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**REPORT**  
**OF THE**  
**SURVEYOR-GENERAL**  
**OF THE**  
**STATE OF CALIFORNIA**  
**From August 1, 1888, to August 1, 1890.**

SACRAMENTO  
STATE OFFICE,  
J. D. YOUNG, SUPT. STATE PRINTING  
1890.

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# REPORT.

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STATE OF CALIFORNIA, OFFICE OF SURVEYOR-GENERAL,  
SACRAMENTO, August 1, 1890.

*To his Excellency, R. W. Waterman, Governor of California:*

DEAR SIR: In accordance with the requirements of the law relating to the duties of the Surveyor-General, I have the honor to submit the following report of the transactions of this office from August 1, 1888, to August 1, 1890.

THEO. REICHERT,  
Surveyor-General, and ex officio Register of State Land Office.

AREA OF THE STATE OF CALIFORNIA.

The following statement, the latest procurable, furnished by the United States Surveyor-General for California in 1882, shows that the estimated area of the State of California is 100,500,000 acres, apportioned as follows:

Subdivision.	Area – Acres.
Agricultural and mineral lands surveyed to June 30, 1882.....	61,887,392
Agricultural and mineral lands unsurveyed.....	26,211,501
Private grants patented.....	8,383,375
Private grants not settled.....	341,650
Indian military reservations.....	318,631
Lakes, islands, bays, and navigable rivers.....	1,531,700
Swamp and overflowed lands surveyed.....	1,635,227
Swamp and overflowed lands unsurveyed.....	85,524
Salt marsh and tide lands around San Francisco Bay.....	100,000
Salt marsh and tide lands around Humboldt Bay.....	5,000
Total.....	100,500,000

GENERAL OFFICE BUSINESS.

Applications to purchase School lands in the following districts have been received and filed, as follows:

Districts.	From Aug. 1, 1880, to Aug. 1, 1882.	From Aug. 1, 1882, to Aug. 1, 1884.	From Aug. 1, 1884, to Aug. 1, 1886.	From Aug. 1, 1886, to Aug. 1, 1888.	From Aug. 1, 1888, to Aug. 1, 1890.
	Acres.	Acres.	Acres.	Acres.	Acres.
Los Angeles.....	18,346.24	64,059.36	118,575.92	983,510.31	466,951.95
Visalia.....	9,900.00	16,200.00	122,992.58	285,325.28	136,562.78
Stockton.....	14,023.17	13,500.37	29,024.04	127,466.11	166,351.63
San Francisco...	40,137.15	84,906.64	118,575.92	403,400.52	312,943.01
Sacramento.....	4,563.88	17,968.98	29,228.56	77,936.92	94,183.93
Bodie, now Independence	6,398.18	9,119.92	11,569.90	370,299.31	291,162.68
Marysville.....	11,843.54	13,614.29	12,885.42	58,301.22	67,751.86
Susanville.....	15,676.83	9,027.84	36,794.43	457,540.52	440,083.97
Shasta.....	3,763.30	33,303.36	38,354.05	331,102.83	480,218.22
Humboldt.....	4,736.29	30,398.50	36,203.36	68,480.02	97,660.24
For swamp and overflowed lands.....	28,138.80	196,677.58	153,361.79	148,543.54	62,348.29
Totals.....	157,527.38	488,766.84	707,565.97	3,312,406.58	2,616,218.56

Approvals of applications have been made as follows:

	From Aug. 1, 1880, to Aug. 1, 1882.	From Aug. 1, 1882, to Aug. 1, 1884.	From Aug. 1, 1884, to Aug. 1, 1886.	From Aug. 1, 1886, to Aug. 1, 1888.	From Aug. 1, 1888, to Aug. 1, 1890.
	Acres.	Acres.	Acres.	Acres.	Acres.
For school lands, covering.....	75,503.36	210,865.53	350,881.11	781,395.17	919,770.47
For swamp and overflowed and tide lands, covering.....	21,406.39	71,423.73	154,375.37	34,186.43	48,355.87
Totals.....	96,549.75	282,289.26	505,256.48	815,581.60	968,126.34

CERTIFICATES OF PURCHASE ISSUED.

From August 1, 1880, to August 1, 1882:

Grant.	Number of certificates.	Acres.
Sixteenth and Thirty-sixth Sections .....	256	51,645.17
Five hundred thousand acres.....	7	2,800.00
Swamp and overflowed lands.....	41	10,812.59
Totals.....	304	65,257.76

From August 1, 1882, to August 1, 1884:

Grant.	Number of certificates.	Acres.
Sixteenth and Thirty-sixth Sections .....	881	179,295.36
Five hundred thousand acres.....	22	6,646.42
Swamp and overflowed lands.....	131	56,458.05
Totals.....	1,034	242,399.83

From August 1, 1884, to August 1, 1886:

Grant.	Number of certificates.	Acres.
Sixteenth and Thirty-sixth Sections .....	1,246	274,530.91
Five hundred thousand acres.....	2	360.00
Swamp and overflowed lands.....	328	129,893.69
Tide lands.....	14	4,217.78
Totals.....	1,590	409,002.38

From August 1, 1886, to August 1, 1888:

Grant.	Number of certificates.	Acres.
Sixteenth and Thirty-sixth Sections .....	1,373	487,523.44
Swamp and overflowed lands.....	131	37,987.91
Tide lands.....	18	2,411.11
Totals.....	1,522	527,922.46

From August 1, 1888, to August 1, 1890:

Grant.	Number of certificates.	Acres.
Sixteenth and Thirty-sixth Sections .....	1,182	442,460.54
Five hundred thousand acres.....	6	1,402.75
Swamp and overflowed lands.....	155	41,714.50
Tide lands.....	8	687.69
Totals.....	1,351	486,265.48

PATENTS ISSUED.

From August 1, 1880, to August 1, 1882:

Grant.	Number of Patents.	Acres.
Sixteenth and Thirty-sixth Sections .....	311	114,447.29
Five hundred thousand acres.....	55	16,804.57
Seventy-two sections (Seminary).....	1	160.00
Swamp and overflowed lands.....	178	72,689.12
Tide lands.....	3	546.63
Totals.....	548	204,647.61

From August 1, 1882, to August 1, 1884:

Grant.	Number of Patents.	Acres.
Sixteenth and Thirty-sixth Sections .....	790	219,852.22
Five hundred thousand acres.....	82	35,790.11
Swamp and overflowed lands.....	161	82,124.58
Salt marsh and tide lands.....	11	1,769.58
Totals.....	1,044	339,536.49

From August 1, 1884, to August 1, 1886:

Grant.	Number of Patents.	Acres.
Sixteenth and Thirty-sixth Sections .....	506	117,567.00
Five hundred thousand acres.....	35	9,544.51
Swamp and overflowed lands.....	175	78,028.78
Tide lands.....	4	968.12
Totals.....	720	206,108.41

From August 1, 1886, to August 1, 1888:

Grant.	Number of Patents.	Acres.
Sixteenth and Thirty-sixth Sections .....	701	220,825.87
Five hundred thousand acres.....	35	9,319.89
Seventy-two sections (Seminary).....	1	320.00
Ten sections (Public Buildings).....	1	160.00
Swamp and overflowed lands.....	270	95,934.96
Tide lands.....	12	626.84
Totals.....	1,020	327,187.56

From August 1, 1888, to August 1, 1890:

Grant.	Number of Patents.	Acres.
Sixteenth and Thirty-sixth Sections .....	709	223,128.68
Five hundred thousand acres.....	30	6,233.58
Swamp and overflowed lands.....	154	55,713.52
Tide lands.....	23	2,205.77
Totals.....	916	287,281.55

LANDS LISTED TO THE STATE.

From August 1, 1888, to August 1, 1890, the following amounts of land have been listed to the State of California by the United States:

Grant.	Acres.
Indemnity (lieu) lands.....	19,410.18
Swamp lands.....	9,406.07
Internal improvements (500,000 acres) Grant.....	5,612.73
Agricultural College Grant.....	1,220.82
Seminary Lands.....	1,154.07
Public Building Grant.....	320.78
Total.....	37,124.65

CONTESTED LAND CASES.

From August 1, 1888, to August 1, 1890, one hundred and ninety-two proferts were issued from the office of the Surveyor-General.

SWAMP LAND DISTRICTS.

From August 1, 1888, to August 1, 1890, Swamp Land Districts were formed and reported to this office as follows:

No. of District.	County.	Date of Filing.
515.....	Siskiyou.....	.....August 2, 1888
516.....	Lassen.....	.....August 23, 1888
517.....	Lassen.....	.....August 23, 1888
518.....	Kern.....	.....January 10, 1889
519.....	Kern.....	.....January 11, 1889
520.....	Lassen.....	.....April 1, 1889
521.....	Butte.....	.....May 14, 1899
522.....	Colusa.....	.....May 24, 1889
523.....	Humboldt.....	.....June 3, 1889
524 (consolidating Nos. 110, 209, and 302).....	San Joaquin.....	.....November 11, 1889
525.....	Plumas.....	.....November 12, 1889
526.....	Lassen.....	.....November 26, 1889
527.....	Yolo.....	.....April 25, 1890
528.....	Lake.....	.....July 17, 1890

Since August 1, 1888, and up to August 1, 1890, evidence of complete reclamation, or the expenditure of \$2 per acre on works of reclamation, were received from County Boards of Supervisors for the following described Swamp Land Districts, and the proper statements in relation thereto have been sent to the County Treasurers:

No. of Dist.	County.	Area – Acres.	Amount of Purchase Money Reported to County Treasurers.	Remarks.
515	Siskiyou.....	640.00	\$170 92	Complete.
516	Lassen.....	390.43	88 86	Complete.
519	Kern.....	16,535.19	3,475 05	\$2 per acre expended.
520	Lassen.....	160.00	74 80	Complete.
473	Mendocino.....	1,080.00	302 40	\$2 per acre expended.
501	Solano.....	11,879.27	8,208 64	\$2 per acre expended.
143	San Diego.....	532.72	257 48	\$2 per acre expended.
523	Humboldt.....	2,262.12	1,137 43	\$2 per acre expended.
527	Yolo.....	5,946.01	6,416 58	\$2 per acre expended.
525	Plumas.....	400.00	201 38	Complete.
Totals.....		39,825.74	\$20,333 54	

FEES.



Amount of fees collected by Surveyor-General and paid into the State Treasury  
from August 1, 1888, to August 1, 1890:

1888 -	August.....	\$1,958 00
	September.....	2,151 00
	October.....	1,872 00
	November.....	1,655 50
	December.....	1,949 50
1889 -	January.....	2,111 00
	February.....	2,894 00
	March.....	2,101 50
	April.....	1,011 50
	May.....	1,804 00
	June.....	507 00
	July.....	772 50
	August.....	603 50
	September.....	734 50
	October.....	641 00
	November.....	709 00
	December.....	681 00
1890 -	January.....	525 50
	February.....	741 00
	March.....	382 00
	April.....	555 50
	May.....	447 00
	June.....	404 00
	July.....	405 00
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	Total.....	\$27,616 50

Amount of deposits received by Surveyor-General under Acts of March 20, 1889,  
to August 1, 1890, and paid into the State Treasury:

1889 -	March.....	\$800 00
	April..... (All returned to depositors.)	
	May (from twentieth).....	660 00
	June.....	1,380 00
	July.....	2,020 00
	August.....	1,860 00
	September.....	2,380 00
	October.....	1,740 00
	November.....	2,180 00
	December.....	2,260 00
1890 -	January.....	1,540 00
	February.....	2,260 00
	March.....	1,260 00
	April.....	1,720 00
	May.....	1,320 00
	June.....	1,260 00
	July.....	1,340 00
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	Total.....	\$25,980 00

Amount of fees collected by Register State Land Office and paid into the State Treasury, from August 1, 1888, to August 1, 1890:

1888 -	August.....	\$162 00
	September.....	117 00
	October.....	144 00
	November.....	80 50
	December.....	157 50
1889 -	January.....	1,311 00
	February.....	201 00
	March.....	137 50
	April.....	312 00
	May.....	153 00
	June.....	785 00
	July.....	150 00
	August.....	120 50
	September.....	120 00
	October.....	147 00
	November.....	138 00
	December.....	129 00
1890 -	January.....	849 00
	February.....	699 00
	March.....	141 00
	April.....	288 00
	May.....	132 00
	June.....	546 00
	July.....	207 00
	Total.....	\$7,225 50

Amount of fees collected by Register of State Land Office and paid to Secretary of State from August 1, 1888, to August 1, 1890:

1888 -	August.....	\$116 00
	September.....	78 00
	October.....	95 00
	November.....	50 00
	December.....	117 00
1889 -	January.....	136 00
	February.....	107 00
	March.....	89 00
	April.....	94 00
	May.....	70 00
	June.....	79 00
	July.....	106 00
	August.....	59 00
	September.....	76 00
	October.....	74 00
	November.....	58 00
	December.....	151 00
1890 -	January.....	63 00
	February.....	71 00
	March.....	85 00
	April.....	96 00
	May.....	78 00

June.....	60 00
July.....	68 00
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Total.....	\$2,076 00
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Amount fees, Surveyor-General's office.....	\$27,616 50
Amount deposits, Surveyor-General's office.....	25,980 00
Amount fees, Register of State Land Office.....	7,225 50
Amount fees collected by Register of State Land Office for Secretary of State.....	2,076 00
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Total.....	\$62,898 00

More than seven thousand letters have been received and answered, and \$15,627 have been returned to applicants or their attorneys.

In May, 1890, complete Delinquent Lists were sent to the District Attorneys of each county in the State where there were delinquent purchasers of State School Lands.

#### DELINQUENT INTEREST ON STATE LANDS.

Suits in foreclosure, instituted because of the non-payment of the annual interest due on State lands, are extremely expensive legal proceedings, and long experience has demonstrated that such suits invariably result in loss rather than benefit to the interest of the State. If the lands are of value, the delinquent interest is always paid, even though it often amounts to as much as the principal. On the other hand, when the lands revert to the State they are found to be of no value whatever, and the State suffers the loss of the expense of the suit in foreclosure.

I would recommend that some action be taken by the next Legislature, amending the present law relative to this matter, and make different provision for the payment of the costs in foreclosure suits, as the present law is unsatisfactory to the State departments having to do with the matter, and to parties in interest who do the work, without knowing whether or not their bills will ever be paid.

This is an important matter, and should receive careful attention from the Legislature.

#### NATIONAL PARKS IN CALIFORNIA.

By recent Acts of Congress seventy-six (76) square miles, or nearly fifty thousand (50,000) acres of land in Tulare County were withdrawn from settlement, occupancy, or sale under the laws of pleasure ground for the benefit and enjoyment of the people.

Also, a tract of land comprising forty-two (42) townships, covering an area of about fifteen hundred (1,500) square miles, being approximately nine hundred and sixty thousand (960,000) acres, situated in Tuolumne, Mariposa, and Mono Counties, was set apart as a public park to be called "The Yosemite National Park."

Some action should be taken by the Legislature relative to the State lands embraced in these reservations.

AN ACT

*To provide for the applications for purchase of sixteenth and thirty-sixth sections, and to regulate the application for purchase of such sections, and requiring a deposit to accompany all applications for purchase of the same.*

[Approved March 20, 1889]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Every application to purchase any portion of the sixteenth and thirty-sixth sections shall be accompanied by a deposit of twenty dollars, in addition to the fee for filing now required by law, for which the Surveyor-General shall give the applicant a receipt, which receipt shall be accepted by the County Treasurer in part payment of the purchase price of said land. If the applicant shall abandon or forfeit his said application, or shall fail to make proper proof as to the character of the said land, or as to his residence thereon, within the time allowed by law, or if his application shall be rejected by reason of any false statement in the affidavit herein contained, the twenty dollars thus paid shall go to the State School Fund. If it is found that the Surveyor-General erred in receiving the application, or that the State cannot make a good title to the land, then the applicant, or his assigns, may surrender to the Surveyor-General the said receipt and receive in exchange therefore a certificate showing the amount so paid, and the reason why the application could not be approved or perfected, and the Controller, upon the surrender to him of the said Surveyor-General's certificate, shall issue to the applicant, or his assigns, a warrant for the said amount.

SEC. 2. Any number of filings on any section of land is hereby permitted and allowed under the provisions of this Act. Should the first filing be abandoned by the applicant, the next filing on such section, in order, shall have the same right as if it had been the first filing.

SEC. 3. The moneys received by the Surveyor-General, under the provisions of this Act, except the moneys forfeited under section one, shall be paid to the State Treasurer at the close of each month, and must be placed in a fund to be called "School Land Deposit Fund," to the credit of the county in which the lands applied for are situated. When any moneys are placed in the "School Deposit Fund" to the credit of a county, the Controller, at the next settlement with the Controller by the Treasurer of such county, must draw his warrant upon the State Treasurer for the amount in the fund to the credit of the county; *provided*, that the direction herein to the Controller is exempted from the operations of section six hundred and seventy-two of the Political Code.

Referring to the Act of March 20, 1889, would state that in my opinion it has resulted in much good to the State.

No person who desires to enter school lands "for their own use and benefit" objects to making the required deposit of \$20, which can afterward be applied as part payment on the land, and the result of the law has been to defer speculators from "tying up" a large number of sections for the small sum of \$10 per year, simply holding same for speculation, and thus prevent legitimate purchasers, and in many cases actual settlers, from entering the lands without first purchasing the abandonment of such speculator; and, in many cases, "agents" have compelled homeseekers to pay them a large bonus for an invalid claim rather than be put to the annoyance and expense of a suit at law. In a word, I consider it a good law and its practical workings beneficial to the State and bona fide purchasers of school lands.

## FIVE HUNDRED THOUSAND-ACRE GRANT.

Owing to the complicated condition of this grant, I found it necessary to go to Washington, D. C., and lay the matter of the State's claim before the Department of the Interior, in order to secure an adjustment between the State and the United States.

I succeeded in securing the listing to the State of 5,612 <sup>78</sup>/<sub>100</sub> acres of land in said grant, thus enabling many parties to obtain patents from the State for their lands, which, in some cases, had been paid for in full years ago, but for which patents could not issue, as the land had not been certified to the State. (Sec. 3521, Political Code.)

The expense of my trip, paid by the State (\$420 50), was fully compensated to the State by the settlement of these claims.

The adjustment practically closes the grant, there being only a few claims which have not as yet reached final determination.

## STATE BOUNDARY LINE.

AN ACT TO PROVIDE FOR THE CORRECTION AND ESTABLISHMENT OF A PORTION OF THE EASTERN BOUNDARY LINE OF THE STATE OF CALIFORNIA, AND TO APPROPRIATE MONEY THEREFORE.

[Approved February 26, 1889.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. The Surveyor-General of this State is hereby authorized and directed to correct and establish that portion of the eastern boundary line of the State of California, southeastward from Lake Tahoe; that is to say, southeastward from the intersection of the thirty-ninth degree of north latitude with the one hundred and twentieth degree of longitude west of Greenwich; *provided*, the whole cost of the work shall not exceed the sum of five thousand dollars; *and provided further*, that the work be completed within one year after the passage of this Act.

SEC. 2. The Surveyor-General of this State is hereby empowered to employ such assistance and purchase such material as may be necessary to carry out the provisions of this Act. The Surveyor-General shall certify to the State Board of Examiners the correctness of all accounts for assistance rendered, and for materials furnished to him to carry out the provisions of this Act; who shall, if found correct, approve the same, and order their payment out of the fund created by this Act.

SEC. 3. It shall be the duty of the Surveyor-General, under the provisions of this Act, to first correct and establish said boundary line southeastward from the point of intersection of the thirty-ninth degree of north latitude with the one hundred and twentieth degree of longitude west from Greenwich, and there to mark with stakes in mounds of stones the said line as so corrected and established. The Surveyor-General shall cause three copies of the maps and field notes of such survey to be prepared, and shall attach his certificate to each copy, setting forth that each map and accompanying field notes is a correct and true copy of the original survey made by him, one of which shall be sent to the Department of the Interior at Washington, with a copy of this law; one copy shall be filed in the office of the Secretary of State and one copy retained in the office of the Surveyor-General; and such line or any part thereof, when corrected and marked as provided in this Act, shall thereafter be regarded as the legally established eastern boundary line of the State of California, when confirmed by the United States Government, from the points of intersection hereinbefore set forth; and the record of said boundary line, as corrected and established by this Act, and confirmed as hereinbefore provided, shall be recognized and admitted in all the Courts of this State as conclusive evidence that such line is the true boundary line of that portion of the eastern boundary line of this State as this Act corrects and establishes.

SEC. 4. The Surveyor-General shall enter upon the discharge of the duties enjoyed by the provisions of this Act on or before the first day of June, eighteen hundred and eighty-nine next, and shall complete the survey as soon thereafter as practicable, and shall, within sixty days after completion of the

work, cause to be made out the copies and field notes, and file and forward them as provided by this Act. He shall make to the next Legislature a full and detailed report of the manner in which the said survey and work has been made, the cost, in items, of the same, and the manner in which he has expended the funds placed in his hands by the provisions of this Act; and he shall pay into the State Treasury any of such funds which may be unexpended after the completion of said survey and work.

SEC. 5. The sum of five thousand dollars is hereby appropriated and set apart out of the General Fund of this State to carry out the provisions of this Act.

SEC. 6. The Controller is hereby directed to draw his warrant on the Treasurer, in favor of the Surveyor-General, payable out of the said five thousand dollars so appropriated and set apart, for the sum of one thousand dollars, to pay the contingent expenses of the survey and work required by this Act, and the Treasurer is directed to pay the same. The Controller is also hereby directed to draw his warrant, payable out of the balance of said five thousand dollars so appropriated and set apart, in favor of such person or persons as the State Board of Examiners may certify have claims under the provisions of this Act, and the Treasurer is hereby directed to pay the same.

SEC. 7. All the property purchased for this survey and work, and remaining on hand at its completion, shall be sold at public auction under direction of the Surveyor-General, and the proceeds thereof paid into the State Treasury.

SEC. 8. It is hereby made the duty of the Governor to forward a copy of this Act to the Governor of Nevada, and with it a request that the Governor of that State appoint some suitable person or persons of and for that State, to accompany and act in conjunction with the Surveyor-General of this State in correcting and establishing said eastern boundary: *provided*, that the State of Nevada shall pay all expenses of such person or persons so appointed.

SEC. 9. All Acts or parts of Acts inconsistent with the provisions of this Act are hereby repealed.

SEC. 10. This Act shall take effect on and after its passage.

In order to carry out the provisions of the Act of February 26, 1889, "for the correction and establishment of a portion of the eastern boundary line of the State of California," etc., on May 7, 1889, I made the following appointments and issued the instructions contained therein:

C.E. GRUNSKY, *and* WM. MINTO, *Civil Engineers*:

GENTLEMEN: Whereas, the last Legislature of this State passed an Act for the correction and establishment of a portion of the eastern boundary line of this State (see Statutes 1889, page 38, also copy of said Act, inclosed herewith), and in order to carry out the intent of said Act, you are hereby appointed to make such surveys as you may deem necessary and act under the following instructions:

In making the survey of the State boundary line southeastward from Lake Tahoe, you will, so far as practicable, make the latitude and longitude as established by the United States Coast and Geodetic Survey the basis of your work. Connect your triangulation system, which will be necessary to fix the point at which the State boundary line intersects the southeastern shore of Lake Tahoe, with the United States Coast and Geodetic Survey Station at Round Top, and with other points if convenient, and determine the error, if any there be, in the position of the State boundary line at Lake Tahoe. Should you find that the boundary line, as marked in the field by A. W. von Schmidt, in 1873, varies to any considerable extent from the intended position of the State boundary, you will then proceed to the point where the boundary line intersects Colorado River, and by proper connection with the nearest available point at which latitude and longitude have already been determined, you will establish its geographical position, and make the same the basis of the necessary calculation of the azimuth of the State boundary line southeastward from Lake Tahoe.

When this is done, you will proceed with the survey of the boundary line in conformity with the law above cited.

You will consult with Prof. Geo. Davidson for advice concerning methods to pursue in using and connecting with the work of the United States Coast and Geodetic Survey.

You will keep an accurate account of all expenses which are chargeable against the appropriation named in the Act, and when practical, take receipts for all sums of money expended by you on this work.

Your compensation shall be \$20 per day each and necessary expenses while engaged in field operations.

When the work is completed, you will make a full report to this office.

I am, gentlemen, respectfully, your obedient servant,

THEO. REICHERT,  
Surveyor-General.

Their report will be found on pages 14-40.

The total expense of making this survey and all work connected therewith was \$4,876 33, for all of which vouchers have been filed and all claims paid.

Respectfully submitted.

THEO. REICHERT,  
Surveyor-General and ex officio Register State Land Office.

# REPORT OF THE CIVIL ENGINEERS ON THE STATE BOUNDARY LINE.

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*To Hon. THEO. REICHERT, Surveyor-General of California:*

DEAR SIR: The boundary of the State of California, as defined in the Constitution of California of 1849, and in that of 1879, is as follows: "Commencing at the point of intersection of the forty-second degree of north latitude with one hundred and twentieth degree of longitude west from Greenwich, and running south on the line of said one hundred and twentieth degree of west longitude until it intersects the thirty-ninth degree of north latitude; thence running in a straight line, in a southeasterly direction, to the River Colorado, at a point where it intersects the thirty-fifth degree of north latitude; thence down the middle of the channel of said river to the boundary line between the United States and Mexico, as established by the treaty of May thirtieth, one thousand eight hundred and forty-eight; thence running west and along said boundary line to the Pacific Ocean, and extending therein three English miles; thence running in a northwesterly direction, and following the Pacific Coast to the forty-second degree of north latitude; thence on the line of said forty-second degree of north latitude to the place of beginning. Also including all the islands, harbors, and bays along and adjacent to the coast."

Astronomical observations and surveys were at various times made for the purpose of establishing the position of the eastern boundary of California at certain points, before an appropriation was made by Congress for a continuous survey of this part of the boundary line of the State.

As early as 1863 Butler Ives, representing Nevada, and J. F. Houghton, representing California, made a survey of the State line from Lake Bigler (Tahoe) to the northeast corner of California. Granite monuments were at this time set on the southern and northern shores of Lake Bigler.

About the same time Lieutenant Ives made a determination of the point where the line southeastward from Lake Bigler intersects the Colorado River, and established the longitude of this point approximately at  $114^{\circ} 36' 00''$  west from Greenwich.

D. G. Majors, about 1868, set a monument at the supposed intersection of the  $42^{\text{nd}}$  degree of north latitude with the  $120^{\text{th}}$  degree of longitude west from Greenwich.

Col. Robert Williamson, about 1868, set a monument supposed to be on the State boundary, near Verdi, some twenty miles north of Lake Bigler.

A continuous survey of the eastern boundary of California, from the northeast corner of the State to the Colorado River, was commenced in 1872, in which year the general appropriation bill placed \$41,250 at the disposal of the Department of the Interior for this work. A. W. von Schmidt was placed in charge of this survey, and it was completed in 1873. The most important astronomical work – the determination of the latitude and longitude at Verdi – was intrusted to Prof. George Davidson, now in charge of the U. S. Coast and Geodetic Survey on the Pacific Coast.



The accuracy of Professor Davidson's work in connection with the von Schmidt boundary survey is attested to by the fact that the final latitude and longitude observations, made in 1889 under the direction of the U. S. Coast and Geodetic Survey, by Assistants R. A. Mar and C. H. Sinclair, for use in connection with this report, established results practically identical with those of the earlier work. The survey of that portion of the eastern boundary of California north of Lake Bigler was made by A. W. von Schmidt in 1872, and the line southeastward, from the lake to the Colorado River, was surveyed by him in 1873.

The random line, with which he reached Colorado River, intersected the 35<sup>th</sup> degree of north latitude about three miles too far east, and it is presumed that the monuments set on this random line were all changed to the position of the boundary line, at that time supposed by von Schmidt to be the correct line.

The initial point of the von Schmidt survey was the observatory station occupied by Prof. George Davidson at Verdi in 1872. From this point the position of the 120<sup>th</sup> degree of longitude west from Greenwich was established, and thence the meridian line was extended northward to the 42<sup>nd</sup> degree of north latitude, and southward to Lake Bigler. The accuracy of the work along this part of the boundary of the State has never before been brought into question, but the results of our work, as hereinafter shown, indicate that, although the point near Verdi was correctly established, the line marked by monuments as the boundary is one thousand six hundred and nine feet too far west at the northern shore of the lake.

The point of intersection of the 120<sup>th</sup> degree of longitude west from Greenwich with the 39<sup>th</sup> degree of north latitude lies in Lake Bigler, about three miles from the southern shore. It was therefore necessary for von Schmidt to establish the point, where the line southeastward from this point in the lake intersects the lake shore, by triangulation. This was done, and the granite monument there set, as well as a large cottonwood post, at two hundred and eleven miles from Oregon, was found well preserved in June of last year. It was, however, learned from a resident of that vicinity, that the granite monument had, several years ago, been restored to a vertical position, after it had been nearly knocked out of place by some accident. That its position has not been materially changed was easily verified by us by connection with the bearing trees that are still standing.

No trouble was experienced in retracing the line of survey southeastward from the lake. We found the granite monument at the old Carson-Placerville road; also the mile stake at the post two hundred and twelve miles from the Oregon boundary. We also found the eight-inch pine tree marked on N. W. side, "O., 212 m. 53 ch. 21 lks.;" N. E. side, "Nev.;" S. W. side, "Cal.;" S. E. side, "1873"; still occupying the identical spot where, according to the von Schmidt field notes, he also set a cast-iron monument bearing the same lettering, and which tree was further identified as occupying the spot which the field notes assign to an iron monument by the bearing trees referred to in the notes, as follows:

Large fir tree, 40 inches diam., distant 88 links, bears N. 14° E., marked "B. T., Nev."

Another fir tree, 30 inches diam., distant 71 links, bears S. 80° W., marked "B. T., Cal."

A small fir, 12 inches diam., distant 68 links, bears S. 2° 15' W., marked "B. T., Cal."

For the purpose of our triangulation work a signal was established at a point one foot southwest of the line of the von Schmidt survey, and forty-one feet northwest of the point where the iron monument should stand. This point is below referred to as point K.

On State Line Point at the northern lake shore we found the points referred to by von Schmidt as follows: At one hundred and ninety-one miles from the Oregon boundary a cast-iron monument, "eight feet long, twelve inches square at bottom, six inches square at top, two feet in the ground, set in with rock. Marked monument with raised letters cast thereon, as follows: N. side, 'Oregon, 191 miles'; W. side, 'California'; E. side, 'Nevada'; S. side, '1872; longitude, 120° west of Greenwich. A. W. von Schmidt, U. S. Astronomer and Surveyor."

At 3.50 chains farther south on the shore of the lake a pine tree twenty-four inches in diameter, marked on the N. side "O., 191 miles 3.50 chains"; W. side, "Cal."; E. side, "Nev."; S. side, "1872. L., 120°."

Between this tree and the cast-iron monument on the same line we found a cut-granite monument tree feet high, marked "Cal." on its west side, "Nev." on the east side, and "1872" (changed from 1863) on the south side.

The iron monument and the granite post are well preserved. The pine at the water's edge is also standing. The granite post is the same block of stone which was set by Surveyor-General Houghton in 1863, but it has originally been set a point about three quarters of a mile farther west than that at which it now stands. The original figures 1863 have been changed to 1872. At the iron monument, above described, on State Line Point, a signal (H) was erected, in order that the position of this point might be determined by triangulation, and a definite determination of its latitude and longitude might be made in connection with our work southeastward from the lake.

At our request the Superintendent of the U. S. Coast and Geodetic Survey, through the courtesy of the Pacific Coast branch of this department, placed at our disposal the result of the triangulation work in California. It was found necessary, in order to insure the greatest possible accuracy for our work on the State line survey, to base all our latitude and longitude calculations on the latitude and longitude of the two primary triangulation stations of the U. S. Coast and Geodetic Survey, Mounts Lola and Round Top, of which the former is a peak about nine thousand two hundred and eighty feet high, some twenty miles northwest of Lake Bigler, while the latter is a still more prominent peak, ten thousand four hundred feet high, about nineteen miles south of the lake.

These points are fifty-six miles apart, and afford a most excellent base line for a system of triangles near the lake. In June of last year these points were occupied, but owing to unfavorable atmospheric conditions no satisfactory results were obtained, and it became necessary to await the purification of the atmosphere by the first storm of October to accomplish what could not be done while the haze and smoke of the summer months interfered with the measurement of angles.

The azimuth of the line southeastward from Lake Bigler could not be determined without better information than that afforded by old surveys of the longitude of the point at which the 35<sup>th</sup> degree of north latitude intersects Colorado River, or rather the center of the river channel as it existed at the time that the von Schmidt survey was made.

Following the instructions contained on our letter of appointment, application was therefore made to the Superintendent of the U. S. Coast and Geodetic Survey to establish the latitude and longitude of some point near The Needles. This, as also the verification of latitude and longitude near Verdi, was promptly done by the assistants of the department already named, and the meridian line at the astronomical station near The Needles was also carefully marked by them.

By means of a base line and a system of triangles the 35<sup>th</sup> degree of latitude was established in September, 1889, by William Minto, and connections were made with several of the reference points near the river, marked by von Schmidt in 1873. The longitude of the terminal point of the line southeastward from Lake Bigler, in the channel of Colorado River, as the river channel must have been in 1873, was found to be 114° 38' 45".30. The river in 1889 was two miles farther east, but this recent position of the river channel should have no bearing upon the establishment of the terminal point of the line southeastward from Lake Bigler, although such a considerable change of the river from its former bed throws doubt upon the correct position of the boundary of California along the river near the 35<sup>th</sup> degree of north latitude.

Thus, in determining the boundary southward from the 35<sup>th</sup> degree, the question arises, should the channel of 1873 be followed, or should the southeasterly course of the boundary line from the north be extended to an intersection with the present river channel?

The boundary of California, from a point on the 39<sup>th</sup> degree of north latitude to a certain point on the 35<sup>th</sup> degree of latitude, is defined as a straight line. Without entering into a discussion of the properties of the line which traced on the earth's surface will most nearly conform to the requirement that the line be straight, it will suffice to consider the line between the two points a geodetic line, each element of which is a part of a great circle, and which, moreover, is the shortest line between the two points.

The azimuth of this line could not be computed until the latitude and longitude of its terminal points were determined. The longitude of the Colorado River end of the line was not known until September, 1889, and it was then found that the tables required in making a sufficiently accurate determination of this azimuth were not available without sending to Washington for them. It was not advisable, however, to delay our triangulation work at the lake, consequently it became necessary to mark in the field a random line with an approximate azimuth, and to leave the completion of the field work, and correction of all monuments to the true position of the boundary line, until the spring of 1890.

The field work was completed on June twenty-second of this year.

In carrying out the work, as above indicated, triangulation stations and signals were established near Lake Bigler as follows:

- A. Mt. Lola, Lat. 39° 25' 53".34.  
Long. 120° 21' 55".50.
- C. Round Top, Lat. 33° 39' 43".64.  
Long. 120° 00' 05".00.
- B. Rose Knuckle.
- D. Freel's Peak.
- E. Rubicon Point.
- F. Observatory Point.
- G. Deadman's Point.
- H. State Line Point, Iron Monument.
- I. Folsom Knob.
- J. Bdy. Monument, S. E. lake shore.
- K. Point near pine at 212 m. 53 chs.

In the quadrilateral ABCD, all angles, except the one from B to C at D, were measured. In each case four sets of six angles were measured, and the final result is based on the four readings of the two verniers, each representing the aggregate of twenty-four single angles:

Station.	Observer.	Measured Angle.	Corrected for Station Error.	Spherical Excess and Error.	Plane Angle.
<i>Triangle ABC.</i>					
A	C. E. Grunsky.....	40° 20' 15".0	40° 20' 11".9	-2".6	40° 20' 09".3
B	L. H. Taylor.....	119 34 43.7	119 34 40.2	-2.7	119 34 37.5
C	Wm. Minto.....	20 05 15.0	20 05 15.8	-2.6	20 05 13.2
<i>Triangle ADC.</i>					
A	C. E. Grunsky.....	11 57 11.6	11 57 10.8	-1.0	11 57 09.8
D	L. H. Taylor.....	125 46 45.6	125 46 45.6	-1.0	125 46 44.6
C	Wm. Minto.....	42 16 07.5	42 16 06.6	-1.0	42 16 05.6
<i>Triangle ABD.</i>					
A	C. E. Grunsky.....	28 23 04.5	28 23 01.1	-1.1	28 23 00.0
B	L. H. Taylor.....	130 19 39.4	130 19 32.1	-1.1	130 19 31.0
D	L. H. Taylor.....	21 17 30.0	21 17 30.0	-1.0	21 17 29.0
<i>Triangle BDC.</i>					
B	L. H. Taylor.....	10 44 50.0	10 44 51.9	+0.6	10 44 52.5
D	By addition.....	147 04 15.6	147 04 15.6	+0.6	147 04 16.2
C	Wm. Minto.....	22 10 50.0	22 10 50.8	+0.5	22 10 51.3

The distance from Mt. Lola to Round Top is 91038.53 metres (log. 91038.53=4.9592252).\*

By a system of approximation, without recourse to the method of least squares, it was found that the distance from Rose Knuckle to Freel's Peak (B to D) is 47064.2 metres (log. BD=4.6726901).

In the quadrilateral BDEF, the angles of two of the four triangles were measured and one angle in a third triangle. In each case two sets of six angles each were taken. A set of six being six angles with the telescope direct and six angles with telescope

\* See Rep. of U. S. Coast and Geodetic Survey, 1885, Appendix No. 9, page 467.

reversed. In each case one set was measured from right to left and the other from left to right:

Station.	Observer.	Measured Angle.	Correction.	Plane Angle.
<i>Triangle BED.</i>				
B	L. H. Taylor.....	25° 42' 22".5	+1".0	25° 42' 23".5
E	L. H. Taylor.....	117 04 48.8	+0.8	117 04 48.0
D	L. H. Taylor.....	37 12 47.5	+1.0	27 12 48.5
<i>Triangle BFD.</i>				
B	Not measured.....			50 44 25.2
F	Not measured.....			115 12 14.0
D	Not measured.....			14 03 20.8
<i>Triangle BFE.</i>				
B	By difference.....	25 02 01.9	-0.2	25 02 01.7
F	Wm. Minto.....	140 21 55.0	-0.3	140 21 54.7
E	By difference.....	14 36 04.6	-1.0	14 36 03.6
<i>Triangle DEF.</i>				
D	L. H. Taylor.....	23 09 31.9	-4.2	23 09 27.7
E	L. H. Taylor.....	131 40 53.4	-1.8	131 40 51.6
F	Wm. Minto.....	25 09 45.0	-4.3	25 09 40.7

In this set of triangles we have already determined BD=47064.2 metres and log. BD=4.6726901. by solving the foregoing triangles it is found that the line E to F, Rubicon Point to Observatory Point, has a length of 21206.9 metres (log. EF=4.3264778).

In the remaining triangles, forming a part of our Lake Bigler triangulation system, angles were measured as follows, each result being based on two sets of four angles each:

Station.	Observer.	Measured Angle.	Correction.	Plane Angle.
<i>Triangle EGF.</i>				
E	L. H. Taylor.....	44° 14' 59"	-8."	44° 14' 51"
G	C. E. Grunsky.....	79 15 52	-9.	79 15 43
F	Wm. Minto.....	56 29 34	-8.	56 29 26
<i>Triangle EIG.</i>				
E	L. H. Taylor.....	50 30 11	0	50 30 11
I	L. H. Taylor.....	84 38 26	0	84 38 26
G	C. E. Grunsky.....	44 51 23	0	44 51 23
<i>Triangle FHG.</i>				
F	Wm. Minto.....	61 33 04	-4.	61 33 00
H	Wm. Minto.....	83 07 03	-3.	83 07 00
G	C. E. Grunsky.....	35 20 03	-3.	35 20 00
<i>Triangle EIJ.</i>				
E	L. H. Taylor.....	13 07 45	+4.	13 07 49
I	L. H. Taylor.....	93 06 40	+4.	93 06 44
J	L. H. Taylor.....	73 45 23	+4.	73 45 27

		<i>Triangle IJK.</i>						
I	Wm. Minto.....	22	06	10	.....	22	06	10
J	Wm. Minto.....	128	50	13	.....	128	50	13
K	By difference.....	.....			.....	29	03	37

In these quadrilaterals and triangles, ordinary methods of calculation established the lengths of triangle sides, and these in turn are made the basis of the calculation of the distances CH and CJ. With due regard to the corrections due to spherical excess, the azimuths of the lines C to H and C to J could then be determined, and the latitude and longitude of the two points H and J were established.

The lengths of triangle sides were found to be as follows:

\*\* AC = 91038.5 metres; log. AC = 4.9592251.  
 BD = 47064.2 metres; log. BD = 4.6726901.  
 AD = 75480.2 metres; log. AD = 4.8778330.  
 AB = 35950.0 metres; log. AB = 4.5556995.  
 CD = 23241.5 metres; log. CD = 4.3662642.  
 EF = 21206.9 metres; log. EF = 4.3264755.  
 CB = 67752.3 metres; log. CB = 4.8309242.  
 BE = 31967.8 metres; log. BE = 4.5047122.  
 DE = 22928.0 metres; log. DE = 4.3603660.  
 BF = 12633.2 metres; log. BF = 4.1015143.  
 DF = 40275.8 metres; log. DF = 4.6050442.  
 EG = 17997.3 metres; log. EG = 4.2552069.  
 FG = 15061.0 metres; log. FG = 4.1778532.  
 EI = 12749.8 metres; log. EI = 4.1055034.  
 FH = 8773.5 metres; log. FH = 3.9431723.  
 CH = 62152.3 metres; log. CH = 4.7934574.  
 EJ = 13260.2 metres; log. EJ = 4.1225516.  
 CJ = 33007.9 metres; log. CJ = 4.5186181.  
 GH = 13338.3 metres; log. GH = 4.1250989.  
 GI = 13948.7 metres; log. GI = 4.1445348.

The azimuth from C to H is found to be 179° 37' 31".3; and the azimuth from C to J is 187° 30' 21".6.

The latitude and longitude of C (Mt. Round Top) being known, a determination of the latitude and longitude of the two boundary monuments at H and J, respectively, was made in the usual way, as prescribed by the U. S. Coast and Geodetic Survey, with the following result:

- H. Iron bdy. monument on State Line Point –  
 Latitude 39° 13' 19".30.  
 Longitude 120° 00' 20".45.
- J. Granite bdy. monument on southeast lake shore –  
 Latitude 38° 57' 25".06.  
 Longitude 119° 57' 05".90.

\* Doubtful.

\*\* From U. S. Coast and Geodetic Survey. The distance between two primary triangulation stations.

The azimuth of the State boundary line, southeastward from the intersection of the 39<sup>th</sup> degree of north latitude with the 120<sup>th</sup> degree of longitude, is 311° 19' 36".99. (See appended letter of Chas. A. Schott.)

The longitude of the State line in latitude 38° 57' 25".06, by calculation with this azimuth, is 119° 56' 14".33; whereas, the von Schmidt boundary monument in this latitude has a longitude of 119° 57' 05".90, as above noted, and is, therefore, 51".57, or four thousand and seventy-three and three tenths feet, west of the correct position of the boundary line point having the same latitude.

The fact was thus verified that the State boundary southeastward from Lake Bigler is incorrectly marked in the field, and that the boundary line monuments should be moved about three quarters of a mile farther east. But this is not all. The boundary line monuments on the northern shore of the lake are not in longitude 120° west of Greenwich, but in longitude 120° 00' 20".45. (The iron monument on the State line Point, Station H, is in latitude 39° 13' 19".30 and in longitude 120° 00' 20".45, as above noted.) They are 20".45, or one thousand six hundred and nine feet, too far west, and do not properly mark the boundary between California and Nevada.

Having, as above set forth, ascertained the longitude of a point on the State line in the same latitude as the granite monument on the southeastern lake shore, the survey was continued from this granite monument, as follows:

N. 89° 59' 43".79 E.

2,465 feet, cross old stage road Carson to Placerville N. E. and S. W.

4,073.3 feet to a point (J') on State boundary line in the same latitude as the granite monument on the lake shore (J).

Set a pine post, 50 inches by 5 inches by 5 inches, marked "CAL." on S. W. face, "NEV." on N. E. face, and "4 m. 39.64 chs." on N. W. face, from which a pine tree, 30 inches in diameter, marked "B. T.," bears N. 71° E., 101 feet distant; a pine stump, 48 inches diameter, bears N. 74 ½° W., 19 feet distant. Made a stone mound around post. Thence on the boundary line with an azimuth of 131° 21' 58".94 toward Lake Tahoe.

19.10 chains, old stage road Carson to Placerville; course N. E.

69.66 chains, small creek from the east.

70.46 chains, to shore of Lake Tahoe, bearing north and south.

Set a tamarack post, 50 inches by 6 inches by 6 inches, marked "CAL." on S. W. face, "NEV." on N. E. face, and "3 m. 49 chs." (distance from point O in lake) on N. W. face, from which:

A pitch pine, 28 inches diameter, bears N. 3 ¾° W., 41 feet distant; marked "B. T."

A pitch pine, 44 inches diameter, bears S. 28 ½° E., 62 feet distant, marked "B. T."

A post set by U. S. G. surveyors, marked "B. M. No. 2, 3169 T. 7," bears N. 22 ¼° W., 79.1 feet distant.

From the point J', which point is on the State boundary line, and 4 miles 39.64 chains distant from the point O in the lake, where the 39<sup>th</sup> parallel of north latitude is intersected by the 120<sup>th</sup> degree of longitude west from Greenwich, the survey of the State boundary line was continued in the direction toward the intersection of the 35<sup>th</sup> parallel of latitude with Colorado River, as follows:

With the same azimuth above noted for this point, azimuth 311° 21' 58".94, ascending steep mountain bearing N. E. and S. W., and noting all distances as though measured from the above named point O in Lake Tahoe.

6 miles 20.80 chains, crest of mountain, course west; thence along S. W. slope of timbered mountain.

6 miles 59.00 chains, cross sag in mountain ridge bearing N. and S., and along east slope of mountain.

7 miles 43.50 chains, spur sloping N. E., descent abrupt, broken, and precipitous. East slope of Sierra Nevada.

Set a flag on spur and from a point on line at the foot of the mountain, in west side of Carson Valley, measure at right angles to N. E. 93.40 chains to a point at which included angle between base and flag on spur is 74° 44'.

Log. tang. 74° 44'.....	10.5639267
Log. base 93° 40'.....	<u>1.9703469</u>

Log. dist. from flag to W. end of base.....	12.5342736
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Dist from flag to W. end of base, 342.20 chains.

11 miles 65.70 chains, west end of base, or point in Carson Valley. At western edge of same set a pine post, 50 inches by 5 inches by 5 inches, marked "CAL." on S. W. face, "NEV." on N. E. face, and "11 m. 66 chs." on N. W. face.

Made a stone mound around post.

This point is in lat. 38° 53' 12".37; long. 119° 50' 06".99; and the azimuth of the State boundary line is here 311° 25' 49".72.

13 miles 11.00 chains, Dilucki's, 95 feet to left.

13 miles 17.97 chains, road from Carson to Woodford's; course S. 25° E.

13 miles 53.90 chains, same road; course N. E.

13 miles 70.40 chains, set a cedar post, 55 inches by 7 inches by 5 inches, marked "CAL." on the S. W. face, "NEV." on N. E. face, and "13 m. 70 chains" on N. W. face.

Made mound of stone and earth around post with pits to N. E. and S. W. Sprague's barn bears N. 38° W., 5 chains distant.

A small house (Sprague's) bears N. 55° W., 8.50 chains distant. 14 miles

50.40 chains, von Schmidt's granite monument, marked on N. W. face "O., 221 m. 76 chs.", is at right angles to the S. W., and 2,748.7 feet distant.

15 miles 6.00 chains, set a trap rock, 25 inches by 12 inches by 12 inches, marked "C." on S. W. face, and "N." on N. E. face.

Made a stone mound around the same.

Baldwin's house bears S. 15 ½° E., 8 chains distant.

15 miles 10.30 chains, Carson and Woodford road, course S. W.

15 miles 55.00 chains, Tillman's house, to right about 20 chains.



16 miles 64.00 chains, set a granite stone, 20 inches by 12 inches by 7 inches, marked "C." on S. W. face, "N." on N. E. face.

Made a stone mound around the same.

Joe Dilucki's house bears S.  $38^{\circ} 50' 05''.40$ , longitude  $119^{\circ} 45' 57''.84$ ; and the azimuth of the State boundary line at this point is  $311^{\circ} 28' 26''.06$ .

16 miles 77 chains, West Fork of Carson River, 30 feet wide, runs N.  $20^{\circ}$  E. Beyond which this survey could not be extended owing to lack of the necessary funds.

Referring to the survey made in September, 1889, by William Minto, assisted by L. H. Taylor, at Colorado River, for the purpose of ascertaining with precision the longitude of the point where the center line of Colorado River was intersected at the time of the von Schmidt survey, in 1873, by the  $35^{\text{th}}$  degree of north latitude, Mr. Minto reports as follows:

"The work of determining the longitude of the intersection of the middle of Colorado River with the  $35^{\text{th}}$  degree of north latitude was very much simplified by the action of the U. S. Coast and Geodetic Survey. Prof. George Davidson, in charge of that work on the Pacific Coast, having, for the purpose of facilitating our observations, sent Assistants Mar and Sinclair to determine the latitude and longitude of The Needles, on the Atlantic and Pacific Railroad, at a date considerably earlier than had been intended, and at a very unfavorable as well as uncomfortable season in that climate. The point thus established is about ten miles south of the  $35^{\text{th}}$  degree of north latitude, and, according to the results kindly furnished by Professor Davidson, is in latitude  $34^{\circ} 50' 18''.17$ , and longitude  $114^{\circ} 36' 11''.04$  west from Greenwich.

"Messrs. Mar and Sinclair also marked the meridian line from their longitude pier to a point on the mesa on the south, and about three hundred metres distant.

"In September, 1889, the Coast and Geodetic Survey Station thus established was connected by a system of triangulation with the monuments established by Col. A. W. von Schmidt on the  $35^{\text{th}}$  parallel of north latitude, as determined by him in running the State boundary in 1873. The von Schmidt monuments found standing were the two posts designated in his field notes as being on the line of the  $35^{\text{th}}$  degree of latitude – one on the bluff west of the river, and 20.76 chains west of his intersection of the middle of the river by the said parallel of latitude and the other 23.00 chains farther west; both in mounds of stone and earth, and marked as described in his field notes. There is also a stone marked as the notes describe it – "L.  $35^{\circ}$  N. – in the mound around the most easterly post.

"The cast-iron boundary monument, which is described in the von Schmidt field notes, no longer stands in its original position. That it was moved appears from the certified copy of a letter from W. A. Salsbury to the Surveyor-General of Nevada, of which a copy is appended to this report. It is now apparently a little north of its original location.

"The triangulation work was carried up on the west side of the Colorado River, the difficulty of making frequent crossings of the stream with the facilities at our disposal rendering it impracticable to extend the triangulation work across the river.

"The meridian line of the Coast and Geodetic Survey Station was extended from the longitude pier north to the southwest bank of the Colorado River, crossing the Atlantic and Pacific Railroad near the eastern end of a tangent extending northwesterly.

Along this straight stretch of railroad a base line, 3,449.98 feet long (1,051.56 metres), was measured, and a system of nine triangles was marked out, connecting this base line with the post set by von Schmidt on the west bank of Colorado River, on his supposed 35<sup>th</sup> parallel of north latitude.

“The distance from the longitude pier to the intersection of the meridian line with the south rail of the railroad was carefully measured, giving an average result of 1,035.8 feet (315.8 metres).

“The stations were lettered as indicated on the maps accompanying this report.

“Angles were measured and corrected as follows:

Station.	Measured Angle.			Corrected Angle.			Station.	Measured Angle.			Corrected Angle.		
<i>Triangle ABC.</i>						<i>Triangle BCD.</i>							
A.....	59°	59'	40"	59°	59'	43"	B.....	66°	41'	50"	66°	41'	48"
B.....	71	24	00	71	24	04	C.....	81	35	30	81	35	28
C.....	48	36	10	48	10	13	D.....	31	42	45	31	42	44
<i>Triangle CDE.</i>						<i>Triangle DEF.</i>							
C.....	40	07	00	40	06	54	D.....	49	59	00	49	58	57
D.....	95	43	20	95	43	12	E.....	89	42	00	89	41	56
E.....	44	10	00	44	09	54	F.....	40	19	10	40	19	07
<i>Triangle EFG.</i>						<i>Triangle GFI.</i>							
E.....	68	35	00	68	35	03	G.....	41	47	00	41	46	57
F.....	78	25	20	71	25	24	F.....	115	06	40	115	06	36
G.....	39	59	30	38	59	33	I.....	23	06	30	23	06	27
<i>Triangle GHI.</i>						<i>Triangle HIJ.</i>							
G.....	26	20	00	26	19	57	H.....	121	45	00	121	45	03
H.....	105	52	20	104	52	16	I.....	26	17	13	26	17	15
I.....	48	47	50	48	47	47	J.....	31	57	40	31	57	40
<i>Triangle IJN.</i>						<i>Triangle OMN.</i>							
I.....	67	03	20	67	03	23	O.....	28	15	00	28	15	00
J.....	86	32	30	86	32	34	M.....	80	58	00	80	58	00
N.....	26	24	00	26	24	03	N.....	70	47	00	70	47	00
<i>Triangle NPO.</i>						<i>Triangle OJN.</i>							
N.....	13	08	50	13	08	50	O.....	24	22	00	24	22	00
P.....	.....			70	31	35	J.....	.....			12	49	00
O.....	96	19	35	96	19	35	N.....	142	49	00	142	49	00

“Station X is the U. S. Coast and Geodetic Survey Station, Needles. (Longitude Pier.)

“Station A is the east end of the base.

“Station C is the west end of the base.

“Station B is in the meridian through A.

“Station M is von Schmidt’s post on supposed 35<sup>th</sup> parallel.

“Station N is von Schmidt’s post on supposed 35<sup>th</sup> parallel.

“Station Q is iron boundary monument (present position).

“Station L is von Schmidt’s intersection of supposed 35<sup>th</sup> parallel with Colorado River.

“Station L’ is the intersection of the 35<sup>th</sup> degree of the latitude and the middle of Colorado River, as the river was found by von Schmidt in 1873.

“Station P is the flagstaff on Camp Mojave.

“Station O is a point near the flagstaff.

“By a solution of the foregoing triangles the following results were obtained:

Measured AC = 1051.56 metres, and XA = 315.8 metres.  
Log. AC = 3.0218341.                      Log. AB = 2.9202788.  
Log. BC = 2.9826393.                      Log. CD = 3.2249829.  
Log. BD = 3.2572460.                      Log. DE = 3.1910244.  
Log. CE = 3.3797524.                      Log. EF = 3.2642375.  
Log. DF = 3.3800888.                      Log. FG = 3.4251665.  
Log. FI = 3.6550468.                      Log. GI = 3.7882599.  
Log. HI = 3.4500271.                      Log. GH = 3.6795074.  
Log. IJ = 3.6558778.                      Log. HJ = 3.3725645.  
Log. JN = 3.9720686.                      Log. IN = 4.0070702.  
Log. NQ = 2.984725.                      Log. NP = 3.725521.  
Log. NO = 3.702591.                      Log. JO = 4.137868.  
Log. OP = 3.085068, or OP = 1,216.4 metres.

“The line OP was measured as a check on this work, and was found to be 1,215.8 metres long.

“The reductions to latitude and longitude were made according to the U. S. Coast and Geodetic Survey methods, and the detail of the reduction work is omitted.

“Station N was found to be in the latitude 35° 00’ 23”.39, and in longitude 114° 39’ 23.61, and the terminal point of L of the Schmidt boundary survey of 1873 is in latitude 35° 00’ 23”.39, and in longitude 114° 39’ 07”.08.

“Incidentally the latitude and longitude of the flagstaff at Camp Mojave was also established by this work, as follows: Latitude 35° 02’ 39”.22, and longitude 114° 37’ 14”.48.

“As nearly as could be determined from the von Schmidt surveys of 1873, Colorado River from L to L’ had a southeasterly course, and this course, as nearly as it could be determined, was made the basis of the computation of the longitude of the intersection of the 35<sup>th</sup> degree of latitude with the center line of Colorado River in its position of 1873. The latitude 35° 00’ 23”.39, and longitude 114° 39’ 07”.08 of the point L, with an azimuth 322° 32’ 25”.65 from L to L’, the latitude of L’ being 35° 00’ 00”, established the longitude of L’ at 114° 38’ 45”.30, and the distance from L to L’ was found to be 907.97 metres.

“The boundary line from Lake Bigler southeastward to Colorado River must, therefore, connect a point in latitude 39° 00’ 00”, longitude 120° 00’ 00”, with a point at Colorado River in latitude 35° 00’ 00” and longitude 114° 38’ 45”.30.

“From Colonel von Schmidt it was learned before the above field work was undertaken that he was directed by the department in authority to make the center line of the Colorado River, as he found it in 1873, the objective point of his survey, and not the river as it might have been at the date of the admission of California. It was for this reason that L’ was established as above noted. The correct azimuth of the boundary line northwestward from the point L’ is 134° 33’ 09”.29, and this line, which the above work indicates as the correct position of the State boundary, passes about four hundred and fourteen feet to the southwest of the von Schmidt terminal point L.

“The iron monument O now stands in latitude  $35^{\circ} 00' 52''$ .91 and longitude  $114^{\circ} 39' 36''$ .14, and is one thousand two hundred and sixty-four feet due east of the correct position of the State line.

“The field work at Colorado River was done under somewhat unfavorable conditions. The heat was intense, except for two days, when there was a heavy north wind, filling the air with dust and sand. Transportation facilities were particularly unsatisfactory. Acknowledgements in connection with this work are due to Captain Bowman, commanding at Camp Mojave, who placed the Government boat at our disposal and kindly rendered us all the assistance in his power. We are also under obligations to Mr. W. S. Hancock, Master Mechanic of Atlantic and Pacific Railroad at The Needles, and to Messrs. Monahan and Murphy, of the same place, for assistance and courtesies extended.”

As soon as the results of the work at Colorado River became available, a calculation of the azimuth and length of the line from the point in Lake Bigler to Colorado River was made, at our request, and for our use, by Chas. A. Schott, of the U. S. Coast and Geodetic Survey, and reported by him as follows, under date of January 6, 1890:

Azimuth from Lake Bigler end of line to the Colorado River end,  $311^{\circ} 19' 36''$ .99.  
Distance, 651,056 metres = 404.551 miles.

Azimuth from the Colorado River end of the line to the Lake Bigler end,  $134^{\circ} 33' 09''$ .29.

The limited appropriation available for the purpose of making the State line survey, precluded the possibility of marking more than a few miles of the line southeastward from the lake with stakes in mounds of stones. This work could not be extended farther than across the western portion of Carson Valley, as shown by the notes above recorded and the map accompanying this report.

Three copies each of two maps are filed herewith, and made a part of this report, as follows:

Sheet No. 1. – “State boundary survey. Map of the boundary line of California near Lake Bigler, showing position of the U. S. Coast and Geodetic Survey primary stations, Lola and Round Top, and the triangulation work of June and October, 1889, also the boundary line as surveyed and marked in the field by A. W. von Schmidt in 1872 and 1873, and the position of the boundary line southeastward from the lake, as surveyed by C. E. Grunsky and William Minto in 1889 and 1890, under instructions from Theo. Reichert, State Surveyor-General.”

Sheet No. 2. – “State boundary survey. Map of the boundary line of California at the intersection of the 35<sup>th</sup> degree of north latitude with Colorado River, showing position of the U. S. Coast and Geodetic Survey station, Needles, and the triangulation work of William Minto in September, 1889, done under instructions from Theo. Reichert, State Surveyor-General.”

We append to this report:

1. Letter of appointment and instructions.
2. Latitude and longitude determination at Verdi, by Chas. A. Schott.
3. Azimuth and length of State boundary line, Lake Tahoe to Colorado River. Letter of Chas. A. Schott.
4. The iron monument at Colorado River. Letter of W. H. Sailsbury.

5. A. W. von Schmidt survey, 1872 and 1873. Extracts from field notes.

We have to thank Superintendent T. C. Mendenhall, of the U. S. Coast and Geodetic Survey, for the kind assistance rendered us, and especially are our thanks due to Prof. George Davidson, in charge of the Pacific Coast division of this department, for advice and prompt response to our requests for reliable data.

We have also to acknowledge courtesies extended by Gov. C. C. Stevenson, of Nevada, and the interest taken in our work by Hon. Cyrus Coleman, of Markleeville, Alpine County, and to thank him for assistance rendered while the station Round Top was first occupied in June, 1889.

Our field work was completed, as far as possible, in November, 1889, but it was necessary to set temporary monuments on a random line, because the correct line could not be marked in the field until the computation memoranda were received from Washington late in January of this year, at which time the great depth of snow on the Sierra Nevada precluded the possibility of reaching the line at those points where permanent monuments have since been set.

Our work could not, therefore, be completed until after the melting of the snow in June, 1890, and it was not therefore possible to transmit the result of our work at an earlier date.

We have also to state that no outfit was purchased for use on the survey. Tents were kindly furnished us by Adjutant-General R. H. Orton, and all necessary instruments were furnished by us and our assistants. There is not property in our hands to be sold for the benefit of the State, as provided in the law authorizing this survey.

Respectfully submitted.

C. E. GRUNSKY,  
WM. MINTO,  
In charge of Survey.

SAN FRANCISCO, July 22, 1890.

## LETTER OF APPOINTMENT AND INSTRUCTIONS.

OFFICE SURVEYOR-GENERAL, SACRAMENTO, May 7, 1889.

C. E. GRUNSKY *and* WILLIAM MINTO, *Civil Engineers*:

GENTLEMEN: Whereas, the Legislature of this State passed an Act to provide for the correction and establishment of a portion of the eastern boundary line of this State (see Statutes 1889, page 38, also a copy of said Act inclosed herewith), and in order to carry out the intent of said Act, you are hereby appointed to make such surveys as you may deem necessary, and act under the following instructions:

I making the survey of the State boundary line southeastward from Lake Tahoe you will, so far as practicable, make the latitude and longitude as established by the U. S. Coast and Geodetic Survey the basis of your work. Connect your triangulation system, which will be necessary to fix the point at which the State boundary line intersects the southeastern shore of Lake Tahoe, with the U. S. Coast and Geodetic Survey station at Round Top, and with other U. S. Coast and Geodetic stations if convenient, and determine the error, if any there be, in the position of the State boundary line at Lake Tahoe. Should you find that the boundary line, as marked in the field by A. W. von Schmidt in 1873, varies to any considerable extent from the intended position of the State boundary, you will then proceed to the point where the boundary line intersects Colorado River, and by proper connection with the nearest available point at which latitude and longitude have already been determined, you will establish its geographical position and make the same the basis of the necessary calculation of the azimuth of the State boundary line southeastward from Lake Tahoe.

When this is done, you will proceed with the survey of the boundary line in conformity of law above cited. You will consult with Prof. Geo. Davidson for advice concerning methods to pursue in using and connecting with the work of the U. S. Coast and Geodetic Survey. You will keep an accurate account of all expenses which are chargeable against the appropriation named in the Act, and, when practical, take receipts for all sums of money expended by you on this work.

Your compensation will be \$20 per day each, and necessary expenses while engaged in field operations.

When the work is completed you will make a full report to this office.

I am, gentlemen, respectfully, your obedient servant,

THEO. REICHERT,  
Surveyor-General.

## LATITUDE AND LONGITUDE DETERMINATION OF VERDI.

EXTRACT FROM A REPORT OF CHAS. A. SCHOTT, ASSISTANT IN CHARGE OF  
COMPUTING DIVISION U. S. COAST AND GEODETIC SURVEY.



Comparison of results for longitude in 1872, by George Davidson and S. R. Throckmorton, with the results of longitude in 1889, by C. H. Sinclair and R. A. Mar. According to letter of C. H. Sinclair, the old triangular station Verdi Bluff is 246.51 metres south of transit, and 106.63 metres east of transit, hence:

Latitude of Verdi Bluff.....	39° 31' 05".11
246.51 metres.....	7.993
Latitude of transit 1889.....	39° 31' 13".103
Longitude of Verdi Bluff.....	119° 58' 46".81
106.63 metres.....	4.464
Longitude of transit 1889.....	119° 58' 51".274
or,	7 <sup>h</sup> 59 <sup>m</sup> 55 <sup>s</sup> .418
From the Sinclair and Mar determination of 1889:	
Longitude difference – Sacramento and Verdi....	0 <sup>h</sup> 6 <sup>m</sup> 02 <sup>s</sup> .874
Longitude of Sacramento.....	8 05 58 .29
Longitude of Verdi.....	7 <sup>h</sup> 59 <sup>m</sup> 55 <sup>s</sup> .416
or,	119° 58' 51".240

Showing an almost perfect accord.

# AZIMUTH AND LENGTH OF STATE BOUNDARY LINE, LAKE TAHOE TO COLORADO RIVER.

COMPUTING DIVISION, COAST AND GEODETIC SURVEY,  
January 6, 1890.

*Mr. B. A. COLONNA, Assistant in charge Office and Topography:*

DEAR SIR: In response to the accompanying letter of Mr. Minto, of December 19, 1889, and referred to me, I have made the desired computation and find the azimuth of the line from Lake Tahoe end to the Colorado River end,  $311^{\circ} 19' 36''.99$ , according to the data given. In the absence of a definition of the line between the two given positions, I took it to be a geodetic line, *i.e.*, the shortest distance between the terminal points.

As it was but little more trouble to compute also the opposite azimuth – the distance and azimuth for the two elliptic plane arcs – I give them also, *viz*:

Azimuth and geodetic line from the Colorado River end to the Lake Tahoe end,  $134^{\circ} 33' 09''.29$ ; distance between the termini, 651,056 metres, or 404.551 statute miles. Azimuth of elliptic arc at Tahoe end,  $311^{\circ} 19' 36''.21$ , and azimuth of elliptic arc at Colorado River end,  $134^{\circ} 33' 08''.56$ . *Vide* accompanying computation.

The two plane arcs when widest apart (about the middle of the line, say when two hundred miles out from either end) gap nearly 1.8 metres, or about six feet; here the geodetic passes about midway between them; it nowhere touches either arc; in fact it has not even the first element in common with them at the end points. A line of alignment touches the arcs at the termini, but it, like the geodetic, is a tortuous line. All of these connecting lines mentioned are practically of equal length, as it would take a magnifying glass to see the difference.

Yours respectfully,

CHAS. A. SCHOTT,  
Assistant in charge Computing Division.



## THE IRON MONUMENT AT COLORADO RIVER.

CORRESPONDENCE SHOWING THAT IT NO LONGER STANDS IN ITS ORIGINAL POSITION.

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FORT MOJAVE, ARIZONA TERRITORY, March 17, 1890.

*To Hon. SURVEYOR-GENERAL of the State of Nevada:*

SIR: As the iron corner post between the State of Nevada and the State of California was washed over the bluff into the river by the last overflow of the Colorado River, and would surely have been lost in the next overflow, I went to work and hired ten Mojave Indians to get it out of the water and to dig a wagon road up to the bluff, and with my team hauled it up, and reset it again still farther back from the river, so it is safe now from an overflow.

As I have been at considerable expense and trouble to replace it, you will please do me the favor to write and let me know how to proceed in getting pay from the State for my trouble, and oblige yours, etc.,

W. H. SAILSBURY.

NOTE. – The above letter is contained in the report of the Surveyor-General and State Land Register of the State of Nevada for the years 1877 and 1878.

J. E. JONES,  
Surveyor-General and State Land Register.

# A. W. VON SCHMIDT SURVEY OF 1872 AND 1873.

## EXTRACTS FROM FIELD NOTES.

Field notes and description of the monument established by me for the northeast corner of the State of California.

Having ascertained, from actual survey and measurement, that the 120<sup>th</sup> degree of longitude, as established by David G. Majors, U. S. Astronomer and Surveyor, at the 42<sup>nd</sup> degree of north latitude, for the northeast corner of the State of California, at a distance of one hundred miles due south from said corner, viz.: at north latitude 40° 33' 03", fell 3 miles 24 chains 51 links to the west of my flag line brought up from a point at Crystal Peak, which point I established by telegraph as the 120<sup>th</sup> degree of longitude west from Greenwich, I concluded to adopt my own line as the correct longitude.

I therefore made calculations for convergence of meridians between north latitude 40° 33' 03" and north latitude 42°, and found the convergency for the difference of latitude 1° 26' 57" to be 5 chains 78 links.

From Major's corner I therefore ran east, var. 18° 37' east, 264 chains 51 links, less 5 chains 78 links, convergency of meridians in 100 miles, equal to 258 chains 73 links, or 3 miles 18 chains 73 links, at which point I established a large stone monument for the northeast corner of the State of California.

This monument is set in a core of juniper trees on the south bank of Twelve-Mile Creek, 1° 20' south of edge of bluff, and a sketch thereof is here given.

The monument consists of a post 8 feet long and 8 inches square, marked on the north side, "O. Lat. 42 deg.;" east side, "Nevada;" south side, "1872. Longitude 120 deg.;" west side, "California." This post is solidly built into a stone mound 6 ½ feet high with 8-foot base, and projects 3 feet from the mound.

Deposited a charred block 8 inches by 4 inches square, marked on its four sides, respectively, "Nevada," "California," "Long. 120°," "Lat. 42°"

No pits, too rocky. At the half height of the mound four large stones are inserted, the one facing to the south marked "1872. A. W. von Schmidt. Long. 120°, Lat. 42°;" one facing west marked "C;" one facing to the north marked "O;" and the other, facing to the east, marked "N."

### BEARINGS.

A juniper tree, 32 inches diam., bears N. 53 45' E., distant 80 links; marked tree "B. T., NEV."

A juniper tree, 12 inches diam., bears N. 85° 35' E., distant 94 links; marked tree "B. T., NEV."

A juniper tree, 12 inches diam., bears S. 53° 20' E., distant 62 links; marked tree "B. T. NEV."

A juniper tree, 40 inches diam., bears S. 70° W., distant 78 links; marked tree "B. T., CAL."

A juniper tree, 22 inches diam., bears N. 38° 30' W., distant 35 links; marked tree "B. T., CAL."  
Large single rock on summit of Mount Bidwell bears S. 75° 05' W.

*South on 191<sup>st</sup> Mile.*

Var. 16° 30' East.

Ascend from post.

Chains.

- 4.00 Top of ascent and on ridge.  
19.00 Descend east slope of mountain.  
40.57 Cross trail, course east and west.  
80.00 Set a cast-iron monument of the following dimensions, viz.: 8 feet long, 12 inches square at the bottom, and 6 inches square at the top; 2 feet in the ground, and set in with rock. Marked monument with raised letters, cast thereon as follows, viz.: on north side, "Oregon, 191 miles"; on west side, "California"; on east side, "Nevada"; and on south side "1872. Longitude 120° west of Greenwich. A. W. von Schmidt, U. S. Astronomer and Surveyor."  
Deposited charred black marked "C. N."  
Dug a circular trench around monument, 8 feet in diam. And 14 inches wide, throwing the earth out from the monument.  
Made pits as per instructions. From which –  
A pine tree, 30 inches diam., bears N. 66° 40' W., distant 1 chain 20 links; marked tree "B. T., CAL."  
High pointed peak west of Lake Tahoe bears S. 57° 45' W.  
A large pine tree, 32 inches diam., bears S. 60° 30' W., distant 70 links; marked tree "B. T., CAL."  
Blazed line throughout mile.

*South on 192<sup>nd</sup> Mile.*

Var. 16° 15' East.

- 3.50 To a pine tree, 24 inches diameter, on the north edge of Lake Tahoe. Marked tree on north side, "O. 191 miles 3.50 chains"; west side, "CAL."; east side, "NEV."; and west side, "1872. L. 120°."  
The shores of the lake bear off east and west; a point, or reef of rocks, 15 chains west of this point, makes out a short distance into the lake, and is the division between Agate and Crystal Bays (so called).  
The lake shore being at 191 miles 3 chains 50 links, and the intersection of the line with the 39<sup>th</sup> degree of north latitude being 206 miles 78 chains 45 links south of the initial point at the 42<sup>nd</sup> degree of north latitude, the remaining

portion of this line, namely, 15 miles 74 chains 95 links, falls into Lake Tahoe.  
 About three quarters of Lake Tahoe is in the State of California, and one quarter in the State of Nevada.

I proceeded to the field on the fifteenth of April, 1873, and continued the survey of the eastern boundary of the State of California, commencing at the 191<sup>st</sup> mile-post, set near the northerly shore of Lake Tahoe.

At the 191<sup>st</sup> mile-post, or monument, I took the following bearings:

Cave Rock, east side of Lake Tahoe, bears S. 14° 24' E.

High Peak, south end of lake, bears S. 12° 52' E.

High Rock Peak, west side of Lake Tahoe, bears S. 22° 52' W.

High Peak, west side of Lake Valley, bears S. 12° 46' W.

From the 191<sup>st</sup> mile-post I ran north on the 120<sup>th</sup> degree of west longitude.

Var. 16° 30' E.

North.

Chs. Lks.

6 70 To a point or elevation 200 feet above the level of the waters of the lake, which point I established as a fire signal station for triangulating across Lake Tahoe.

I also set up a large signal flag on top of a high mountain 13 chains due south on the 187<sup>th</sup> mile-post, to be used as a back sight in conjunction with the fire signal station.

From fire signal station at 191<sup>st</sup> mile-post I sighted a line due south on the 120<sup>th</sup> meridian, and found the same passed over a sharp mountain peak a long distance south of the south end of the lake, and also over a small snow patch on an open space between two trees on a small hill near the southerly shore.

Having procured the services of the steamer "Truckee," I proceeded across the lake in a direct line toward my objects on the southern end.

The day was very favorable for my operations, there was scarcely any current and not a breath of air stirring, so that I was enabled to keep my fore and back sights constantly in line.

On reaching the southern shore of the lake I set up a flag at point of landing.

I next proceeded to take observation of polaris on its greatest eastern elongation on the night of April 18, 1873, by field transit. Local mean time, 5<sup>h</sup> 11<sup>m</sup> 35<sup>s</sup> a.m.; latitude, 38° 56' 47".

$$\text{Log. Cos. Decl. } 88^\circ 37' 53'' = 8.37814$$

$$\text{Log. Cos. Lat. } 38^\circ 56' 36'' = 9.89085$$

$$\text{Log. Sin. azimuth} = 8.48729$$

$$\text{Azimuth} = 1^\circ 45' 35''.6$$

$$\text{Obs. by needle} = 14^\circ 41' 30''.0$$

$$\text{E. E. + A.} = 1^\circ 45' 35''.6$$

$$16^\circ 27' 56''.6 = \text{Var. east.}$$

Having laid off the true meridian, I proceeded to observe my fire signals and flag at the northerly end of the lake, and found that by moving my position at the south end of the lake, two chains to the west from the flag set up at the point of landing, I was on the true 120<sup>th</sup> meridian.

I continued these observations for three days and nights in succession, using flag signals by day and fire signals by night, until I became satisfied I was on the true meridian as brought down from Verdi, where it has been established by telegraph, namely: the 120<sup>th</sup> degree of longitude west from Greenwich.

Finding the southerly shore of the lake at the 120<sup>th</sup> degree of west longitude to be wet, low, and swampy, unfit for an observatory station, I concluded to locate that place on higher ground, and at a more convenient place of access.

For this purpose, I therefore ran a line from the 120<sup>th</sup> degree of west longitude east on a course N. 89° 58' 30" E., 77 chains and 55 links; thence north 13 chains and 25 links, where I set up blocks, mounted the meridian telescope and zenith sector thereon, and, after carefully adjusting the same, proceeded to take a series of observations for both latitude and longitude.

This Astronomical Station No. 1 is 77 chains 55 links east of the 120<sup>th</sup> degree of west longitude, or 120° 00' 00".0

$$\begin{array}{r} \text{Less} \qquad \qquad \qquad \underline{1' 04".7} \\ \text{Longitude} = \qquad \qquad 119^\circ 58' 55".3 \end{array}$$

The latitude being 38° 56' 45", difference in time, 0<sup>h</sup> 00<sup>m</sup> 04<sup>s</sup>.32. (See astronomical observations and notes of Station No. 1.)

I then proceeded to run the necessary base line for the purpose of triangulating the distance across Lake Tahoe, field notes of which are as follows, viz.:

Commenced at point on 120<sup>th</sup> degree of west longitude, at south end of Lake Tahoe, from which point –

Top of Cave Rock bears N. 22° 52' E.

High peak bears S. 51° 08' E.

High rock peak, west side of lake, bears N. 63° 41' W.

High peak, Lake Valley, bears S. 64° 30' W.

Butte Peak bears N. 43° 13' E.

The shore of the lake bears off S. W., then turns to the N. W.

On the east side of line, the shore bears off N. E. for 10 chains, thence a little north of east.

To the south, low timber for the distance of a mile, then dense pine timber.

Land has but little rise for 4 or 5 miles, where the mountains rise abruptly to the N. E. and N. W.

From this point I ran due east, at right angles to the 120<sup>th</sup> degree of west longitude.

Var. 16° 24' E.

East.  
 Chs. Lks.  
 63 13 Across marsh, enter pine timber.  
 77 84 Due south of observatory station; distant 13 chains 25 links.  
 80 60 From which –  
 Rowland's Hall, south gable of house, bears N. 35° 13' W.  
 Mr. Caldwell's house and store bears N. 3° 05' E.  
 88 80 From which –  
 Mr. Rowland's house bears N. 52° 55' W.  
 Mr. Caldwell's house bears N. 16° 39' W.  
 102 00 Rowland's Hall bears N. 66° 37' W.  
 Caldwell's house bears N. 41° 26' W.  
 170 00 To wet meadow, sand.  
 178 00 To little water and flat.  
 189 00 Across same, fine grass.  
 218 52 From which –  
 Included angle on fire signal, on north end of Lake Tahoe, is 82° 04'.

Nat. Tan. 82° 04' = 7.1759437  
 Multiplied by base, 218 chs. 52 lks. = 218.52  
 143518874  
 358797185  
 574075496  
 71759437  
143518874  
 1568.087217324

Divided by 80 = 19 miles 48 chains 9 links, the distance from fire signal at north end of lake to point of triangulation at south end of lake.

	M.	Chs.	Lks.
Total distance triangulation.....	19	48	09
Less distance from fire signal station to 191 <sup>st</sup> mile-post		6	70

Making..... 19 41 39  
 Equal to 1,561 chains 39 links.

The distance from 39° of north latitude to latitude 38° 56' 45" on the 120<sup>th</sup> degree of west longitude is 39° 00' 00"

Less.....38 56 45  
 00° 03' 15"

3' 15" = 298 chains 89 links = 3 miles 58 chains 89 links.

*Recapitulation*

	Chs.	Lks.
Chained distance from 42 <sup>nd</sup> degree north latitude to 191 <sup>st</sup> mile-post .....	15,380	00
Distance across lake from 191 <sup>st</sup> mile-post to point of triangulation.....	1,561	39
Total from 42 <sup>nd</sup> degree north latitude to point of triangulation .....	16,841	39
Deduct distance of observatory station (latitude 38° 56' 45") N. of base line...	13	25
	16,828	41
Deduct difference between latitude 39° and latitude 38° 56'45" north (3' 15").	298	89
Total from 42 <sup>nd</sup> degree to 39 <sup>th</sup> degree north latitude.....	16,529	25
Equal to 206 miles 49 chains 25 links, the distance to the intersection of the 39 <sup>th</sup> degree of north latitude with the 120 <sup>th</sup> degree of longitude west from Greenwich.		
	M.	Chs.
Calculated distance between the 42 <sup>nd</sup> and 39 <sup>th</sup> degree N. latitude is....	206	78
Measured distance.....	206	49
Difference.....	000	29 19 ½

I next proceeded to lay off azimuth of transit line, running in a southeasterly direction, from the 39<sup>th</sup> degree of north latitude, where it intersects the 120<sup>th</sup> degree of west longitude in Lake Tahoe, to where the 35<sup>th</sup> degree of west latitude intersects the middle of the channel of the Colorado River.

To do this it was necessary to know the longitude at the terminus of the Colorado River.

There being no telegraph facilities at that point, I concluded, for the time being, to assume the longitude of that place as determined by Lieutenant Ives in 1863 (which was kindly furnished me by the late State Surveyor-General of California, J. F. Houghton, who had previously run this line south to the White Mountains), to run a line to Ives Point, then establish the intersection of the 35<sup>th</sup> degree of north latitude with the middle of the channel of the Colorado River, by a series of my own observations, correct my line back, should I find error in longitude, and mark and establish the true line in the field, all of which was done.

Longitude at the intersection of the 35<sup>th</sup> degree of north latitude with the middle of the channel of the Colorado River, as established by myself, is 114° 37' 58".50. Ives' longitude for that point, 114° 36' 00". The computations of both azimuth lines are herewith accompanying and referred to.

The initial point at the 39<sup>th</sup> degree of latitude falling in Lake Tahoe, where I could not set an instrument, it became necessary to find the azimuth line at some point on the line southeasterly thereof.

I therefore ran a line from the intersection of longitude 120° 00' 00" with north latitude 38° 56' 45", at the south end of the lake, on a course N. 89° 58' 30" E., a distance of 7,536 yards, or 342 chains 54 ½ links, to a point on the azimuth line, which is 10,005 yards, or 454 chains 77.3 links, or 5 miles 54 chains 77 links, on the course S. 48° 45' 09" E. from the intersection of the 120<sup>th</sup> degree of longitude west from Greenwich, which point is at latitude 38° 56' 45" north, and longitude 119° 55' 13".6, as per accompanying azimuth calculations.

At this point I set up temporary post.

Thence ran towards Lake Tahoe, N. 48° 51' 59" W., 1 mile 57 chains 14 links, to the lake shore; the remaining distance to the initial corner in Lake Tahoe being 3 miles 77 chains 63 links.

At the lake shore I set a cut-granite monument, 10 ½ inches square at the base, 8 ½ inches at the top, 6 feet long, 2 feet in the ground; marked same with cut letters on N. W. side, "O. 210 miles 76 chains 07 links"; S. E. side, "1873"; N. E. side, "NEV."; and S. W. side, "CAL."

Deposited charred block marked "C.N."; made mound of stone 8 feet diam., 3 feet high. From which –

A pine tree, 48 inches diam., distant 47 links, bears S. 63° 03' W.; marked tree "B.T., CAL."

Another pine tree 30 inches diam., distant 174 links, bears S. 22° 45' W.; marked tree, "B.T., CAL."

A large pine tree 6 feet diam., distant 1 chain 54 links, bears N. 54° E; marked tree, "B.T., NEV."

The line runs to the S. W. of Mr. Lapham's wharf.

The lake shore bears off N. and S.; a high rocky mountain peak bears N. 77° 45' W.

Having completed all the requisite observations at Lake Tahoe, I next proceeded on my line south to the Colorado.

#### *On 211<sup>th</sup> Mile.*

Azimuth S. 48° 43' 05" E.; var. 16° 38' 42" E.

Chs. Lks.

80 00 Set a cottonwood post 10 inches square, 8 feet long, marked same on N. W. side, "O. 211 miles."; N. E. side, "NEV."; S. W. side, "CAL."; and S. E. side, "1873." Post set in low, wet ground; no mound.



On 212<sup>th</sup> Mile.

Azimuth S. 48° 42' 34" E.; var. 16° 38' 42" E.

- | Chs. | Lks. |   |
|------|------|---|
| 27   | 48   | Enter window of Mr. Lapham's house.   |
| 28   | 63   | Through house porch. Set wooden monument 8 inches square, 6 feet long, marked on N. E. side, "NEV."; S. W. side, "CAL."   |
| 30   | 02   | Set cut stone granite monument on southeast side of road leading to Carson and Virginia Cities. Monument 10 ½ inches square at base, 8 ½ inches square at top, and 6 feet long, set 2 feet in the ground. Marked same, N. W. side, "O. 211 miles 30 chains"; N. E. side, "NEV."; S. W. side, "CAL."; and S. E. side, "1873."<br>From which –<br>Large pine tree 50 inches in diam., distant 40 links, bears N. 52° E.; marked tree, "B.T., NEV."<br>Another pine tree 24 inches diam., distant 1 chain 70 links, bears S. 36° 15' W.; marked tree, "B.T., CAL."   |
| 30   | 84   | To corral fence N. E. and S. W. road; same course.  |
| 35   | 00   | Cross corral fence, bears S. 50° E.   |
| 37   | 25   | Pass 5 links N. E. of large pine tree 5 feet diam.; marked tree, "B.T., CAL."   |
| 50   | 00   | Commence ascending mountain; foothills bear off N. E. and S. W.   |
| 70   | 10   | Pass between the pines, each 3 links from line; that to the S. W., 30 inches diam., marked "CAL."; that to the N. E., 14 inches diam., marked "NEV."  |
| 80   | 00   | Set pine post 6 inches square, 7 feet long; marked same on N. W. side, "O. 212 miles"; N. E. side, "NEV."; S. W. side, "CAL."; and S. E. side, "1873"; made mound of stones 6 feet diam., 3 feet high. Deposited charred block marked "C. N." Made pits as per instructions.<br>From which –<br>A spruce tree, 12 inches diam., bears N. 71° 45' E., distant 26 links; marked tree, "B.T., NEV."<br>A pine tree bears S. 54° W., distant 92 links, 14 inches diam., marked tree "B.T., CAL."<br>A pine tree, 26 inches diam., distant 77 links, bears S. 26° 15' E.; marked tree "B.T., NEV."<br>This mile runs through fine pine timber, with some spruce; soil sandy. Last one mile containing considerable quantity of granite boulders. Land sloping to the N. W. blazed line through timber. |

*On 213<sup>th</sup> Mile.*

Azimuth S. 48° 42' 03" E.; var. 16° 38' E.

Chs. Lks.

13 00 Ascend gently.

30 00 Ascend steep mountain.

53 21 To point on Lat. 38° 56' 45", brought up from 120<sup>th</sup> degree of west longitude, where I perpetuated Observatory Station No. 1 by setting up cast-iron monument 8 feet long, 12 inches square at base, 6 inches at top, 2 feet in the ground, in rock mound 8 feet diam., 4 feet high. Raised letters case on monument, as follows: N. W. side, "O. 212 miles 53 chains"; N. E. side, "NEV."; S. W. side, "CAL."; and S. E. side, "Lat. 38° 56' 45", Long. 119° 55' 13". 1873. A. W. von Schmidt, U. S. Astronomer and Surveyor."

Also marked pine tree, 8 inches diam., on N. W. side, "O. 212 miles 53 chains 21 links"; N. E. side, "NEV."; S. W. side "CAL."; and S. E. side, "1873."

Large fir tree, 46 inches diam., distant 88 links, bears N. 14° E.; marked tree "B. T., CAL."

Another fir tree, 30 inches diam., distant 71 links, bears S. 80° W.; marked tree "B. T., CAL."

Small fir tree, 12 inches diam., distant 68 links, bears S. 2° 15' W.; marked tree "B. T., CAL." This point is very prominent. The monument can be plainly seen.

80 00 Set pine post, 6 inches by 6 inches square, 7 feet long; marked same, N. W. side, "O. 213 miles"; N. E. side, "NEV."; S. W. side, "CAL."; and S. E. side, "1873."

Made mound of earth and stone 6 feet diam., 3 feet high. Deposited charred block marked "C. N.," and made pits as per instructions. Blazed line throughout.

*On 610<sup>th</sup> Mile.*

Azimuth S. 45° 31' 59" E.; mag. var. 14° 47' E.

Chs. Lks.

80 00 Set cottonwood post, 6 feet by 6 inches by 6 inches, deposited charred block, and made mound of stone and earth 6 feet diam., and 3 feet high.

Black Peak bears S. 52° 38' W.; flagstaff, Camp Mojave, N. 75° 00' E.; my observatory station on random line, N. 79 ¼° E. Land slopes toward the east.

*On 611<sup>th</sup> Mile.*

Azimuth S. 45° 31' 22" E.; mag. var. 14° 45' E.

Chs. Lks.

- 80 00 Set cottonwood post, 6 feet by 6 inches by 6 inches, marked "O. 611 miles." Made mound of stone and earth 6 feet diameter and 3 feet high. Black Peak bears S. 62° 05' W.; flagstaff, Camp Mojave, bears N. 59° 15' E.; my observatory station bears N. 54° 15' E.

*On 612<sup>th</sup> Mile.*

Azimuth S. 45° 31' 06" E.; mag. var. 14° 45' E.

Chs. Lks.

- 22 37 Set cottonwood post, 6 feet by six inches by 6 inches, on a prominent point, marked "O. 611 m. 22 chs." Made a large mound 8 feet diameter, 3 feet high. My observatory station bears N. 51° 30' E.; flagstaff, Camp Mojave, bears N. 53° 15' E.; Sharp Peak, east of Colorado River, S. 87° 25' E.; Great Thumb bears S. 80° 50' E.
- 59 87 To point selected for perpetuating Astronomical Station No. 5 on the Colorado River, and as witness to corner in same. Set cast-iron monument 6 inches square at top, 12 inches square at base, 6 feet long, 2 feet in ground, with raised letters cast thereon, viz.: N. W. side, "O. 611 miles, 59 chains"; N. E. side, "NEV."; S. W. side, "CAL."; S. E. side, "1873. A. W. von Schmidt, U. S. Astronomer and Surveyor, witness to corner in river." Deposited charred block; made mound of stone 8 feet diameter and 4 feet high. Twenty (20) links from this monument, on the line to the southeast, I set a cottonwood post, 6 feet by 7 inches by 7 inches, marked "O. 611 miles 60 chains, etc.," from which flagstaff, Camp Mojave, bears N. 44° 30' E.; my observatory station bears N. 39° 43' E.; Black Peak bears N. 69° 10' W.; High Peak bears N. 59° 09' W. These two monuments are on a conspicuous point, with a view to durability, and are witnesses to the intersection of latitude 35° north with longitude 114° 37' 53".5, at the middle of the channel of the Colorado River.
- 63 67 To right bank of the Colorado River, which at this point has a course S. 21 ½° E. At a distance of 30 chains down stream it bears off S. 52° 30' E. for about a mile; thence runs southerly. The remaining portion of the line, to wit: 41.29 chains to latitude 35° N., is in the river.

On 613<sup>th</sup> Mile.

Chs. Lks.

29 96 To the intersection of north latitude 35° with middle of the channel of the Colorado River, at longitude 114° 37' 53".5 west from Greenwich.

From north latitude 39° to the center of the channel of the Colorado River, at latitude 35°, the total measured distance is 405 miles 26.52 chains; calculated distance is 405 miles 5.73 chains; difference, 20.79 chains.

Total distance from Oregon to the Colorado River is 612 miles 24.96 chains.

*Field Notes Connecting my Random Line with True Line at the Colorado River.*

I found my observatory station on random line on right bank of the Colorado River to be in latitude 35° 01' 53".43 north, longitude 114° 36' 45".45 west from Greenwich. From which –

Flagstaff, Camp Mojave, bears N. 59° 15' E.; Sharp Peak, east of Colorado River, bears N. 79° 50' E.; Black Peak bears S. 60° 30' W.; Rock, on straight edge on low mountain, bears N. 66° 19' W.; Great Thumb bears S. 73° 40' E.

From this point to reach latitude 35° N. at a point due south the difference is 0° 01' 53".43 = 173.75 chains. I therefore ran as follows:

West 17.46 chains; thence  
South 20.28 chains to shore of Colorado River; thence  
West 14.93 chains; thence  
South 10.13 chains to river; thence  
West 52.32 chains; thence  
South 30.33 chains to river; thence  
West 29.86 chains to a slough; thence  
34.55 chains across slough; thence  
44.13 chains to bluff; thence  
South 113.01 chains to 35<sup>th</sup> degree north latitude.

Making the total from observatory station on random line, southing, 173.75 chains; westing, 128.74 chains.

At this point set a cottonwood post, 6 feet by 6 inches by 6 inches, marked on N. side, "1873"; S. side, "Lat. 35°"; E. side, "von Schmidt, U. S. Sur." Made mound of earth and stone 6 feet by 3 feet.

Flagstaff, Camp Mojave, bears N. 41° 41' E.; observatory station bears 36° 30' E.; Black Peak bears S. 72° 30' W.; High Peak, same range, bears N. 55° 18' W.

I then ran –

East on 35<sup>th</sup> degree north latitude east 23 chains to point selected for triangulating across Colorado River, at which point I set cottonwood post, 7 feet by 7 inches by 7 inches, marked on N. side, "1873"; S. side, "Lat. 35°"; E. side, "von Schmidt, U. S. Survey."

Made monument of stone 8 feet diam., 3 feet high; set a stone, 9 feet by 18 inches by 18 inches, on mound by side of post. Marked stone, "Lat. 35° - 1873,

U. S." Also deposited stone in mound, 5 inches square 12 inches long," marked "Lat. 35°." From which flagstaff, Camp Mojave, bears N. 38° 02' E.; my observatory station bears N. 29° 31' E.; a sharp-pointed rock east of Colorado River bears N. 89° 10' E.; Great Thumb bears S. 84° 40' E. This point and mound are on a prominent point, and can be seen from the river, and from all sides.

I then sent flag across the river and placed it on line on left bank. Then ran a base of 13 chains 85 links to the south.

Included angle on flag on left bank of river was 69° 01'.

Nat. tang. 69° 01' =	2.6073558
	<u>13.85</u>
	130367790
	208588464
	78220674
	<u>26073558</u>
	36.111877830

Distance from point of triangulation to opposite bank of river, 36.11 chains.

From point of triangulation I then ran east on latitude 35°; measuring from post there set:

East 24.00 chains to bluff, gravelly bank of river.

28.40 chains to right bank of river; course S. E.

Distance triangulated..... 36.11 chains.

Deduct distance measured from post to bank..... 5.40 chains.

Width of river..... 30.71 chains.

One half of which is..... 15.355 chains.

43.75 ½ chains to the center of the Colorado River, in latitude 35° north, which point is 84.985 chains west of my observatory station on random line. Making the longitude at intersection of 35<sup>th</sup> degree north latitude with middle of the Colorado River, 114° 37' 53".5.

Having established that point, I next proceed to get my line out of the river, which I did in the following manner:

The flag remaining on the 35<sup>th</sup> degree north latitude, on left bank of river, I proceeded up stream on the right bank until I reach a point on line with the flag on left bank of river, having the same azimuth as my true line. From this point I ran a base at right angles to my true line to the S. W. 4 chains. Included angle on flag 86° 43'.

Nat. tang. 86° 43' = 17.431385 X 4 = 69.725540.

Distance triangulated..... 69.72 chains.

Continue northerly on same azimuth, parallel to true line..... 12.87 chains.

Making total distance from flag..... 82.59 chains.

I then ran –

West parallel to 35<sup>th</sup> degree of latitude, 15.35 ½ chains (being half width of river), to true line and to post set for O., 611 miles 22.37 chains.

	M.	Chs.
Oregon to this point.....	611	22.37
From this point to 35 <sup>th</sup> degree of latitude and middle of river.....	1	<u>2.59</u>
Total distance.....	612	24.96

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Corrected Report of Spanish and Mexican Grants in California,

**COMPLETE TO AUGUST 1, 1890.**

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GRANTS OF LAND IN CALIFORNIA MADE BY SPANISH OR MEXICAN AUTHORITIES.

No. on Gen'l L. O. Map.	NAME OF GRANT.	Confirree.	Area.	Condition of Title.	Where Located.
124	Acalanes.....	Elam Brown.....	3,328.95	Patented May 18, 1858.....	Contra Costa
67	Agua Caliente, part of.....	C. P. Stone.....	212.25	Patented May 7, 1880.....	Sonoma.
67	Agua Caliente, part of.....	M. G. Vallejo.....	1,864.23	Patented June 12, 1880.....	Sonoma.
67	Agua Caliente, part of.....	T. M. Leavenworth.....	591.87	Patented May 7, 1880.....	Sonoma.
67	Agua Caliente, part of.....	Joseph Hooker.....	550.86	Patented June 9, 1866.....	Sonoma.
136	Agua Caliente, part of.....	F. Higuera.....	9,563.87	Patented April 17, 1858.....	Alameda.
521	Agua Hedionda.....	J. M. Marron.....	13,311.01	Patented December 12, 1872.....	San Diego.
206	Agua Puerco y las Trancas.....	Rodriguez & Alviso.....	4,421.52	Patented March 1, 1867.....	Santa Cruz.
13	Aguas Frias.....	S. Todd.....	26,761.40	Patented July 19, 1860.....	Butte and Colusa.
437	Agua de la Centinella.....	B. Abila.....	2,219.26	Patented August 23, 1872.....	Los Angeles.
282	Aguajito.....	G. Tapia.....	3,322.56	Patented March 19, 1868.....	Monterey.
282	Aguajito.....	M. Villagrana.....	44.32	Not surveyed. Sent for patent August 26, 1882.....	Santa Cruz.
468	Alamitos, Los.....	A. Stearns.....	28,027.17	Patented August 29, 1874.....	Los Angeles.
358	Alamos, Los.....	J. A. de la Guerra.....	48,803.38	Patented September 12, 1872.....	Santa Barbara.
346	Alamos (Los) y Agua Caliente.....	A. Olevara et al.....	26,626.23	Patented November 9, 1866.....	Kern.
265	Alisal, El.....	B. Bernal.....	5,941.12	Patented August 9, 1866.....	Monterey.
267	Alisal, El.....	M. T. de la G. Hartnell.....	2,971.26	Patented February 12, 1882.....	Monterey.
216	Aptos.....	Rafael Castro.....	6,685.91	Patented April 23, 1860.....	Santa Cruz.
242	Aromitas Las y Agua Caliente.....	F. A. McDougall et al.....	8,659.69	Patented March 17, 1862.....	San Benito and Santa Cruz
224	Animas, Las.....	Heirs of J. M. Sanchez.....	26,518.68	Patented March 15, 1873.....	Santa Clara.
133	Arroyo de la Alameda.....	J. de J. Vallejo.....	17,705.38	Patented January 1, 1858.....	Alameda.
540	Arroyo de la Laguna.....	J. & S. Williams.....	4,418.10	Patented February 20, 1882.....	Santa Cruz.
115	Arroyo de las Nueces y Bolbones.....	Heirs of J. S. de Pacheco.....	17,782.48	Patented April 18, 1866.....	Contra Costa.
169	Arroyo de los Pilarcitos or Miramontes.....	J. C. Miramontes.....	4,424.11	Patented February 20, 1882.....	San Mateo.
214	Arroyo del Rodeo.....	Hames & Daubenbass.....	1,473.07	Patented May 3, 1882.....	Santa Cruz.
9	Arroyo Chico.....	John Bidwell.....	22,214.47	Patented April 4, 1860.....	Butte.
---	Arroyo de San Antonio.....	T. B. Valentine.....	13,316.00	Sold as public land but settled by issuance of Valentine scrip.....	Sonoma.
339	Arroyo Grande.....	F. Branch.....	4,437.29	Patented April 10, 1867.....	San Luis Obispo.
297	Arroyo Seco.....	J. de la Torre.....	16,523.35	Patented June 30, 1859.....	Monterey. Amador, Sac'to, and San Joaquin.
99	Arroyo Seco.....	Andros Pico.....	48,857.52	Patented August 29, 1863.....	San Luis Obispo.
318	Assuncion.....	P. Estrada.....	39,224.81	Patented March 22, 1866.....	San Luis Obispo.
317	Atascadero.....	H. Haight.....	4,348.23	Patented June 18, 1860.....	San Luis Obispo.



233	Ausaymas y San Felipe.....	F. P. Pacheco.....	35,504.34	Patented April 19, 1859.....	San Benito and Santa Clara.
455	Azusa.....	A. Duarte.....	6,595.62	Patented June 6, 1878.....	Los Angeles.
456	Azusa.....	Henry Dalton.....	4,431.47	Patented May 29, 1876.....	Los Angeles.
434	Ballona, La.....	A. Machado et al.....	13,919.90	Patented December 8, 1873.....	Los Angeles.
3	Barranca (La) Colorada.....	W. B. Ide.....	17,707.49	Patented July 3, 1860.....	Tehama.
35	Baulinas, Las.....	G. Briones.....	8,911.34	Patented January 9, 1866.....	Marin.
29	Blucher.....	Heirs of S. Smith.....	26,759.42	Patented June 19, 1858.....	Marin and Sonoma.
539	Boca de Santa Monica.....	Ysidro Reys et al.....	6,656.93	Patented July 21, 1882.....	Los Angeles.
125	Boca de la Cañada del Pinole.....	M. M. Valencia.....	13,316.26	Patented November 30, 1878.....	Contra Costa.
502	Boca de la Playa.....	E. Vejar.....	6,607.37	Patented March 1, 1879.....	Los Angeles.
27	Bodega.....	M. T. Curtis et al.....	35,487.53	Patented April 18, 1859.....	Sonoma.
18	Boga.....	T. O. Larkin.....	22,184.66	Patented October 5, 1865.....	Butte and Sutter.
469	Bolsa Chica, La.....	J. Ruiz.....	8,107.46	Patented May 7, 1874.....	Los Angeles.
245	Bolsa Nueva y Moro Cojo.....	M. A. P. Castro et al.....	30,901.34	Patented November 20, 1873.....	Monterey.
352	Bolsa del Chamisal.....	L. T. Burton.....	14,335.22	Patented August 27, 1867.....	San Luis Obispo.
252	Bolsa de Excarpinas.....	S. Espinosa.....	6,415.96	Patented September 26, 1876.....	Monterey.
221	Bolsa de San Cayetano.....	J. de J. Vallejo.....	8,896.43	Patented February 14, 1865.....	Monterey.
231	Bolsa de San Felipe.....	F. P. Pacheco.....	6,794.76	Patented January 14, 1871.....	San Benito.
220	Bolsa del Pajaro.....	S. Rodriguez.....	5,496.50	Patented January 4, 1860.....	Santa Cruz.
	Bolsa del Portrero y Moro Cojo, or La Sagrada Familia.....	J. B. R. Cooper.....	6,915.77	Patented December 19, 1859.....	Monterey.
471	Bolsas, Las, one undivided one half....	R. Yorba et al.....	33,460.04	Patented June 19, 1874.....	Los Angeles.
471	Bolsas, Las, one undivided one half....	Maria C. Nieto.....	"	Patented August 27, 1877.....	"
7	Bosquejo.....	P. Lassen.....	22,206.27	January 10, 1862.....	Butte and Tehama.
518	Buena Vista.....	J. Machado.....	2,288.00	Before Com. Gen'l Land Office.....	San Diego.
274	Buena Vista.....	Malarin, att'y for Estrada.....	7,725.56	Patented September 15, 1869.....	Monterey.
150	Buri Buri.....	J. de la Cruz Sanchez et al....	14,639.19	Patented October 17, 1872.....	San Mateo.
191	Butano.....	M. Rodriguez.....	4,438.67	Patented April 30, 1866.....	San Mateo.
429	Brea, La.....	A. J. Rocha et al.....	4,439.07	Patented April 15, 1873.....	Los Angeles.
63	Cabeza de Santa Rosa, part of.....	Julo Carillo.....	4,500.42	Patented July 16, 1866.....	Sonoma.
63	Cabeza de Santa Rosa, part of.....	F. Carrillo de Castro.....	336.19	Patented August 25, 1881.....	Sonoma.
63	Cabeza de Santa Rosa, part of.....	Jas. Eldridge.....	1,667.68	Patented January 5, 1880.....	Sonoma.
63	Cabeza de Santa Rosa, part of.....	John Hendley.....	640.14	Patented December 9, 1879.....	Sonoma.
63	Cabeza de Santa Rosa, part of.....	J. de J. Mallagh.....	256.16	Patented December 11, 1879.....	Sonoma.
63	Cabeza de Santa Rosa, part of.....	J. R. Meyer et al.....	1,484.82	Patented April 9, 1879.....	Sonoma.
425	Cahuenga.....	D. W. Alexander et al.....	388.34	Patented August 2, 1872.....	Los Angeles.
		Thos. W. Sutherland, guardian, etc.....	48,799.85	Patented April 6, 1876.....	San Diego.
534	Cajon, El.....	Gabriel Ruiz.....	9,998.29	Patented March 22, 1866.....	Ventura.
407	Calleguas.....	Ferdinand Vassault.....	18.57	Patented December, 1882.....	San Francisco.
543	Camaritas, Las.....	C. M. Weber.....	48,747.03	Patented March 18, 1861.....	San Joaquin.
100	Campo de los Franceses.....	J. R. Scott et al.....	5,832.10	Patented August 1, 1866.....	Los Angeles.
414	Cañada, La.....	Jasper O'Farrell et al.....	40,078.58	Patented February 16, 1865.....	Yolo.
84	Cañada de Capay.....	Guadalupe Mining Comp'y.....	1,109.67	Patented September 20, 1871.....	Santa Clara.
193	Cañada de los Capitancillos.....				

151	Cañada de Guadalupe la Visitacion y Rodeo Viejo.....	H. R. Payson.....	5,473.47	Patented December 15, 1865.....	San Francisco and San Mateo.
152	Cañada de Guadalupe y Rodeo Viejo..	Wm. Pierce.....	942.93	Patented September 22, 1865.....	San Francisco and San Mateo.
40	Cañada de Herera.....	Heirs of D. Sais.....	6,658.45	Patented June 26, 1876.....	Marin.
52	Cañada de Jonive.....	J. O. Farrell.....	10,786.51	Patented February 18, 1858.....	Sonoma.
181	Cañada de Pala.....	J. J. de Bernal et al.....	15,714.10	Patented March 9, 1863.....	Santa Clara.
51	Cañada de Pogolimi.....	M. A. Cazares.....	8,780.81	Patented November 3, 1858.....	Sonoma.
168	Cañada de Raymundo.....	Greer & Coppinger.....	12,545.10	Patented July 19, 1859.....	San Mateo.
377	Cañada de Salsipuedes.....	John Keys.....	6,656.21	Patented February 18, 1874.....	Santa Barbara.
197	Cañada de San Felipe y Las Animas...	C. M. Weber.....	8,787.80	Patented August 9, 1866.....	Santa Clara.
391	Cañada de San Miguelito.....	J. F. de Rodriguez et al.....	8,877.04	Patented June 15, 1871.....	Ventura.
513	Cañada de San Vicente y Mesa del Padre Barrona.....	Domingo Yorba.....	13,316.13	Patented November 17, 1873.....	San Diego.
170	Cañada de Verde y Arroyo de la Purisima.....	J. A. Alviso.....	8,905.58	Patented December 15, 1865.....	San Mateo.
389	Cañada del Corral.....	J. D. Ortega.....	8,875.76	Patented May 30, 1866.....	Santa Barbara.
---	Cañada del Corte de Madera.....	Thurn & Carpenter.....	3,565.91	Patented June 13, 1882.....	San Mateo.
114	Cañada del Hambre y las Bolsas.....	Theodora Soto.....	13,353.95	Patented December 31, 1866.....	Contra Costa.
208	Cañada del Rincon en el Rio de San Lorenzo de Santa Cruz.....	Pedro Sansevain.....	5,826.86	Patented June 4, 1858.....	Santa Cruz.
243	Cañada de la Carpenteria.....	Heirs of J. Soto.....	2,236.13	Patented October 10, 1873.....	Monterey.
283	Cañada de la Segunda.....	F. M. Haight.....	4,366.80	Patented February 4, 1859.....	Monterey.
498	Cañada de los Alisos.....	J. Serrano.....	10,668.81	Patented June 27, 1871.....	Los Angeles.
109	Cañada de los Baqueros.....	Livermore & Noriega.....	17,760.00	Patented November 22, 1889.....	Alameda and Contra Costa
535	Cañada de los Coches.....	A. Lestrada.....	28.39	Patented April 2, 1873.....	San Diego.
---	Cañada de los Nogales.....	J. M. Aguilar.....	1,199.56	Patented May 4, 1882.....	Los Angeles.
331	Cañada de los Osos and Pecho y Islay	John Wilson.....	32,430.76	Patented September 23, 1869.....	San Luis Obispo.
363	Cañada de los Pinos, or College Rancho.....	Bishop J. S. Alemany.....	35,499.37	Patented February 28, 1861.....	Santa Barbara.
390	Cañada Larga ó Verde.....	J. Alvarado.....	6,659.04	Patented March 26, 1873.....	Ventura.
475	Cañada de Santa Ana.....	B. Yorba.....	13,328.53	Patented July 21, 1866.....	Los Angeles and San Bernardino.
8	Capay.....	J. Soto.....	44,388.17	Patented August 18, 1859.....	Colusa and Tehama.
194	Capitancillos, Los.....	Charles Fossatt.....	3,360.48	Patented February 3, 1865.....	Santa Clara.
209	Carbonera, La.....	William Bocle.....	2,224.79	Patented July 7, 1873.....	Santa Cruz.
79	Carne, Humana.....	Heirs of Edward A. Bale.....	17,962.22	Patented September 4, 1879.....	Napa.
224	Carneros, Los.....	Daniel Littlejohn.....	4,482.38	Patented August 9, 1866.....	Monterey.
246	Carneros, Los.....	F. A. McDougall et al.....	1,628.70	Patented March 17, 1862.....	Monterey and San Benito.
57	Caslamayomi.....	Wm. Forbes.....	26,788.36	Patented December 18, 1874.....	Sonoma.
355	Casmalia.....	A. Olivera.....	8,841.21	Patented July 30, 1863.....	Santa Barbara.
345	Castec.....	J. M. Covarrubias.....	22,178.28	Patented November 27, 1866.....	Kern.
82	Catacula.....	J. B. Chiles.....	8,545.72	Patented April 22, 1865.....	Napa.
78	Caymus.....	George C. Yount.....	11,886.63	Patented April 3, 1863.....	Napa.
467	Cerritos, Los.....	Juan Temple.....	27,054.36	Patented December 7, 1867.....	Los Angeles.

536	Chamisal, El.....	Heirs of Felipe Vasquez.....	2,737.44	Patented March 20, 1877.....	Monterey.
89	Chimiles.....	Gordon & Coombs.....	17,762.44	Patented December 19, 1860.....	Napa. Monterey and San Luis Obispo.
314	Cholame.....	E. E. White.....	26,621.82	Patented April 1, 1865.....	San Luis Obispo.
328	Chorro, El.....	Juan Wilson.....	3,166.99	Patented March 29, 1861.....	Monterey.
270	Chualar.....	M. Malarin, executor, etc.....	8,889.68	Patented October 31, 1872.....	San Benito and Monterey.
250	Cienega de Gabilan.....	J. D. Carr.....	48,780.72	Patented September 23, 1869.....	San Benito.
268	Cienega de los Paicines.....	A. Castro et al.....	8,917.52	Patented May 22, 1873.....	Los Angeles.
436	Cienega ó Paso de la Tijera.....	T. Sanchez et al.....	4,219.34	Patented June 15, 1871.....	Los Angeles.
428	Cienegas, Las.....	J. Abila et al.....	4,439.05	In Court on title.....	Santa Barbara.
383	Cieneguitas, Las.....	A. Carrillo.....	28.15	Sent for patent Dec. 27, 1883.....	Monterey.
296	Coches, Los.....	M. J. Soberanes.....	8,794.02	Patented December 31, 1857.....	Santa Clara.
186	Coches, Los.....	A. Suñol et al.....	2,219.34	Patented January 5, 1863.....	Lake.
59	Collayomi.....	Ritchie & Forbes.....	8,241.74	Patented July 23, 1869.....	Colusa.
17	Colus.....	C. D. Semple.....	8,876.02	Patented January 8, 1873.....	Los Angeles and Ventura.
408	Conejo, El.....	J. de la G. y Noriega.....	48,571.56	Patented October 29, 1867.....	San Luis Obispo.
337	Corral de Piedra.....	J. M. Villavicencio.....	30,911.20	Patented August 7, 1876.....	Santa Barbara.
362	Corral de Quati.....	M. A. de la G. y Lataillade.....	13,322.29	Patented January 21, 1876.....	Monterey.
190	Corral de Tierra.....	H. D. McCobb.....	4,434.77	Patented April 7, 1866.....	San Mateo.
165	Corral de Tierra.....	Heirs of F. G. Palomeres.....	7,766.35	Patented January 6, 1873.....	San Mateo.
166	Corral de Tierra.....	Tiburcio Vasquez.....	4,436.18	Patented February 28, 1861.....	Santa Cruz.
219	Corralitos, Ranchos de los.....	Heirs of José Amesti.....	15,440.02	Patented June 19, 1858.....	San Mateo and Santa Clara.
173	Corte de Madera, El.....	M. Martinez.....	13,316.05	Patented May 23, 1863.....	Marin.
47	Corte Madera de Novato.....	Juan Martin.....	8,878.82	Patented February 25, 1885.....	Marin.
42	Corte Madera del Presidio.....	Heirs of John Read.....	7,845.12	Patented April 29, 1869.....	Sacramento.
84	Consumnes.....	Heirs of W. E. P. Hartnell.....	26,605.37	Patented February 18, 1858.....	Sonoma.
65	Cotate.....	T. S. Page.....	17,238.60	Patented March 9, 1875.....	Los Angeles.
472	Coyotes, Los.....	Andres Pico et al.....	48,806.17	Patented July 7, 1883.....	Santa Barbara.
---	Cruces, Las.....	Migual Cordero et al.....	8,888.00	Patented July 22, 1879.....	San Diego.
538	Cuca, or El Portero.....	M. J. de los Angeles.....	2,174.25	Patented December 9, 1872.....	San Bernardino.
479	Cucamonga.....	L. V. Prudhomme.....	13,045.20	Patented July 20, 1877.....	San Luis Obispo.
341	Cuyama.....	M. A. de la G. y Lataillade.....	22,193.21	Patented January 10, 1879.....	San Luis Obispo.
342	Cuyama.....	Heris of C. Lataillade.....	48,827.50	Patented December 19, 1874.....	San Diego.
512	Cuyamaca.....	Augustin Olivera.....	35,501.32	Patented February 23, 1877.....	Santa Barbara.
381	Dos Pueblos, Los.....	N. A. Den.....	15,534.76	Patented January 8, 1873.....	Los Angeles.
411	Encino, El.....	V. de la Osa et al.....	4,460.73	Patented December 11, 1876.....	Los Angeles.
409	Escorpion, El.....	Urbano et al.....	1,109.65	Final decree not entered.....	Santa Clara.
142	Embarcadero de Santa Clara.....	B. Bernal.....	179.60	Patented April 18, 1871.....	San Diego.
522	Encenitos, Los.....	Andres Ybarra.....	4,431.03	Patented May 23, 1862.....	Monterey.
269	Encinal y Buena Esperanza.....	D. Spence.....	13,391.64	Before Surveyor-General.....	Napa.
74	Entre Napa, part of.....	P. D. Bailey.....	400.57	Patented June 9, 1866.....	Napa.
74	Entre Napa, part of.....	N. Coombs.....	80.48	Patented April 1, 1881.....	Napa.
74	Entre Napa, part of.....	J. Green.....	2,051.04	Patented November 4, 1879.....	Napa.
74	Entre Napa, part of.....	M. F. de Higuara.....	877.53		

74	Entre Napa, part of.....	Ralph L. Kilburn.....	403.96	Before Surveyor-General.....	Napa.
74	Entre Napa, part of.....	Jos. Mount et al.....	40.00	Before Surveyor-General.....	Napa.
---	Entre Napa, part of.....	Mount & Cottrell.....	1,103.68	Before Surveyor-General.....	Napa.
74	Entre Napa, part of.....	John Patchett.....	69.88	Before Surveyor-General.....	Napa.
74	Entre Napa, part of.....	J. P. Thompson.....	307.05	Before Surveyor-General.....	Napa.
74	Entre Napa, part of.....	J. P. Walker.....	62.07	Before Surveyor-General.....	Napa.
74	Entre Napa, part of.....	Edward Wilson.....	335.28	Patented April 8, 1881.....	Napa.
74	Entre Napa, part of, or Los Carneros... Entre Napa, part of, or Rincon de los Carneros.....	Charles E. Hart..... Julius Martin.....	360.00 2,557.68	No decree filed..... Patented April 8, 1858.....	Napa. Napa.
14	Esquon.....	Samuel Neal.....	22,193.78	Patented April 4, 1860.....	Butte.
28	Esterio Americano.....	Jasper O'Farrell.....	8,849.13	Patented February 3, 1858.....	Sonoma.
10	Farwell Rancho.....	James Williams et al.....	22,193.93	Patented July 1, 1863.....	Butte.
426	Feliz, Los.....	M. Y. Berdugo.....	6,647.46	Patented April 18, 1871.....	Los Angeles.
167	Feliz.....	D. Feliz.....	4,448.27	Patented June 21, 1873.....	San Mateo.
15	Fernandez.....	D. Z. Fernandez et al.....	17,805.84	Patented October 14, 1867.....	Butte.
4	Flores, Las.....	Wm. G. Chard.....	13,315.58	Patented September 19, 1859.....	Tehama.
253	Gatos, Los, or Santa Rita.....	D. Perez et al.....	4,424.46	Patented April 4, 1870.....	Monterey.
25	German.....	Chas. Meyer et al.....	17,580.01	Patented July 30, 1872.....	Sonoma.
382	Goleta, La.....	Daniel Hill.....	4,426.10	Patented March 10, 1865.....	Santa Barbara.
406	Guadalasca.....	Ysabel Yorba.....	30,593.85	Patented September 1, 1873.....	Ventura. Santa Barbara and San Luis Obispo.
353	Guadalupe.....	D. Olivera et al.....	43,681.85	Patented March 1, 1870.....	Monterey.
273	Guadalupe y Llanitos de los Correos...	M. Malarin, executor, etc.....	8,858.44	Patented June 29, 1865.....	San Diego.
515	Guejito.....	G. W. Hamley.....	13,298.59	Patented May 24, 1866.....	Lake.
58	Guenoc.....	Ritchie & Forbes.....	21,220.03	Patented May 22, 1865.....	Sonoma.
66	Guillicos, Los.....	Juan Wilson.....	18,833.86	Patented June 16, 1886.....	Sonoma.
519	Guajome.....	A. Solma et al.....	2,219.41	Patented September 7, 1871.....	San Diego.
462	Habra, La.....	Andres Pico et al.....	6,698.57	Patented December 4, 1872.....	Los Angeles.
19	Honcut.....	Chas. Covillaud et al.....	31,079.96	Patented March 9, 1863.....	Yuba.
340	Huasna.....	I. J. Sparks.....	22,152.99	Patented January 23, 1879.....	San Luis Obispo.
182	Huecos, Los.....	Roland & Hornsby.....	39,950.92	Patented May 13, 1876.....	Santa Clara.
315	Huer-huero.....	F. Branch.....	15,684.95	Patented August 9, 1866.....	San Luis Obispo.
421	Huerta de Cuati.....	V. Reid.....	128.26	Patented June 30, 1859.....	Los Angeles.
330	Huerta de Romualdo or El Churro.....	Juan Wilson.....	117.13	Patented April 13, 1871.....	San Luis Obispo.
72	Huichica.....	J. P. Leese.....	18,704.04	Patented August 3, 1859.....	Sonoma and Napa.
404	Island of Santa Cruz.....	Andres Castellero.....	52,760.33	Patented March 21, 1867.....	Santa Barbara.
527	Island of San Diego.....	Peachy & Aspinwall.....	4,185.46	Patented June 11, 1869.....	San Diego.
470	Island of Santa Catalina.....	J. M. Covarrubias.....	45,820.43	Patented April 10, 1867.....	Los Angeles.
405	Island of Santa Rosa.....	M. C. de Jones et al.....	62,696.49	Patented October 3, 1871.....	Santa Barbara.
11	Jacinto.....	Wm. M. McKee.....	35,487.52	Patented September 19, 1859.....	Colusa.
531	Jamacha.....	A. Lorenzana.....	8,881.16	Patented April 11, 1871.....	San Diego.
541	Jamul.....	Heirs of H. S. Burton.....	8,926.22	Patented October 26, 1876.....	San Diego.
356	Jesus Maria.....	L. P. Burton et al.....	42,184.93	Patented September 7, 1871.....	Santa Barbara.
22	Jimeno.....	Larkin & Missroon.....	48,854.26	Patented July 18, 1862.....	Colusa and Yolo.

21	Johnson Rancho.....	Wm. Johnson.....	22,197.31	Patented August 3, 1857.....	Yuba.
80	Jota, La.....	Geo. C. Yount.....	4,453.84	Patented December 18, 1857.....	Napa.
113	Juntas, Las.....	Heirs of Wm. Welch.....	13,292.82	Patented July 22, 1870.....	Contra Costa.
241	Juristac.....	J. L. Sargent et al.....	4,540.44	Patented November 13, 1871.....	Santa Clara.
483	Jurupa, part of.....	A. Sterns.....	33,819.11	Patented May 23, 1879.....	San Bernardino.
482	Jurupa, part of.....	L. Rubideau.....	6,749.99	Patented December 8, 1876.....	San Bernardino.
69	Lac.....	J. P. Leese.....	176.58	Patented August 6, 1872.....	Sonoma.
360	Laguna, La.....	O. Gutierrez.....	48,703.91	Patented May 17, 1867.....	Santa Barbara.
495	Laguna, La.....	A. Sterns.....	13,338.84	Patented September 3, 1872.....	San Diego.
332	Laguna.....	Bishop J. S. Alemany.....	4,157.02	Patented February 4, 1859.....	San Luis Obispo.
217	Laguna de las Calabazas.....	F. Hernandez et al.....	2,304.75	Patented December 8, 1868.....	Santa Cruz.
					San Francisco and San
163	Laguna de la Merced.....	J. de Haro et al.....	2,219.33	Patented September 10, 1872.....	Mateo.
123	Laguna de los Palos Colorados.....	J. Moraga et al.....	13,316.25	Patented August 10, 1878.....	Contra Costa.
30	Laguna de San Antonio.....	B. Bojorquez.....	24,903.42	Patented November 21, 1871.....	Marin and Sonoma.
301	Laguna de Tache.....	M. Castro.....	48,800.62	Patented March 6, 1866.....	Fresno.
276	Laguna Seca.....	C. M. de Munras.....	2,179.50	Patented November 24, 1865.....	Monterey.
196	Laguna Seca.....	L. C. Bull et al.....	19,972.92	Patented November 24, 1865.....	Santa Clara.
16	Larkin's Children's Ranch.....	F. Larkin et al.....	44,364.22	Patented December 18, 1857.....	Colusa.
289	Laureles, Los.....	J. M. & J. de M. Boronda.....	6,624.99	Patented August 9, 1866.....	Monterey.
285	Laureles, Los.....	L. Ransom.....	718.23	Patented April 18, 1871.....	Monterey.
347	Liebre, La.....	J. M. Flores.....	48,799.59	Patented June 21, 1875.....	Kern and Los Angeles.
266	Llano de Buena Vista.....	D. Spence.....	8,446.23	Patented January 4, 1860.....	Monterey.
12	Llano Seco.....	C. J. Brenham et al.....	17,767.17	Patented June 18, 1860.....	Butte.
64	Llano de Santa Rosa.....	J. Carrillo.....	13,316.03	Patented November 27, 1865.....	Sonoma.
230	Llano del Tequesquite.....	V. Sanchez et al.....	16,016.30	Patented December 29, 1871.....	San Benito.
81	Locoallomi.....	Heirs of Juliam Pope, dec'd...	8,872.79	Patented March 17, 1862.....	Napa.
366	Lomas de la Purification.....	Augustin Janseus.....	13,341.38	Patented April 18, 1871.....	Santa Barbara.
499	Lomas de Santiago.....	Theodocio Yorba.....	47,226.81	Patented February 1, 1868.....	Los Angeles.
239	Lomerias Muertas.....	V. Sanchez et al.....	6,659.91	Patented August 9, 1866.....	San Benito.
374	Lompoc.....	J. & J. A. Carrillo.....	42,085.44	Patented November 3, 1873.....	Santa Barbara.
427	Los Angeles City Lands.....	City of Los Angeles.....	17,172.37	Pat'd Aug. 4, '75, and Aug. 9, '66.....	Los Angeles.
---	Los Angeles County, lot near San Pedro, in.....	Temple & Alexander.....	1.77	Before Surveyor-General.....	Los Angeles.
60	Mallacomes or Moristal.....	Cook & Ingalls.....	2,559.94	Patented February 18, 1859.....	Sonoma.
	Mallacomes or Moristal y Plan de				
61	Agua Caliente, part of.....	J. S. Berryessa.....	17,742.72	Patented July 10, 1873.....	Sonoma and Napa.
---	Mare Island.....	G. W. P. Bissell et al.....	5,527.22	Final decree not entered.....	Solano.
104	Mariposas, Las.....	J. C. Fremont.....	44,386.83	Patented February 19, 1856.....	Mariposa.
111	Medanos, Los.....	J. D. Stevenson.....	8,858.83	Patented October 8, 1872.....	Contra Costa.
110	Meganos, Los.....	Alice Marsh.....	13,316.00	Patented August 19, 1867.....	Contra Costa.
443	Merced, La.....	F. P. F. Temple et al.....	2,363.75	Patented February 13, 1872.....	Los Angeles.
212	Mesa de Ojo de Agua.....	T. W. Russell.....	54.36	Not approved by Com. G. L. O.....	Santa Cruz.
138	Milpitas.....	Heirs of J. M. Alviso.....	4,457.66	Patented June 30, 1871.....	Santa Clara.
307	Milpitas.....	Ygnacio Pastor.....	43,280.90	Patented February 18, 1875.....	Monterey.

281	Mission Carmelo.....	Bishop J. S. Alemany.....	9.00	Patented October 19, 1859.....	Monterey.
---	Mission Dolores, lot in.....	Candelario Valencia.....	1.78	Patented December 16, 1882.....	San Francisco.
---	Mission Dolores, lot in.....	Elizabeth de Zaldo.....	.45	Sent up for patent Aug. 26, 1882.....	San Francisco.
161	Mission Dolores, two tracts at.....	Bishop J. S. Alemany.....	8.54	Patented March 3, 1858.....	San Francisco.
156	Mission Dolores, lot in.....	F. DeHaro.....	2.04	Before Surveyor-General.....	San Francisco.
157	Mission Dolores, lot in.....	F. DeHaro.....	.44	Sent up for patent Aug. 21, 1885.....	San Francisco.
---	Mission Dolores, lot in.....	E. & J. R. Valencia.....	.50	Rejected.....	San Francisco.
160	Mission Dolores, suerte in.....	Heirs of F. G. Palomares.....	28.41	Patented April 1, 1870.....	San Francisco.
158	Mission Dolores, suerte in.....	C. S. de Bernal et al.....	5.86	Patented June 13, 1882.....	San Francisco.
372	Mission la Purisima.....	J. R. Malo.....	14,735.76	Patented October 12, 1882.....	Santa Barbara.
373	Mission Purisima de la.....	Bishop J. S. Alemany.....	14.04	Patented January 24, 1874.....	Santa Barbara.
308	Mission San Antonio.....	Bishop J. S. Alemany.....	33.19	Patented May 31, 1862.....	Monterey.
392	Mission San Buenaventura.....	Bishop J. S. Alemany.....	36.27	Patented May 23, 1862.....	Ventura.
393	Mission San Buenaventura, lot in.....	Fernando Tico.....	28.90	Patented June 9, 1866.....	Ventura.
396	Mission (Ex) San Buenaventura.....	M. A. R. de Poli.....	48,822.91	Patented August 24, 1874.....	Ventura.
533	Mission San Diego.....	Bishop J. S. Alemany.....	22.21	Patented May 23, 1862.....	San Diego.
532	Mission (Ex) San Diego.....	S. Arguello.....	58,875.38	Patented September 1, 1876.....	San Diego.
412	Mission San Fernando.....	Bishop J. S. Alemany.....	76.94	Patented May 31, 1864.....	Los Angeles.
410	Mission (Ex) San Fernando.....	E. de Celis.....	116,858.46	Patented January 8, 1873.....	Los Angeles.
448	Mission San Gabriel.....	Bishop J. S. Alemany.....	190.69	Patented November 19, 1859.....	Los Angeles.
---	Mission San Gabriel, lot near.....	R. Valenzuela et al.....	23.63	Patented December 4, 1875.....	Los Angeles.
135	Mission San José.....	Bishop J. S. Alemany.....	28.33	Patented March 3, 1858.....	Alameda.
240	Mission San Juan Bautista.....	Bishop J. S. Alemany.....	55.23	Patented November 19, 1859.....	San Benito.
503	Mission San Juan Capistrano.....	Bishop J. S. Alemany.....	44.40	Patented March 18, 1865.....	Los Angeles.
504	Mission San Juan Capistrano, tract near.....	S. Rios.....	7.09	Patented March 1, 1879.....	Los Angeles.
---	Mission San Luis Obispo.....	Bishop J. S. Alemany.....	52.72	Patented September 2, 1859.....	San Luis Obispo.
333	Mission San Luis Obispo, lot in.....	Juan Wilson.....	1.00	In Court on title.....	San Luis Obispo.
521	Mission (Ex) San Luis Rey.....	Bishop J. S. Alemany.....	53.39	Patented March 18, 1865.....	San Diego.
313	Mission San Miguel.....	Bishop J. S. Alemany.....	33.97	Patented September 2, 1859.....	Monterey.
43	Mission San Rafael.....	Bishop J. S. Alemany.....	6.48	Patented October 19, 1859.....	Marin.
384	Mission Santa Barbara.....	Bishop J. S. Alemany.....	283.13	Patented March 18, 1865.....	Santa Barbara.
188	Mission Santa Clara.....	Bishop J. S. Alemany.....	19.95	Patented March 3, 1865.....	Santa Clara.
---	Mission Santa Clara, lot near.....	F. Arce.....	10.00	No decree on file.....	Santa Clara.
210	Mission Santa Cruz.....	Bishop J. S. Alemany.....	16.94	Patented September 2, 1859.....	Santa Cruz.
368	Mission Santa Ynez.....	Bishop J. S. Alemany.....	17.35	Patented May 23, 1862.....	Santa Barbara.
295	Mission Soledad.....	Bishop J. S. Alemany.....	34.47	Patented November 19, 1859.....	Monterey.
294	Mission (Ex) Soledad.....	F. Soberanes.....	8,899.82	Patented May 18, 1874.....	Monterey.
70	Mission Sonoma.....	Bishop J. S. Alemany.....	14.20	Patented May 31, 1862.....	Sonoma.
376	Mission Vieja de la Purisima.....	J. & J. Carillo.....	4,413.60	Patented November 7, 1873.....	Santa Barbara.
496	Mission Vieja, or La Paz.....	Juan Forster.....	46,432.65	Patented August 6, 1866.....	Los Angeles.
53	Molinos, Los.....	J. B. R. Cooper.....	17,892.42	Patented April 3, 1853.....	Sonoma.
506	Monserate.....	Y. M. Alvarado.....	13,322.90	Patented July 17, 1872.....	San Diego.
112	Monte del Diablo.....	S. Pacheco.....	17,921.54	Patented March 19, 1859.....	Contra Costa.
---	Monterey County, tract in.....	Heirs of T. Blanco.....	44.99	Patented November 28, 1881.....	Monterey.

---	Monterey County, tract in.....	Rufina Castro.....	33.47	Patented March 18, 1885.....	Monterey.
262	Monterey County, tract in.....	Henry Cocks.....	1,106.03	Patented August 8, 1870.....	Monterey.
258	Monterey County, tract in.....	Simeon Castro.....	112.83	Patented July 30, 1867.....	Monterey.
284	Monterey County, tract in.....	James Meadows.....	4,591.71	Patented August 9, 1866.....	Monterey.
256	Monterey County, city lands.....	City of Monterey.....	30,865.55	Sent for patent July 26, 1890.....	Monterey.
325	Moro y Cayucos.....	J. McKinley.....	8,045.49	Patented January 19, 1878.....	San Luis Obispo.
26	Muniz.....	M. Torres.....	17,760.75	Patented February 4, 1860.....	Sonoma.
480	Muscupiabe.....	M. White.....	30,144.88	Patented June 22, 1872.....	San Bernardino.
528	Nacion, De la.....	John Forster.....	26,631.94	Patented February 27, 1866.....	San Diego.
263	Nacional.....	Vincente Cantua.....	6,633.29	Patented April 7, 1866.....	Monterey.
76	Napa, part of.....	S. Vallejo.....	3,178.93	Patented June 9, 1866.....	Napa.
76	Napa, part of.....	Lyman Bartlett.....	679.52	Patented June 9, 1866.....	Napa.
76	Napa, part of.....	A. L. Boggs.....	320.55	Patented May 11, 1877.....	Napa.
76	Napa, part of.....	L. W. Boggs.....	679.66	Sent up December 7, 1880.....	Napa.
76	Napa, part of.....	J. E. Brown.....	647.47	Before Com. Gen'l Land Office.....	Napa.
76	Napa, part of.....	L. D. Brown.....	640.00	No decree filed.....	Napa.
76	Napa, part of.....	Nathan Coombs.....	325.42	Patented March 25, 1873.....	Napa.
76	Napa, part of.....	G. N. Cornwall.....	600.00	No decree filed.....	Napa.
76	Napa, part of.....	A. Farley.....	89.42	Before Surveyor-General.....	Napa.
76	Napa, part of.....	O. H. Frank.....	8,365.37	Sent up for patent Nov., 1890.....	Napa.
76	Napa, part of.....	J. M. Harbin.....	664.88	Sent up for patent Dec. 11, 1882.....	Napa.
76	Napa, part of.....	Hart & McGarry.....	470.14	Before Surveyor-General.....	Napa.
76	Napa, part of.....	Johnson Horrell.....	459.99	Before Surveyor-General.....	Napa.
76	Napa, part of.....	H. Ingraham.....	74.00	No decree filed.....	Napa.
76	Napa, part of.....	Wm. Keely.....	45.84	Before Surveyor-General.....	Napa.
76	Napa, part of.....	Eben Knight.....	100.00	.....	Napa.
76	Napa, part of.....	H. G. Langley.....	680.10	Before Surveyor-General.....	Napa.
76	Napa, part of.....	John Love.....	100.80	Before Surveyor-General.....	Napa.
76	Napa, part of.....	B. McCoombs.....	140.37	Before Surveyor-General.....	Napa.
76	Napa, part of.....	Hannah McCoombs.....	100.79	Before Surveyor-General.....	Napa.
76	Napa, part of.....	J. R. McCoombs.....	485.60	.....	Napa.
76	Napa, part of.....	Ann McDonald et al.....	283.19	Before Surveyor-General.....	Napa.
76	Napa, part of.....	James McNeil.....	450.00	No decree filed.....	Napa.
76	Napa, part of.....	W. H. Osborne.....	259.51	Patented June 9, 1866.....	Napa.
76	Napa, part of.....	A. A. Ritchie.....	150.35	Before Surveyor-General.....	Napa.
76	Napa, part of.....	J. K. Rose.....	594.83	Patented June 9, 1866.....	Napa.
76	Napa, part of.....	J. P. Thompson.....	604.68	Patented June 3, 1880.....	Napa.
76	Napa, part of.....	John Truebody.....	769.58	Sent for patent Dec. 6, 1881.....	Napa.
76	Napa, part of.....	Ogden & Wise.....	637.11	.....	Napa.
251	Natividad, La.....	Ramona Burton et al.....	8,642.21	Patented October 1, 1874.....	Monterey. Yuba, Sutter, and Sacramento.
20	New Helvetia.....	John A. Sutter.....	48,839.30	Patented June 20, 1866.....	
32	Nicasio, part of.....	James Black.....	9,478.82	Patented November 1, 1861.....	Marin.
32	Nicasio, part of.....	B. R. Buckelew.....	8,695.27	Patented November 1, 1861.....	Marin.
32	Nicasio, part of.....	Frink & Reynolds.....	7,598.10	Patented November 1, 1861.....	Marin.

32	Nicasio, part of.....	H. W. Halleck.....	30,848.35	Patented November 1, 1861.....	Marin.
501	Niguil, El.....	Juan Abila et al.....	13,316.01	Patented April 5, 1873.....	Los Angeles.
351	Nipomo.....	Wm. G. Dana.....	37,887.91	Patented December 14, 1868.....	San Luis Obispo.
278	Noche Buena.....	J. & J. de Monomany.....	4,411.56	Patented October 7, 1862.....	Monterey.
459	Nogales, Los.....	Maria de J. Garcia et al.....	1,003.67	Patented June 29, 1882.....	Los Angeles.
367	Nojoqui.....	Ray Mondo Carillo.....	13,284.50	Patented September 11, 1869.....	Santa Barbara.
46	Novato.....	Assignees of Simmons.....	8,870.62	Patented April 10, 1866.....	Marin.
379	Nuestra Señora del Refugio.....	A. M. Ortega et al.....	26,529.30	Patented July 28, 1866.....	Santa Barbara
389	Ojai.....	Fernando Tico.....	17,716.83	Patented December 22, 1870.....	Ventura.
311	Ojitos, Los.....	M. Soberanes.....	8,900.17	Patented April 18, 1871.....	Monterey.
199	Ojo de Agua de al Coche.....	M. J. C. Murphy.....	8,927.10	Patented January 4, 1860.....	Santa Clara.
159	Ojo de Agua de Figueroa.....	Miranda et al.....	1.77	Patented April 28, 1877.....	San Francisco.
48	Olompali.....	Camilo Ynitia.....	8,877.48	Patented December 18, 1862.....	Marin.
95	Omochumnes.....	Catherine Sheldon et al.....	18,661.86	Patented July 1, 1870.....	Sacramento.
105	Orestimba.....	Sebastian Nunez.....	26,668.39	Patented July 30, 1863.....	Stanislaus and Merced.
529	Otay.....	M. Estudillo.....	6,657.98	Patented January 20, 1872.....	San Diego.
530	Otay or Janal.....	V. Dominguez et al.....	4,437.16	Patented June 13, 1872.....	San Diego.
180	Pala.....	E. White et al.....	4,454.08	Patented October 8, 1866.....	Santa Clara.
439	Palos Verdes, Los.....	J. L. Sepulveda et al.....	31,629.43	Patented June 22, 1880.....	Los Angeles.
235	Panocha de San Juan y Los Carrisalitos.....	Ursua & Romo.....	22,175.34	Patented July 30, 1867.....	Merced.
282	Paraje de Sanchez.....	C. Lugo et al.....	6,584.32	Patented August 9, 1866.....	Monterey.
96	Paso, Rancho del.....	Samuel Norris.....	44,371.42	Patented May 4, 1858.....	Sacramento.
465	Paso de Bartolo, part of.....	B. Guirado.....	875.99	Patented September 27, 1867.....	Los Angeles.
465	Paso de Bartolo, part of.....	Joaquin Sepulveda.....	207.79	Patented March 17, 1881.....	Los Angeles.
464	Paso de Bartolo.....	Pio Pico et al.....	8,991.22	Patented August 5, 1881.....	Los Angeles.
320	Paso de Robles.....	P. Rios.....	25,993.18	Patented July 12, 1886.....	San Luis Obispo.
144	Pastoria de las Borregas.....	Martin Murphy, Jr.....	4,894.35	Patented December 15, 1865.....	Santa Clara.
144	Pastoria de las Borregas.....	Mariano Castro.....	4,172.13	Patented September 17, 1881.....	Santa Clara.
490	Pauba.....	Luis Vignes.....	26,597.96	Patented January 19, 1860.....	San Diego.
507	Pauma.....	J. A. Serrano et al.....	13,309.60	Patented August 29, 1871.....	San Diego.
525	Penasquitos, Los.....	F. M. Ruiz.....	8,486.01	Patented April 13, 1876.....	San Diego.
107	Pescadero, El.....	Hiram Grimes et al.....	35,446.06	Patented January 18, 1858.....	Stanislaus and San Joaquin.
280	Pescadero, El.....	D. Jacks.....	4,426.46	Patented February 19, 1868.....	Monterey.
108	Pescadero, El.....	Pico & Nagle.....	35,546.39	Patented March 10, 1865.....	San Joaquin and Alameda.
49	Petaluma.....	M. G. Vallejo.....	66,622.17	Patented November 19, 1874.....	Sonoma.
321	Piedra Blanca.....	J. J. Pico.....	48,805.59	Patented October 9, 1876.....	San Luis Obispo.
126	Pinole, El.....	M. A. M. de Richardson.....	17,760.64	Patented August 22, 1868.....	Contra Costa.
310	Piojo.....	Heirs of Joaquin Soto.....	13,329.28	Patented April 30, 1866.....	Monterey.
336	Pismo.....	I. J. Sparks.....	8,838.89	Patented November 16, 1866.....	San Luis Obispo.
312	Pleyto.....	W. S. Johnson et al.....	13,299.27	Patented March 7, 1872.....	Monterey.
227	Polka, La.....	M. J. C. Murphy.....	4,168.78	Patented March 3, 1860.....	Santa Clara.
401	Posas, Las.....	J. de la G. y Noriega.....	26,623.36	Patented January 18, 1881.....	Ventura.
120	Positas, Las.....	Livermore & Noriega.....	8,880.00	Patented May 25, 1872.....	Alameda.



385	Positas (Las) y La Calera.....	M. C. de Jones.....	3,281.70	Patented June 10, 1870.....	Santa Barbara.
145	Posolmi.....	Lopez Ynigo et al.....	1,695.90	Patented January 18, 1881.....	Santa Clara.
298	Posa de los Ositos.....	Carols Espinosa.....	16,938.98	Patented June 29, 1865.....	Monterey.
----	Portero de la Mission Vieja de San Gabriel.....	Valenzuela et al.....	95.95	Before Surveyor-General.....	Los Angeles.
134	Portero de los Cerritos.....	Pacheco & Alviso.....	10,610.26	Patented February 21, 1886.....	Alameda.
446	Portero de Felipe Lugo.....	Morillo & Romero.....	2,042.81	Patented June 15, 1871.....	Los Angeles.
286	Portero de San Carols.....	J. Gutierrez et al.....	4,306.98	Patented June 9, 1862.....	Monterey.
329	Portero de San Luis Obispo.....	M. C. Boronda.....	3,506.33	Patented July 1, 1870.....	San Luis Obispo.
178	Portero de Santa Clara.....	R. F. Stockton.....	1,939.03	Patented December 30, 1861.....	Santa Clara.
494	Portero of San Juan Capistrano.....	Juan Forster.....	1,167.74	Patented June 30, 1866.....	Los Angeles.
213	Portero y Rincon de San Pedro de Reglado.....	T. W. Russell.....	91.53	Sent for patent October 5, 1885.....	Santa Cruz.
445	Portero Grande.....	J. M. Sanchez.....	4,431.95	Patented July 19, 1859.....	Los Angeles.
537	Prietos (Los) y Najalayegua.....	José Dominguez.....	48,728.67	Patented February 19, 1875.....	Santa Barbara.
2	Primer Cañon ó Rio de los Berrendos..	J. F. Dye.....	26,637.11	Patented February 28, 1871.....	Tehama.
419	Prospero Tract.....	R. Valenzuela et al.....	23.63	Patented December 4, 1875.....	Los Angeles.
424	Providentia.....	D. W. Alexander et al.....	4,064.33	Patented August 6, 1872.....	Los Angeles.
542	Pueblo, Lot No. 6.....	Pedro Chaboya.....	366.29	Patented June 21, 1876.....	Santa Clara.
460	Punte, La.....	Workman & Roland.....	48,790.55	Patented April 19, 1867.....	Los Angeles.
106	Puerto, Rancho del.....	Reed & Wade.....	13,340.39	Patented August 15, 1864.....	Stanislaus.
148	Pulgas, Las.....	M. de la S. O. de Arguello et al.....	35,240.47	Patented October 2, 1857.....	San Mateo.
279	Punta de Pinos.....	H. De Graw et al.....	2,666.51	Patented November 19, 1880.....	Monterey.
41	Punta de Quentin.....	R. R. Bucklew.....	8,877.44	Patented April 10, 1866.....	Marin.
375	Punta de la Concepcion.....	A. Carillo.....	24,992.04	Patented June 10, 1880.....	Santa Barbara. S. Barbara and S. Luis Obispo.
354	Punta de la Laguna.....	L. Arellanes et al.....	26,648.42	Patented October 2, 1873.....	Obispo.
34	Punta de Los Reyes (Sobrante).....	Andrew Randall.....	48,189.34	Patented June 4, 1860.....	Marin.
33	Punta de Los Reyes.....	Andrew Randall.....	8,877.68	Patented June 4, 1860.....	Marin.
205	Punta de Año Nuevo.....	Heirs of Simeon Castro.....	17,753.15	Patented December 3, 1857.....	San Mateo.
175	Purísima (La) Concepcion.....	Juana Briones.....	4,438.94	Patented August 15, 1871.....	Santa Clara.
83	Putas, Las.....	M. A. Higuera de Berryessa et al.....	35,515.82	Patented January 5, 1863.....	Solano.
88	Putos, Los.....	J. M. Vaca & J. F. Peña.....	44,383.78	Patented June 4, 1858.....	Solano.
187	Quito.....	M. Alvisu et al.....	13,309.85	Patented May 14, 1866.....	Santa Clara.
85	Quesesosi.....	Wm. Gordon.....	8,894.49	Patented February 4, 1860.....	Yolo.
102	Rancheria del Rio Estanislao.....	Rico & Gastro.....	48,886.64	Patented January 31, 1863.....	Stanislaus and Calaveras.
236	Real de los Aguilas.....	F. A. M. McDougal et al.....	31,052.18	Patented September 23, 1869.....	San Benito.
207	Refugio.....	F. & J. Bolcoff.....	12,147.12	Patented February 4, 1860.....	Santa Cruz.
476	Rincon, El.....	Bernardo Yorba.....	4,431.47	Patented November 14, 1879.....	San Bernardino.
387	Rincon, El.....	Teodoro Arellanes.....	4,459.63	Patented November 22, 1872.....	Santa Barbara.
56	Rincon de Musulacon.....	Johnson Horrell et al.....	8,866.89	Patented June 9, 1866.....	Sonoma.
146	Rincon de San Francisquito.....	T. E. & S. Robles.....	8,418.21	Patented February 19, 1868.....	Santa Clara.
261	Rincon de Sanjon.....	J. E. Boronda.....	2,229.70	Patented July 13, 1860.....	Monterey.

516	Rincon del Diablo.....	Heirs of Juan B. Alvarado.....	12,653.77	Patented May 3, 1872.....	San Diego.
461	Rincon de la Brea.....	G. Ybarra.....	4,452.59	Patented November 14, 1864.....	Los Angeles.
272	Rincon de la Punta del Monte.....	Teodoro Gonzales.....	15,218.62	Patented November 28, 1866.....	Monterey.
255	Rincon de las Salinas.....	Rafael Estrada.....	2,220.02	Patented March 1, 1881.....	Monterey.
					San Francisco and San
153	Rincon de las Salinas y Potrero Viejo..	Heirs of J. C. Bernal.....	4,446.40	Patented December 31, 1857.....	Mateo.
435	Rincon de los Bueyes.....	F. Higuera et al.....	3,127.89	Patented August 27, 1872.....	Los Angeles.
241	Rincon de los Esteros.....	Rafael Alviso et al.....	2,200.19	Patented July 29, 1872.....	Santa Clara.
140	Rincon de los Esteros.....	F. Berryessa et al.....	1,844.54	Patented July 28, 1873.....	Santa Clara.
139	Rincon de los Esteros.....	E. E. White.....	2,308.17	Patented May 23, 1862.....	Santa Clara.
192	Rinconada de los Gatos.....	Hernandez & Peralta.....	6,631.44	Patented March 19, 1860.....	Santa Clara.
	Rinconada del Arroyo de San				
147	Francisquito.....	Heirs of M. A. Mesa.....	2,229.84	Patented July 26, 1872.....	Santa Clara.
86	Rio Jesus Maria.....	J. M. Harbin et al.....	26,637.42	Patented July 3, 1858.....	Yolo.
403	Rio de Santa Clara.....	Valentin Cota et al.....	44,883.30	Patented September 5, 1872.....	Ventura.
98	Rio de los Americanos.....	J. L. Folsom.....	35,521.36	Patented November 4, 1864.....	Sacramento.
6	Rio de los Molinos.....	A. G. Toomes.....	22,172.46	Patented December 3, 1858.....	Tehama.
87	Rio de los Putos.....	Wm. Wolfskill.....	17,754.73	Patented December 18, 1858.....	Yolo and Solano.
50	Roblar de la Miseria.....	Daniel Wright et al.....	16,887.45	Patented January 18, 1858.....	Sonoma.
----	Russell Tract.....	T. W. Russell.....	145.89	Before Surveyor-General.....	Santa Cruz.
257	Salinas, Las.....	Heirs of G. Espinoza.....	4,413.81	Patented March 26, 1867.....	Monterey.
					Santa Cruz and Santa
223	Salsipuedes.....	James Blair et al.....	31,201.37	Patented March 2, 1861.....	Clara.
219	San Andres.....	Guadalupe Castro et al.....	8,911.53	Patented January 31, 1876.....	Santa Cruz.
130	San Antonio, part of.....	Ygnacio Peralta.....	9,416.66	Patented February 3, 1858.....	Alameda.
129	San Antonio, part of.....	A. M. Peralta.....	15,206.59	Patented June 25, 1874.....	Alameda.
128	San Antonio, part of.....	V. & D. Peralta.....	18,848.98	Patented February 10, 1877.....	Alameda.
442	San Antonio.....	A. M. Lugo.....	29,513.35	Patented July 20, 1866.....	Los Angeles.
176	San Antonio.....	E. Mesa et al.....	4,440.31	Patented August 6, 1866.....	Santa Clara.
---	San Antonio, part of.....	Wm. A. Dana et al.....	3,541.80	Patented December 18, 1857.....	Santa Clara.
190	San Antonio or Pescadero.....	J. J. Gonzales.....	3,282.32	Patented June 7, 1866.....	San Mateo.
413	San Antonio, or Rodeo de las Aguas...	M. R. Valdez.....	4,449.31	Patented June 27, 1871.....	Los Angeles.
202	San Augustin.....	J. L. Majors.....	4,436.78	Patented July 25, 1866.....	Santa Cruz.
304	San Benito.....	James Watson.....	6,671.08	Patented September 6, 1869.....	Monterey.
303	San Bernabe.....	Henry Cocks.....	13,296.98	Patented March 27, 1873.....	Monterey.
326	San Bernardo.....	Vincente Cane.....	4,379.42	Patented April 1, 1865.....	San Luis Obispo.
524	San Bernardo.....	M. A. Snook.....	17,763.07	Patented November 17, 1874.....	San Diego.
306	San Bernardo.....	M. Sobranes.....	13,345.65	Patented March 9, 1874.....	Monterey.
481	San Bernardino.....	J. de C. Lugo et al.....	35,509.41	Patented November 24, 1865.....	San Bernardino.
1	San Buenaventura.....	P. B. Reading.....	26,632.09	Patented January 17, 1857.....	Shasta.
369	San Carols de Jonata.....	J. Carrillo et al.....	26,634.31	Patented December 2, 1872.....	Santa Barbara.
526	San Diego, pueblo land.....	City of San Diego.....	47,323.08	Patented April 10, 1874.....	San Diego.
523	San Dieguito.....	J. L. Osuna et al.....	8,824.71	Patented April 18, 1871.....	San Diego.
343	San Emidio.....	Francisco Dominguez.....	17,709.79	Patented April 10, 1866.....	Kern.
399	San Francisco.....	Jacoba Feliz et al.....	48,611.88	Patented February 12, 1875.....	Ventura and Los Angeles.

155	San Francisco, pueblo land.....	City of San Francisco.....	12,643.44	Patented June 20, 1884.....	San Francisco.
---	San Francisco, tract in.....	Sherreback.....	120.00	Before Surveyor-General.....	San Francisco.
162	San Francisco, two lots in.....	J. P. Leese et al.....	3.38	Patented March 3, 1858.....	San Francisco.
226	San Francisco de las Llagas.....	J. & M. Murphy.....	22,283.24	Patented March 19, 1868.....	Santa Clara.
174	San Francisquito.....	M. C. V. de Rodriguez.....	1,471.00	Patented June 8, 1868.....	Santa Clara.
287	San Francisquito.....	José Abrego et al.....	8,813.50	Patented June 8, 1862.....	Monterey.
447	San Francisquito.....	Henry Dalton.....	8,893.62	Patented May 30, 1867.....	Los Angeles.
---	San Gabriel, tract near.....	Juan Silva.....	22.90	Before Surveyor-General.....	Los Angeles.
449	San Gabriel, tract near.....	H. P. Dorsey.....	22.90	Before Surveyor-General.....	Los Angeles.
420	San Gabriel, tract near.....	Michael White.....	78.23	Patented August 26, 1871.....	Los Angeles.
417	San Gabriel, tract near.....	José Ledesma.....	22.21	Patented June 20, 1871.....	Los Angeles.
416	San Gabriel, tract near.....	J. P. de J. Courtney.....	49.29	Patented June 20, 1871.....	Los Angeles.
450	San Gabriel, tract near.....	Francisco Sales.....	19.43	Patented June 20, 1871.....	Los Angeles.
451	San Gabriel, tract near.....	Simeon (Indian).....	30.45	Patented December 27, 1876.....	Los Angeles.
452	San Gabriel, two tracts near.....	Daniel Sexton.....	227.78	Patented May 16, 1871.....	Los Angeles.
418	"	"	"	"	"
453	San Gabriel, tract near.....	José Domingo.....	22.34	Patented August 23, 1871.....	Los Angeles.
39	San Geronimo.....	J. W. Revere.....	8,701.00	Patented April 4, 1860.....	Marin.
324	San Geronimo.....	R. Villavicencio.....	8,893.35	Patented July 10, 1876.....	San Luis Obispo.
171	San Gregorio.....	M. C. V. de Rodriguez.....	13,344.15	Patented February 19, 1861.....	San Mateo.
172	San Gregorio.....	Salvador Castro.....	4,439.31	Patented February 19, 1861.....	San Mateo.
489	San Jacinto.....	Heirs of J. A. Estudillo.....	35,503.03	Patented January 17, 1880.....	San Diego.
488	San Jacinto y San Gorgonio, tract between.....	L. Rubideau.....	4,439.57	Patented August 13, 1872.....	San Bernardino. San Bernardino and San Diego.
487	San Jacinto Nuevo y Portero.....	T. W. Sutherland, guardian....	48,861.10	Patented January 9, 1883.....	Los Angeles.
500	San Joaquin.....	José Sepulveda.....	48,803.16	Patented September 19, 1867.....	San Benito.
232	San Joaquin.....	C. Cervantes.....	7,424.69	Patented January 6, 1874.....	Los Angeles.
458	San José.....	Dalton, Palomares & Vejar....	22,340.41	Patented January 20, 1875.....	Los Angeles.
457	San José, addition to.....	Dalton, Palomares & Vejar....	4,430.64	Patented December 4, 1875.....	Los Angeles.
45	San José.....	Ygnacio Pacheco.....	6,659.25	Patented January 14, 1861.....	Marin.
179	San José, pueblo lands.....	City of San José.....	55,891.77	Patented June 4, 1884.....	Santa Clara.
431	San José de Buenos Ayres.....	B. D. Wilson.....	4,438.69	Patented July 5, 1866.....	Los Angeles.
---	San José y Sur Chiquito.....	José Castro.....	8,876.00	In Court on title.....	Monterey.
509	San José del Valle.....	J. J. Warner.....	26,688.93	Patented January 16, 1880.....	San Diego.
97	San Juan.....	Hiram Grimes.....	19,982.70	Patented July 9, 1860.....	Sacramento.
185	San Juan Bautista.....	J. A. Narvaez.....	8,879.54	Patented December 1, 1865.....	Santa Clara.
247	San Juan Bautista, tract near Mission of.....	M. Larios.....	4,493.00	Patented August 8, 1870.....	San Benito.
248	San Juan Bautista, tract near Mission of.....	P. Breen.....	401.25	Patented January 22, 1877.....	San Benito.
473	San Juan Cajon de Santa Ana.....	J. P. Ontiveros.....	35,970.92	Patented May 21, 1877.....	Los Angeles.
378	San Julian.....	J. de la G. y Noriega.....	48,221.68	Patented September 29, 1873.....	Santa Barbara.
238	San Justo.....	F. P. Pacheco.....	34,619.65	Patented December 6, 1865.....	San Benito.
131	San Leandro.....	J. J. Estudillo.....	6,829.58	Patented July 15, 1863.....	Alameda.

300	San Lorenzo.....	Rafael Sanchez.....	48,285.95	Patented December 22, 1870.....	Monterey and San Benito.
299	San Lorenzo.....	F. Soberanez.....	21,884.38	Patented July 28, 1866.....	Monterey.
302	San Lorenzo.....	Heirs of A. Randall.....	22,264.47	Patented June 4, 1870.....	Monterey.
132	San Lorenzo.....	Barbara Sota et al.....	6,685.85	Patented April 14, 1877.....	Alameda.
122	San Lorenzo.....	Guillermo Castro.....	26,722.52	Patented February 14, 1865.....	Alameda.
305	San Lucas.....	James McKinley.....	8,874.72	Patented February 23, 1882.....	Monterey.
234	San Luis Gonzaga.....	J. P. Pacheco.....	48,821.43	Patented May 16, 1871.....	Santa Clara and Merced.
---	San Luis Obispo, lot near.....	J. M. Bonilla.....	3.85	Sent up for patent Aug. 26, 1882.....	San Luis Obispo.
327	San Luisito.....	Guadalupe Cantua.....	4,389.56	Patented May 18, 1860.....	San Luis Obispo.
364	San Marcos.....	N. A. Den et al.....	35,573.10	Patented September 6, 1869.....	Santa Barbara.
149	San Mateo.....	Ex'rs of W. D. M. Howard.....	6,438.80	Patented November 18, 1857.....	San Mateo.
					San Francisco and San
154	San Miguel.....	J. de J. Noe.....	4,443.38	Patented March 30, 1857.....	Mateo.
394	San Miguel.....	Olivas & Lorenzana.....	4,693.91	Patented March 21, 1873.....	Ventura.
62	San Miguel.....	Heirs of M. West.....	6,663.23	Patented June 29, 1865.....	Sonoma.
335	San Miguelito.....	Marianna Gonzales.....	22,135.89	Patented August 8, 1867.....	Monterey.
309	San Miguelito.....	Miguel Avila.....	14,198.20	Patented February 23, 1877.....	San Luis Obispo.
127	San Pablo.....	J. Y. Castro.....	17,938.59	Patented January 31, 1878.....	Contra Costa.
422	San Pasqual.....	B. D. Wilson.....	708.57	Patented February 12, 1881.....	Los Angeles.
415	San Pasqual.....	Manuel Garfias.....	13,693.93	Patented April 3, 1863.....	Los Angeles.
---	San Pasqual, 2,000 varas near.....	Juan Gallardo.....	700.00	Not surveyed.....	Los Angeles.
440	San Pedro.....	M. Dominguez et al.....	43,119.13	Patented December 18, 1858.....	Los Angeles.
164	San Pedro.....	F. Sanchez.....	8,926.46	Patented November 8, 1870.....	San Mateo.
---	San Pedro.....	G. O. Chapman et al.....	4,438.00	In Court on title.....	Santa Barbara.
	San Pedro, Santa Margarita y Las				
44	Gallinas.....	Timothy Murphy.....	21,678.69	Patented February 21, 1866.....	Marin.
423	San Rafael.....	Julio Berdugo et al.....	36,403.32	Patented January 28, 1882.....	Los Angeles.
118	San Ramon.....	J. M. Amador.....	16,516.95	Patented March 18, 1865.....	Contra Costa and Alameda
117	San Ramon.....	Leo. Norris.....	4,450.94	Patented July 3, 1882.....	Contra Costa.
116	San Ramon.....	H. W. Carpentier.....	8,917.36	Patented April 7, 1866.....	Contra Costa.
322	San Simeon.....	J. M. Gomez.....	4,468.81	Patented April 7, 1865.....	San Luis Obispo.
293	San Vicente.....	C. Munrass et al.....	19,979.01	Patented June 29, 1865.....	Monterey.
195	San Vicente.....	M. Z. B. Berryessa et al.....	4,438.36	Patented June 24, 1868.....	Santa Clara.
204	San Vicente.....	B. A. Escamilla.....	10,802.60	Patented May 6, 1870.....	Santa Cruz.
432	San Vicente y Santa Monica.....	R. Sepulveda.....	30,259.65	Patented July 23, 1881.....	Los Angeles.
228	San Ysidro.....	John Gilroy et al.....	4,460.67	Patented September 27, 1867.....	Santa Clara.
229	San Ysidro.....	Quintin Ortega.....	4,438.65	Patented October 22, 1868.....	Santa Clara.
24	Sanel.....	Fernando Feliz.....	17,754.38	Patented December 18, 1860.....	Mendocino.
					San Joaquin and
93	Sanjon de los Moquelumnos.....	Heirs of A. Chabolla.....	35,508.14	Patented May 30, 1865.....	Sacramento.
198	Sanjon de Santa Rita.....	F. Soberanes.....	48,823.84	Patented November 20, 1862.....	Fresno and Merced.
388	Santa Ana.....	C. Avala et al.....	21,522.04	Patented December 22, 1870.....	Ventura.
477	Santa Ana del Chino.....	M. M. Williams et al.....	22,234.20	Patented February 15, 1869.....	San Bernardino.
478	Santa Ana del Chino, addition.....	M. M. Williams et al.....	13,366.16	Patented April 29, 1869.....	San Bernardino.
237	Santa Ana y Quien Sabe.....	Manuel Larios et al.....	48,822.60	Patented May 1, 1860.....	San Benito.

454	Santa Anita.....	Henry Dalton.....	13,319.06	Patented August 9, 1866.....	Los Angeles.
386	Santa Barbara, pueblo.....	City of Santa Barbara.....	17,826.17	Patented May 31, 1872.....	Santa Barbara.
177	Santa Clara, tract near.....	J. Enright.....	710.14	Patented May 1, 1866.....	Santa Clara.
189	Santa Clara, two tracts near.....	M. S. Bennett.....	358.51	Patented July 19, 1871.....	Santa Clara.
402	Santa Clara del Norte.....	Juan Sanchez.....	13,988.91	Patented November 5, 1869.....	Ventura.
334	Santa Fe, Ranchito de.....	V. Linares.....	165.76	Patented August 19, 1866.....	San Luis Obispo.
463	Santa Gertrudes, part of.....	T. S. Colima.....	3,696.23	Patented July 17, 1877.....	Los Angeles.
466	Santa Gertrudes, part of.....	McFarland & Downey.....	17,602.01	Patented August 19, 1870.....	Los Angeles.
338	Santa Manuela.....	F. Z. Branch.....	16,954.83	Patented August 22, 1868.....	San Luis Obispo.
316	Santa Margarita.....	Joaquin Estrada.....	17,734.94	Patented August 9, 1861.....	San Luis Obispo.
505	Santa Margarita y Las Flores.....	Pio Pico et al.....	133,440.78	Patented March 28, 1879.....	San Diego.
395	Santa Paula y Saticoy.....	J. P. Davidson.....	17,773.33	Patented July 15, 1872.....	Ventura.
119	Santa Rita.....	Yountz, administrator.....	8,894.01	Patented March 18, 1865.....	Alameda.
371	Santa Rita.....	J. R. Malo.....	13,316.05	Patented June 25, 1875.....	Santa Barbara.
323	Santa Rosa.....	Julian Estrada.....	13,183.62	Patented March 18, 1865.....	San Luis Obispo.
370	Santa Rosa.....	M. J. O. de Cota et al.....	15,525.55	Patented March 30, 1872.....	Santa Barbara.
493	Santa Rosa.....	Juan Moreno.....	47,815.10	Patented October 10, 1872.....	San Diego.
184	Santa Theresa.....	Augustin Bernal.....	9,647.13	Patented March 8, 1867.....	Santa Clara.
319	Santa Ysabel.....	Francisco Arce.....	17,774.12	Patented May 21, 1866.....	San Luis Obispo.
510	Santa Ysabel.....	J. J. Ortega et al.....	17,719.40	Patented May 14, 1872.....	San Diego.
474	Santiago de Santa Ana.....	B. Yorba et al.....	78,941.49	Patented December 21, 1883.....	Los Angeles.
36	Saucelito.....	W. A. Richardson.....	19,571.92	Patented August 7, 1879.....	Marin.
277	Saucito.....	Wilson et al.....	2,211.65	Patented October 7, 1862.....	Monterey.
5	Saucos.....	R. H. Thomas.....	22,212.21	Patented October 14, 1857.....	Tehama.
264	Sausal.....	J. P. Leese.....	10,241.88	Patented September 2, 1859.....	Monterey.
438	Sausal Redondo.....	A. I. Abila.....	22,458.94	Patented March 22, 1875.....	Los Angeles.
397	Sespe.....	T. W. Moore et al.....	8,880.81	Patented March 14, 1872.....	Ventura.
215	Shoquel.....	Martina Castro.....	1,668.03	Patented March 19, 1860.....	Santa Cruz.
201	Shoquel Augmentation.....	Martina Castro.....	32,702.41	Patented March 19, 1860.....	Santa Cruz.
485	Sierra, La.....	Bernardo Yorba.....	17,768.89	Patented February 4, 1875.....	San Bernardino.
484	Sierra, La.....	Vicenta Sepulveda.....	17,774.19	Patented April 28, 1877.....	San Bernardino.
400	Simi.....	J. de la G. y Noriega.....	113,009.21	Patented June 29, 1865.....	Los Angeles and Ventura. S. Luis Obispo and Santa Barbara.
348	Sisquoc.....	J. B. Huie et al.....	35,485.90	Patented August 24, 1866.....	Barbara.
---	Sobrante, El.....	J. J. and V. Castro.....	20,565.42	Patented August 11, 1883.....	Contra Costa.
486	Sobrante de San Jacinto.....	M. de R. de Aguirre.....	48,847.28	Patented October 25, 1867.....	San Bernardino.
225	Solis.....	R. Castro et al.....	8,875.46	Patented January 18, 1859.....	Santa Clara.
63	Sonoma, pueblo.....	City of Sonoma.....	6,063.95	Patented March 31, 1880.....	Sonoma.
71	Sonoma City, lot in.....	M. G. Vallejo.....	3.81	Patented April 30, 1866.....	Sonoma.
54	Sotoyome.....	Heirs of H. D. Fitch.....	48,836.51	Patented April 3, 1858.....	Sonoma.
31	Soulajule, part of.....	G. N. Cornwall.....	919.18	Patented January 18, 1879.....	Marin.
31	Soulajule, part of.....	L. D. Watkins.....	1,446.79	Patented January 18, 1879.....	Marin.
31	Soulajule, part of.....	M. F. Gormley.....	2,266.25	Patented January 18, 1879.....	Marin.
31	Soulajule, part of.....	P. J. Vasquez.....	3,774.20	Patented January 18, 1879.....	Marin.
31	Soulajule, part of.....	J. S. Brackett.....	2,492.19	Patented January 18, 1879.....	Marin.

350	Suey, Rancho de.....	R. C. de Wilson.....	48,834.27	Patented August 10, 1865.....	Santa Barbara and S. Luis Obispo.
91	Suisun.....	A. A. Richie.....	17,754.73	Patented January 17, 1857.....	Solano.
---	Suisun, part of.....	J. H. Fine.....	482.19	Patented December 16, 1882.....	Solano.
288	Sur, El.....	J. B. R. Cooper.....	8,949.06	Patented May 18, 1866.....	Monterey.
441	Tajauta.....	E. Abila.....	3,559.86	Patented January 8, 1873.....	Los Angeles.
344	Tejon, El.....	Aguirre & Del Valle.....	97,616.78	Patented May 9, 1863.....	Kern.
398	Temescal.....	R. de la Cuesta.....	13,339.07	Patented September 13, 1871.....	Ventura and Los Angeles.
491	Temecula.....	Luis Vignes.....	26,608.94	Patented January 18, 1860.....	San Diego.
492	Temecula, lands in valley of.....	P. Apis.....	2,233.42	Patented January 8, 1873.....	San Diego.
349	Tepusquet.....	A. M. Cota et al.....	8,900.75	Patented February 23, 1871.....	S. Luis Obispo and Santa Barbara.
365	Tequepis.....	A. M. Villa.....	8,919.00	Patented July 24, 1869.....	Santa Barbara.
101	Thompson's Rancho.....	A. B. Thompson.....	35,532.80	Patented May 18, 1858.....	San Joaquin and Stanislaus.
359	Timaquaic.....	Wm. D. Foxen.....	8,874.60	Patented June 28, 1872.....	Santa Barbara.
357	Todos Santos y San Antonio.....	Heirs of W. E. P. Hartnell.....	20,772.17	Patented December 20, 1876.....	Santa Barbara.
90	Tolenas.....	J. F. Armijo.....	13,315.93	Patented October 12, 1868.....	Solano.
38	Tomales y Baulenes.....	Rafael Garcia.....	9,467.77	Patented October 15, 1883.....	Marin.
37	Tomales y Baulenes.....	Bethuel Phelps.....	13,644.66	Patented February 27, 1866.....	Marin.
433	Topanga Malibu Sequit.....	M. Keller.....	13,315.70	Patented August 29, 1872.....	Los Angeles.
275	Toro, El.....	Charles Walters.....	5,668.41	Patented October 7, 1862.....	Monterey.
497	Trabuco.....	Juan Forster.....	22,184.47	Patented August 6, 1866.....	Los Angeles.
211	Tres Ojos de Agua.....	Nicolas Dodero.....	176.03	Patented June 7, 1866.....	Santa Cruz.
259	Tucho, El.....	David Jacks.....	399.57	Patented July 30, 1867.....	Monterey.
113	Tujunga.....	D. W. Alexander et al.....	6,660.71	Patented October 19, 1874.....	Los Angeles.
291	Tularcitos.....	Heirs of R. Gomez.....	26,581.34	Patented March 12, 1866.....	Monterey.
137	Tularcitos, Las.....	José Higuera.....	4,394.35	Patented July 8, 1870.....	Santa Clara.
75	Tulucay.....	C. Juarez.....	8,865.58	Patented January 31, 1861.....	Napa.
260	Two Suertes.....	Gregory & Williams.....	37.69	Patented June 20, 1872.....	Monterey.
55	Tzabaco.....	Heirs of J. G. Pifia.....	15,439.32	Patented November 19, 1859.....	Sonoma.
143	Ulistac.....	Heirs of J. D. Hoppe.....	2,217.09	Patented October 12, 1868.....	Santa Clara.
92	Ulpinos, Los.....	John Bidwell.....	17,726.43	Patented August 9, 1866.....	Solano.
200	Uvas, Las.....	M. J. C. Murphy.....	11,079.93	Patented February 18, 1860.....	Santa Clara.
517	Vallecitos de San Marcos.....	Lorenzo Soto.....	8,975.17	Patented March 1, 1883.....	San Diego.
514	Valle de Pamo or Santa Maria.....	J. T. Ortega et al.....	17,708.85	Patented July 30, 1872.....	San Diego.
511	Valle de San Felipe.....	Juan Forster.....	9,972.08	Patented August 6, 1866.....	San Diego.
121	Valle de San José.....	Suñol & Bernal.....	48,435.92	Patented March 15, 1865.....	Alameda.
508	Valle de San José.....	S. de la Portilla.....	17,634.06	Patented January 10, 1880.....	San Diego.
222	Vega del Rio del Pajaro.....	F. A. McDougall et al.....	4,310.29	Patented January 18, 1864.....	Monterey.
249	Vergeles, Los.....	James Stokes.....	8,759.82	Patented April 3, 1875.....	Monterey and San Benito.
545	Virgenes, Las.....	M. A. Machado.....	8,885.04	Patented September 5, 1883.....	Los Angeles.
77	Yajome.....	Salvador Vallejo.....	6,652.58	Patented September 16, 1864.....	Napa.
183	Yerba Buena or Socayre.....	Antonio Chabolla.....	24,331.69	Patented January 3, 1859.....	Santa Clara.
23	Yokaya.....	C. Juarez.....	35,541.33	Patented March 8, 1867.....	Mendocino.

361	Zaca, La.....	M. A. de la G. y Lataillade.....	4,458.10	Patented August 23, 1876.....	Santa Barbara.
271	Zanjones.....	M. Malarin, executor.....	6,714.49	Patented August 9, 1866.....	Monterey.
203	Zayanta.....	Isaac Graham et al.....	2,658.21	Patented August 19, 1870.....	Santa Cruz.