDDY, ESQ.,
Surveyor General, San Francisco, Cal.

[COPY.]

OFFICE COAST SURVEY,
Washington, Nov. 18, 1852.

DEAR SIR: -

By directions of the Superintendent, I send to-day, to your address, per Adams & Co.'s Express, a case containing tracings of the unpublished surveys of California by the Coast Survey, and copies of the published maps, (two copies each,) issued since the date of my last communication, as per inclosed lists. Inclosed I also send a list of the geographical positions in California, and table of the latitudes and longitudes of points between San Francisco and San Diego. Should you desire it, descriptions of the stations can be furnished you.

The cost of preparing the tracings is \$175, which please remit.

Those which are marked with a cross (X) will go by the steamer on the 25th inst.

Yours, etc.,

ISAAC D. STEVENS,

Assistant in charge of office.

The importance of the information thus derived can be readily understood, when we take into consideration that the whole coast will be as complete upon the map as is possible to be shown upon such a scale.

I take this opportunity of expressing my thanks to the Department at Washington for their promptness, and to Messrs. Cutts, Alden and Davidson, assistants on this coast, for their courtesy and attention throughout the matter.

That portion of the boundary of the State which lies between the initial point on the Pacific, and the junction of the Colorado with the Gila was furnished me by A. B. Gray, Esq., late United States Surveyor of the Boundary Commission, who kindly allowed me to take a copy of the same, with the adjoining country, from the official map prepared by him for the Department at Washington.

The remainder of the boundaries of the State being astronomical lines, it will be seen that I have met with great success in collecting data enabling me to fix it, with precision, the entire boundary lines of California, and I now proceed with a description of the work in the interior, and of my other labors during the season.

In compliance with the 10th section of the "Act concerning the Office of the Surveyor General, Statutes 1850, page 257," I prepared the following circulars to County Surveyors and County Assessors, which were addressed officially to the respective officers in each county in the State.

SURVEYOR GENERAL'S OFFICE,
Sacramento, June 1, 1852.

SIR:

I respectfully call your attention to the following extracts from the laws bearing upon the duties of your office in its connection with the Office of the Surveyor General.

1st. From the "Act concerning the Office of the Surveyor General, passed April 17th, 1850."

Sec. 9. He shall deliver to the Governor, annually, on or before the 15th December, his report which shall contain –

2nd. An accurate statement of the progress he may have made in the execution of the surveys enjoined on him by law, and in the preparation of the map of the State.

3rd. An estimate of the aggregate quantity of land belonging to the State, and the best information he may be able to obtain as to the characteristics of the same.

4th. An estimate of the aggregate quantity of lands used for, or adapted to tillage and grazing within the State, and each county of the State, together with a description of the locations in which the same may be situated.

5th. An estimate of the aggregate number of horses, cattle, sheep and swine within the State, and each county of the State.

6th. An estimate of the aggregate quantity of wheat, rye, maize, potatoes, grapes, and other agricultural productions of the preceding year.

7th. An estimate of the aggregate quantity of mineral lands within this State, and each county of the State, and the quantity and value of each mineral produced during the preceding year, together with a description of the localities in which said minerals may be found.

Sec. 10. He shall address a circular letter to the County Surveyors and County Assessors, instructing them, and it is hereby made a part of their official duties, to use their utmost diligence in collecting information relative to each and every matter mentioned in the ninth section of this Act, and to transmit to him quarterly, at the Seat of Government, a report in writing, setting forth the result of their inquiries.

Sec. 11. he shall with his annual report transmit to the Governor all reports which he may have received from his deputies and other persons, as mentioned in the tenth section of this Act.

Your attention as County Surveyor is especially called to the third, fourth, and seventh paragraphs of section nine, and it is desired that some especial care shall be taken in collecting the data as required. A sketch of your county, made on any convenient scale, noting all fixed and known points; the range and bearing of mountains and hills, the general course bearing of all rivers and small streams, with the names thereof; names and locations of all towns, villages or settlements, with their distances from each other; is respectfully solicited from you to aid in carrying out the law "To provide for a Map of the State."

All geographical and topographical information thus furnished will be duly acknowledged in my Annual Report.

All reports containing the above information must be mailed to this office, (at Vallejo,) not later than the first of December, in order that they may be embodied in my annual Report, which I am required to make on or before the fifteenth of December.

2nd. From the School Land, or 500,000 acre Land Bill.

"An Act to provide for the disposal of the five hundred thousand acres of land granted to this State by Act of Congress."

Sec. 3. "The parties purchasing such warrants and their assigns, are hereby authorized in behalf of this State to locate the same upon any vacant and unappropriated lands belonging to the United States within the State of California subject to such location, but no such location, shall be made unless it be made in conformity to the law of Congress, which law provides that not less than three hundred and twenty acres shall be located in a body.

Sec. 4. "Lands thus located shall be run off by a line north and south, east, and west, and shall be sufficiently designated by lines and distances, corners or posts, as the case may be, and an entry made thereof in the office of the Clerk of the County Court of the County in which said lands be located."

Sec. 5. "The location made of lands belonging to the United States as aforesaid, shall secure to the purchaser the right of possession to the land embraced within said

survey, until such time as the government survey shall have been made, after which said lines shall be made to conform to the lines of sections, quarter sections, and fractional sections of said government survey; and in the event that two or more persons shall have made a location on the same section, then, and in that event, the person whose location embraces the largest portion of said section, or fractional section, shall be first entitled to said location of the same.”

Sec. 6. “If in the survey to be hereafter made by the General Government, it shall so happen that the improvement made by any person purchasing and locating under this Act shall not comprise the larger part of the first survey, then, and in that case, the party may, if they prefer it, retain that portion which has upon it their buildings and improvements, although it may be the smaller portion of said section, quarter section, or fractional section: *Provided*, nothing herein contained shall authorize such location upon any lands heretofore granted by the State, or by the General Government, or on any lands at the time of such survey and location, actually occupied and improved by actual settlers, unless such location be made by the owner of such improvements, not to exceed six hundred and forty acres by any one person: *Provided*, also, that nothing herein contained shall prejudice the ownership or possession of any lands that at the time of said survey and location, held, or claimed under grants from the Mexican or Spanish Government: and *Provided*, moreover, that at the time of making such location, the first settler or owner of any improvements situated on the tract proposed to be located, shall in all cases have the preference.”

Sec. 7. “In the event that any location of lands be made under and by the provisions of this Act upon lands supposed to belong to the United States, which should prove to be land not the property of the United States, then, and in that case, the party owing such land warrant or warrants may float the same upon any other public land in the State of California: *Provided*, the float, and the reasons therefore, be made a matter of record, at the time, in the office where the original location was recorded.”

Sec. 10. “Lands located under the provisions of this Act shall be surveyed by the County Surveyor, in each county where the location is made, who shall give a certificate setting forth the bounds, and the number of acres contained in such survey, and shall receive for his services such fees as are now or may hereafter be provided by law.”

Sec. 11. “The clerk of the County Court shall make a record of all certificates of land located under the provisions of this Act, which may have been run off by the proper officer, and shall be entitled to receive from the owner of such location three dollars for such services.”

Sec. 12. “The County Surveyor of the respective counties of this State, at the end of every three months from the taking effect of this Act, shall make out and forward to the office of the Surveyor General of the State, without fee for the same, a duplicate copy of each plat or survey, and certificate of the location of any land warrant made under the provisions of this Act in their respective counties, and for failure to do so, shall

be liable to a fine of not less than five thousand dollars, recoverable before any court of competent jurisdiction on the complaint of any person or persons in interest.”

N. B. All lines run as required above, in section 4, north, south, east, and west, must be run by the true meridian, and not magnetic, so as to conform to the lines of the United States land surveys, and the Act takes effect from the 1st of June inst.

3rd. from the law to “provide for a Map of the State of California.”

Sec. 3. County Surveyors are hereby required to connect all surveys made by them in their respective counties with, and to some known points to be determined astronomically, or by connection with the United States surveys, wherever practicable, under the direction of the Surveyor General, and report the same to the Surveyor General in accordance with the provisions of the Act “prescribing the duties of County Surveyors, passed April 9th, 1850.”

Your attention is particularly called to this law, and all returns of surveys under the 500,000 acre land law must be connected as herein provided, and express such connection in plain terms, to that the work can be used in constructing the State Map.

To prevent fraud, endorse on all warrants surveyed by you under the 500,000 acre land bill, the date and number of survey, and for whom surveyed.

Please acknowledge the receipt of this circular at once, and direct to San Francisco.

Respectfully yours,

WM. M. EDDY,
Surveyor General.

To -----, County Surveyor.
----- County.

SURVEYOR GENERAL’S OFFICE,
Sacramento, June 15, 1852.

SIR: -

I respectfully call your attention to sections nine and ten of “Act concerning the office of the Surveyor General,” passed April 17, 1850; and in accordance therewith, request from you a report upon the matters referred to in the third, fourth, fifth, sixth and seventh paragraphs of the ninth section.

You will find the law referred to, on pages 256 and 257 of the Statutes for 1850.

Your report must reach me before the 1st of December, in order that it may be included in my annual Report, which I am compelled to make on the 15th of December.

Please acknowledge the receipt of this circular, (by mail,) direct to San Francisco.

Your obedient servant,

WM. M. EDDY,
Surveyor General.

To -----, County Assessor,
----- County.

In the Appendix will be found such reports as came to hand in answer.

I would here recommend that the law making it the duty of the County Surveyors to transmit such reports, be amended, or else provision made for their payment while engaged in such duties.

It is entirely foreign to the business of a Surveyor to collect any data respecting the items mentioned in section nine of the act referred to above, except so far as the quantity of land is concerned, and the requirement made of County Assessors is equally oppressive, unless provision be made to pay for the necessary labor.

The number of reports sent in is conclusive, that parties will not work without pay, and therefore, the law is entirely inoperative, and had better be repealed or properly amended.

As the census is taken once in five years, and as its returns are very full upon all points of interest in an agricultural view, and as all results under the present system must be very imperfect, I would suggest the doing away of the present system, and relying entirely upon the census returns for statistics of agriculture.

I had, in the meantime, completed my arrangements for a surveying expedition into the mountains, and on the 19th of June I left San Francisco for Sacramento city, where the party who were to accompany me were to rendezvous on Monday the 21st.

Monday morning found the party consisting of W. W. O'Dwyer, Esq., and Capt. J. R. L. Smith, as assistants; J. J. Gardiner and John Sherman, as subordinates, all on hand and everything ready for action.

We were well supplied with good instruments, some of which I purchased for the State, and others I had hired for the time being.

We had a fine thirty-four inch transit, with two and a quarter inch aperture, which I was compelled to purchase, as it was the only one that could be obtained in the State, and the party who held it, would not lease it for the trip – it is a valuable instrument, and would readily sell for nearly its prime cost, but it is such an instrument as ought always to belong to this office.

We also had two sextants and one quadrant with artificial horizons, one compass, one barometer, and two thermometers.

One of the sextants with horizons and the thermometers were bought for the State, and the rest hired.

I hired two fine chronometers of Mr. McGregor, of the San Francisco Observatory, who rated them with great care and nicety; they were placed in a basket

well cushioned, so as to prevent as far as possible any jarring; these chronometers were at all times carried by hand, and whenever the road was at all rough, the person having them in charge was required to go on foot.

I also fortunately had with me an excellent pocket chronometer.

Having been applied to by a large number of citizens of this State, and others, residents of Carson's Valley, to determine the position of the eastern boundary with reference to that valley, and being informed by parties who had crossed this season, that the road was practicable for a wagon, and having so many instruments to carry, I hired a wagon as a matter of economy to transport ourselves and baggage.

I had made full arrangements to cross the Sierras for that purpose, intending to travel with the relief train from Placerville – and with this view, the greater part of this day was taken up in getting the necessary stores, etc., together; in the meantime we took A. M. and P. M. observations for time, testing the rate of our chronometers, and in the evening we took observations on *Polaris* and *Antares* for latitude.

Tuesday 22nd. This morning, as early as possible, we left town and made twenty miles this day; our progress was necessarily slow, as the great caution required in carrying the box chronometers would not allow us to go faster than a walk.

23rd. This morning we proceeded to White Rock Springs before breakfast; this place is at the commencement of the foot hills of the Sierra, and is about twenty miles in a direct course (25 by road) from Sacramento City, the road thus far lying in the plain, was very smooth and level; for the next fifteen miles we passed over a fine rolling country suitable for grazing and tillage; as we approached Placerville, the route became quite hilly and broken, still with a very good road, and we arrived at Placerville at sunset. *A topographical sketch of the country was in all cases made as we went along.*

Intending to make this a point of departure with reference to Carson's Valley, I determined to fix its locality with the greatest precision our time would admit of; to this effect, we set up the transit on the 24th, and remained here until noon of the 28th; during this time we observed daily the meridian passage of the *Sun*, *Jupiter*, and *Antares*, and other stars, with morning and evening observations for time, which, together with full sets of lunars, gave us twenty-three observations for longitude, the extremes of which came within 52 seconds of each other, and give the longitude 120° 48' 11".

We also took twelve observations on northern, and six meridian observations on southern stars for latitude; the mean of these, both north and south, gives for the latitudes 38° 45' 05".

While here we computed a sufficient number of observations to satisfy ourselves as to our position *approximately*, and finding that Placerville was but about forty-six miles from the angles of the State boundary at the intersection of the 39th parallel and the 120th meridian, and that the lowest estimate of the air line distance from Placerville to the Mormon station in Carson's Valley was sixty miles, I was reluctantly forced to the conclusion that the valley was from twelve to fifteen miles out of the State.

In coming to this conclusion, I had the opinion of every one that I could fall in with in that vicinity, who had any information upon the subject, amongst whom were several residents of the valley, and persons who were anxious that the valley should be declared within the State.

I stated to them the distance, and they all said "Twas useless to try to make that distance less than sixty miles in air line."

Owing to the smallness of the appropriation and the certainty that I felt in the fact that Carson's Valley was outside the limits of the State, I did not feel warranted in going over there at the expense of the State.

However, I made a proposition to the gentlemen from the valley, that if they would pay the bare expense of my party, I would go over in the month of August. This proposition they agreed to lay before the inhabitants of the valley, and to let me know the result; but I have not heard anything from them relative to the matter.

Our plan of operations being thus changed, I determined to return to Sacramento, procure animals and strike across the country, from the American to the head waters of the Feather. Accordingly, we left Placerville the afternoon of the 28th, and reached Sacramento the next day at 3 P. M., June 30. July 1st and 2nd we passed in taking a full set of observations, using the transit, and found the latitude $38^{\circ} 34' 40''$, and longitude $121^{\circ} 23' 16''$.

We left Sacramento at 5 P. M. on the 2nd, and rode to Oak Grove that night. We reached Auburn the 3rd at 3 P. M., and immediately adjusted our instruments, and at night took lunars for longitude, and altitudes of *Polaris*, *Antares* and *Jupiter* for latitude.

We left Auburn July 4th, at 11 A. M., and arrived at Grass Valley at 8 P. M. On the morning of the 5th, we proceeded to Nevada where we took a similar set of observations to those taken at Auburn, and left on the 6th for Downieville, and arrived at Galloway's ranch, four miles from Downieville, on the 7th. For various reasons I determined to take the observations for Downieville on the hill at Galloway's, instead of going down to the village.

We took usual lunars and altitudes, and on the 8th left Galloway's at 11 A. M., and started for the Feather River. We arrived at Bidwell's Bar on the 10th, but the weather was so cloudy that we could not get any observations, and for the first time in our trip had missed them.

As I had a connecting survey from this point to Hamilton, we proceeded to Ophir that night, and the next morning pushed on to Marysville.

At this place we set up the transit to test our chronometers, and passed the 12th, 13th and 14th in taking a similar set of observations to those taken at Placerville and Sacramento, and found that our chronometers had run remarkably well. Latitude of Marysville $39^{\circ} 09' 12''$, longitude $121^{\circ} 30'$.

On the 15th we returned to San Francisco, and Messrs. Gardiner & Sherman were discharged. Mr. O'Dwyer, Capt. Smith and myself, immediately commenced computing the mass of work which we had taken, which kept us busy until the 3rd of August. On the 3rd Mr. O'Dwyer went to Vallejo with me, where we commenced the office work on the map.

On the 16th of August Mr. O'Dwyer, Capt. Smith and myself started for another expedition, through the counties on the San Joaquin and tributaries.

We visited Moquelumne Hill, Sonora, Stockton and Mariposa, taking all the necessary observations for latitude and longitude, and a topographical sketch of the country.

We returned to San Francisco on the 7th September, and computed the observations taken during the trip.

In Appendix "A" will be found a table of latitudes and longitudes of various places, including those taken by me during the season.

The two expeditions covered that portion of the State embraced in Mariposa, Tuolumne, Calaveras, San Joaquin, Sacramento, El Dorado, Placer, Nevada, Sierra, Yolo, portions of Butte and Sutter counties, and with the aid received from other parties, I feel confident that this portion of the map will be found to be in the main correct.

The construction of the map is rapidly progressing and will be ready early in the session.

I must at this place return my sincere thanks (for data furnished) to the following County Surveyors:

To	J. T. Lowry,	County Surveyor of	Siskiyou.
"	Mr. Vosburgh,	do do	Shasta.
"	Dr. Stockton,	do do	Butte.
"	D. B. Scott,	do do	Yuba.
"	C. Marsh,	do do	Nevada.
"	A. Rowe and Col. Cleal,	do do	Sacramento.
"	M. B. Lewis, (Dep.)	do do	Mariposa.
"	W. J. Lewis & S. Day,	do do	San Jose.
"	D. C. Pinkham,	do do	El Dorado.
"	Col. Dickinson, (Dep)	do do	Mariposa.
"	J. S. Whiting,	do do	San Joaquin.
"	F. R. Loring,	do do	Solano.
"	J. A. Tivey,	do do	Tulare.
"	Mr. Carter, (Dep.)	do do	Marin.
"	Messrs. Col. Tatham, N. Gray and A. Brouk.		

Mare Island. – I would call attention to the fact, that, by an Act passed at the last session defining the boundaries of Solano and Sonoma Counties, Mare Island, was left out of both counties, and, at present, is not within the jurisdiction of either, surveys being called for on the Island the past season, I directed the Surveyor of Solano to attend to them.

GEOLOGICAL SURVEY OF THE STATE.

The geology of this State is of great importance to us, and in the development of its mineral resources would be of much value – it would point out to our citizens, as well as foreign capitalists, our vast resources, not only from quartz veins and veins of *other ores*, but those lands which are impregnated with precious metals, yet are not, at present, available from the want of water, and the high price of labor.

Professor J. B. Trask, has, for the last two years, been engaged in making a geological survey of the mineral region lying on the Sierra Nevada, from the Tulare country to the Oregon line, and has prepared a geological map, which, the publication of, under the auspices of the State, would, I think, be of great service to every one engaged in mining.

SCHOOL LANDS.

Under an act passed by the last Legislature "to provide for the disposal of the 500,000 acres of land granted to this state by act of Congress," there has been up to December 1st, (as I am informed by the Comptroller,) 372 warrants issued for 160 acres each, and 160 warrants issued for 320 acres each.

The law requiring the warrants to be located by the County Surveyors, and quarterly returns of such made to this office, I have to state, that at the end of the first quarter, (Sept. 1st,) the quarterly reports began to come in, of which, many had to be sent back for various informalities.

In my circular to County surveyors, dated June 1st, I had copied all that portion of the law which referred to the duty of County Surveyors, but finding that many provisions were not fully understood, I issued the following circular, which I forwarded to each County Surveyor in the State.

SURVEYOR GENERAL'S OFFICE,
Vallejo, October 1, 1852.

SIR:

In June last, I forwarded to you the annual circular required of me, and directed it to -----, to which I have received ----- answer.

Having had many inquiries made to me in reference to various constructions of law relative to "School Land Warrants," I deem it proper to add the following suggestions:

1st. The boundaries of all lands located under "School Land Warrants" must run north, south, east and west, by the *true meridian* in all cases, except where one of more of the sides are such *natural boundaries* as will be taken under the U. S. Land Surveys to make fractional sections.

2nd. Fractional sections are made in the U. S. Surveys whenever the lines strike any bay, lake, or navigable stream.

I suppose that in this State, our mountain streams will in most cases be regarded as natural boundaries, when they become too large to measure across without triangulation.

3rd. Swamp or overflowed lands being at present the property of the State and not of the United States, cannot be taken as school lands.

4th. The number of the warrants must in all cases be returned to this office, with your report of the survey.

5th. In the event that no school land warrants are located in your county, you will notify this office of the fact.

N. B. All reports for this office must be mailed not later than the 1st of December, in order that they may be embodied in my Annual Report, which I am required to make by the 15th December.

Respectfully yours,

WM. M. EDDY,
Surveyor General.

To -----, County Surveyor.

Up to the present date there has been received and registered in this office the certificate of survey for ----- warrants for 160 acres, and ----- warrants for 320 acres each, a statement of which by counties, is more fully set forth in Appendix (B.)

I would call your attention to an important omission in the present law. It is this – the law does not provide that when a warrant is located, that the proper officer shall endorse upon the back of said warrant *the date and place* of such location; and there is nothing to prevent the same warrant being located in several counties. In many instances the returns have come to this office without the numbers of the warrants so located, and others, where there was more than one warrant, the quantity to each number not given, only the gross amount.

Again an instance occurred where the same warrants were located in two different counties, and the fact not ascertained until the returns came into this office, and the party making the location was applied to for an explanation of the matter; his reply was “that he intended to ‘float,’ but as yet had not made his election which piece he would keep.”

He is at the same time in a position to reap a double benefit from his warrant, for it is not to be supposed that a party who might wish to take up this land would look further than the County Records of the county in which the land lay. In my circulars I requested the County Surveyors in all cases to endorse the location upon the back of the warrant, and also to return the numbers of the same; still, as there is no law *requiring it to be done*, it is optional with the holder of the warrant whether he will permit it or not.

SWAMP OR OVERFLOWED LANDS.

In my last report I gave an estimate of the quantity of such lands in this State, amounting to two million six hundred thousand acres. During the past season I have more fully examined the matter, and am now confident that the above is an under estimate.

I would recommend that the Legislature pass at this session some act to provide for the disposal of these lands, to the actual settler, and repeat the views expressed in my last report, viz: - “These lands being as fully the property of the State at this present time, as if the patent had issued, the State has an undoubted right to dispose of them in a similar manner without waiting for the patent, by giving a warrant containing an

agreement on the part of the State, to give the purchaser a good and sufficient deed whenever the patent is obtained.

“These warrants being made evidence of title, there would remain no cause for delay in disposing of the lands at an early date.”

As the United States land surveys are being pushed with great vigor, it will be within our power this season to have lists and plats of large quantities of this land made out and forwarded to the Secretary of the Interior, and have the patent thereof, issued at once, without waiting for the completion of the U. S. survey of the whole State, which owing to its extent, our mountain and mineral lands will require many years to complete.

The addition of a law providing for the occupation and possession of our swamp or overflowed lands, in conjunction with the present statutes relative to possessory titles, will at once give a permanence and feeling of security to a large and valuable class of our citizens, and largely add to the list of taxable property, thereby increasing the revenue of the State.

RAILROAD TO THE ATLANTIC.

The people of this State have often expressed themselves upon the importance and urgent necessity of a railroad to the Atlantic and entirely within our own borders as a nation. Two out of the three Legislatures having spoken strongly in its favor; the press has often urged it; our candidates for political suffrages have felt its necessity so much as to make it a cardinal principle in their creed; and every citizen who cares ought to see the commerce of the world carried across our land, and thereby building us up as the greatest commercial people on the earth, and as a necessary consequence the most powerful and wealthy; all see the desired boon and the means to attain it, but as yet each one is waiting for his neighbor, and all waiting for the assistance of the Hercules in the shape of the General Government.

The great shadow which has frightened capitalists in the matter is in my opinion the crossing of the Sierra Nevada. I have conversed with many persons, several of whom are practical engineers who have crossed the Nevada at different passes, and from information so gathered I am fully convinced that there are several practicable passes, and these too where the snows are not one whit worse than in the New England States and Canada.

I suggest then that, to show that we are in earnest about this work and that we have full faith in its practicability, and more than all to set forth and show to our brethren at the East that the road is practicable, and that too by more than one route, that this Legislature appropriate a sufficient sum of money to pay for a preliminary survey of the various passes through the Sierra, and if need be, let one party strike via of the Humboldt to Salt Lake, and let the other strike from the Mohave across the table lands to the left of the Gila to the Rio Grande.

This survey can be made at a cost trifling in comparison with its importance, it is a first step which, when taken, will be sure to expedite others, and it is the initiative which we in California above all others ought to take; it is bad policy to wait for the General Government to move in a matter where there would be the opposition that this project is sure to meet with; no, let us rather *prove* by demonstration that both routes are practicable, and then let the one who wants the prize most strike first.

Congress now pays over \$700,000 per annum for mail service from the Atlantic to the Pacific States, and which for forty-eight transmissions of the mail is nearly \$15,000 per trip; demonstrate the feasibility of the plan, and can there be a doubt but that Congress would pay largely for the boon of a daily mail, and the certain means of transmitting troops entirely within our borders.

Disguise the fact as we may it is nevertheless true, that unless we commence this work at once and prosecute it with energy we run the risk of losing our natural advantages, and the transshipment of the commerce of the Indies and China will pass into a channel of trade on the Isthmus that will trouble us to change.

Already we see the hand of England at all of the crossing places south of Acapulco, and more especially within a very short time at Panama, by the establishment of a line of five steamers to run from Panama to Australia, touching at the principal islands in the Pacific. These ships are to be on the route in May, 1853, and then England will only need *one link* to complete the encircling of the world with lines of steam.

In time of peace prepare for war, is a maxim that all acknowledge. There are specks in the horizon which may be a mere summer cloud, or they may spread to cover the Heavens. Look at things as they are; let there be a war and where are we here in California? Shut up as it were in a prison; our harbors blockaded – all our resources from the sea cut off – our steamers inefficient for want of armament – and should they venture out with treasure on board, can we doubt that they would be surrounded by a fleet of privateers.

In the event of war with any power that has a sea coast, we would be harassed by *letters of marque*, and let a few cargoes of provisions be destroyed and we would be in a bad fix here in California, where it is almost impossible to get sixty days' provisions ahead.

I have seen in a communication to Congress through one of the committees a letter from Mr. W. H. Aspinwall, in which he instituted a comparison between the late movement of five hundred troops from New York to California in thirty-five days, instead of six months around the Horn.

But mark the fact, those troops had to pass through a foreign country which may be closed to us at any time if a *combination* of certain powers could be effected. Build the road and you can send train after train loaded with troops and provisions from the Atlantic to the Pacific in five days. No foreign country to pass through – no infectious climates to decimate our troops – but our own free, pure soil of liberty to travel over, and our own countrymen to guard us.

For estimates of the various routes and general statistics I have concluded to adopt the words of General James A. McDougal, who has given the subject close attention, and is, I think, nearly correct in his data.

Three different routes have their advocates. The northern route, rising with the valley of the Sacramento to a point opposite where the rugged and abrupt ridges of the Sierra sink into a comparatively low but somewhat broken table land; crossing from this point to a point on the Humboldt River about ninety miles from the sink, and thence on a line north of the great Salt Sea, through the South pass and by Fort Laramie into Independence.

The southern route passing up the San Joaquin and Tulare Valleys, crossing a low ridge at the southern base of the Sierra Nevada, through what is known as Kern's Pass, thence to the Mohave, thence to the Colorado below the mouth of the "Big Cañon," thence across the table land cutting the head waters of the northern affluents of the Gila to the Rio Grande, in the neighborhood of Belen or Tome, thence down the Rio Grande to San Diego, from near which point a pass opens into the vast plains extending from the Gulf of Mexico to St. Peters and the northern lakes, affording an almost perfect natural grade to Austin, Nachitoches, Fort Smith or Independence.

There is still another route, going south as before the Mohave, thence north easterly near the line of the road from Los Angeles to Salt Lake, striking the head waters of the Arkansas, and descending with the waters of the Arkansas to Bent's Fort, and from that point to Independence.

This pass through the Rocky Mountains is the same attempted by Fremont in 1848, when losing his way his party suffered so terribly in the snows. The character and capabilities of this pass are not as yet well understood.

The long stretch between the Mohave and the Rio Grande is generally a desert, and the distance is from two to four hundred miles greater than by either of the other routes proposed. For these reasons I shall not discuss this route in detail.

The northern route from the navigable waters of the Sacramento to the point mentioned on the Humboldt, is known to me only from the reports of emigrants and travelers. It is unquestionably true, however, that a great portion of the distance can be accomplished along the natural grade of the Sacramento, that the mountainous ridge of the Sierra can be turned to the north, and that with fifty miles of a broken, but not mountainous line overcome, the road can be carried into the plain of the Great Basin. From the plain of the great basin rising to the summit of the South Pass, and descending to the navigable waters of the Missouri, it is a remarkable and ascertained fact, that along any equal distance of railroad in the world, art has not accompanied as perfect a grade as nature has here afforded for the purpose. From the waters of the Humboldt to the summit of the South Pass, there is not a section of thirty miles where the mean rise is more than fifteen feet to the mile, and all hills can be avoided.

From the South Pass the country falls equally and imperceptibly not more than six feet to the mile, all the way to Independence.

There may be slight inequalities of surface, but there is not a hill and scarce a stream to cross. These facts as to the route from the Humboldt to the Missouri, have been scientifically ascertained, and I state this after a careful examination of a complete profile of the route, prepared from a topographical survey, made at the instance of the Government.

From the Bay of San Francisco to the head of the Tulare Valley, there is a continuous, gradually rising, but almost level plain. The low ridge running from the Coast Range to the southern base of the Sierra Nevada, it has long been understood, presents no serious obstacle to egress, with a road into the level country south and east of the Sierra. Extra grading will in all probability not be required for more than ten miles at this point. You then reach the Mohave without obstruction; the grade is already completed. From the Mohave you have to strike across the Desert of the Colorado crossing, and perhaps passing one of its affluents from the west. This sandy desert is the most serious difficulty on the route; but as it is now well ascertained that water can

be had almost anywhere upon the Desert, by sinking wells but a few feet, the difficulty is only in protecting the road from the shifting sands. This protection will have to be afforded, probably, for sixty miles. It will add but little to the cost of the road, but considerable to the expense of keeping it in order.

I propose to strike the Colorado below the Cañon, and rise to the plain of the table land lying between the Colorado, the Rio Grande and the Gila, then leaving the banks of the waters of the Gila to the south to strike the Rio Grande near Belen. Having traversed this body of country, I know from personal observation, that a road can be run from the Colorado to the Rio Grande without a mountain obstruction. It is a vast and almost level table land, gradually rising towards the center, with abrupt ridges of two or three thousand feet elevation at intervals, but sinking into common table land, after extending some fifteen or twenty miles. From Belen down the Rio Grande to the pass between the Santa Fé range and the Oregon mountains, we have a perfect grade, with no obstruction but the crossing of the Rio Grande, which is by no means a formidable obstruction. The pass of which I speak is a perfectly open and level road without obstruction. From this point, whether you strike towards the south into Texas, towards the east into Arkansas, or towards the north into Missouri, we have a grade about the same with that from the South Pass to Independence.

If these observations be correct, and I am satisfied that they are substantially correct, there is not the least serious natural obstacle to the construction of the road either by the valley of the Sacramento or the San Joaquin, while with the exception of a few trifling obstructions, the great hand of Nature has graded a highway to our hands. We have no Alps to tunnel, no Alleghenies to cross, neither the snows and winters of Moscow or New England to contend against. But fellow citizens, if the curtain of clouds is raised from the route of the road, and all is made to appear smooth and practicable, as it is, yet still an equal obscurity seems to rest upon the sources and resources for its construction.

I shall attempt fearlessly to grapple with this difficulty also. It is said

“Fools rush in
Where angles fear to tread.”

This may be my case, but confident of the virtue of the attempt, and perhaps egotistically confident too, of being equal to it, I hazard the undertaking.

Ignorant speculation in the Atlantic States, assuming that the Sierra Nevada and the Rocky Mountains were great natural barriers to be overcome by the application of immense labor, has in some instances placed the cost of this work as high as \$200,000,000. I have as yet seen no calculation upon the hypothesis that it is nearly a level route from the Atlantic to the Pacific waters.

For the purpose of making an approximate estimate of the cost I have divided the routes into western, central and eastern sections, and distances as follows:

	Miles.
From New Waters of Sacramento to a point on the Humboldt.....	250
Humboldt River to Fort Laramie.....	925
Fort Laramie to Independence.....	630
	1,845
Bay of San Francisco to Mohave.....	470
Mohave to San Diego on Rio Grande.....	675
San Diego to Nachitoches.....	790
	1,939
San Diego to Fort Smith.....	825
San Diego to independence.....	879

Within a few years the cost of constructing railroads has been greatly reduced, partly from improved experience, and the business being better understood and more systematically pursued, and partly from the decrease in price of the iron material, on account of the surplus manufactured and seeking a market.

I recently noticed a statement that the contract to construct a railroad from Terre Haute on the Wabash, to Alton on the Mississippi, with turnouts, depots, cars, and all necessary fixtures, the distance of 175 miles, had been taken by a party of Massachusetts contractors, for the gross sum of \$3,000,000, payable partly in cash, part in stock, and part in bonds, secured by the road. The road and its accompaniments to be of the best description, with the most approved rail. This road is to be constructed and set in operation at a cost of \$17,000 per mile; it passes over a country not equal in point of grade to the eastern section of either route proposed, but little better timbered, and having no advantage over either, except in the distribution of material.

I am no engineer, but in my calculations I have had the assistance of some of the best engineers in California. After making all the allowances that their experience and my own reflections have suggested, I am satisfied that an addition of 33 1/3 per cent. upon the cost of the Illinois road, will cover all extra cost of a road to Fort Laramie or the Rio Grande.

The road from Fort Laramie to the Humboldt river furnishes an almost equally favorable grade – quite equal to the grade of the Illinois road. It runs near the large Mormon City, which will furnish both supplies and labor, and as the road is pushed forward, population and production will be pushed forward with it. Labor here can be employed upon the same terms that it can be employed on the Mississippi. The transportation of provisions and of men will be trifling, as the road must be completed as it progresses, and the perfect healthfulness of the climate will give a great advantage over labor on the Mississippi.

The additional cost of distributing material will again be the principal difference of the cost of this portion of the road, and making all reasonable allowances, I cannot for this section add more than 75 per cent. to the mile, with which I have started.

The road from the Humboldt to the Sacramento, would be commenced from this end. Iron can be delivered cheaper at San Francisco than at St. Louis. The hills bordering the Sacramento and the Sierra Nevada are planted with the best of timber trees. The labor of distributing the material would not be greater than upon the Illinois road. Would not 100 per cent. added to our starting price be a reasonable allowance? It is much greater than the estimates made by the engineers of the San Jose railroad, and cannot, I think, be below the mark.

From San Diego on the Rio Grande, up the Rio Grande, the grade is perfect, and there is sufficient timber. No heavy cutting is necessary to rise from the bottom to the plain of the table land. There is an abundance of pine and cedar from the Rio Grande to the Colorado. A considerable portion of the route passes through the settlements of New Mexico, and the remarks as to the other central section apply generally to this. The crossing of the Colorado and Rio Grande, with the difficulties of the Desert, will however, add considerably to the cost of this section – say 25 per cent. – making the cost of this section an increase of 100 per cent. upon the Illinois cost. From the Mohave river no reasonable estimate can be made making the cost per mile more than \$30,000.

Assuming these estimates to be true, the northern road will cost, from the Sacramento to the Humboldt, 250 miles, 100 per cent. added, say \$35,000 per mile, is \$8,750,000; from the Humboldt to Fort Laramie, 925 miles, 75 per cent. added, \$30,100 per mile, is \$27,842,500; from Fort Laramie to Independence, 930 miles, 33 1/3 per cent. added, \$22,933 per mile, is \$14,447,790; making the entire cost of the road, turnouts, depots, cars and fixtures, from the navigable waters of the Bay of San Francisco to Independence, on the Missouri, \$51,030,290.

The southern route will cost, from the Bay of San Francisco to the Mohave, 474 miles, \$30,000 per mile, is \$14,222,000. From the Mohave to San Diego, 675 miles, 100 per cent. added, say \$35,000 per mile, \$23,625,000; from San Diego to Nachitoches, 790 miles, 33 1/3 per cent. added, \$22,933 per mile, is \$18,057,170; making the aggregate cost of a complete running road from the Bay of San Francisco to Nachitoches, on Red River, \$55,902,170.

It appears, and to me clearly, fellow citizens, that this road upon either route, can be constructed at about one-fourth the amount estimated by some of the ignorant and dreaming speculators on the Atlantic.

U. S. LAND SURVEYS.

For the present condition of the United States Land Surveys and the amount of work at present done, I refer you to the following interesting letter from Samuel D. King, Esq., the United States Surveyor General for this State, from which it will be seen that Mr. King is prosecuting the surveys with great energy and vigor.

U. S. SURVEYOR GENERAL'S OFFICE,
San Francisco, Cal., Dec. 24, 1852.

SIR:

In answer to your inquiry, I have to state for your information that owing to the want of the appropriations necessary for the prosecution of the work, and the general orders of the Department prohibiting the contracting of the same in anticipation of expected news, but comparatively little could be done during the last summer.

To prevent as far as possible any delay in commencing the work in the southern division of the State, a party was organized and sent there in August last, to make a reconnaissance of the country, with a view to the ascertainment of the most suitable position from which to start the meridian and base lines to which the surveys in that portion of the State are to have reference, and after a careful exploration a peak of Mount San Bernardino was selected. Since then a Deputy Surveyor, appointed for that purpose, has erected a permanent and conspicuous monument at that point, and the surveys are progressing therefrom.

Advice of the passage of the Deficiency Appropriation Act having been received early in September, preparations were immediately made for carrying on the work, by subdividing into townships those portions in which the necessary preliminary lines had been previously established, and by running such additional ones as were required for more extended operations, but the continued bad weather has so affected all field operations that five of the seven parties who were out have had to cease work.

The result has been that since the date of my letter to you of February last, the following work has been done in the field.

The first standard line south, has been run from the west foot of the Coast range to the Pacific. Standard lines, to govern the surveys in the San Joaquin valley, have been run from the corners on the base line to ranges 8 and 9 east to "Four Creeks."

Another line to regulate the surveys in the valley of the Sacramento has been partially extended, north from the corners, to ranges 8 and 9 east, on the base line.

The following desirable portions of the State have been laid off into townships:

All north of the base line, west of the meridian, and east and south of the bays of San Francisco and Suisun.

The tract between the Sacramento river and the meridian line, and south of the second standard line and a range west of the meridian, between the first and second standard lines.

The tract between the meridian line and the Pacific, south of the first standard line, and north of the bays.

And the tract east of San Francisco Bay west of the meridian line, and between the base line and the first standard south. The deputy who was employed upon this work, has been prevented by the weather from executing that portion of his contract which embraces all other lands between the meridian and the Pacific.

A deputy is now in the field, running the base and meridian lines from Mount San Bernardino, and another is engaged in making township surveys connected herewith.

All but one of the initiatory surveys of private claims ordered by the Commissioners have been made and returned, or are now in progress.

The unsettled condition of the private claims will necessarily greatly retard the all important work of sectionizing in the most fertile and densely inhabited portions of the

State, and where it is most desirable that the settler should be enabled to discriminate between the undisputed public lands and those which are claimed under foreign titles.

So soon as it is practicable to go on with the field work, other base and meridian lines will be established in the north-western part of the State, to control the work in that region, and every endeavor will be made to sectionize so much of the land in that portion of the State as may be required by the wants of the inhabitants at the earliest possible period.

Congress having made all the appropriations which had been asked for this office, ample funds are now applicable to the progress of the work, and it is my intention to press it forward with all practicable rapidity, and wheresoever I can ascertain that the agricultural lands are unclaimed, to have those land laid off into the minutest legal subdivisions, as being a work of permanent interest to the great mass of those desiring to become agriculturists, by enabling them to go on in making their improvements, with the full assurance that their labor will not be expended upon lands which may eventually be ascertained to belong to other persons.

Very respectfully,
Your obedient servant,

[Signed.]

SAMUEL D. KING,
U. S. Surveyor General.

WM. M. EDDY, Esq.,
State Surveyor General, San Francisco.

I would also call the attention of the Legislature to the fact that every county officer, except the Surveyor, is provided with an office at the expense of the county; this is an invidious distinction, and ought to be corrected, by placing the county surveyor on the same footing as other county officers.

I must here return my thanks for the able assistance afforded me during my expeditions and in the construction of the map, to W. W. O'Dwyer, Esq., Capt. J. R. L. Smith, and others comprising my part, for the zeal and application to the business in hand while employed by me.

All of which is respectfully submitted.

WM. M. EDDY,
Surveyor General.

His Excellency, JOHN BIGLER,
Governor of the State of California.

APPENDIXES

TO THE

REPORTS OF THE SURVEYOR GENERAL.

MADE DECEMBER 15TH, 1852 – CONTAINING AS FOLLOWS:

Appendix [A.] – Table of Latitudes and Longitudes.

Appendix [B.] – A table of School Land returned prior to December 1, 1852, under the Act to dispose of the 500,000 acres.

Appendix [C.] – Reports of County Surveyors and Assessors, viz:

Report of W. J. Lewis, Surveyor	Santa Clara County,
“ J. T. Lowry, “	Siskiyou “
“ D. B. Scott, “	Yuba “
“ Geo. Vosburgh, “	Shasta “
“ Henry Hart, “	Trinity “
“ A. D. Easkoot, “	Marin “
“ Warren brown, “	Contra Costa “
“ V. Wackenruder, “	Santa Barbara “
“ S. W. Wright, “	Santa Cruz “
“ Jno. Tatham, Assessor	Butte “
“ Edgar Frazer, “	Sierra “
“ S. Vaughn, “	Solano “
“ F. L. Branch, “	San Luis Obispo “
“ J. C. Pinnell, “	Napa “
“ J. H. Hastings, “	Contra Costa “

APPENDIX [A.]

TABLE,

Showing the number of Observations of each kind taken at different localities, with the whole amount of the same.

NAMES OF PLACES.	SETS OF OBS. FOR LATITUDE.			SETS OF OBS. FOR LATITUDE.		Extra Observations placing Transit instrument.	Number of Sets.	Number of Sights.
	CHRONOMETER		Lunars.	Northerly.	Southerly.			
	Altitudes.	Transits.						
Placerville.....	10	9	4	12	6	2	43	163
Sacramento.....	8	9	3	3	9	2	34	135
Auburn.....	2		1	1	2		6	30
Nevada.....	3		1	1	2		7	39
Galloway's.....	2		1	1	2		6	31
Hamilton.....	4		1	1	6		12	34
Marysville.....	4	6		3	7	2	22	82
Mokelumne Hill.....	3		2	2	3		10	30
Sonora.....	3		1	1	2		7	28
Mariposa.....	3		1	2	2		8	29
Total.....	42	24	15	19	40	6	15 5	601

GEOGRAPHICAL POSITIONS.

I. – Latitudes and Longitudes from Observations made with reference to the compilation of the State Map.

NAMES OF PLACES.	LATITUDE N.			LONGITUDE W.			REMARKS.
	°	'	"	°	'	"	
Placerville.....	38	45	05	120	48	11	Observations taken in June, July, August, and September, 1852, under superintendence of Wm. M. Eddy, Esq., Surveyor General California, assisted by W. W. O'Dwyer, Esq., and Capt. J. R. L. Smith.
Sacramento.....	38	34	40	121	23	16	
Auburn.....	38	54	24	121	02	22	
Nevada.....	39	17	48	121	03	18	
Downieville.....	39	33	16	120	39	08	
Ophir.....	39	31	55	121	26	14	
Hamilton.....	39	27	48	121	32	47	
Marysville.....	39	09	12	121	30	00	
Mokelumne Hill.....	38	16	22	120	29	48	
Sonora.....	37	58	40	120	11	25	
Mariposa.....	37	28	36	119	44	22	

II. – Positions obtained by connection with the U. S. Land Survey.

NAMES OF PLACES.	LATITUDE N.			LONGITUDE W.			REMARKS.
	°	'	"	°	'	"	
U. S. C. S. Station at Presidio, San Francisco... San Francisco, (Portsmouth Sq'r).....	37	47	37	122	26	25	Connection formed by measurements from U. S. Land Surveys and others, with the U. S. Coast Survey Station, near the Presidio, San Francisco, the Geological position of which was determined by G. Davidson, Esq., U. S. Coast Survey.
Monte Diablo, (South Peak)..	37	52	54	121	54	01	
Benicia, (Landing).....	38	02	29	122	09	25	
“ (Barracks).....	38	03	21	122	07	13	
Martinez.....	38	01	11	122	07	13	
Stockton.....	37	57	00	121	14	26	
Castoria.....	37	52	55	121	14	26	
Vallejo.....	38	05	05	122	14	05	

III. – United States Reconnaissances.

NAMES OF PLACES.	LATITUDE N.			LONGITUDE W.			REMARKS.
	°	'	"	°	'	"	
San Miguel.....	35	35	00	120	27	00	From Reconnaissance of Tulare Valley by Lieut. G. H. Derby, U. S. Top. Engineer, April and May, 1850.
Santa Marguerita.....	35	18	22	120	11	00	
Estrella.....	35	36	00	120	13	00	
Moore's Creek.....	35	46	43				
Gopher Creek.....	35	40	30				
Cottonwood Creek.....	35	26	41				
Kern River.....	35	18	00				
N. point Buena Vista Lake....	35	08	23				
Tule River.....	35	50	30	119	07	00	
Francis River.....	36	15	00	119	14	00	
King's River, (Jones' Ferry)...	36	24	47	119	28	00	
Sajon de San Jose.....				120	04	00	
W. point Tacke, or Tulare Lake.....	36	48	00	119	49	18	
Fort Reading.....	40	28	32				
Scott's Valley, (Fort Jones)...	41	35	36				
Yreka.....	41	45	50				
Natural Bridge.....	41	59	40				
Willow Creek.....	41	31	27				
Sonoma.....	38	17	27				

IV. – Boundary Line between California and Mexico.

NAMES OF PLACES.	LATITUDE N.			LONGITUDE W.			REMARKS.
	°	'	"	°	'	"	
Initial Point, on the Pacific Coast..	32	31	59.58	117	05	25.5	Furnished by A. B. Gray, Esq., late Surveyor to the U. S. Boundary Commission
Junction of the Gila and Colorado	32	43	51.58	114	33	04.1	

V. – United States Coast Survey.

NAMES OF PLACES.	LATITUDE N.			LONGITUDE W.			REMARKS.
	°	'	''	°	'	''	
Trinidad City.....	41	06	00	125	05	00	Furnished by the Bureau at Washington.
Humboldt City.....	40	44	45	124	10	15	
Fort Point, (Golden Gate).....	37	48	27	122	26	57	
Point Lobos, (Light).....	37	46	22	122	28	33	
Santa Cruz, (Landing).....	36	57	27	122	00	09	
Point Pinos (Ass't Station Monterey Bay).....	36	38	00	121	54	00	
San Simeon Bay.....	35	38	24	121	10	22	
San Luis Obispo Bay.....	35	10	38	120	43	30	
Santa Barbara Channel.....	34	24	27	119	40	15	
Prisoners' Harbor, (Island of Santa Cruz).....	34	01	10	119	40	00	
San Pedro Bay.....	33	43	20	118	16	03	
Catalina Harbor.....	33	26	23	118	28	50	
Point Conception.....	34	26	56	120	25	33	
San Nicholas.....	33	14	13	119	24	54	
San Clemente.....				118	33	55	
Cuyler's Harbor, (Island of San Miguel).....				120	20	21	
San Diego.....	32	41	58	117	13	22	
Point Loma.....	32	40	13	117	12	22	

APPENDIX [B.]

RETURNS OF SCHOOL LAND WARRANTS.

Returned to this office under the Act to provide for the disposal of the five hundred thousand acres.

Up to 1st December there had been issued from the Comptroller's office, 160 warrants for 320 acres, and 372 warrants for 160 acres each, making 95,040 acres, of which there has been returned to this office, the following quantity from the respective counties, amounting in the total to 40,320 acres, returned up to the 1st of December.

<i>Counties.</i>	<i>Acres.</i>
Butte.....	640
Calaveras.....	1,280
Colusi.....	320
Contra Costa.....	1,280
El Dorado.....	320
Klamath.....	640
Los Angeles (no returns)	
Mariposa (no returns)	
Marin.....	1,120
Mendocino.....	6,400
Monterey (no returns)	
Napa.....	1,280
Nevada.....	640
Placer (no returns)	
San Diego (no returns)	
San Francisco.....	2,560
San Joaquin.....	1,280
San Luis Obispo (no returns)	
Santa Clara.....	1,760
Santa Cruz.....	2,720
Santa Barbara (no returns)	
Sacramento.....	2,880
Shasta (no returns)	
Sierra (no returns)	
Siskiyou (no returns)	
Carried forward.....	25,120
Brought forward.....	25,120
Sonoma.....	1,930
Solano.....	3,840
Sutter (no returns)	
Trinity.....	3,360

Tuolumne.....	1,280
Tulare (no returns)	
Yolo.....	1,920
Yuba.....	2,560
Mare Island, surveyed by Surveyor of Solano.....	<u>320</u>
Total.....	40,320

APPENDIX [C.]
COUNTY SURVEYORS' AND COUNTY ASSESSORS'
ANNUAL REPORTS
TO THE SURVEYOR GENERAL, FOR THE YEAR 1852.

REPORT OF THE COUNTY SURVEYOR OF SANTA CLARA COUNTY.

SAN JOSE, Dec. 15, 1852.

W. M. EDDY, ESQ.,
Surveyor General:

SIR: - A complete and accurate report on the County of Santa Clara, exhibiting its extent, resources, topography, agricultural, mineral and commercial statistics, would make a good sized volume. For such a report I have neither the time nor the data. As the Census Agent of the county will probably report to the Executive concerning its population and general statistics, I shall limit my report to a few points more especially pertaining to the Topographical Department.

1. *Boundaries.* The San Francisquito Creek, from its source in the Santa Cruz mountains to the Bay, is one of the boundaries. Doubts have arisen as to which of the tributary streams at the head of this creek ought to bear the name of the main creek. The settlement of this question at an early date is important, as it regards taxation, topography, civil and criminal jurisdiction, and the right of suffrage.

A similar doubt arose in relation to the two forks of the Alameda creek, on the other side of the bay, which is also one of the boundaries. On a question of jurisdiction before one of our local courts, it was decided, upon testimony of old residents, that the eastern fork should be called Alameda creek.

Another doubt will probably be started at some future day in regard to the mountain lines on both sides of the county. It is probable that there is no very direct single line of summit ridge, but that many distinct ranges lie in a form of arrangement known in military tactics as *echelon*, crossing very irregularly what was intended to be the boundary line. If the "divide" of the watercourses is intended to be the line, it will doubtless overlap itself in a very circuitous manner. Questions of jurisdiction over redwood timber lands will probably arise hereafter, in which these boundaries will be involved.

2. *Topography and Surveys.* Within the last eighteen months several important surveys have been made which will aid materially in determining accurately the topography of the country.

The railroad line from San Jose to San Francisco connects those two cities and the village of Santa Clara, besides determining the crossing of several streams. It has also furnished a convenient base line for triangulation to the mountain heights, and also for linking together several separate surveys of large ranches. The United States meridian line from Monte Diablo has been run forty-six miles till it struck the base of the Santa Cruz mountains. At the forty-fifth mile a series of zig zag surveys were made to avoid the mountains. These surveys pass south-easterly and south, through the whole extent of the county.

When these lines shall have been connected with the local surveys, and with the peaks of the Sierras, a very reliable skeleton of the topography of the county could be made.

Some of this work has been incidentally done; much more might have been done, if any appropriation had been made to compensate the county surveyor for that kind of labor.

3. *Length, Breadth and Area.* Until the topography of the county is more accurately laid down than it can be at present, all estimates of its area must be approximate only.

The axis of the valley, lengthwise, from near Union City to the tall peak near Murphy's, is about S. 34° E. (true course.) From Union City to San José, in a straight line, is about 20 miles. From San José to Gilroy's, is about 32 miles; and beyond that to the Pajaro, some 5 or 6 miles, making about 58 miles for the length of the county.

The breadth of the main valley at San José is about 15 miles. This breadth is applicable to about 12 miles in length from Alviso southeasterly.

The district between Alviso and San Francisquito creek, may be estimated at 6 miles wide by 8 miles long; and the San José Mission district, beyond Alviso northwesterly, at 5 miles wide and 10 long.

From a point four miles southeast at San José to Pajaro, set down 34 miles long by 6 wide. These elements produce 482 square miles, as the area of the main valley within the county between the bases of the low hills, and not including the bay nor the salt marshes.

The part of the bay within the county may be set down at 40 or 50 square miles, and the salt marshes, at a low estimate, about 20 square miles.

The mountains occupy a belt of about 5 miles wide on each side of the main valley, equal to 550 square miles.

The whole area of the county may be counted at about 1,100 square miles.

4. *Arable Land, and Land under Cultivation.* Nearly the whole of the main valley is level arable land, generally of the finest quality, adapted to all the products of the temperate zone.

This amounts, as before shown, to 482 square miles. There are several small level tracts in the lateral valleys, which may be estimated at about 13 square miles, making 495 square miles, or 316,800 acres of *level* land.

But about one-half of the mountain lands, that of the low hills, and many of the high ones, would in any populous country be considered excellent arable land, capable of producing fine crops of grain. There are of these say 250 square miles, or 160,000 acres, which added to the other, make 476,800 acres, capable of producing food for man and beast.

Of this there is as much capable of irrigation in summer as will be desired for those peculiar kinds of cultivation to which it is adapted. No allowance is made in the above estimate for fresh water swamps, rivers, creeks and timber land.

By return of the census agent, there appears to have been only 19,066 acres under cultivation the past year. This is less than one-sixteenth of the level valley land, and would furnish only 238 men with a farm of 80 acres each, or 476 men with a piece of 40 acres each. The quantity will probably be doubled in some districts, and in others tripled, during the coming summer. As soon as the land titles are settled an immense amount of land will be fenced and cultivated, which is now held for pasturage by the old rancheros.

The land cultivated lies principally in four districts. First, that of San Jose Mission and Union City. Second, that of San Jose in a circle of about five miles radius. Third, a similar circle around Santa Clara. Fourth, the Gilroy district, at the southeastern end of the county.

5. *Mines and Mineral Lands.* The celebrated quicksilver mine of New Almaden lies on the northern slope of the Santa Cruz mountains, twelve miles from San Jose, in a direction about S. 10° E. (true bearing.) It is in T. 9 South 1 E. of the principal meridian, near the common corner of sections 1, 2, 11, and 12. The opening is near the summit of a high spur of the mountain. In a direction N. 70° W. (magnetic,) from the Almaden mine extends a range for 5 1/3 miles in which several openings have been made into veins of cinnabar. Of these the San Antonio, the Santa Clara and the Guadalupe mines are principal.

Operations have been suspended in all these mines except the New Almaden, caused mainly by questions of title.

It is believed from what has been developed at the Guadalupe and San Antonio mines, that the mineral is abundant and may be had by a proper application of sufficient capital. Indications of cinnabar have also been discovered southeast of the Almaden mines, along the same range of hills, near Murphy's, and there is a fair probability that the range of cinnabar veins also extends northwesterly from the Guadalupe mine for several miles, possibly as far as San Francisquito creek.

Two small openings were made in '49 and '50 in some low hills three miles southeast of San Jose. Small, isolated deposits of cinnabar were found, but not enough to justify further expense.

The Guadalupe mine is near the 46 mile stake, on the United States meridian.

Circumstances have thus far prevented my procuring authentic statistics of the operations of the New Almaden mine. Application has been made for the information, and if received in time it will be forwarded before the 1st of January.

Several isolated deposits of *coal*, of the *lignite* variety, have been discovered in the Santa Cruz mountains in this county. The specimens exhibited burn well. No capital has been expended in working them as far as I can learn.

About a mile south-east of the mission of San Jose, there are warm springs boiling up at the foot of the hills. The temperature of the water is delightful for bathing, and its taste and smell indicate the presence of sulphur.

There is a fine *soda spring* at New Almaden, the waters of which are delicious.

Salt has been manufactured from certain springs or ponds near Union City. Silver mines are said to exist somewhere in the county, but I do not know the locality, nor do I think any work is done upon them.

6. *Positions of Towns and Villages.* – San Jose Mission is on the principal United States meridian, at the 24 miles stake (from Monte Diablo.) Union City and New Haven, (adjoining,) are situated on the Alameda creek, at the border of the salt marsh, 9 ½ miles west of the 20 mile stake. This is the shipping port for the produce of the San Jose mission district.

Alviso, the shipping port for the main valley, is on the Guadalupe river, at its junction with the salt marshes, 3 ½ miles west of the 31 ½ mile stake, on the United States meridian. The Mission church and village of Santa Clara are one and one-half miles west of the 36 ½ mile stake.

The central part of San Jose is one and one half miles east of the 37 ½ mile stake.

A small village (McCartysville) has been recently laid out at the toll gate in Campbell's Gap, 10 miles south-west of San Jose, on the new road to Santa Cruz.

The town of Gilroy is on the Monterey road, about 32 miles south-east of San Jose. Its position as regards the United States surveys I do not know.

The position of the Alamedan and Guadalupe mines are noted above.

7. *Lumber and Milling.* An extensive growth of redwood occupies the slopes of the Santa Cruz mountains. Several mills are doing a good business, besides many persons occupied in getting out fencing and shingles. Nearly the whole valley is dependent on this range for fencing timber.

During the past year only one effective flour mill has been in operation very much to the disappointment of our farmers who raised wheat. There are now several in progress of erection, and next year there will be in operation twelve run of stones near Union City, and eight near San Jose and Santa Clara. A large steam mill with two run of stones has just commenced running in Santa Clara; also another small mill by water at San Jose, and another by horse power.

For further statistics of this county, I refer you to the report of John Yontz, Esq., the census agent for the county.

A small map is in the course of preparation, which will be transmitted to aid in constructing the general map of the State.

Very respectfully,
Your obedient servant,

[Signed.]

W. J. LEWIS,
County Surveyor.

Per SHERMAN DAY,
Deputy.

P. S. Permit me to call your attention to the fact, that while the law makes provision for an office in the county building for the other county officers, none is

provided for the County Surveyor. Yet the record book and files of papers which he is bound to keep are of great value, and yearly becoming more so.

They ought by all means to be preserved safe from fire, and be of easy access to the people; and a proper place should be provided for the display of such maps and plans as are used for constant reference.

REPORT OF THE COUNTY SURVEYOR OF SISKIYOU COUNTY.

YREKA CITY, SISKIYOU COUNTY,
September 10th, 1852.

HON. W. M. EDDY,
Surveyor General:

SIR: - Accompanying this I transmit to you a rough skeleton of a map of the eastern part of this county. I have spent some weeks in exploring that heretofore almost unknown section of this State, and am satisfied that I have marked down the general features of the country, and the principal land marks very near correctly.

The apology I have for the roughness of my map, is the haste I have used in preparing it and this in time for the departure of the express, and my intention of forwarding to your office by the first of December next, a more complete map of the whole county and the ocean, with a part of the adjoining territory of Oregon. This last I expect to obtain from a talented and scientific friend, who is now prospecting and exploring that country, and mapping and noting the principal features as he goes over it. I expect him to return to this place by the first of November next, and hope then to be able to present to you a full description of all the northern part of the State.

It is somewhat more than what properly belongs to me to do, but I presume that whatever new and useful information I may give, will not be thrown aside on that account.

Of the country over which I have been lately traveling, I will try to give such a description as I can.

From the Shasta range of mountains (i.e., those running N. N. W. from Shasta Butte) to the Sierra Nevada, is a large basin bounded on the south by a mountainous and very rough range extending from Shasta Butte south-easterly to the Sierra Nevada.

This range is not in all its length a distinct range of mountains. Volcanic eruptions have scattered and broken the county into a roughness which I presume is not equaled in any other part of the State. Pitt river, the main branch of the Sacramento, breaks through this county, and also McLeod's Fork (of Pitt river) passing through cañons so deep, narrow and rocky, as to be utterly impassable to man.

The north side of the basin is formed by the extension of the Umpqua and Rogue River mountains. In this basin are four large lakes, none of which, except Klamath lake, have an outlet.

Klamath lake, the source of the Klamath river, is from 25 to 30 miles long, and 18 to 20 wide. Its waters are of a yellow muddy color, and very strongly alkaline. Near its southwest corner, I found some fine specimens of chalk, and have reason to think it is abundant in this part of the county. There is no arable land around this lake.

East from Klamath is Tulare or Indian lake. Around this are some valleys of agricultural land. The water of this lake is slightly alkaline.

Lost river, which heads in some smaller lakes to the northeast, running west, then southward, and passing for some distance within a mile of Klamath lake, empties into Tulare lake.

This is a very deep, narrow stream. The “natural bridge” on this river is a dam formed by a ledge of rocks about 30 yards wide, across the stream. Over this natural dam the river pours in a current about 8 to 12 inches deep, while above and below, the water is generally from 6 to 10 feet deep.

Tulare lake is about 30 miles long, and from 10 to 15 wide. Across a low range of barren hills to the eastward and northward of this lake, lies Little lake, a smaller sheet of beautiful clear good water. It is nearly circular in shape, and ten miles across.

There is but little timber in the neighborhood of these lakes – the hills and mountains around only being sparsely covered with a scrub growth of cedar.

Eastward and southward of these lakes, the country is very rough and broken. I crossed several small cañons (usually from 10 to 60 yards wide, and 5 to 10 yards deep) which seemed to have been once the beds of considerable streams. The bottoms of these were usually covered with a rank growth of grass and willows.

Goose lake is a handsome sheet of water, lying directly at the western base of the Sierra Nevada mountains. It is 40 miles long, and 6 to 12 miles wide. The hills to the west of the lake are covered with excellent pine and fir timber. There are no streams other than small mountain torrents emptying into this lake.

Pitt river rises about 12 miles to the south of Goose lake, and runs in a southwest course – McLeod’s Fork (of Pitt river) rises south of Tulare, and its general course is southerly.

Along these streams there is but little arable land; indeed, for the greater part of their course, they run through deep cañons.

There is an abundance of game of all kinds throughout all this country, and the lakes (except Klamath) abound in water-fowls of various kinds.

The Indians are very numerous, and are a bold, hostile set of thieves. Some of the little party I was with were killed by them, and others severely wounded.

I extended my excursions a few days beyond the Sierra Nevada mountains in examining the cañons, “Mud Lake,” and boiling springs of that strange country. Some account of my observations I may some day transmit to you, but would prefer first to visit that country again, and be able to examine its curiosities more at leisure.

In the instructions you sent to me I find such an abundance of work to do that I think I shall never accomplish half of it, and it is very certain to my mind that I will not if I have to do it all without any remuneration. I have seen no Act making provision for the payment of County Surveyors for all the duty imposed upon them. I am but little inclined to do all this work merely for the sake of having my report “duly noticed” in your annual reports, for my experience teaches me that serving in any office merely for the honor of the office, brings poor comfort in the long run.

Respectfully, etc.,

JAMES T. LOWRY,
Surveyor Siskiyou Co.

[COPY.]

YREKA CITY, Siskiyou Co.,
November 25, 1852.

Hon. W. M. EDDY,
Surveyor General –

SIR: - Having just returned from a trip of six weeks into the mountains in the western part of this county, and also in the northern part of Klamath county, I found your letter of October 23, and hasten to reply to it. Accompanying this I send you a hasty *but correct* sketch of the country between this place and the coast.

My excursion was to find a pack trail to a harbor, (and to examine the said harbor,) which is situated near Point St. George, and about due west from this place. At present it is sufficient to say, that we were completely successful, in finding a good trail and a good harbor.

You request in your letter such information as I can give in regard to the new emigrant road opened this year from the Humboldt to this place. I was over this route once this year, and will give you the distance and description as I have them on my journal of the trip.

From the Humboldt to Black Rock springs, 60 miles W. N. W., country very level; no timber; water in two places. The road then bears N. N. W. 24 miles over very level country, gradually ascending; then over a low rocky ridge, S. W. 7 miles to the mouth of Big Rock cañon. – Through the canon W. 10 miles is a valley about 100 yards wide, level and good traveling; then 4 miles over gently rolling country to Little Rocky cañon; through this 2 miles, a rocky wagon road but level; thence W. N. W. 20 miles, to a mud lake 3 miles long, half mile wide, over rolling but not hilly country; thence west over rolling country, sometimes rocky, but usually a good natural wagon road, 12 miles to a hot spring. These springs are between two salt or mud lakes, and directly at the eastern base of the Sierra Nevada mountains.

From Humboldt to the Sierra Nevada there is no timber, but an abundance of good grass and water. The two lakes are about 5 or 6 miles apart and are very shallow, so that late in the summer the greater part of each is dry.

From the hot springs the road is north 15 miles, level road, fine grass and clover; then over the main ridge of the Sierra Nevada, one mile; thence to Goose Lake valley, nine miles; descent vary gradual except the last 300 yards, which is quite steep.

I have never crossed the Sierra Nevada mountains at any other place than this, but I have been told by several persons who have been over the different “crossings,” that this is the lowest and easiest crossing now in use. I rode my mule over and was 42 minutes in going from base to base of the main ridge, which is the only part which resembles a mountain.

Around the south end of Goose lake the road is over a level, grassy valley, 25 miles; leaving the lake nearly directly west of where we struck, it passed up a gradual descent one mile, through heavy pine and fir timber, then 5 miles of rolling timber country to a small cañon, average depth about 25 feet, and sixty to 100 yards wide. Down this the road followed 11 miles, then across a flat 2 miles. This flat is surrounded by a perpendicular rocky wall, similar to the sides of the cañon, and appears to have

been once full of water – along another cañon 2 miles, then over a flat, very rocky country 14 miles. This is the extreme northern point of the road, and is W. N. W. from the point of leaving Goose lake.

There is abundance of good water and grass along this part of the road, and the low hills are scantily covered with tolerable timber.

From this the road bears S. W. 6 miles, over rolling rocky country, then 6 miles over a grassy flat to Little lake; around this 3 miles, road good and level; thence over a rocky ridge 6 miles, ascent and descent very easy to Tulare lake valley, then up this valley W. N. W. to the natural bridge, 15 miles, level road; then S. S. W. 7 miles across a low ridge into Klamath lake valley. Around this lake the road is for the most part level, passing over two small spurs from the hills.

From Klamath lake, road good and level 10 miles, then ascent a low hill to the upland level, thence 18 miles to Butte creek, the last 8 lies through heavy timber, level road; up Butte creek the road good and level 6 miles, passing then through a low gap in mountains to Shasta valley 15 miles.

In constructing a railroad the Sierra Nevada might be avoided by crossing to the northward of Goose lake, and then passing to the south-west and leaving Little and Tulare lakes to the right, a route could be had tolerably clear of mountains, but very rocky and rough.

December 3rd. Since writing the above none of our expresses have been able to arrive or depart on account of the continual storm. This is one of the most serious disadvantages we labor under. We are at times cut off entirely from all communication with the rest of the State.

My sketch of the western part of this county is very rough, but still I feel confident that the position of the various streams, etc., are correctly laid down.

With respect, yours,

[Signed]

JAMES T. LOWRY,
County Surveyor Siskiyou Co.

REPORT OF THE COUNTY SURVEYOR OF YUBA COUNTY.

MARYSVILLE, Yuba County,
November 27, 1852.

W. M. EDDY, ESQ.,

Sir: - In compliance with requisitions embraced in the 9th section of your circular of June 1st, I here send you the following estimates:

An estimate of the aggregate quantity of land in Yuba county.

	<i>Acres.</i>
Plain and bottom lands situated west of the foot hills.....	153,600
Mountain and uplands extending east from the base of the foot hills.....	<u>399,360</u>
Total area of Yuba county, 864 square miles, equal to.....	552,960

Recapitulation.

Primary bottom lands situated on Bear, Yuba and Feather rivers, and on Dry and Honcut creeks.....	26,640
Secondary bottom lands bordering on the above, susceptible of cultivation without irrigation.....	50,000
Arid plains situated west of the foothills, suitable for grazing, only susceptible for cultivation by irrigation.....	76,960
Valley and arable lands situated on the west slope of the Sierra Nevada..	76,000
Mineral lands unsusceptible of cultivation, comprising the eastern portion of the county, heavily timbered.....	<u>322,560</u>
	552,960
Estimate acres of land susceptible of cultivation.....	230,400
Acres of land in actual cultivation.....	7,000

Estimate of the aggregate number of horses, cattle, etc., etc., in the county.

Horses.....	1,607
Mules.....	1,749
Beef Cattle.....	2,470
Work Oxen.....	1,010
Cows.....	1,012
Hogs.....	2,000
Fowls.....	8,000

Estimate of the aggregate quantity of the agricultural products of this county for the preceding year.

Corn, (bushels).....	810
Potatoes.....	8,480
Wheat.....	6,345
Oats.....	14,377
Barley.....	128,376
Onions.....	28,000
Tons of Hay.....	4,010

Estimated value of gold produced from placer, river and quartz mining during the preceding year in Yuba county..... \$16,000,000 00

This estimate of the mineral production is made upon the basis of the portion of the population that are engaged in mining, estimating the average day's labor at \$4.

Capital invested in quartz mining in Yuba county.....	\$121,400
Do Placer mining, do.....	710,000
Do River mining, do.....	1,687,150
Do Merchandise and trading.....	1,939,600
Do Lumbering.....	81,000
Total.....	\$4,539,150

The above estimate, and those of the agricultural products and live stock, are made by Mr. Ackley, census agent for this county, which he kindly furnished me.

I herewith send you a list of the names of different localities along the streams in the mining districts, with their distances apart by the river.

I am informed by Mr. Ackley and Mr. Tompkins, (assessor,) that the *two Dry creeks* emptying into bear and Feather rivers are separate distinct streams; the one emptying into the Feather river rises about *one mile south of Watson's survey*, the other as represented on the sketch that I sent you, emptying into Bear river about five miles above its confluence with Feather river, about seven miles below Johnson's ranch.

When I located the warrants for Mr. Watson, he informed me that they were the same streams as represented on the plat of his survey.

I have made no other surveys of importance since I sent you my returns, which by-the-by I directed to Vallejo some two months ago, also the sketch of the country. Mr. Eddy of this place, thinks that you had not received them when he was down last. I directed, as solicited in your circular of June 1st, to Vallejo, and am extremely sorry if you have not received them. I am in much doubt whether to direct this to San Francisco or Vallejo. However, I shall see Mr. Eddy, as he informed me that he should write by December 1st.

Respectfully, Yours, etc.,

[Signed.]

D. B. SCOTT,
County Surveyor.

REPORT OF THE COUNTY SURVEYOR OF SHASTA COUNTY.

Extracts from letters of George Vosburgh, County Surveyor Shasta County, dated November 10th, 1852.

The number of square acres of arable land in this county may be designated as follows:

On the Sacramento river.....	72,968
Cow creek and its tributaries.....	64,000
Cottonwood creek.....	<u>30,000</u>
Total square acres.....	166,968

The remainder, as far as I have any knowledge of this county, may all be classed under the head of mineral lands.

The number of bushels of grain in this county it is impossible to guess at, and I have no other means of arriving at any stated figure.

Respectfully,

GEORGE VOSBURGH,
County Surveyor,
Shasta County, Cala.

REPORT OF THE COUNTY SURVEYOR OF TRINITY COUNTY.

[COPY.]

WEAVERVILLE, Trinity County,
December 7, 1852.

SIR: -

In compliance with your circular of June 1st, enclosed is one of 1st October, I lay before you the report for this county.

Section 9 – 1st and 2nd. Vide enclosed duplicate plats and abridged field notes marked A and B.

3rd. I estimated the aggregate quantity of land belonging to this State at 30 square miles, consisting of about 27 square miles of salt marsh on the margins of Humboldt Bay and its tributary streams and sloughs, which is an alluvial deposit and seems to be gradually increasing its height above the level of the bay, and eventually may become capable of cultivation, and about 3 square miles of sandpit at the entrance of that bay, subject to occasional overflow.

4th. I estimate the aggregate quantity of lands under cultivation at 350 acres. I estimate about one half of the lands in the county to be suitable for tillage and grazing. That portion adapted to tillage lies on the margin of Humboldt bay and the streams throughout the county, and on low and flat ridges that can be irrigated. The mountain sides in many places afford good grazing.

I will here give and extract from Deputy at Humboldt. He says – “I am unable to give an estimate of the aggregate quantity of land adapted to tillage and grazing in this portion of the county. Its locality is from lake Mendocino on the south to the mouth of Mad river on the north. I am unable to say how far it extends inland. The land within 12 miles of the coast seems to be about one half covered with timber of a very great size and of a useful description. Of the remaining half three-fourths is arable. The remaining fourth adapted to grazing.”

Beyond 12 miles, the nature of country is changed; it consists of high flat ridges, covered with grass of an excellent description for two-thirds of its extent, and about one-third wood, principally in ravines.

5th. I estimate the number of horses at 150, mules 300, cattle, 300, sheep, 100, swine, 250; in addition to which are a number of mules engaged in the transportation of goods to this place, and from Humboldt bay to the mines in this county and Klamath, which I estimate at 600.

6th. I estimated the quantity of wheat at 100 bushels, potatoes 375 tons, oats cut for hay 40 tons, other hay 150 tons, barley 1000 bushels, cabbage 15 tons, beets 4 tons, pumpkins 15 tons.

7th. I estimate the aggregate quantity of mineral lands at 1,600 square miles, having produced in the last year (according to the best information I can get) about one and a half millions of dollars.

The gold is found in the beds of the streams and in bars on the same, in gulches or ravines and on the hills.

Section 11 – Having been over but a small portion of this county, I cannot give any sketch that could be depended on for accuracy.

The latitude of this place is about 40° 44' north.

Having reported what is required by your circular of June 1st, as far as I am informed, I trust you will consider it compiled with.

Respectfully,

(Signed)

HENRY HART,
County Surveyor, Trinity Co.

REPORT OF THE COUNTY SURVEYOR OF MARIN COUNTY.

[COPY.]

SAN RAFAEL, Marin County,
November 23rd, 1852.

SIR: -

I have received your circular in relation to my duty as County Surveyor. I have been in office but a few days. I have located two school warrants in this county, as you will see by reference to the certificates and plats herewith sent. There are four or five other school warrants about to be located in this county.

Nearly all the land in this county is covered by Mexican grants, and there is but a small quantity of United States land in this county.

There is considerable quantity of marsh land which frequently overflows on the margin of the creeks and bays. These lands are supposed to belong to the State.

This county is generally broken and hilly. The highest mountain in it is called Table Butte by all the old inhabitants and records; but on some Mexican maps it is called Table Hill. Its elevation is 2,590 feet. The accompanying map shows the names of the creeks, bays, lakes, etc.

There are many men having warrants who want them located as No. 51 is located. They suppose if the lines run north, south, east and west, is all that is required by law, if it should be a parallelogram.

You will please inform me, as I have never done any of this kind of work, I do not know.

Respectfully, yours,

(Signed,)

ALFRED D. EASKOOT,
County Surveyor.

To W. M. EDDY:
Surveyor-General.

REPORT OF THE COUNTY SURVEYOR OF CONTRA COSTA COUNTY.

MARTINEZ, Nov. 29, 1852.

SIR: -

I have endeavored to gather information in relation to the different portions of the county, but find that any plan that I could make would be very incorrect and made entirely from information.

In reference to the aggregate quantity of tillable land in this county, is near 132,000 acres; grazing land 530,000 acres, Government land 5000 acres.

Number of Cattle.....	56,537
do Horses.....	1,500
do Swine.....	500
do Sheep.....	3,000

In relation to the Grain and Vegetables grown this year, there was about –

Bushels of Barley.....	288,180
do Oats.....	24,085
do Wheat.....	17,060
do Potatoes.....	858,190

All of which is respectfully submitted.

WARREN BROWN,
County Surveyor,
Contra Costa County.

REPORT OF THE COUNTY SURVEYOR OF SANTA BARBARA
COUNTY.

SANTA BARBARA, Nov. 19, 1852.

Sir: - Only a short time here, I was on November 2nd, elected County Surveyor of this place, and this day sworn in. Received your letters, one dated Oct. 1st, from the post office, the other June 1st, from the Court of Sessions, which, in the absence of any surveyor, was opened by the said court.

I hasten to reply that no school land warrants are, up to this date, located in Santa Barbara county; and whenever such location shall be made, I will immediately send a copy of the plats, notes, etc., according to law and your instructions, to the Surveyor General of the State.

A sketch of this county I will, as soon as in my power, based on the best authorities, finish. Except very small surveys, I have not made such, nor given over six miles out of this town.

Respectfully, yours,

VITUS WACKENREUDER,
County Surveyor.

REPORT OF THE COUNTY SURVEYOR OF SANTA CRUZ COUNTY.

SANTA CRUZ, November 20, 1852.

Sir: - In answer to your circular letter of 1st June last, I would offer the following report and estimates.

2nd. From the limited and disconnected surveys which have been made, I cannot furnish you with a sketch of this county sufficiently accurate to be of any service in the construction of the map of the State, nor do I consider it practicable without a survey of the county lines.

3rd. I should suppose this county to contain about 400,000 acres of land. Of this amount about 10,000 acres of rich bottom land, and about 40,000 acres of good upland, well suited for grain growing, and also for growing potatoes; the remainder is mountainous, and is only valuable for its timber and for grazing purposes. All the tillable land lies within 15 miles of the coast – most of it is immediately on the coast.

5th. I would estimate the number of –

Horses.....	1,000
Cattle.....	1,200
Sheep.....	300
Swine.....	1,000

6th. I have no data from which I can gather an accurate estimate of our agricultural products for this year, but estimate –

Bushels of Wheat.....	2,000
do Potatoes.....	100,000
do Barley.....	100,000

Potatoes and Barley constitute the principal crop of the year.

6th. The mineral resources of the county are but little known. Gold is found in the mountains, but not in sufficient quantity to justify the working.

Building stone is abundant. Lime stone of good quality is found in most parts of the county, and easy of access.

The timer is valuable from its great abundance, and the facility of getting it to market.

Water privileges are good and abundant, though as yet we have but few mille – no flouring of any value.

Very respectfully,

[Signed.]

S. W. WRIGHT,
County Surveyor,
Santa Cruz County.

REPORT OF THE COUNTY ASSESSOR OF BUTTE COUNTY.

HAMILTON, Nov. 20, 1852.

W. M. EDDY, Esq.,

Sir: - The total amount of stock and agricultural productions raised in the county are as follows:

Horses.....	1,560
Mules.....	736
Cows.....	441
Beef cattle.....	4,536
Work oxen.....	898
Barley, (bushels).....	52,940
Oats.....	315
Wheat.....	3,355
Potatoes.....	3,000
Number of acres of land under cultivation.....	2,144
Number of Hogs.....	614
Do Sheep.....	498
Do Chickens.....	990

Very respectfully,

[Signed.]

JOHN TATHAM,
Assessor Butte Co.

REPORT OF THE COUNTY ASSESSOR OF SIERRA COUNTY.

DOWNIEVILLE, October 29, 1852.

HON. W. M. EDDY,

SIR: - One difficulty exists that will necessarily prevent me from giving in this report anything like a correct estimate of the quantity of lands adapted to tillage and grazing in this county. I allude to the undefined condition of the boundary line on the east, and also the boundary between this county and Nevada. There are large valleys east of this, some 30 or 40 miles, which are supposed not to be in this county. If they were it would necessarily make a material difference in my report of the quantity of agricultural and grazing lands in the county. I shall leave them out for the present.

There is about one hundred and fifty acres of land under cultivation in the county, much the largest portion of which has been cultivated the present year for the first time. Near one-third of which is in the valleys or flats on the rivers and about the same quantity on the ridges so situated in some places as to be conveniently irrigated, and a small portion on the sides of mountains irrigated by springs above.

There is, I suppose, about fifteen thousand acres in the county adapted to tillage and grazing. There is about 300 horses and mules, 70 cattle, ----- sheep, 150 swine in the county.

There is no wheat, rye, maize or grape raised here, and the quantity of potatoes raised the preceding year was small, not to exceed one thousand bushels. I know of no disease which has interfered with the crops. The only difficulty in most places is want of water to irrigate it.

With regard to the quantity of mineral lands – I consider the whole county as mineral land. I know of no other mineral to be found in the county except gold, and from the best information I have been able to procure there was taken out during the preceding year about three millions of dollars. The gold is taken out of the beds and banks of all the rivers and creeks in the county, and in many places on the sides of mountains. Drifts or tunnels have been run in, and as a general thing have paid a fair remuneration for the labor, and in many instances much more.

At Minnesota and Chips' Diggings on the ridge between Kanaka creek and the Middle Yuba, Eureka on the ridge near the head of Goodyear's creek, Creig's on the ridge near Cañon Creek, Sear's and Portwine on the ridge between Cañon and Slate creeks, Gibson's and Spanish Flat on the ridge north of Slate creek, there are extensive "dry diggings," as they are called, in consequence of there being little or no water to wash with, except during the winter and spring.

These diggings are all rich, some of them very extensive, particularly at Minnesota and Sears'. At most of these places there are companies at work cutting ditches and making preparations to bring in water.

Should there be a sufficient quantity of water brought to the places above named, there are diggings amply sufficient to give employment to one hundred thousand men for years, as the earth from the surface to the bed rock generally will pay well for sluicing.

There is constantly new diggings being discovered in the mountains, and it is my opinion that as yet they have been but partially prospected.

Respectfully,

(Signed,)

EDGAR FRAZER,
Assessor Sierra Co.

REPORT OF THE COUNTY ASSESSOR OF SOLANO COUNTY.

BENICIA, Solano County,
November 5, 1852.

W. M. EDDY, ESQ.,
Surveyor General:

SIR: - In conformity with an Act passed by the Legislature of the State of California, April 7th, 1850, defining the duties of the Surveyor General, and also the duties of the County Assessor, I herewith transmit to you my report, containing such information as is required of me in pursuance of your letter of instructions of June last, and also as are required in sections 4, 5, 6 and 7, of the Act itself.

Land. – The quantity of land under cultivation, as appears from the census report, is 5,949 acres. This is situated chiefly in the valleys of Suscol, Sulphur Spring, Green, Suisun, Ulattis, Vacca, and Puta; and there probably remains independent of this, perhaps thirty leagues of land suitable to agricultural purposes, lying mostly in the latter three named valleys.

Stock. – The quantity of horses, cattle, etc., of the county I here append below, giving as correct an account as is possible, although probably some emigrants may have located in the county since these were enumerated, who may have swelled the number somewhat.

Horses.....	1,957
Mules.....	187
Milch Cows.....	2,185
Beef Cattle.....	1,085
Hogs.....	2,264
Sheep.....	2,000
Oxen.....	1,149

Produce. – The quantity of produce raised in the county, as stated below, is as near an approximation to it as was possible to be taken, and has been prepared with considerable care.

Bushes of Barley.....	105,630
do Oats.....	13,870
do Corn.....	3,555
do Wheat.....	8,395
do Rye.....	100
do Potatoes.....	25,905

Fruit. – As yet but little fruit has been cultivated and raised in this county, but another year will add considerable importance to this branch, and we shall be able to compare notes with a number of our sister counties. The report will show some 6,000 grape vines which have been planted this year. We may therefore look with certainty to a large supply the coming season. The number of fruit trees (consisting chiefly of apple, pear and peach) is estimated at 2,000; these are mostly of two years' growth, although some few have borne fruit for two years – these lie chiefly on the Puta.

The valleys of Suscol, Sulphur Spring, and the lower part of Green, are not so well adapted to the cultivation of fruit, as the other four previously mentioned, from the fact that they are subjected to the strong northwest winds which prevail in the spring of the year. The temperature of the other four, as well as the upper part of Green valley, is such that there can be no trouble in raising fruit of all kinds.

The quantity of hay cut and prepared in this county, is estimated at 2,200 tons; this chiefly from the wild oats and red clover, which are of luxuriant growth, and are abundant in all of our valleys.

Respectfully,

(Signed,)

SINGLETON VAUGHN,
County Assessor.

REPORT OF THE COUNTY ASSESSOR OF SAN LUIS OBISPO
COUNTY.

[COPY.]

SAN LUIS OBISPO, Sept. 20, 1852.

HON. W. M. EDDY,
Surveyor General:

SIR: - In compliance with your request by circular of June 1st, I report upon all matter referred to in the statute, so far as they come within my knowledge.

The exact limits and boundaries of this county are poorly defined, in consequence of no survey having been made. Owing to the changes made by every Legislature in the southeastern boundary, it is constantly in dispute.

I would respectfully recommend an immediate survey of the same, as the only means of avoiding the difficulties that are constantly recurring between this and Santa Barbara county.

I would also respectfully call your attention to the condition of certain fords on the main coast road, intersecting this county from the northwest to southeast extremities, this being in the winter one of the worst sections of the whole length of the said road. The Nacimiento river, where the road enters this county, is in the rainy season impassable. The mail for the lower counties has been repeatedly detained at this point for several days.

What is called the lower crossing, being the old pass of the *camino real*, may be made practicable by bridging at slight expense.

The upper crossing, that now most used, owing to the width of the bed of the river, and the immense tract of land overflowed by high water, cannot be converted into a good winter pass.

The next difficulty in the said road worthy of your attention, is Arroya Grande; very slight rains effectually preventing all passage, except at the mouth of the river, thereby lengthening by ten miles, the road from San Luis Obispo to the point of intersection with the direct road. Even this is only passable at low tide.

Formerly the main road crossed this stream at a point about 5 miles from its mouth, at which place it was made passable during the summer season by the exertions of the citizens of that township; but by shifting of the bed of the river by high water the last winter, the road was destroyed.

This is the only point at which a bridge can be constructed, except such places as are made otherwise impracticable by high hills, impassable for wheeled vehicles.

A good and sufficient pass may be made by renewing the trenches that confined the many branches of the stream to one channel only, and by one bridge, making a

valley passable that at present is cut up by several streams, which at high water effectually cut off all communication from one side to the other.

I call your attention to these seemingly trifling difficulties, as their amendment is an operation too extensive for this county to undertake, and effecting as it does, the interest of all.

The area of the county being unknown, I can give no information as to the quantity of State land. The number of square leagues held under Mexican titles, is one-hundred and twelve, a very small proportion of which, about the one hundredth part, is under cultivation; the remainder being mostly grazing land, at least three-fourths of which is unfit for other purposes.

Timber, except in the immediate vicinity of the Mission San Luis Obispo, is plenty – in the hills, pine and oak of excellent quality, and in the valleys, cottonwood, sycamore, alanur, eye, (a small tree remarkable for its durability; it has been known to last as fencing for nearly thirty years,) and willow.

The soil in all the valleys cannot be exceeded in richness and fertility, producing all the hardy esculents and grains, without irrigation, in abundance.

Of the exact amount of produce for this year, but little reliable information can be obtained.

Respectfully,

(Signed,)

F. L. BRANCH,
Assessor, San Luis Obispo Co.

REPORT OF THE COUNTY ASSESSOR OF NAPA COUNTY.

[COPY.]

NAPA COUNTY,
Napa, Nov. 3, 1852,

Hon. W. M. EDDY,

SIR: - The quantity of land in this county which belongs to the State is small, as all or nearly all tillable lands are Spanish grants. Probably one-eighth of this county is adapted to tillage, and one-half of said county good grazing land. In said county there are -

Horses.....	2,000
Cattle.....	6,249
Hogs.....	1,905
Sheep.....	932
Some five thousand acres barley crop.....	150,000 bushels
Wheat, fifteen hundred acres.....	30,000 bushels
Potatoes.....	2,000 bushels
Grapes.....	12 tons
Onions.....	75 tons

The probability is, the proceeds of this county the coming year will double the present one.

Respectfully,

J. C. PENNELL,
Assessor Napa Co.

REPORT OF THE COUNTY ASSESSOR OF CONTRA COSTA COUNTY.

MARTINEZ, Nov. 26, 1852.

Sir: - I submit the following report:

The estimate of the aggregate quantity of tillable land in this county is 132,500 acres. Grazing land, 53,000 acres. The amount of Government land is probably 4,000 acres.

Cattle.....	56,537
Horses.....	1,500
Sheep.....	3,000

There was raised in this county this year of –

Barley, (bushels).....	288,180
Wheat.....	85,000
Potatoes.....	85,190
Oats.....	24,085

The above is a correct account of the real and personal property aforesaid.

Respectfully,

[Signed,]

S. HASTINGS,
Assessor Contra Costa Co.