

US GOVERNMENT RAILROAD COMMISSIONERS REPORTS

Under the Congressional acts of 1861 and 1863 the Pacific railroads were to be assisted by the US Government in the costs of construction and equipping the roads. A series of requirements were mandated among which was that each road had to build the first 50 miles after which segments of 20 miles or more had to be inspected by commissioners appointed by the government. The commissioners had to submit their inspection reports to Washington, DC and ultimately the approval of the President of the US was needed before any payments of whatever kind were handed over to the railroads. It was necessary for the railroads to ask for these inspections after which 3 persons were appointed by the government and the railroads paid all expenses plus a fee for their work. Thus, many reports of the commissioners were made over the years, approved ultimately by the President, for not only the Pacific railroads but later several different railroads of the later Southern Pacific family in Oregon, California, Nevada and Utah. This history will deal only with the Central Pacific construction between Sacramento, California and Promontory, Utah between 1863 and 1869 and will give background information on the preparation and preservation of the reports.

The first report was for 31 miles from Sacramento to Newcastle and is very short. All following reports in California and in western Nevada are more detailed. From what is today east of Reno the reports became very stylized, what could be called "boiler plate" in today's jargon. This history copies only the report of the commissioners and excludes very voluminous transfers of the reports between various government agencies and the final approval by the President.

Below are the individual reports, their location and date. The naming as items is work done by a Southern Pacific historical research team which began in 1966 to establish the actual cost of constructing the roadbeds and tracks and tunnel bores of all predecessor lines from 1851 to 1921.

Item	Name Location	Mile Posts	Report Date
D	Sacramento to Newcastle	1 to 31	Sept 8, 1864
E 1	Newcastle to Colfax	31 to 51	June 17, 1865 By Leland Stanford
E 2	Newcastle to Colfax	31 to 51	July 5, 1865
E 3	Newcastle to Colfax	31 to 51	Sept ? 1865
E 4	Newcastle to Colfax	31 to 54	Nov 3, 1865
F	Colfax to Blue Bluff	54 to 74	Sept 28, 1866
G	Not used		
H	Midas (near) to Cisco (near)	74 to 94	Oct 4, 1867
I	Cisco to Stanford	94 to 114	Jun 22, 1868
J	Stanford to Mystic	114 to 138	Nov 18, 1867
K	Mystic to Camp 37 (Near)	138 to 158	May 15, 1868
AAA	Camp 37 (Near) to Clark's	158 to 178	Typed report missing
BBB	Clark's to Hot Springs	178 to 215	July 28, 1868
CCC	Mirage to Lovelock's	215 to 255	Aug 13, 1868
DDD	Humboldt House to Rye Parch	255 to 290	Aug 31, 1868
EEE	Mill City to Raspberry Creek	290 to 310	Sept 12, 1868
FFF	Rose Creek to Winnemucca	310 to 330	Sept 22, 1868
GGG	Tule to Rock Creek	330 to 350	Oct 8, 1868
HHH	Iron Point to Stone House	350 to 370	Oct 19, 1868

III	Battle Mountain to Argenta	370 to 390	Typed report missing
JJJ	“New” Argenta to Shoshone Point	390 to 410	Nov 16, 1868
KKK	Beowawe	410 to 430	Nov 21, 1868
LLL	Palisade to Carlin	430 to 450	Dec 9, 1868
MMM	Moleen	450 to 470	Dec 28, 1868
NNN	Osino	470 to 490	Jan 13, 1869
OOO	Deeth	490 to 510	Jan 30, 1869
PPP	Tulasco	510 to 530	Feb 10, 1869
QQQ	Cedar to Independence	530 to 550	Feb 27, 1869
RRR	East Pequop to East of Loray	550 to 570	Mar 15, 1869
SSS	East of Loray to Monument	570 to 670	Apr 28, 1869
TTT	Rozel to Promontory	670 to 690.3	May 15, 1869

In reading the reports and correspondence it was clear the initial reports were not kept in logical order until someone in Washington, DC suggested all reports be kept in the Department of the Interior. Any other party wishing a copy could make one from the original in Interior. After the 1913 Valuation Act was passed by Congress and the field inventories were made the Southern Pacific was a leader in sending a large number of engineers, accountants and lawyers to Washington to sit down with members of the ICC and review the proposals for a base for rate making purposes. This resulted in years of conferences between the parties and in 1923 a “Tentative Valuation” was issued by the ICC for each railroad. The conferences went on and on pursued aggressively by Southern Pacific for one as it became apparent that the ICC “cost of reproduction new” did not come close to the “book figures” of many railroads, mostly those in the west. In San Francisco Southern Pacific employed several hundred typists just to copy the immense amount of data that was generated by both sides. That is one reason these field reports by the commissioners were found among a large warehouse of records by the research team. When the hearings were finally ended in 1935 and a “final” Valuation base determined Southern Pacific shipped to San Francisco forty box car loads of records of all kinds pertaining to the hearings with the ICC. Not all of them survived until this author joined SP in 1948 but the most important records were carefully preserved in vaults and other storage facilities and this was the most helpful fact in the research team’s ability to undertake the original cost program mentioned above. The copies herein show smudge and other marks indicating the many times the records have been copied for one purpose or the other. As to why the first reports are on legal size paper while the remainder are on smaller sheets this author has no idea. He worked closely with many men who had been on the initial field surveys both for the railroad and for the ICC and learned first hand about the workings of the Valuation Act. It is hoped the information in these reports will illustrate some of the workings of both Government and railroads in the long and sometimes perplexing history of their intertwined involvements.

Central Pacific Railroad Photographic History Museum
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UNITED STATES OF AMERICA)
State of California.)

To His Excellency, Abraham Lincoln, President of the
United States.

The undersigned, F. F. Low, P. H. Sibley and Josiah Johnson, Commissioners appointed by your Excellency to examine and report, upon the Central Pacific Railroad of California under and in pursuance of the provisions of an Act of Congress entitled "AN Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean and to secure to the Government the use of the same for postal, military and other purposes, approved July 1, 1862, and the act to amend the said act approved July 2, 1864. Would respectfully state that they have in pursuance of a notice from the U. S. Surveyor General of the State of California, examined the following portion of the railroad and telegraph line of the said Central Pacific Railroad Company of California, to wit, beginning on the east bank of the Sacramento River at the foot of I Street in the City of Sacramento in said State of California, and ending at a point thirty one miles distant from said point of beginning, measured on the line of said railroad, the same being near the town of New Castle in Placer County, California and as a result of such examination and from written evidence submitted to us respectfully,

Report and certify that the said thirty one miles of said railroad and telegraph line is fully completed and the same is in running order and in daily use, that the same is a portion of the railroad and telegraph line mentioned and provided for in and by the said Acts of Congress and is constructed and completed in the manner required by the said Acts, from the said point of beginning on the east bank of the Sacramento River at the foot of I Street in the City of Sacramento for said distance of thirty one consecutive miles from said point of beginning and is ready for the service contemplated by said Acts of Congress and the same is supplied with all necessary drains, culverts, viaducts, crossings, sidings,

bridges, turnouts, watering places, depots, equipments, furniture, rolling stock, cars, locomotives and all the appurtenances of a first-class railroad and is constructed of the best materials and in a most durable and permanent manner, and the rails and all the other iron used in the construction and equipment of the said thirty one miles of said road, are of American manufacture of the best quality; that the track of said railroad is of the uniform width and gauge of four feet eight and one half inches and the grades and curves of the said railroad do not exceed the maximum grades and curves of the Baltimore and Ohio Railroad, that the maximum grade of the said thirty one miles of said railroad does not exceed one hundred and five and six tenths (105 6/10) feet per mile and the maximum curve does not exceed eight degrees or a radius of Seven hundred and seventeen (717) feet, except a few short curves in the city of Sacramento which do not exceed twelve degrees and ten minutes or a radius of four hundred and seventy two feet -- and that the distance from the beginning point, of said thirty one miles of railroad to the crossing of Arcade Creek the point fixed by your Excellency as the western base of the Sierra Nevada Mountains, is seven and eighteen hundredths miles and the remainder of said thirty one miles of railroad lies eastwardly from said point so fixed as the western base of said mountains.

All of which is respectfully submitted.

WITNESS OUR HANDS at Sacramento, this eighth day of September, 1864.

Attest:

E. B. Crocker

Ralph Smith.

Fredk. F. Low

Josiah Johnson

P. H. Sibley.

(Endorsement)

Secretary Treasury.
Feb. 25, 1865.

Received Feb. 27, 1865.
1st Section.

CENTRAL PACIFIC.

Encloses certified copies of certain papers in
relation to the Central Pacific Railroad of Cal-
ifornia.

Filed.

See letter of 2 March, 1865, enclosing copies to
the Com. of the Gen. Land Office. 1 -- 110.

File

Copies to C. P. Huntington, Mch. 6, 65.

Beard. (Department
of the
Interior.
(Feb. 27, 1865.)
8 Mch. 76.

Mr. Beard was Land & R.R. Clk. when these papers
were recd. by the Intr. Dept. He informs me that this
portion of road was likely accepted verbally by President
Lincoln, as it was his custom in the press of business
of those days to give verbal directions personally to
Heads of Depts., so far as possible. Mr. Beard states
that he has never seen any acceptance in writing of
this portion of road. **

F. F. Dolan.

** There may be a record of acceptance in the
Treasury Department.

EXECUTIVE MANSION

Washington, January 12, 1864.

In pursuance of the eleventh section of the act of Congress entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for Postal, Military and other purposes " approved July 1, 1862, the point where the line of the Central Pacific Railroad crosses Arcade Creek in the Sacramento valley is hereby fixed as the western base of the Sierra Nevada mountains.

Abraham Lincoln.

(Seal)

UNITED STATES OF AMERICA }
State of California. }

To His Excellency Andrew Johnson, President of the United States and Hon. Lauren Upson, U. S. Surveyor General for the State of California.

The Central Pacific Railroad Company of California under and in pursuance of the provisions of the Act of Congress entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government, the use of the same for postal, military and other purposes" approved July 1st, 1862, and the Acts amendatory thereof, approved July 2, 1864 and March 3, 1865, makes the following statement, that in addition to the thirty one miles of railroad line mentioned and described in the statement made by this company under date of August 31, 1864.

The said company have now in running order and are operating twelve consecutive miles of their railroad line mentioned and provided for, in and by the said Acts of Congress; that the same is constructed in the manner required by said Acts; that said addition and extension of said railroad line, commences at the termination of the thirty one miles of railroad and telegraph line described in said statement of August 31st, 1864, and ends at the place or town known as "Clipper Gap" in the County of Placer, in said State; that the said addition and extension is connected with and is a continuation of the said thirty one miles of railroad line described in said statement of August 31, 1864; that the said addition and extension of said railroad line is ready for the service contemplated by said Acts of Congress and is supplied with all necessary drains, culverts, viaducts, crossings, sidings, bridges, turnouts, watering places, depots, equipments, furniture, rolling stock, cars and locomotives, and all the appurtenances of a first class railroad; and the rails and all the other iron used in the construction and equipments of the said addition and extension of the said railroad line

are of American manufacture of the best quality; that the track of the said addition and extension of said railroad is of the uniform width and gauge of four feet, eight and one half inches, and the grades and curves of the same do not exceed the maximum grades and curves of the Baltimore and Ohio Railroad; that the maximum curve thereon does not exceed ten degrees, or a radius of five hundred and seventy three feet, and the maximum grade thereon does not exceed one hundred and five and six tenths feet per mile; that the whole of said addition and extension lies eastwardly or less than one hundred and fifty miles from the crossing of Arcade Creek, the point fixed by the President of the United States as the western base of the Sierra Nevada Mountains.

And the said Company further states that a large proportion of the work required to prepare the road for the superstructure on the remaining portion of eight miles of the section of twenty miles lying next eastwardly from the termination of said section of thirty one miles described in said statement of August 31st, 1864, is done; that six tenths of the work required to prepare the road for the said section of thirty one miles described in said statement of August 31st, 1864, is done; that the value of the work done on the said section of twenty miles is not less than one million and ninety eight thousand dollars.

The said Central Pacific Railroad Company of California therefore hereby requests the said U. S. Surveyor General of the State of California upon the filing of this statement in his office to notify the Hon. F. F. Low, P. H. Sibley and Josiah Johnson, the Commissioners appointed by the President of the United States under and in pursuance of the provisions of the said acts of Congress, for the said Central Pacific Railroad to examine and report and certify upon the said work done upon the said section of twenty miles as required by said Acts of Congress.

Sacramento, June 17, 1865.

Leland Stanford,

President C. P. R.R. Co. of Cal.

STATE OF CALIFORNIA)
)
County of San Francisco)

Leland Stanford being duly sworn says that he is the President of the said Central Pacific Railroad Company of California, and that the matters and things set forth in the foregoing statement are true and correct.

Leland Stanford.

Sworn and subscribed before me, Wm. Loewy Clark of the District Court of the 4th Judicial District of said State, in and for said County, the same being a Court of Record, as witness my hand and the seal of said Court, this 17th day of June, 1865.

Wm. Loewy County Clerk,
ex officio Clerk of said District Cot.

(L.S.)

Office of the Surveyor General
Of the United States, for California.

I, L. Upson, Surveyor General of the United States for the State of California, by virtue of the power vested in me by law, do hereby certify, that the next preceding and hereunto annexed page, numbered from one to four inclusive, exhibit a true, full, and correct copy of the sworn statement of Leland Stanford, President of the Central Pacific Railroad Company of California, in relation to the extension of the line of said railroad, twelve miles, eastwardly from the termination of the thirty one miles of railroad described in the statement of said company of August 31st, 1864, made by said Leland Stanford as President of said Company, as the same appears on file and of record in this office.

In testimony whereof, I have hereunto signed my name officially and caused my seal of office to be affixed at the city of San Francisco, this 29th day of June 1865.

L. Upson, U.S. Surveyor General,
for California.

(L.S.)

United States of America,
State of California.

To His Excellency Andrew Johnson, President of the
United States, and H. McCulloch, Secretary of the Treasury.

The undersigned, Frederick F. Low, Pardon H. Sibley and
Josiah Johnson, Commissioners appointed by the President of the
United States, to examine and report upon the Central Pacific
Railroad of California under and in pursuance of the provisions
of an Act of Congress, entitled "An Act to aid in the construc-
tion of a Railroad and Telegraph line from the Missouri River to
the Pacific Ocean, and to secure to the Government the use of the
same for postal, military and other purposes, "approved July 1st,
1862, and the acts amendatory thereof approved July 2nd, 1864, and
March 3rd, 1865, would respectfully state that they have in pur-
suance of a notice from the U. S. Surveyor General of the State of
California, examined the section of twenty miles of the railroad
line of the said company, lying next eastwardly of the terminus of
the section of thirty one miles, near the town of New Castle, here-
tofore examined and reported upon by them the 8th day of September
1864 and as a result of such examination and from written evidence
submitted to us, the said Commissioners and Saml. S. Montague Esqr,
Chief Engineer of said Company respectfully

Report and Certify

That of the said twenty mile section lying next Eastwardly from
the town of New Castle, on twelve miles thereof the said Railroad
line is now constructed and in running order, and in daily use by
the passenger and freight trains of said company, that the same is
a portion of the railroad line mentioned and provided for in said
Acts of Congress, and the same is constructed and equipped in the
manner required by the said Acts, and is ready for the service con-
templated by the said Acts of Congress and the same is supplied with
all necessary drains, culverts, viaducts, crossings, sidings, bridges,

turnouts, watering places, depots, equipments, furniture, rolling stock cars, locomotives, and all the appurtenances of a first class railroad and the same is constructed of the best quality of materials, and in a durable and permanent manner and the rails and all the other iron used in the construction and equipment of the said twelve miles of the said Railroad, are of American manufacture of the best quality; that the track of the said railroad is of the uniform width and gauge of four feet, eight and one half inches, and the grades and curves thereof do not exceed the maximum grades and curves of the Baltimore and Ohio Railroad, that the maximum grades thereof, does not exceed One hundred and five and six tenths feet per mile, and the maximum curve does not exceed ten degrees or a radius of five hundred and seventy three feet, that the whole of said section of twenty miles lies Eastwardly of and less than One hundred and fifty miles from the crossing of Arcade Creek, the point fixed by the President of the United States as the western base of the Sierra Nevada Mountains.

And the said Commissioners and Chief Engineer further report and certify that a large proportion, to wit, not less than six tenths of the work required to prepare the road for the superstructure, has been done on the remaining portion of eight miles of the said section of twenty miles lying next Eastwardly of New Castle, and that the value of the work done on the said section of twenty miles exceeds the sum of One million and eighty thousand dollars. All of which is respectfully submitted.

WITNESS our hands, signed to triplicates at Sacramento this 5th day of July 1865.

Fredk. F. Low.

Pardon H. Sibley

Josiah Johnson

Sam. S. Montague.

United States of America
State of California.

To His Excellency Andrew Johnson, President and Hon.
H. McCulloch, Secretary of the Treasury of the United States.

The undersigned, Frederick F. Low, Pardon H. Sibley and
Josiah Johnson, Commissioners appointed by the President of the
United States to examine and report upon the Central Pacific
Railroad of California, under and in pursuance of the provisions
of An Act of Congress, entitled "An Act to aid in the construction
of a railroad and telegraph line from the Missouri River to the
Pacific Ocean, and to secure to the Government the use of the same
for postal, military and other purposes, "approved July 1, 1862,
and the Acts Amendatory thereof approved July 2, 1864, and March 3,
1865, would respectfully state, that they have, in pursuance of a
notice from the U.S. Surveyor General of the State of California,
examined the section of twenty miles of the railroad line of the
said company, lying next eastwardly of the terminus of the section
of thirty one miles at the town of Newcastle, heretofore examined
and reported upon by us the 8th day of September 1864, and as a re-
sult of such examination and from written evidence submitted to us,
we the said Commissioners and Samuel S. Montague, Esq. Chief Engi-
neer of the said company respectfully

Report and certify, that the whole of the work required
to prepare the said road for the superstructure on the said section
of twenty miles, lying next eastwardly of the terminus at Newcastle,
of the said section of thirty one miles, is done and fully completed,
and the grades and curves thereof do not exceed the grades and
curves of the Baltimore and Ohio Railroad, that the maximum grade
thereof does not exceed one hundred and five and six tenths feet per
mile, and the maximum curve does not exceed ten degrees or a radius
of five hundred and seventy three feet, that the said section of twenty
miles is a portion of the railroad line mentioned and provided for
in said Acts of Congress, and lies eastwardly of, and less than One

hundred and fifty miles from the crossing of Arcade Creek, the point fixed by the President of the United States as the western base of the Sierra Nevada Mountains, and that the value of the said work done on said section of twenty miles, to prepare the same for the superstructure, exceeds the sum of One million three hundred and fifty thousand dollars. All of which is respectfully submitted.

WITNESS our hands signed to triplicates, at Sacramento, this day of September, 1865.

Frederick F. Low

Pardon H. Sibley

Josiah Johnson

Sam S. Montague.

Frederick F. Low, Pardon H. Sibley, Josiah Johnson and Samuel S. Montague, being duly sworn say, that the matters and things set forth in the foregoing report and certificate by them signed, are true, according to the best of their knowledge and belief.

Frederick F. Low

Pardon H. Sibley

Josiah Johnson

Sam. S. Montague

Subscribed and sworn to before me, Alanson C. Bidwell, County Clerk (and ex-officio Clerk of the District Court of the Sixth Judicial District) in and for Sacramento County, the same being a Court of record, as witness my hand and the seal of said Court this sixteenth day of September, 1865.

Alanson C. Bidwell.

County Clerk and ex-officio Clerk of the
6th Judicial District Court of Sacramento
County.

(SEAL)

UNITED STATES OF AMERICA

State of California.

To His Excellency, Andrew Johnson, President of the
United States.

The undersigned, Frederick F. Low, Pardon H. Sibley and Josiah Johnson, appointed by the President of the United States, to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of An Act of Congress, entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military and other purposes," approved July 1, 1862, and the Acts Amendatory thereof, approved July 2, 1864, and March 3rd, 1865, would respectfully state, that they have received a notice from the U. S. Surveyor General for the State of California, that the said Central Pacific Railroad Company had filed the verified statement required by the provisions of said acts, showing the completion and equipment of an addition and continuation of twenty three consecutive miles of their railroad and telegraph line from New Castle to Colfax, as provided by said Acts, and notifying us, as such Commissioners, to examine and report upon the said addition and continuation of said railroad and telegraph line; that we have in pursuance of said notice examined the following portion of the railroad and telegraph line of the said company, to wit; commencing at the termination of the thirty first mile of the said railroad and telegraph line, at the town of New Castle, and ending at the termination of the fifty fourth mile of said railroad and telegraph line at the town of Colfax, all in the County of Placer, in the State of California, and as a result of such examination, and from written evidence submitted to us, respectfully,

Report and certify, That the said addition and continuation of said twenty three miles of the said Railroad and Telegraph line is fully completed and equipped, and the same is in run-

ing order and in daily use, and is ready for the service contemplated by said Acts of Congress, that the same is a portion of the railroad and telegraph line mentioned and provided for in and by the said Acts, and is constructed, completed and equipped in the manner required by the said Acts, and the same is fully supplied with all necessary drains, culverts, viaducts, crossings, sidings, bridges, turnouts, watering places, depots, equipments, furniture, rolling stock, cars, locomotives, and all the appurtenances of a first class railroad, and is constructed of the best materials, and in a durable and permanent manner, and the rails, and all the other iron used in the construction and equipment of the same, are of American manufacture of the best quality; that the track of said railroad is of the uniform width and gauge of four feet, eight and one half inches, and the grades and curves of the same do not exceed the maximum grades and curves of the Baltimore and Ohio Railroad; that the maximum grades of the said twenty three miles of the said railroad does not exceed one hundred and five and six tenths ($105 \frac{6}{10}$) feet per mile, and the maximum curve does not exceed ten degrees or a radius of five hundred and seventy three feet; that all of the said twenty three miles lie eastwardly, and less than one hundred and fifty miles from the crossing of Arcade Creek, the point fixed by the President of the United States, as the western base of the Sierra Nevada Mountains.

They would further report and certify that on the said twenty three miles of said railroad, the number of degrees of curved line is four thousand three hundred and twenty six degrees (43260°) fifty two ($52'$) minutes, and the length of the curved lines is seventy two thousand seven hundred and thirty five ($72,735$) feet, the length of the straight lines is forty eight thousand seven hundred and five ($48,705$) feet -- Percentage of curved line, fifty nine and nine tenths ($59 \frac{9}{10}$) -- of tangent line, forty and one tenth ($40 \frac{1}{10}$) The width of the embankments at grade line is twelve feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at the grade line varies from fourteen to eighteen feet, according to

the material forming the sides of the cuts, and the inclinations of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: Through earth, one (1) foot horizontal to one (1) foot vertical. Soft rock, one half ($\frac{1}{2}$) to one (1), three fourths ($\frac{3}{4}$) to one (1), and one (1) foot horizontal to one (1) foot vertical, Through hard rock, one fourth ($\frac{1}{4}$) of a foot horizontal to one (1) foot vertical.

The culverts are all built in the open or box form of hard stone, and their number and size are as follows, to wit:

Eight (8) Box Culverts, One (1) by one (1) foot.

Twenty five (25) Box Culverts, One and one half ($1\frac{1}{2}$) by one and one half ($1\frac{1}{2}$) feet.

Sixty (60) Box culverts, Two (2) by two (2) feet

One (1) " " Two (2) by two and one half ($2\frac{1}{2}$) feet

Six (6) " " Two (2) by three (3) feet

Six (6) " " Three (3) by three (3) "

Six (6) " " Three (3) by four (4) "

One (1) " " Three (3) by five (5) "

Two (2) Open culverts, Six (6) feet span

Three (3) " " Eight (8) feet span.

There are six (6) trestle bridges, and one (1) Truss bridge on the said twenty three miles of railroad, all built of wood; they are of the following dimensions; one trestle bridge at New Castle, on section thirty two (32), on a four degree curve of thirty ^{528'} three bents, varying in height from twenty (20) to sixty three (63) feet, one half of the bents rest on brick and stone piers, and the others on a bed rock foundation, levelled up with broken stone and gravel with foundation plank of redwood three (3) by twelve (12) inches, and four (4) feet in length, laid under the sill for three fourths of its entire length. One trestle bridge on Section ^{Auburn} thirty six (36) built on a straight line of twenty six (26) ^{416'} bents, varying in height from fifteen (15) to thirty eight (38) feet. Two trestle bridges on Sections ^{Bowman} forty (40) and forty one (41) of twenty six (26) ^{416'} and twenty eight (28) ^{448'} bents, varying in height from fourteen (14) to forty (40)

feet. The first being four hundred and sixteen (416) feet in length, one hundred and sixty three (163) feet of which is straight, and two hundred and fifty three (253) feet on a six degree curve, the second being four hundred and forty eight (448) feet in length, two hundred and ten (210) feet of which is straight line, and two hundred and thirty eight (238) feet on a six degree curve. One trestle Bridge on section ^{Clippers Ravine} forty three (43) of thirty (30) ^{480'} bents varying in height from ten (10) to forty six (46) feet, all on a straight line. One trestle bridge on section ^{Deep Gulch} (44) forty four of ^{416'} twenty six (26) bents ^{S/B 17 300'} varying from fifteen (15) to fifty ^{90'} (50) feet in height, also on a straight line ----- The five last mentioned bridges are all built on bed rock foundations similar to the one first described, all are built with redwood sills, and upon the same general plan, a drawing of which is herewith sent marked "C". The spans of all the trestle bridges are sixteen (16) feet from center to center of the bents.

There is on section ^{Clippers Ravine} forty four (44) one truss bridge of eight (8) spans of forty (40) feet each, resting upon timber piers which are supported by piers of stone masonry varying in height from six (6) to twelve (12) feet. It is built on a straight line three hundred and twenty (320) feet in length, with approaches of trestling at each end of eighty (80) and fifty ⁴⁸ (50) feet in length respectively, and built upon the same general plan as the other trestle work. The truss used is the common "Straining Beam" or "Palladio Truss." The extreme height above the bed of the ravine is ninety six (96) feet.

There are three cattle guards, and twenty road crossings on said twenty three miles of rail road. No fences or farm gates have been built by the railroad company on said portion of their rail road, as none are needed, the road being built almost entirely on vacant public lands, and where built through enclosed fields, fences have not been found necessary.

The main track of the portion of the railroad examined by us is twenty three miles in length, with four thousand six hundred and seventy five (4675) feet of side tracks attached thereto. The weight of the rails used is sixty pounds per linear yard. The chains are

chains

= 24 ft rails

of wrought iron, and four hundred and forty are used per mile, and each chair weighs eight pounds. The spikes used are of wrought iron, five and one half inches in length, weigh one half pound each, and number ten thousand one hundred and twenty per mile upon straight lines, the number being increased upon the curves.

On this portion of the railroad line there are an average of twenty two hundred ties per mile. The ties are of Black or Coast Redwood, eight feet in length, six by eight inches in size, the joint ties being six by ten inches.

The material composing the road bed, for the greater part of the twenty three miles, forms of itself a good ballasting material, and is used for that purpose, the ties being firmly embedded therein. Where the road bed is made of earth or other material unsuitable for ballasting, the road is ballasted with broken rock, disintegrated granite and gravel, at the rate of one and one quarter ($1\frac{1}{4}$) cubic yards per linear yard of road.

There are four stations on said portion of said railroad line, to wit: New Castle, Auburn, Clipper Gap and Colfax, with one passenger house and one freight house at each station, and three water tanks. The passenger and freight houses and water tanks are all built of wood. There are no machine shops, wood sheds or engine houses on this portion of the railroad. The machine shops and engine houses are located at the City of Sacramento, at which place there is a large shop for putting up and repairing locomotives, and an engine house, all built of wood, of sufficient capacity to do the work required. The engine house has five stalls, capable of accommodating six locomotives. The signals used on the road are plain targets for all switches.

There are six locomotives in use on the road, all of them of the best style and quality, of the best class used on American roads, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives in use.

Names of Engines.	No. of Drivers	Diam. of Drivers.	Diam. of Cylinder	Length Stroke	Weight includ. Tender.	Cost.
Gov. Stanford	4	4½ ft.	15 in.	22 in.	44 tons.	\$15,733.56
Pacific	4	5 "	16 "	24 "	46 "	18,205.08
Atlantic	4	5 "	15 "	22 "	44 "	16,629.91
Conness	6	4 "	17 "	24 "	54 "	19,161.74
Huntington	2	4½ "	11 "	15 "	22 "	10,589.58
Judah	2	4½ "	11 "	15 "	22 "	10,603.49

The "Gov. Stanford" was built by Norris & Son at Philadelphia, Penn. The "Pacific", "Atlantic" and "Conness" by William Mason at Taunton, Mass., and the Huntington and Judah by Danforth, Cook & Co. at Patterson, New Jersey.

There are now in use on the road the following cars, to wit;

6 First class Passenger cars,	each costing	\$3,700.
2 Passenger and Baggage	" " "	1,880.
1 Baggage, mail and express	" "	2,000.
39 Box freight	" " "	800.
65 Platform	" " "	550.
8 Gravel	" " "	75.
10 Hand	" " "	230.
3 Track laying cars	" " "	125.

The road is well constructed, and in our opinion passenger trains can be safely run over it at the rate of thirty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

We herewith send a map marked "A" attested by our signatures, which exhibits the line of this portion of the road examined by us, with its curves and tangents. This portion of the line is located upon the slope of the Sierra Nevada Mountains, and among rocky hills and over deep ravines, which compelled the use of numerous curves, as well as high grades.

We also send herewith a Profile marked "B", also attested by our signatures, which exhibits the ascent and descent of each grade per mile. All of which is respectfully submitted.

WITNESS our hands this third day of November 1865.

Frederick F. Low

Pardon H. Sibley

Josiah Johnson.

UNITED STATES OF AMERICA)
)
State of California.)

To His Excellency, Andrew Johnson, President, and the
Hon. H. McCulloch, Secretary of the Treasury, of the United States.

The undersigned, T.F. Low, Josiah Johnson and A. M. Crane,
Commissioners appointed by the President of the United States to
examine and report upon the Central Pacific Railroad of Califor-
nia, under and in pursuance of the provisions of the Act of Con-
gress, entitled, "An act to aid in the construction of a railroad
and telegraph line from the Missouri River to the Pacific Ocean,
and to secure to the Government the use of the same for postal,
military and other purposes," approved July 1, 1862, and the
Acts amendatory thereof, approved July 2, 1864, and March 3, 1865,
would respectfully state, that they have this day made a report
upon the construction and completion of an addition and continua-
tion of twenty miles of the said railroad and telegraph line, com-
mencing at the termination of the fifty fourth mile at the town of
Colfax, and ending at the termination of the seventy fourth mile
near a place called "Blue Bluff", in Placer County, California;
which is hereby referred to; that in addition to the matters there-
in stated, they would further respectfully,

Report and Certify, that on the said twenty miles of said
railroad, the number of degrees of curved line is three thousand
four hundred and thirteen and fifty five sixtieths ($3413 \frac{55}{60}$);
the length of the curved lines is sixty six thousand seven hundred
and fifty and four tenths ($66,750 \frac{4}{10}$) feet, length of straight
lines is thirty eight thousand eight hundred and forty nine and
six tenths ($38,849 \frac{6}{10}$) feet, the per centage of curved line is
sixty three one hundredths ($63/100$). The width of the embankments
at grade line is fourteen (14) feet and the inclination of the
slopes of the embankments are one and one half ($1\frac{1}{2}$) feet horizontal
to one (1) foot vertical. The width of the excavations at grade
line varies from fifteen (15) to twenty (20) feet, according to

the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows -- through earth, one (1) foot horizontal to one (1) foot vertical - soft rock, one half ($\frac{1}{2}$) to one (1), three fourths ($\frac{3}{4}$) to one (1) and one (1) foot horizontal to one (1) foot vertical. Through hard rock, one fourth ($\frac{1}{4}$) of a foot horizontal to one (1) foot vertical.

The culverts are all either built with an arch, or in the open or box form -- all of hard stone, and their number and size are as follows: --

Arch culverts	12 feet span	One
" "	5 " "	Two
" "	4 " "	One
" "	3 " "	Nine
Box culverts	3 x 4	Five
" "	$3\frac{1}{2} \times 3\frac{1}{2}$	One
" "	3 x 3	Fourteen
" "	$2\frac{1}{2} \times 3$	One
" "	$2\frac{1}{4} \times 3$	One
" "	2 x 3	Twenty eight
" "	$2\frac{1}{2} \times 2\frac{1}{2}$	One
" "	2 x 2	Thirty five
" "	$1\frac{1}{2} \times 1\frac{1}{2}$	Three
Open Culverts	6 feet	Two
" "	5 "	One
" "	4 "	Three

There are two Truss Bridges, with approaches of trestling, on the said section of twenty miles, all built of wood. They are of the following dimensions.

1st. Long Ravine Bridge consists of three spans of "Howe Truss" -- two of one hundred and fifty feet each, and one of one hundred and twenty eight feet. This bridge spans the ravine at a height of one hundred and fifteen feet, and rests on substantial

timber piers, supported by stone masonry. All the timber work is covered and securely protected from the weather. The approaches to the bridge consist of thirty four trestle bents on the west, and four trestle bents on the east end, built upon the plan submitted with a former report. The bents vary in height from ten to seventy feet -- are placed sixteen feet from center to center, and rest upon foundations of broken stone, similar to those shown upon plan above referred to.

(Hart photo shows 47 west, 4 east)
2nd Secret-town Bridge consists of forty four trestle bents (same as above) varying in height from ten to sixty feet, and seven spans of truss of forty feet each, resting on double timber bents, same as shown on plan of "Deep Gulch Bridge" submitted with a former report. The foundations of bridge and trestling are the same as here ~~before~~ described. All the timber used on the above bridges is of the best quality of pine, spruce and redwood, and all the iron of the best quality of American manufacture.

There are eight road crossings, but no cattle guards, no fences or farm gates have been built by the said company on said twenty miles of their railroad, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of the portion of the railroad examined and reported on by us, is twenty miles in length, with six thousand two hundred feet of side tracks attached thereto, being sufficient to accommodate the business of the road. The weight of the rails used, is sixty pounds per linear yard. The chairs are of wrought iron, and four hundred and forty are used per mile, and each chair weighs eight pounds. The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weigh one half pound each, and number ten thousand one hundred and twenty per mile upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad there are an average of twenty four hundred cross ties per mile. These ties are either black or coast redwood or red spruce, with a few of sugar pine and white

cedar, the greater portion are, however, redwood or red spruce. They are eight feet in length, six by eight inches in size, the joint ties being six by ten inches.

The material forming the road bed, for the greater part of these twenty miles, is of itself good ballasting, and is used for that purpose, the ties being formerly embedded therein -- this material consists largely of broken rock from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast used so far on this portion of the line, is principally broken rock, at the rate of one and one quarter cubic yards per linear yard of road.

There are three stations on said portion of said railroad line, to wit: Gold Run, Dutch Flat and Alta with one passenger house, and one freight house at each station, and three water tanks, all built of wood. There are no machine shops, wood shed or engine houses on this portion of the railroad, the machine shops and engine houses of the company being located at Sacramento, as stated in a previous report made by us.

There are thirteen locomotives in use on the road, and four more have just arrived from the east, but are not yet set up, all of them of the best style and quality, of the best class used on American roads, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives in use:

No.	Names of Engines.	No. of Drivers.	Diam of Drivers. Feet.	Diam of Cylinder Inches.	Length stroke Inches.	Weight including Tenders. Tons	Cost.
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C P. Huntington	2	4½	11	15	22	10,589.58
4	T.D. Judah	2	4½	11	15	22	10,603.49
5	Atlantio	4	5	16	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	46	22,762.24
8	Nevada	6	4	18	22	55	36,438.57

			Feet	Inches	Inches	Tons.	
9	Utah	6	4	18	22	55	\$36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49

NEW ENGINES.

14	Oneonta	6	4	18	22
15	Washoe	6	4	18	22
16	Owyhee	6	4	17	24
17	Idaho	6	4	17	24

The Gov. Stanford was built by Norris & Son, Philadelphia, Penn. The Pacific, Atlantic, Conness, Arctic, Truckee, Owyhee and Idaho by Wm. Mason at Taunton, Mass. The Sargent by Booth & Co, of San Francisco, California, and the Judah, Huntington, Nevada, Utah, Humboldt, Hercules, Oneonta and Washoe by Danforth, Cook & Co., Patterson, New Jersey.

There are now in use on the road the following cars, to wit;

Six	First class Passenger cars each costing	\$3,700.
Two	Passenger and Baggage " " "	1,880.
Two	Baggage, mail and express " "	2,000.
Sixty four	Box Freight " "	800.
Ninety four	Platform " "	550.
Sixteen	Section " "	75.
Eighteen	Hand " "	230.
Twenty	Dump " "	725.
Three	Track laying " "	125.

The road is well constructed, and in our opinion, passenger trains can be safely run over it at the rate of thirty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

We herewith send a map marked "D" attested by our signatures, which exhibits the line of this portion of the road examined by us, with its curves and tangents. This portion of the road is located

upon the western slope of the Sierra Nevada Mountains, among rocky hills and deep ravines, which has compelled the use of numerous curves as well as high grades.

We also send herewith a profile marked "E" also attested by our signatures, which exhibits the ascent and descent of each grade per mile.

All of which is respectfully submitted.

Sacramento September 28th, 1866.

Frederick F. Low

Josiah Johnson

Addison M. Crane

UNITED STATES OF AMERICA,)
State of California.)

To His Excellency Andrew Johnson, President, and the Hon.
H. McCulloch, Secretary of the Treasury, and the Hon. O. H.
Browning, Secretary of the Interior, of the United States.

The undersigned, John Bigler, Thomas J. Henley and Frank
Denver, Commissioners appointed by the President of the United
States to examine and report upon the Central Pacific Railroad of
California, under and in pursuance of the provisions of the Act of
Congress, entitled "An Act to aid in the construction of a railroad
and telegraph line from the Missouri River to the Pacific Ocean, and
to secure to the Government the use of the same for postal, military
and other purposes," approved July 1, 1862, and the Acts amendatory
thereof, approved July 2, 1864, March 3, 1865, and July 3, 1866,
would respectfully state, that they have this day made a report upon
the construction and completion of an addition and continuation of
twenty miles of the said railroad and telegraph line, commencing at
the termination of the seventyfourth mile near a place called Blue
Bluffs in Placer County, California and ending at the termination
of the ninety fourth mile, which is hereby referred to. That in addi-
tion to the matters therein stated, they would further respectfully,

Report and Certify That in the said twenty miles of said rail-
road, the number of degrees of curved line is 4198 degrees and 57
minutes. The length of the curved lines is 62,078 feet. The length
of straight lines is 43,522. The per centage of curved line 59/100.
The width of the embankments at grade line is 14 feet. The inclina-
tion of the slopes of the embankments are one and one half feet hor-
izontal to one foot vertical. The width of the excavations at grade
line varies from 16 to 20 feet according to the material forming the
sides of the cuts, and the inclination of the slopes of the excava-
tions varies with the nature of the material through which the ex-
cavation is made, and is as follows: through earth one foot horizon-
tal to one foot vertical; soft rock, one half to one, three fourths

to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form, all of hard stone, and their number and size are as follows:

55	Box Culverts	2 x 3 feet.
7	" "	3 x 3 "
18	" "	3 x 4 "
1	" "	4 x 4 "
6	" "	4 x 5 "
1	" "	4 x 6 "
1	Arch	2 feet span
1	" "	5 " "
1	" "	8 " "
20	Open	4 " "
5	" "	6 " "
<u>1</u>	" "	8 " "

117 Culverts.

The only bridging on the said section of twenty miles is one trestle bridge four hundred feet in length, and seventy five feet extreme height in center, across Butte Cañon near Cisco. This bridge is built of red spruce and sugar pine upon the same general plan as heretofore reported by Commissioners, and has foundations of granite masonry under each bent.

There are 6 road crossings. No fences or farm gates have been built by said company on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is twenty miles in length with 8598 feet of side tracks attached thereto, being sufficient to accommodate the business of the road. The weight of the rails used is not less than sixty pounds per yard. From the seventy fourth to the seventy fifth mile, wrought iron chairs, weighing eight pounds each are used for the joints. From the seventy fifth to the

Where the tunnel is 1/2 mile long

ninety fourth mile inclusive, the fish joint is used. This consists of two wrought iron bars twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length. The spikes used are of wrought iron five and one half inches in length, nine sixteenths of an inch square, weigh one half pound each and number about ten thousand five hundred per mile upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad there are an average of twenty four hundred cross ties per mile. These ties are black or coast red wood, red spruce, sugar pine and white cedar, the greater portion are, however, redwood, red spruce and cedar. They are eight feet in length, not less than six by eight inches in size, the joint ties being six by ten inches.

The material forming the road bed, for the greater part of these twenty miles, is of itself good ballasting, and is used for that purpose, the ties being firmly embedded therein. This material consists largely of broken rock from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per linear yard of road.

There are three stations on said portion of said railroad line to wit; Blue Cañon, Emigrant Gap and Cisco. At the latter station a commodious freight depot, four hundred feet in length by forty in breadth, has been built, also a passenger house, engine house, turntable, &c. There is also a turntable at Emigrant Gap. There are three water tanks on this section of twenty miles, and wood sheds capable of holding a season's supply of fuel are in course of construction. There are no machine shops on this portion of the railroad -- the machine shops and engine houses of the company being located at Sacramento.

There are now in use on the road the following cars to wit:

No.	Cars.	Cost.
6	First Class Passenger Cars costing each	\$3,700.
2	Passenger and Baggage " " "	1,880.
2	Baggage, mail and express " "	2,000.
97	Box Freight " "	800.
246	Platform " "	550.
20	Section " "	75.
20	Hand " "	230.
45	Dump " "	725.
2	Track Laying " "	125.
440		

There are twenty five locomotives in use on the road, all of them of the best style and quality, of the best class used on American roads, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives in use:

No.	Names of Engines.	No. of Drivers	Diam of Drivers	Diam of Cylinder	Length Stroke	Weight including Tenders Tons.	Cost.
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	J.C.P. Huntington	2	4½	11	15	22	10,589.58
4	T.D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	16	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	46	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39

16	Owyhee	6	4	17	24	55	\$24,482.38
17	Idaho	6	4	17	24	54	23,473.06
18	Puite	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	57	
21	Tamaroo	6	4½	18	24	57	
22	Auburn	6	4½	18	24	57	
23	Mono	6	4½	18	24	57	
24	Montana	6	4½	18	24	57	
25	San Mateo	4	5	16	22	44	

The Gov. Stanford was built by Norris & Son, Philadelphia, Penn.

The Pacific, Atlantic, Conness, Artio, Truckee, Owyhee and Idaho

by Wm. Mason at Taunton, Mass.

The Sargent by Booth & Co. of San Francisco, California.

The Judah, Huntington, Nevada, Utah, Humboldt, Hercules, Oneonta, Washoe, Carson and Puite by Danforth, Cook & Co., Patterson, New Jersey.

The Amazon, Tamaroo, Auburn, Mono and Montana by McKay and Aldus, Boston, Mass.

The San Mateo was built by Baldwin Co., Philadelphia, Penn.

The road is well constructed and passenger trains can be safely run over it at the rate of thirty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The map marked A is a correct drawing of this section of said railroad, from Section 75 to Section 95 both inclusive, showing correctly its various curves and tangents. The profile marked B also correctly exhibits the grades thereof, which said map and profile herewith accompanies this report duly attested by us.

This portion of the road is located upon the western slope of the Sierra Nevada Mountains, among rocky hills and deep ravines, which has compelled the use of numerous craves as well as high grades.

All of which is respectfully submitted.

Revenue
Stamp
Cancelled.

Thos. J. Henley } Commissioners
John Bigler }
Frank Denver }

4
Sacramento October 4th, 1867.

UNITED STATES OF AMERICA.

State of California.

To His Excellency, Andrew Johnson President, the Hon. H. McCulloch Secretary of the Treasury, and the Hon. O. H. Browning, Secretary of the Interior, of the United States;

The undersigned, John Bigler, Frank Denver and Thomas J. Henley, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the Construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes," approved July 1, 1862, and the Acts amendatory thereof, approved July 2, 1864, March 3, 1865, and July 3, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of Twenty (20) miles of the said Railroad and Telegraph line, commencing at the termination of the Ninety fourth (94th) mile, and ending at the termination of the One hundred and fourteenth (114th) mile, which is hereby referred to. That in addition to the matters therein stated and upon satisfactory evidence submitted to us they would further respectfully

Report and Certify, That in the said Twenty (20) miles of said Railroad, the number of degrees of curved line is 2963 degrees and 43 minutes; the length of the curved lines is 57,915.1 feet, and of the tangent lines is 47,684.9 feet; the percentage of curved line is 54.7. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half

to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS

On Sections 95 to 114 both inclusive.

No.	Description.	Size.
24	Box Culverts	2 x 3 feet
71	" "	3 x 3 "
20	" "	3 x 4 "
1	" "	3 x 5 "
1	" "	3½ x 5 "
3	" "	4 x 4 "
8	" "	4 x 5 "
1	" "	5 x 5 "
4	" "	4 x 6 "
11	Open "	4 feet span
2	" "	6 " "
8	" "	8 " "
1	" "	10 " "
1	" "	12 " "

156 Culverts.

The following are the Bridges on said Section of twenty miles:

BRIDGES.

First. Lower Cascade Bridge, One span of Howe Truss, 204 feet in clear - with approaches of 2 spans of 40 feet and one span of 80 feet.

Second. Upper Cascade Bridge, One span 204 feet and one span of 40 feet.

Note. These Bridges are built with a heavy arch beam, to which the Truss is attached by suspension rods in same manner as the Truckee River Bridges heretofore described.

Third. South Wuba Bridge, One span Howe Truss, 85 feet in clear.

Where are tunnels #3 thru #13

Fourth. Driver's Creek Bridge. One span of 50 feet. *where?*

Note. All these bridges rest upon abutments and piers of solid granite masonry, are built of the best material and in a thorough and workmanlike manner.

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are four public Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is twenty miles in length, with 6500 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by "Fish joints". This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine-sixteenths of an inch square, weigh one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these Twenty miles is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of gravel and broken rock, from the excavations.

The ballasting cannot be fully completed until the embankments have

had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are three stations on said portion of said railroad line, to wit: One at Tamarack, Ninety five miles from Sacramento; one at Cascade, ninety nine miles from Sacramento, and one at Summit, one hundred and five miles from Sacramento.

There are no machine shops on this portion of the railroad -- the machine shops and engine houses being located at Sacramento and Rocklin.

There are now in use on the road the following cars, to wit:

10 First Class Passenger Cars,	each costing	--\$3,700.
2 Passenger and Baggage Cars,	"	1,880.
4 Baggage, Mail and Express Cars,"	"	2,000.
177 Box Freight Cars,	"	800.
479 Platform Cars,	"	550.
95 Dump cars,	"	725.
36 Hand cars,	"	230.
30 Section cars,	"	75.
8 Track cars,	"	125.

There are fifty locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a List of the Locomotives now in use:

No.	Names of Engines.	No. of Drivers.	Diam.of Drivers.	Diam of Cylinders	Length Stroke	Weight including Tender.	Cost.
			Feet.	Inches.	Inches.	Tons.	
1	Gov. Stanford	4	4½	15	22	44	\$15,733.60
2	Pacific	4	5	16	24	46	18,205.08
3	C.P.Huntington	2	4½	11	15	22	10,589.58
4	T.D.Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24

			Feet.	Inches.	Inches.	Tons.	
8	Nevada	6	4	18	22	55	\$36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22	--	18,671.45
27	Goliah	6	4	17	22	--	18,220.86
28	Gold Run	4	5	16	24	--	16,994.56
29	Antelope	4	5	16	24	--	16,816.24
30	Tahoe	4	5	16	22	--	17,981.13
31	Klamath	4	5	16	22	--	17,988.54
32	Ajax	6	4	16	24	38	
33	Achilles	6	4	16	24	38	
34	El Dorado	4	5½	16	24		
35	Boise	4	5½	16	24		
36	Shoshone	4	5	16	22		
37	Mohave	4	5	16	22		
38	Ogdensburg	6	4½	18	24	56	
39	Malone	6	4½	18	24	56	
40	Solano	4	5	16	22		
41	Stanislaus	4	5	16	22		

			Feet	Inches	Inches	Tons.
42	Tnolumne	4	5	16	22	--
43	Tulare	4	5	16	22	--
44	Colossus	6	4 $\frac{1}{2}$	18	24	--
45	Majestic	6	4 $\frac{1}{2}$	18	24	--
46	Unicorn	6		17	22	---
47	Griffin	6		17	22	--
48	Toiyabe	6		17	22	--
49	Toquima	6		17	22	--
50	Champion	4	5	16	24	--

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map marked "A" is a correct drawing of this section (20 miles) of said railroad, from Section 95 to 114, both inclusive. The Map shows correctly the various curves and tangents, and the Profile marked "B" correctly exhibits the original surface line and the grades upon which this section of said Railroad is constructed.

All of which is respectfully submitted.

John Bigler

Frank Denver

Thos. J. Henley

Commissioners.

Sacramento, June 22nd, A.D., 1868.

UNITED STATES OF AMERICA.)
State of California.) ss.

To His Excellency, Andrew Johnson, President and the Hon. H. McCulloch, Secretary of the Treasury, and the Hon. O. H. Browning, Secretary of the Interior of the United States.

The undersigned, John Bigler, Frank Denver and Thomas J. Henley, Commissioners appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California under and in pursuance of the provisions of the Act of Congress entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean and to secure to the Government the use of the same for postal, military and other purposes approved July 1, 1862, and the Acts amendatory thereof approved July 2, 1864, and March 3, 1865, and July 3, 1866, would respectfully state that they have this day made a report upon the construction and completion of an addition and continuation of twenty four miles of the said railroad and telegraph line, commencing at the termination of the One hundred and fourteenth mile and ending at the termination of the One hundred and thirty eighth mile, which is hereby referred to. That in addition to the matter therein stated and upon personal examination and written evidence submitted, they would further respectfully

Report that in the said twenty four miles of said railroad the number of degrees of curved line is 2717 degrees and 20 minutes; the length of the curved lines is 64,867 feet and of the tangent lines is 61,853 feet; the per centage of curved line is 51/100; the width of the embankments at grade line is 14 feet; the inclination of the slopes of the embankments are one and one half feet horizontal to one foot vertical; the width of the excavations at grade line varies from 16 to 20 feet according to the material forming the sides of the cuts; and, the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth one foot horizontal to one foot vertical; soft rock - one half to one, three fourths to one, and one foot hori-

zontal to one foot vertical; through hard rock -- one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch or in the open or box form, all of hard stone and their number and size are as follows:

1 Arch Culvert	12 feet span
34 Box "	2 x 3 feet
32 " "	3 x 3 "
25 " "	3 x 4 "
5 " "	4 x 4 "
5 " "	4 x 5 "
1 Open "	4 feet span
24 " "	6 " "
42 " "	8 " "
7 " "	10 " "
2 " "	12 " "
1 " "	15 " "
<u>2</u> " "	16 " "

181 Culverts.

The following are the Bridges on said section of twenty four miles.

First. Coldstream Bridge, consists of four spans of Howe Truss, 2 of 126, and 2 of 85 feet each, and one span, straining beam Truss of 50 feet.

The two center piers are built of timber resting on foundations of granite masonry, (similar in plan to the piers of Long Ravine Bridge, 56 miles from Sacramento). The other piers are built wholly of granite, laid in hydraulic cement. The track is laid on the upper chord, at a height of 80 feet above the bed of the stream.

Second. Prosser Creek Bridge. 1 span, Howe Truss, 105 feet in clear, and two spans of Straining beam Truss, of 50 feet each, all resting on piers of granite, laid as above. Crossing on upper chord.

Third. Little Truckee Bridge. 1 span, Howe Truss, 105 feet in clear. 1 span, straining beam truss of 50 feet, and one span (same kind truss) of 40 feet, all resting on piers of granite masonry.

Fourth. First Truckee Bridge. One span, Howe Truss, with arch 204 feet in clear. Truss and arch resting on abutments of first class masonry, laid in hydraulic cement. Capacity of bridge within limits of safety, 600 tons. Greatest load that can ever be imposed upon the same, 204 tons, crossing on lower chord.

Fifth. Juniper Creek Bridge. One span, Howe Truss, 76 feet in clear, resting on granite piers. Crossing on lower chord.

Sixth. Alder Creek Bridge. One span, 40 feet. *Kind 3*

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are no public road crossings. No fences or farm gates have been built by said Company on said section, as none are needed, the road being built almost entirely on vacant public land, and, where built through enclosed fields, fences have not been found necessary. The main track of this section is twenty four miles in length, with 1500 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road. The weight of rails used is not less than ⁶55 pounds per yard. They are connected by "fish-joints." This consists of two wrought iron bars, twenty inches in length by two and one half inches in width and three fourths of an inch thick, fitting closely to the neck of the rail and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length. The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weigh one half pound each and number about ten thousand five hundred per mile upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad there are an average of 2300 cross ties per mile. These ties are red spruce, sugar pine, tamarack and white cedar. The greater portion are, however, tamarack, red spruce and cedar. They are eight feet in length, not less than six by eight inches in size, the joint-ties being not less than six by ten inches.

The material forming the road bed, for the greater part of these

twenty four miles, is, of itself, good ballasting and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of gravel and broken rock from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per linear yard of road.

There are two stations on said portion of said railroad line, to wit: Truckee, 118 miles from Sacramento; Boca, at the confluence of the Little Truckee and Truckee Rivers, 128 miles from Sacramento; and Camp 24 at terminus of completed section.

There are no machine shops on this portion of the railroad -- the machine shops and engine houses of the company being located at Sacramento.

There are now in use on the road the following cars, to wit:

6 First class Passenger Cars each costing	\$3,700.
2 Passenger and Baggage " " "	1,880.
2 Baggage, mail & express " " "	2,000.
135 Box Freight " " "	800.
250 Platform " " "	550.
20 Section " " "	75.
20 Hand " " "	230.
45 Dump " " "	725.
3 Tracklaying " " "	125.

There are thirty locomotives in use on the road, all of them of the best style and quality, of the best class used on American roads and well adapted for service on heavy grades and sharp curves.

The following is a List of the Locomotives now in use on the road.

No.	Names of Engines.	No. of Drivers	Diam of Drivers	Diam of Cylinder	Length Stroke	Weight including Tender.	Cost.
1	Gov. Stanford	4	4½	15	22	44 Tons.	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P. Huntington	2	4½	11	15	22	10,589.58

4	T. D. Judah	2	4 $\frac{1}{2}$	11	15	22	\$10,603.49
5	Atlantic	4	5	16	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	46	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	54	23,473.06
18	Plute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4 $\frac{1}{2}$	18	24	57	
21	Tamaroo	6	4 $\frac{1}{2}$	18	24	57	
22	Auburn	6	4 $\frac{1}{2}$	18	24	57	
23	Mono	6	4 $\frac{1}{2}$	18	24	57	
24	Montana	6	4 $\frac{1}{2}$	18	24	57	
25	San Mateo	4	5	16	22	44	
26	Gold Run	4	5	16	22	47	
27	Solano	4	5	16	22	44	
28	Stanislaus	4	5	16	22	44	
29	Tnolumne	4	5	16	22	44	
30	Tulare	4	5	16	22	44	

The road is well constructed and Passenger Trains can be safely run over it at the rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map, marked "A" is a correct drawing of this section of said railroad, from Section 115 to Section 138, both inclusive, showing correctly its various curves and tangents.

The Profile, marked "B" also correctly exhibits the grades thereof. All of which is respectfully submitted.

Revenue
Stamp
Cancelled.

John Bigler.
Frank Denver.
Thos. J. Henley
Commissioners.

Sacramento, November 18th, A.D., 1867.

UNITED STATES OF AMERICA)
State of California.)

To His Excellency, Andrew Johnson, President, and the Hon. H. McCulloch, Secretary of the Treasury, and the Hon. O. H. Browning, Secretary of the Interior, of the United States.

The undersigned, John Bigler, Frank Denver and Thomas J. Henley, Commissioners appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military and other purposes," approved July 1, 1862, and the Acts amendatory thereof approved July 2, 1864, and March 3, 1865, and July 3, 1866, would respectfully state, that they have this day made a Report upon the construction and completion of an addition and continuation of twenty miles of the said Railroad and Telegraph line; commencing at the termination of the One hundred and thirty eighth mile, and ending at the termination of the One hundred and fifty eighth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and certify That in the said twenty miles of said railroad the number of degrees of curved line is 1062 degrees and 46 minutes, The length of the curved lines is 37,007.9 feet, and of the tangent lines is 68,592.1 feet. The percentage of curved line is 35/100. The width of the embankment at grade line is 14 feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line, varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth -- one foot horizontal to one foot vertical; soft rock -- one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock -- one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch, or in the open or box form, all of hard stone, and their number and size are as follows:

				51 brt. ford.			
7 Box Culverts, 2 x 2 ft.				3 Open Culverts 4 ft. span			
20	"	"	2 x 3 "	16	"	"	6 " "
1	"	"	2 x 4 "	3	"	"	8 " "
9	"	"	3 x 3 "	7	"	"	10 " "
8	"	"	3 x 4 "	1	"	"	14 " "
4	"	"	4 x 4 "	3	"	"	16 " "
<u>2</u>	"	"	4 x 5 "	<u>1</u>	"	"	20 " "
51 Ford.				85 Culverts.			

The following are the Bridges on said section of twenty miles.

BRIDGES.

First. Second Crossing of the Truckee River, consisting of ^{two} ~~the~~ spans of Howe Truss, of one hundred and fifty (150) feet each, built upon the same plan and in the same manner as similar bridges described in previous Reports. This bridge rests upon piers of solid granite masonry laid in hydraulic cement.

Second. Third Crossing of Truckee. One span of Howe Truss, with arch two hundred and four (204) feet in clear, resting on abutments of granite masonry, and is built in the same manner, and is in every respect a fac simile of the bridge described in a former Report as "Bridge at first crossing of the Truckee" excepting the Piers, which, in this bridge, are at right angles to the center line of the track.

Third. Fourth Crossing of Truckee, same as Third Crossing, just above described.

The timber used in these bridges is of the best quality of white and yellow pine and the iron of the best quality of American manufacture.

There are 10 public road crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this Section is twenty miles in length, with

where are tunnels #15

2650 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road. The weight of the rails used, is not less than 56 pounds per yard. They are connected by "fish-joints". This consists of two wrought iron bars, twenty inches in length by two and one half inches in width and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length. The spikes used, are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weigh one half pound each, and number about ten thousand five hundred per mile upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow ^{pine,} tamarack and white cedar. The greater portion are, however, tamarack, pine and cedar. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater part of these twenty miles is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of gravel and broken rock from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of One and one quarter cubic yards per linear yard of road.

There are two stations on said portion of said Railroad line, to wit: One at Verdi, 143 miles from Sacramento, and one at Reno, 154½ miles from Sacramento.

There are no machine shops on this portion of the railroad, the machine shops and engine houses of the Company being located at Sacramento and Rocklin.

There are now in use on the Road the following cars, to wit:

10 First Class Passenger Cars, each costing			\$3,700.
3 Passenger & Baggage	"	"	1,880.
3 Baggage, mail & express	"	"	2,000.
177 Box freight	"	"	800.
385 Platform	"	"	550.
95 Dump	"	"	725.
23 Hand cars	"	"	230.
30 Section	"	"	75.
<u>4</u> Track	"	"	125.
730			

There are fifty Locomotives now in use on the Road, all of them of the best style and quality, of the best class used on American Roads, and well adapted for service on heavy grades and sharp curves.

The following is a List of the Locomotives now in use.

No.	Names of Engines.	No. of Drivers.	Diam ^{of} Drivers.	Diam.of Cylinders.	Length Stroke.	Weight including Tender. Tons.	Cost.
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P.Huntington	2	4½	11	15	22	10,589.58
4	T.D.Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65

						Tons.	
19	Carson	6	4	18	22	55	\$23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliath	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Wasco	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	
33	Achilles	6	4	16	24	38	
34	El Dorado	4	5½	16	24		
35	Boise	4	5½	16	24		
36	Shoshone	4	5	16	22		
37	Mohave	4	5	16	22		
38	Ogdensburg	6	4½	18	24	56	
39	Malone	6	4½	18	24	56	
40	Solano	4	5	16	22		
41	Stanislaus	4	5	16	22		
42	Tuolumne	4	5	16	22		
43	Tulare	4	5	16	22		
44	Colossus	6	4½	18	24		
45	Majestic	6	4½	18	24		
46	Unicorn	6		17	22		
47	Griffin	6		17	22		
48	Toiyabe	6		17	22		
49	Toquima	6		17	22		
50	Champion	4	5	16	24		

The road is well constructed and Passenger trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed, as any similar railroad in the United States.

The Map, marked "A", is a correct drawing of this Section (20) miles, of said Railroad, from Section 139 to Section 158, both inclusive, showing correctly the various curves and tangents.

The Profile, marked "B", also correctly exhibits the original surface line and the grades upon which this Section of said Railroad is constructed. All of which is respectfully submitted.

John Bigler)	
Frank Denver)	Commissioners
Thos. J. Henley)	

Sacramento, May 15th, A. D., 1868.

Page
No.

7th Section CPRR ITEM AAA
Camp 37 to E. of Clarks (See BBB under)

Miles 158-178

Bridge 8 bents 16' each 8' high
Sidings 2800
Rails Not less than 56 pounds 28' gen.
Joints 2 miles fish joints, 4 bolts
18 " chairs
Spikes 9/16x5½ ½# 10,500 on tangent, more on curves
Ties 12/28' 2260 per mile from Sierras 6x8x8 and 6x10x8 Joint
Ballast Native gravel, broken rock 1½ Cu.Yd per lin Yd.
Stations Camp 37 and Clarks

Miles 178-215

Bridge 5th Truckee 3-50 Truss spans, 3 bents west and 6
bents on east approach (To be replaced by
204' Howe Truss at low water) Also trestle
3 bents 16' 6-8' high
Rails Not less than 56# 28' gen
Joints Fish Joints - 4 bolts
Spikes 9/16 x 5½ as above
Ties 2250 per mile Sierras 6x8 & 10x8'
Ballast Native sand, gravel 1½ Cu.Yd. lin. yd.
Sidings 9000'
Stations Wadsworth, Desert, Hot Springs

Miles 215-255

Embankments Standard - as shown by form - same up to here
Sidings 10,200'
Rails Not less than 56# 28' gen
Joints Fish joints 4 bolts
Spikes As above
Ties 2260' 2200 per mile from Sierras 6x8 - 10x8'
Ballast Native sand and gravel
Stations Mirage, White Plains, Humboldt Lake, Greasewood,
Lovelocks
Expenses of Commissioners \$333.70

Miles 255-290

Excavations Standard
Bridge 1st Humboldt 2-80' Truss spans (to be replaced
by 160' Howe at low water)
Sidings 10,613'
Rails Not less than 56# 28' gen
Joints Fish joints as above
Spikes As above
Ties 2250 per mile as above
Ballast Native sand and gravel as above
Stations 1st crossing of Humboldt, Rye Patch, Humboldt
House

Miles 290-310 (2 sections of 20 miles together) ??

Grading Standard
Sidings 4000'
Rails, Spikes As above 56#
Joints Fish Joints as above
Ties 2260 per mile Sierra as above
Ballast Native sand and gravel as above
Stations Mill City, Raspberry Creek

Department
Aug 12
1868
of the Interior.

UNITED STATES OF AMERICA.

State of California.

To His Excellency, Andrew Johnson President, the Hon H. Mc Culloch Secretray of the Treasury, and the Hon. O. H. Browning Secretary of the Interior of the United States.

✓
✓
✓
The undersigned Thos J^d Henley, Frank Denver and S. D. Smith Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean and to secure to the Government the use of same for postal, military and other purposes," approved July 1, 1862 and the Acts amendatory thereof, approved July 2nd. 1864 March 3rd. 1865 and July 3rd, 1866 and would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of thirty seven miles of the said Railroad and Telegraph line, commencing at the termination of the One hundred and seventy eighth mile and ending at the termination of the two hundred and fifteenth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and Certify. That in the said Thirty seven miles of said railroad, the number of degrees of curved line is 1328 degrees and 45 minutes; the length of the curved line is 61,034 feet, and of the tangent lines is 134,326 feet; the percentage of curved line is 34.13% The width of the embankments at graded line is fourteen feet and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavation at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half to one, threefourths to one, and one foot horizontal to one foot vertical; through hard rock one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form of hard stone and their number and size are as follows;

LIST OF CULVERTS.

On Sections 179 to 216 both inclusive.

No	Description	Size
1	Box Culvert	2 x 2 feet
13	" "	2 x 3 "
5	" "	3 x 3 "
9	" "	3 x 4 "
1	Open "	4 feet span
27	" "	6 " "
44	" "	8 " "
7	" "	10 " "
1	" "	12 " "
2	" "	16 " "
1	" "	20 " "

111 Culverts

The following are the bridges on said section of thirty seven miles:

BRIDGES.

✓ First. Fifth crossing of Truckee consists of three spans of (5²B) Truss of 50 feet each-- with the approaches of three bents of trestle on the West, and six bents of trestle on the East end.

✓ The spans are built on the same plan as all spans of similar length on preceeding sections, and both truss and trestle bridging is constructed in the best manner of yellow pine, and all the iron used is of the best quality of American manufacture.

This bridge will be replaced by a ^{Burr?} Howe Truss of 204 feet span with stone abutments, as soon as the water recedes sufficiently to allow the foundations to be placed.

Second. One trestle Bridge, 3 bents, 16 feet span, 6 to 8 feet high

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are eight public road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is 37 miles in length, with 9000 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

✓ The weight of the rails is not less than 56 pounds per yard. They are connected by fish-joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. ✓ The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine-sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2250 cross ties per mile. These ties are red spruce, yellow pine, tamarack, and white cedar. The greater portion are however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these 37 miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are three stations on said portion of said railroad line, to wit: One at Wadsworth 189 miles from Sacramento; one at Desert 197 miles from Sacramento. and one at Hot Springs, 209 miles from Sacramento.

There are no machine shops on this portion of the railroad the machine shops and engine houses being located at Sacramento and Rocklin. Machine shops have been laid out and will be immediately built at Wadsworth.

There are now in use on the road the following cars, to wit:

10	First class Passenger cars	each costing	\$3,700.
2	Passenger and Baggage cars	" "	1,880.
6	Baggage Mail and Express cars	" "	2,000.
177	Box Freight	" "	800.
559	Platform	" "	550.
95	Dump	" "	725.
37	Hand	" "	230.
36	Section	" "	75.
17	Track	" "	125.

There are fifty locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylinders	Stroke Length	Weight including tender	Cost
			FEET	INCHES	INCHES	TONS	
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49

5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Casson	6	4	18	22	55	23,379.22
20	Amazon	6	4 $\frac{1}{2}$	18	24	56	20,649.58
21	Tamaroo	6	4 $\frac{1}{2}$	18	24	56	21,311.97
22	Auburn	6	4 $\frac{1}{2}$	18	24	56	21,283.27
23	Mono	6	4 $\frac{1}{2}$	18	24	56	21,235.71
24	Montana	6	4 $\frac{1}{2}$	18	24	56	19,116.94
25	Yuba	6	4 $\frac{1}{2}$	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,826.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	
33	Achilles	6	4	16	24	38	
34	El Dorado	4	5 $\frac{1}{2}$	16	24		
35	Boise	4	5 $\frac{1}{2}$	16	24		
36	Shoshone	4	5	16	22		
37	Mohave	4	5	16	22		
38	Ogdensburg	6	4 $\frac{1}{2}$	18	24	56	
39	Malone	6	4 $\frac{1}{2}$	18	24	56	
40	Solano	4	5	16	22		
41	Stanislaus	4	5	16	22		
42	Tuolumne	4	5	16	22		
43	Tulare	4	5	16	22		
44	Colossus	6	4 $\frac{1}{2}$	18	24		
45	Majestic	6	4 $\frac{1}{2}$	18	24		
46	Unicorn	6		17	22		
47	Griffin	6		17	22		
48	Toiyabe	6		17	22		
49	Toquima	6		17	22		
50	Champion	4	5	16	24		

✓ The road is well constructed, and passenger trains can be safely run over it at a rate of forty miles per hour, and at high a rate of speed as any similar ailroad in the United States.

✓ The Map and Profile marked "A" is a correct drawing of this section (37 miles) of said Railroad, from section 179 to section 215, both inclusive. The map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface

line and the grades upon which this section of said railroad is constructed

All of which is respectfully submitted.

Thos. J. Henley
Frank Denver
S. D. Smith

}
} Commissioners.
}

Sacramento July 28th, A. D. 1868

UNITED STATES OF AMERICA.

State of California.

To His Excellency, Andrew Johnson President, the Hon. H. Mc Culloch, Secretary of the Treasury, and the Hon. O. M. Browning Secretary of the Interior of the United States.

The undersigned Thos. J. Henley, Frank Denver and S. D. Smith, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the Construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for Postal, Military and other purposes." approved July 1st 1862, and the Acts amendatory thereof, approved July 2, 1864, March 3 1865 and July 3, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of forty miles of the said Railroad and Telegraph line, commencing at the termination of the two hundred and fifteenth mile, and ending at the termination of the two hundred and fifty fifth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and Certify. That in the said forty miles of said railroad the number of degrees of curved line is 843 degrees and 21 minutes; the length of the curved line is 82,934 feet, and of the tangent lines is 128,266 feet; the percentage of curved line is 39 28/100. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

List of Culverts
on Sections 216 to 255 both inclusive.

No.	Description	Size
2	Box Culverts	2 x 3 feet
1	" "	3 x 4 " Double
12	Open	6 feet span.
29	" "	8 " "
8	" "	10 " "
2	" "	12 " "

There are no bridges on this forty mile section.

There are 12 public road crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely in vacant ~~land~~ public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is forty miles in length, with 10,200 feet of side tracks attached thereto, being ~~is~~ sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish-joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and threefourths of an inch thick, fitting closely to the neck of the rail and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine-sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines the number being increased upon the curves.

✓ Upon this portion of the railroad, there is an average of 2200 cross-ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these forty miles, is, of itself, good ballasting, and is used for the purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per linear yard of road.

There are five stations on said portion of said railroad line, to wit: One at Mirage, 215 3/4 miles from Sacramento; one at White Plains 222 3/4 miles from Sacramento, one at Humboldt Lake 232 1/4 miles from Sacramento, one at Greasewood, 235 miles, and one at Lovelock's 251 1/2 miles from Sacramento.

*Greasewood
changed to
Brown's*

There are no machine shops on this portion of the railroad-- the machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth.

There are now in use on the road the following cars, to wit:

13	First Class Passenger cars, each costing	\$3,700.
2	Passenger & Baggage	" " " 1,880.
4	Baggage Mail & Express	" " " 2,000.
178	Box Freight	" " " 800.
650	Platform	" " " 550.
95	Dump	" " " 725.
38	Hand	" " " 230.
34	Sections	" " " 75.
22	Track	" " " 125.

There are fifty locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylinders	Length Stroke	Weight including Tender	Cost
			Feet	Inches	Inches	Tons	
1	Gov Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,233.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliath	6	4	17	22		18,220.86
28	Gold Run	6	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.1
31	Klamath	4	5	16	22		17,988.54

32	Ajax	6	4	16	24	38
33	Achilles	6	4	16	24	38
34	El Dorado	4	5 $\frac{1}{2}$	16	24	
35	Boise	4	5 $\frac{1}{2}$	16	24	
36	Shoshone	4	5	16	22	
37	Mohave	4	5	16	22	
38	Ogdensburg	6	4 $\frac{1}{2}$	18	24	56
39	Malone	6	4 $\frac{1}{2}$	18	24	56
40	Solano	4	5	16	22	
41	Stanislaus	4	5	16	22	
42	Tuolumne	4	5	16	22	
43	Tulare	4	5	16	22	
44	Colossus	6	4 $\frac{1}{2}$	18	24	
45	Majestic	6	4 $\frac{1}{2}$	18	24	
46	Unicorn	6		17	22	
47	Griffin	6		17	22	
48	Toiyabe	6		17	22	
49	Toquima	6		17	22	
50	Champion	4	5	16	24	

✓ The road is well constructed, and Passenger trains can safely be run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The map and Profile marked "A", is a correct drawing of this section (40 miles) of said Railroad, from Section 216 to section 255, both inclusive. The map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed

All of which is respectfully submitted.

Thos. J. Henley,	}	Commissioners.
Frank Denver		
S. D. Smith		

Sacramento, August 13th, 1868.

UNITED STATES OF AMERICA.

State of California.

To His Excellency, Andrew Johnson President of the United States, the Hon. H. McCulloch, Secretary of the Treasury and the Hon. O. B. Browning, Secretary of the Interior, of the United States.

The undersigned, Thomas J. Henley, Frank Denver and S. D. Smith Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "an Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for Postal, military and other purposes." approved July 1st, 1862 and the acts amendatory thereof approved July 2nd, 1864. March 3rd, 1865, and July 3rd, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of Thirty five miles of the said railroad and telegraph line, commencing at the termination of the two hundred and fiftyfifth mile, and ending at the termination of the two hundred and ninetieth mile, which is hereby referred to. That in addition to the matter therein stated. they would further respectfully

Report and Certify. That in the said thirty five miles of said railroad, the number of degrees of curved line is 552 degrees and 36 minutes; the length of the curved lines is 59,877 feet, and the tangent lines is 124,923 feet; The percentage of curved line is 32.4. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal and one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavations are made, and is as follows: Through earth, one foot horizontal to one foot vertical; soft rock one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS
On sections 256 to 290 both inclusive;

No	Description	Size.
1	Box Culvert	2 x 3 feet
1	" "	3 x 4 "
34	Open "	6 feet span
48	" "	8 " "
1	" "	12 " "
1	" "	16 " "
86	Culverts.	

The following are the Bridges on said section of thirty five miles:

First. First Crossing of Humboldt, consists of two spans of Truss of eighty feet each. The spans are built on the same plan as all spans of similar length on preceding sections, and both truss and trestle bridging is constructed in the best manner of yellow pine and all the iron used is of the best quality of American manufacture.

This bridge will be replaced by a Howe Truss of 160 feet span, with stone abutments as soon as the water receded sufficiently to allow the foundations to be placed.

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are 14 Public Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on public vacant land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is 35 miles in length, with 10,613 feet of side tracks attached thereto being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine.-sixteenths of an inch square, weigh one half pound each and number about ten thousand five hundred per mile. upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2250 cross-ties per mile. These ties are red spruce, yellow pine tamarack and white cedar. The greater portion are, however tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these 35 miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle. which will take several months. The ballast is used at the rate of one and one quarter cubic yard per lineal yard of road.

There are three stations on said portion of said railroad line, to wit; One at First Crossing at Humboldt 255 miles from Sacramento, one at Rye Patch 273 miles from Sacramento and one at Humboldt house, 284 miles from Sacramento.

There are no machine shops on this portion of the railroad-- the machine shops and engine houses being located at Sacramento rocklin and Wadsworth.

There are now in use on the road the following cars, to wit;

10	First Class Passenger Cars, each costing	\$3.700.
2	Passenger and Baggage cars	1,880.
6	Baggage mail and Express	2,000.
177	Box Greight	800.
655	Platform	550.
95	Dump	725.
46	Hand	230.
39	Section	75.
24	Track	125.

There are fifty-three locomotives now in use on the road, all of them of the best style and quality, of the best class used on American Roads. are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylinders	Length Stroke	Weight including Tender	Cost
			Feet	Inches	Inches	Tons	
1	Gov Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C. P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65

19 Carson	6	4	18	22	55	\$23,379.22
20 Amazon	6	4½	18	24	56	20,649.58
21 Tamaroo	6	4½	18	24	56	21,311.97
22 Auburn	6	4½	18	24	56	21,283.27
23 Mono	6	4½	18	24	56	21,235.71
24 Montana	6	4½	18	24	56	19,116.94
25 Yuba	6	4½	18	24	56	18,970.05
26 Sampson	6	4	17	22		18,671.45
27 Goliah	6	4	17	22		18,220.86
28 Gold Run	4	5	16	24		16,994.56
29 Antelope	4	5	16	24		16,816.24
30 Tahoe	4	5	16	22		17,981.13
31 Klamath	4	5	16	22		17,988.54
32 Ajax	6	4	16	24	38	
33 Achilles	6	4	16	24	38	
24 El Dorado	4	5½	16	24		
35 Boise	4	5½	16	24		
26 Shoshone	4	5	16	22		
37 Mohave	4	5	16	22		
38 Ogdensburg	6	4½	18	24	56	
39 Malone	6	4½	18	24	56	
40 Solano	4	5	16	22		
41 Stanislaus	4	5	16	22		
42 Tuolumne	4	5	16	22		
43 Tulare	4	5	16	22		
44 Colossus	6	4½	18	24		
45 Majestic	6	4½	18	24		
46 Unicorn	6		17	22		
47 Griffin	6		17	22		
48 Toiyabe	6		17	22		
49 Toquima	6		17	22		
50 Champion	4	5	16	24		
51 Climax	4	5	16	24		
52 Tip Top	4	5	16	24		
53 Summit.	4	5	16	24		

The road is well constructed, and Passenger trains can be safely run over it at a rate of forty miles per hour, and at a high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (35 miles) of said railroad, from Section 256 to Section 290, both inclusive, The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted

Thos. J. Henley	} Commissioners
Frank Denver	
S. D. Smith	

Sacramento, August 31st A. D. 1868.

CENTRAL PACIFIC R. R. CO

Report of Commissioners

on

11th Section.

20 miles

290th to 310th mile.

E. of Humboldt House *W. of Rose Creek*
Commissioner's report dated Sept. 12th 1868.

President's acceptance dated Oct. 10th 1868.

(Endorsement)

DEPT OF INTERIOR.

Oct 10, 1868.

O, H, Browning,
Secretary,

Submits to the President of the U. S. reports
dated the 12th and 22nd ultimo of the Commis-
sioners appointed to examine two sections,
40 miles of the Central Pacific Railroad of
California with recommendations on the subject.

290 to 330

EXECUTIVE MANSION, Oct 10th 1868

The within recommendations of the Secretary of the
Interior are approved and the Secretary of the Treas-
ury and himself are hereby directed to carry the same
into effect.

Andrew Johnson

LRB 310

Department
Oct,
12
1868.
of the Interior.

Pac. R. R.

DEPARTMENT OF THE INTERIOR,

Washington, D. C. Oct. 10th 1868.

Sir:

I have the honor to transmit herewith, for your action, the reports dated the 12th and 22nd ultimo of the Commissioners Messrs Thomas J. Henley, Frank Denver and John Bigler, appointed by you to examine and report on two sections of twenty miles each, of the road and telegraph line of the Central Pacific Railroad Company of California, commencing at the termination of the 290th mile and ending at the termination of the 330th mile, east of the initial point at Sacramento, in the State of California.

The Commissioners in their reports represent the said Sections, (of forty miles) ready for present service and completed and equipped as a first class railroad, and that the telegraph line is completed for the same distance; and as the said Company have paid to the said Commissioners the per diem and mileage due them under the 21st section of the Act of Congress, approved July 27th 1866, on account of their examination of these sections of road and telegraph line, I therefore respectfully recommend the acceptance of the same, and the issue to said Company of bonds and of patents for lands due on account of said Sections, agreeably to the Act. approved July 1st, 1862, entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean" &c. and the Acts amendatory thereof.

Very respectfully your obt. servant.

O. H. Browning

Secretary

The President.

✓ All bills must be handed in on or before the third day of each month, or they will have to lie over. No account will be allowed unless certified.

CENTRAL PACIFIC RAILROAD COMPANY
1868 To Thos. J. Henley. Dr.

Aug 13 To 4 dayse services as U. S. Commissioner
in examining railroad from 215th to 255th
mile and making report thereon at \$10. per day \$40.00

To 973 miles traveled in rendering the above
services at 10¢ per mile 97.30
137.30

Revenue
Stamp
Cancelled

Sacramento August 13th. 1863

Received from CENTRAL PACIFIC RAILROAD COMPANY
One Hundred and thirty seven 30/100 -----Dollars
in full for above account

Thos J. Henley.

CENTRAL PACIFIC RAILROAD COMPANY
1868 TO S. D. Smith Dr.

Aug 13 To 4 days services ar U. S. Commissioner
in examining railroad from 215th to 255th
mile & making report thereon at \$10. per day \$40.00

To 391 miles traveled in rendering the
above service at 10¢ per mile 39.10
79.10

Revenue
Stamp

Sacramento August 13th 1868.

Cancelled Received from CENTRAL PACIFIC RAILROAD COMPANY
Seventy Nine and 10/100 -----Dollars
in full for above account

S. D. Smith

CENTRAL PACIFIC RAILROAD COMPANY
1868 To Frank Denver Dr.

✓ Aug 13 To 4 days services as U. S. Commissioner in
examining railroad fro 215th to 255th mile
& making report thereon at \$10. per day \$40.00

To 773 miles traveled in rendering the above
service at 10¢ per mile 77.30
117.30

Revenue
Stamp

Sacramento August 13th 1868

Cancelled Received from CENTRAL PACIFIC RAILROAD COMPANY
One hundred and seventeen 30/100 -----Dollars
in full for above account.

Frank Denver.

1st half
20 miles

-1-

UNITED STATES OF AMERICA.

State of California.

To His Excellency, Andrew Johnson President, the Hon H. McCulloch, Secretary of the Treasury and the O. H. Browning, Secretary of the Interior, of the United States.

The undersigned, Thomas J. Henley, Frank Denver and John Bigler, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the ~~xxx~~ provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military and other purposes." approved July 1, 1862 and the Acts amendatory thereof, approved July 2, 1864, March 3, 1865, and July 3, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of said railroad and telegraph line, commencing at the termination of the two hundred and ninetyeth mile, and ending at the termination of the three hundred and tenth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and Certify, That in the said twenty miles of said Railroad the number of degrees of curved line is 128 degrees and 48 minutes; the length of the curved lines is 23,013 feet, and of the tangents lines 82,587 feet; the percentage of curved line is 21.8. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: Through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS
On Sections 291 to 310 both inclusive.

No	Description	Size
2	Box Culverts	2 x 3
1	" "	3 x 4
27	Open "	6 feet span
16	" "	8 " "
<u>20</u>	" "	16 " "

48 Culverts.

There are no bridges on this section of twenty miles.

There are 20 Public road crossings, No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields fences have not been found necessary.

The main track of this section is 20 miles in length, with 4000 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross-ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these 20 miles, is of itself good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are two stations on said portion of railroad line, to wit; One at Mill City 29 3/4 miles from Sacramento; One at Raspberry Creek, 30 3/4 miles from Sacramento.

There are no machine shops on this portion of the railroad-- the machine shops and engine houses being located at Sacramento Rocklin and Wadsworth.

There are now in use on the road the following cars, to wit;

10 First Class Passenger cars,	each costing \$	3,700.
2 Passenger and Baggage	" " "	1,880.
6 Baggage Mail & Express	" " "	2,000.
177 Box Freight	" " "	800.
694 Platform	" " "	550.
95 Dump	" " "	725.
46 Hand	" " "	230.
46 Section	" " "	75/
24 Track	" " "	125.

There are forty three locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	diam of Cylinders	Length Stroke	Weight including tender	Cost
			feet	inches	inches	tons	
1	Gov Stanford	4	4½	18	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P.Huntington	2	4½	11	15	22	10,598.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantdc	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctdc	4	5	15	22	46	20,113.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Anazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	24		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	
33	Achilles	6	4	16	24	38	
34	El Dorado	4	5½	16	24		
35	Boise	4	5½	16	24		
36	shoshone	4	5	16	22		
37	Mohave	4	5	16	22		
38	Ogdensburg	6	4½	18	24	56	
39	Malone	6	4½	18	24	56	
40	solano	4	5	16	22		
41	Stanislaus	4	5	16	22		
42	Tuolumne	4	5	16	22		
43	Tulare	4	5	16	22		
44	Colossus	6	4½	18	24		
45	Majestic	6	4½	18	24		

46 Unicorn	6		17	22
47 Griffin	6		17	22
48 Toiyabe	6		17	22
49 Toquima	6		17	22
50 Champion	4	5	16	24
51 Climax	4	5	16	24
52 Tip Top	4	5	16	24
53 Summit	4	5	16	24

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The map and Profilr marked "A" is a correct drawing of this sect section (20 miles) of said Railroad, from section 291 to section 310. bo bi th inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Thos. J. Henley,	}	Commissioners
Frank Denver		
John Bigler		

Sacramento September 12th. A. D. 1868.

2nd half
20 miles

-1-

UNITED STATES OF AMERICA.

State of California.

To His Excellency, Andrew Johnson, President, the Hon H. M. Cullocj, Secretary of the Treasury and the Hon, O. H. Browning Secretary of the Interior, of the United States.:

The undersigned, Thomas J. Henley, Frank Denver and John Bigler Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal military and other purposes," approved July 1st, 1862, and the Acts amendatory thereof, approved July 2nd, 1864, March 3rd, 1865 and July 3rd, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of said railroad and Telegraph line, commencing at the termination of the 310th mile and ending at the termination of the 330th mile, which is hereby referred to. That in addition to these matters therein stated, they would further respectfully.

Report and Certify, That in the said twenty miles of said Railroad, the number of degrees of curved line is 228 degrees and 28 minutes; the length of the curved line is 26,485 feet, and of the tangent lines is 79,115 feet; the percentage of curved line is 25.08. The width of the embankments at grade line is fourteen feet and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the Excavations at grade lines varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made and is as follows: Through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an Arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS
On sections 311 to 330 both inclusive

NO	Description	size
2	Open Culverts	6 feet span
3	" "	8 " "
1	" "	10 " "
6	Culverts.	

THREE TRESTLE BRIDGES

12 feet span 6 to 8 feet high 4 bents each.

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are seven Public Road Crossings, no fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main tracks of this section is Twenty miles in length, with 5840 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by "Chairs" for the distance of 13 miles. and for the remaining 7 miles by "fish joints". This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine-sixteenths of an inch square, weight one half pound each and number about ten thousand five hundred per mile. upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tanaback and white cedar. The greater portion are, however, tanaback and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these twenty miles, is, of itself, good ballasting and is used for that purpose. the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are two stations on said portion of said railroad line, to wit; One at Rose Creek 313½ miles from Sacramento and one at Winnemucca, 324 miles from Sacramento.

There are no machine shops on this portion of the railroad line the machine shops and engine houses being located at Sacramento Rocklin and Wadsworth.

There are now in use on the road the following cars, to wit.

10	First class Passenger Cars, each costing	\$3,700.
2	Passenger and Baggage "	" " 1,880.
6	Baggage mail and Express"	" " 2,000.
177	Bbx Freight	" " 800.
730	Platform	" " 550.
95	Dump	" " 725.
46	Hand	" " 230.
46	Section	" " 75.
24	Track	" " 125.

There are fifty three Locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use.

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylinders	Length Stroke	Weight including Tender	Cost
			feet	inches	inches	tons	
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P.Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,803.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54

32 Ajax	6	4	16	24	38
33 Achilles	6	4	16	24	38
34 El Dorado	4	5½	16	24	
35 Boise	4	5½	16	24	
36 Shoshone	4	5	16	22	
37 Mohave	4	5	16	22	
38 Ogdensburg	6	4½	18	24	56
39 Malone	6	4½	18	24	56
40 Solano	4	5	16	22	
41 Stanislaus	4	5	16	22	
42 Tuolumne	4	5	16	22	
43 Tulare	4	5	16	22	
44 Colossus	5	4½	18	24	
45 Majestic	6	4½	18	24	
46 Unicorn	6		17	22	
47 Griffin	6		17	22	
48 Toiyabe	6		17	22	
49 Toquima	6		17	22	
50 Champion	4	5	16	24	
51 Climax	4	5	16	24	
52 Tip Top	4	5	16	24	
53 Summit	4	5	16	24	

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at a high rate of speed as any similar railroad in the United States.

The Map and Profile marked "A"m is a correct drawing of this section (20 miles) of said Railroad, from section 311 to section 330, both inclusive. The Map shows correctly the various curves and tangents and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted

Thos J. Henley,	} Commissioners
Frank Denver	
John Bigler	

Sacramento September 22nd A. D. 1868.

UNITED STATES OF AMERICA.

State of California

To His Excellency Andrew Johnson President, the Hon. H. McCulloch Secretary of the Treasury, and the Hon. O. H. Browning, Secretary of the Interior, of the United States:

The undersigned, Thomas J. Henley, Frank Denver and John Bigler Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal, military and other purposes," approved July 1, 1862, and the Acts amendatory thereof, approved July 2, 1864, March 3, 1865 and July 3rd. 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of the said Railroad and Telegraph line, commencing at the termination of the three hundred and thirtieth mile and ending at the termination of the three hundred and fiftieth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and Certify, That in the said Twenty miles of said Railroad, the number of degrees of curved line is 889 degrees and 39 minutes; the length of the curved line is 44,270 6/10 feet, and of the tangent lines is 61,329 4/10 feet; the percentage of curved line is 41.93. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet. according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: Through earth, one foot horizontal to one foot vertical; soft rock one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch, or in the open of box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS;
On Sections 331 to 350 both inclusive.

No	Description	Size
4	Box Culverts	3 x 4
1	" "	2 x 3
22	Open "	6 feet span
30	" "	8 " "
3	" "	10 " "
60	Culverts.	

The following are the bridges on said section of twenty miles.

BRIDGES.

First. One Trestle bridge, 5 bents of 12 feet each
Two Trestle bridges 4 bents each and each bent
having a length of 12 feet.

These bridges are constructed in the best manner of yellow pine, and all the iron used is of the best quality of American manufacture.

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are Four public Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields. fence have not been found necessary.

The main track on this section is 20 miles in length, with 3600 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by Fish-joints. This consists of two wrought iron bars, 20 inches in length by two and one half inches in width and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weigh one half pound each, and number about ten thousand five hundred per mile upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad there is an average of 2260 cross ties per mile, These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are however, tamarack and pine. They are eight feet in length, not less than six by eight in inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these 20 miles, is of itself good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle. which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are two stations on said portion of said railroad line, to wit; One at Tule, 330 miles from Sacramento; and one at Rock Creek, 341 miles from Sacramento.

Rock Creek
341 miles
Tule
330 miles

There are no machine shops on this portion of the railroad-- the machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth,

There are now in use on the road the following cars, to wit;

10	First Class Passenger cars,	each costing	\$3,700.
2	Passenger and Baggage	" " "	1,880.
6	Baggage mail & Express	" " "	2,000.
177	Box Freight	" " "	800.
796	Platform	" " "	550.
95	Dump	" " "	725.
60	Hand	" " "	230.
50	Section	" " "	75.
24	Track	" " "	125.

There are sixtytwo Locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers Feet	Diam of Cylinders inches	Length Stroke inches	Weight including Tender tons	Cost
1	Gov Stanford	4	4½	15	22	44	\$ 15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P.Huntington	2	4½	11	15	22	19,589.58
4	T/ D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,255.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45

27	Goliah	6	4	17	22		\$18,220.86
28	Gold Run	6	4	17	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Kalmath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	
33	Achilles	6	4	16	24	38	
34	El Dorado	4	5½	16	24	38	
35	Boise	4	5½	16	24		
36	Shoshone	4	5	16	22		
37	Mohave	4	5	16	22		
38	Ogdensburg	6	4½	18	24	56	
39	Malone	6	4½	18	24	56	
40	Solano	4	5	16	22		
41	Stanislaus	4	5	16	22		
42	Tuolumne	4	5	16	22		
43	Tulare	4	5	16	22		
44	Colossus	6	4½	18	24		
45	Majestic	6	4½	18	24		
46	Unicorn	6		17	22		
47	Griffin	6		17	22		
48	Toiyabe	6		17	22		
49	Toquima	6		17	22		
50	Champion	4	5	16	24		
51	Climax	5	5	16	24		
52	Tip Top	4	5	16	24		
53	Sunnit	4	5	16	24		
64	Emigrant	4	5	16	24		
80	Phil Sheridan	4	5	16	24		
81	U. S. Grant	4	5	16	24		
84	Gazelle	4	5	16	24		
93	Oronoco	4					
122	Williamette	4	5	16	24		
123	Gel L. Woods	4	5	16	24		
124	Umpqua	4	5	16	24		
125	J. R. Moores	4	5	16	24		

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high as rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 miles) of said railroad, from Section 331 to 350, both inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which section of said railroad is constructed.

All of which is respectfully submitted.

Thos. J. Henley,

Frank Denver

John Bigler

Commissioners

Sacramento October 8th A. D. 1868.

UNITED STATES OF AMERICA

State of California.

To His Excellency, Andrew Johnson President, the Hon H. Mc Culloch, Secretary of the Treasury and the Hon O. H. Browning, Secretary of the Interior of the United States.

The undersigned, Thomas J. Henley, Frank Denver and John Bigler, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad Company of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military and other purposes." approved July 1, 1862, and the Acts amendatory thereof approved July 2, 1864, March 3 1865 and July 3. 1866. would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of said railroad and telegraph line, commencing at the termination of the three hundred and fiftieth mile and ending at the termination of the three hundred and seventieth mile, which is hereby referred to. That in addition to the matter therein stated they would further respectfully

Report and Certify. That in the said twenty miles of said railroad, the number of degrees of curved line is 510 degrees and 39 minutes; the length of the curved line is 28,561.5 feet, and of the tangent lines is 77,038.5 feet; the percentage of curved line is 27.05 The width of the embankments at graded line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: Through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form, of hard stone and the number and size are as follows:

LIST OF CULVERTS.

On sections 351 to 370 both inclusive.

No	Description	Size.
36	Open Culverts	6 feet span
15	" "	8 " "
2	" "	10 " "
1	" "	12 " "
21	" "	16 " "

55 Culverts

There are no bridges on this section of twenty miles.

There are two public Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is 20 miles in length with 7800 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish-joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine-sixteenths of an inch square, weigh one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these 20 miles is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are two stations on said portion of said railroad line. to wit; One at Iron Point 352 miles from Sacramento and one at Stone House 364½ miles from Sacramento.

There are no machine shops on this portion of the railroad the machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth.

There are now in use on the road the following cars, to wit;

10	First Class Passenger Cars	, each costing	\$3,700.
2	Passenger and Baggage	" " "	1,880.
6	Baggage Mail & Express	" " "	2,000.
177	Box Freight	" " "	800.
806	Platform	" " "	550.
95	Dump	" " "	725.
60	Hand	" " "	230.
50	Section	" " "	75.
24	Track	" " "	125.

There are sixty six locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads; are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylinders	Length including Stroke	Weight Tender	Cost
			feet	inches	inches	tons	
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.75
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Plute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Samson	6	4	17	22		18,671.45
27	Goliath	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	

33	Achilles	6	4	16	24	38
34	El Dorado	4	5½	16	24	
35	Boise	4	5½	16	24	
36	Shoshone	4	5	16	22	
37	Mohave	4	5	16	22	
38	Ogdensburg	6	4½	18	24	56
39	Malone	6	4½	18	24	56
40	Solano	4	5	16	22	
41	Stanislaus	4	5	16	22	
42	Tuolumne	4	5	16	22	
43	Tulare	4	5	16	22	
44	Colossus	6	4½	18	24	
45	Majestic	6	4½	18	24	
46	Unicorn	6		17	22	
47	Griffin	6		17	22	
38	Toiyabe	6		17	22	
49	Toquima	6		17	22	
50	Champion	4	5	16	24	
51	Climax	4	5	16	24	
52	Tip Top	4	5	16	24	
53	Summit	4	5	16	24	
64	Emigrant	4	5	16	24	
65	Mikado	4	5	16	24	
66	Tycoon	4	5	16	24	
67	Hector	4	5	16	24	
73	Terrible	6	4½	18	24	
80	Phil Sheridan	4	5	16	24	
81	U. S. Grant	4	5	16	24	
84	Gazelle	4	5	16	24	
93	Oronoco	4				
122	Williamette	4	5	16	24	
123	Geo. L. Woods	4	5	16	24	
124	Umpqua	4	5	16	24	
125	J. R. Moores	4	5	16	24	

The road is well constructed and Passenger trains can be safely run over at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The map and Profile marked "A" is a correct drawing of this section (20 miles) of said railroad, from section 351 to 370, both inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Thos. J. Henley, }
 Frank Denver } Commissioners
 John Bigler }

Sacramento October 19th. A. D. 1868.

ITEM III
(III next under)

Miles 310-330 (with 290-310)

Grading Standard
Trestles 3 each 4 bents each 12' span
Sidings 5840'
Rails Not less than 56# 28' gen
Joints 7 miles fish joints as above
13 " chairs
Spikes As above
Ties 2260 per mile Sierra as above
Ballast Native sand and gravel "
Stations Rose Creek & Winnemucca

Miles 330-350

Grading standard
Trestles 1-5 bents 12', 2-4 bents 12'
Sidings 3600'
Rails Not less than 56#
Joints Fish Joints as above
Spikes "
Ties 2260 per Sierra
Ballast Native sand and gravel as above
Stations Tule, Rock Creek

Mile 350-370

Grading Standard
Sidings 7800'
Rails Not less than 56# 28' gen
Joints Fish Joints As above
Spikes "
Ties 2260 per mile
Ballast Native sand and gravel
Stations Iron Point, Stone House

Miles 370-390

Grading Standard
Sidings 1700'
Rails Not less than 56# 28' gen.
Joints Fish Joints As above
Spikes "
Ties 2260 per mile "
Ballast Native sand and gravel "
Stations Battle Mountain, Argenti (sic) MP 385⁷

Miles 390-410

Grading Standard
Sidings 9700'
Rails Not less than 56# 28' gen
Joints Fish Joints As above
Spikes "
Ties 2260 per mile "
Ballast Native "
Stations Argenta (MP 396 moved), Shoshone Point

Miles 410-430

Grading Standard
Bridges 2nd Humboldt 1-150' Howe, 1-50' Girder

Typical
report in
missing

UNITED STATES OF AMERICA.

State of California.

To His Excellency, Andrew Johnson President, the Hon. H. Mc Cullloch Secretary of the Treasury, and the Hon O. H. Browning, Secretary of the Interior, of the United States:

The undersigned, Thomas J. Henley, Frank Denver and John Bigler, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance to the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal, military and other purposes." approved July 1, 1862, and the Acts amendatory thereof, approved July 2, 1864, March 3, 1865. and July 3. 1866. would respectfully state, that they have this day made a report upon the construction and completion of an additional and continuation of the twenty miles of said railroad and telegraph line, commencing at the termination of the Three hundred and ninetyeth mile, and ending at the termination of the Four Hundred and Tenth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully.

Report and Certify. That in the said Twenty miles of the said Railroad, the number of degrees of curved line is 570 degrees and 02 minutes: and the length of the curved line is 40,190.6 feet, and of the tangent lines is 65.409.4 feet; The percentage of curved line is 38.05. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 6 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: Through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS

On sections 391 to 410 both inclusive

No	Description	Size.
5	Culverts	12 feet span
2	"	8 " "
50	"	6 " "
57	Culverts	

There are no Bridges on said section of twenty miles.

There are twelve Public Road Crossings, No fences or farm gates have been built on said section, as none are needed the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is twenty miles in length, with 9700 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by Fish-joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length nine sixteenths of an inch square weigh one half pound each and number about ten thousand five hundred per mile, upon straight lines the number being increased upon the curves.

Upon this portion of the railroad there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these twenty miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are two stations on said portion of said railroad line, to wit: One at Argenta 396 miles from Sacramento and one at Shoshone point, 407 miles from Sacramento.

(NOTE Station "Argenta" is mentioned also in report of Oct. 26th 1868 as being 385 miles from Sacramento, since that time it has been removed to the 396th mile.)

There are no machining shops on this portion of the railroad the machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth.

There are now in use on the road the following cars, to wit:

10	First class Passenger cars,	each costing	\$3,700.
2	Passenger and Baggage	" " "	1,880.
6	Baggage Mail & Express	" " "	2,000.
187	Box Freight	" " "	800.
882	Platform	" " "	550.
95	Dump	" " "	725.
62	H and	" " "	230.
56	Section	" " "	75.
24	Track	" " "	125.

There are seventy locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers feet	Diam of Cylinders inches	Length including Stroke inches	Weight including Tender tons	Cost
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C. P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Heracles	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Plute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,255.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliath	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13

31	Klamath	4	5	16	22		\$ 17,988.54
32	Ajax	6	4	16	24	38	
33	Ashilles	6	4	16	24	38	
34	El Dorado	6	5½	16	24		
35	Boise	4	5½	16	24		
36	Shoshone	4	5	16	22		
37	Mohave	4	5	16	22		
38	Ogdensburg	6	4½	18	24	56	
39	Malone	6	4½	18	24	56	
40	Solano	4	5	16	22		
41	Stanislaus	4	5	16	22		
42	Tuolumne	4	5	16	22		
43	Tulare	4	5	16	22		
44	Colossus	6	4½	18	24		
45	Majestic	6	4½	18	24		
46	Unicorn	6		17	22		
47	Griffin	6		17	22		
48	Toiyabe	6		17	22		
49	Toquima	6		17	22		
50	Champion	4	5	16	24		
51	Climax	4	5	16	24		
52	Tip Top	4	5	16	24		
53	Summit	4	5	16	24		
64	Emigrant	4	5	16	24		
65	Mikado	4	5	16	24		
66	Tycoon	4	5	16	24		
67	Hector	4	5	16	24		
73	Terrible	6	4½	18	24		
75	Growler	6	4½	18	24		
80	Phi; Sheridan	4	5	16	24		
81	U. S. Grant	4	5	16	24		
82	Buffalo	6	4½	18	24		
83	Mountaineer	6	4½	18	24		
84	Gazelle	4	5	16	24		
85	White Bear	6	4½	18	24		
93	Orenoco	4	5	14	24		
122	Williamette	4	5	16	24		
123	Geo L Woods	4	5	16	24		
124	Umpqua	4	5	16	24		
125	J. R. Moores	4	5	16	24		

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 miles) of said railroad. from section 391 to 410, both inclusive. The map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of the Railroad is constructed.

All of which is respectfully submitted.

Thos. J. Henley. }
 Frank Denver } Commissioners.
 John Bigler }

Sacramento November 16th A. D. 1868

UNITED STATES OF AMERICA

State of California.

To His Excellency, Andrew Johnson, President, the Hon. H. McCulloch, Secretary of the Treasury and the Hon. O. M. Browning Secretary of the Interior, of the United States:

The undersigned, Thomas J. Henley, Frank Denver and John Bigler, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military or other purposes." approved July 1, 1862, and the Acts amendatory thereof, approved July 2, 1864, March 3, 1865, and July 3 1866. would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of said railroad and telegraph line, commencing at the termination of the Four Hundred and tenth mile, and ending at the termination of the Four hundred and thirtieth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully.

Report and Certify That in the said twenty miles of said Railroad, the number of degrees of curved line is 907 degrees and 51 minutes; the length of the curved line is 51,888.1 feet, and of the tangent lines is 53,711.9 feet; the percentage of curved line is 49.14. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet; according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an Arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS.
On Sections 411 to 430 both inclusive.

No	Description	Size
1	Open Culvert	20 feet span
1	" "	16 " "
2	" "	8 " "
1	" "	12 " "
32	" "	6 " "
1	Box	3 x 3 feet
7	" "	2 x 3 "
3	" "	2 x 2 "

The following are the bridges on said section of twenty miles:

BRIDGES.

at Clure
First Second Crossing of Humboldt, consists of one span of Howe Truss, one hundred and fifty feet in clear, and one Trussed Girder fifty feet. Total length, including space over center pier, two hundred and five feet.

The Howe Truss is constructed in the same manner as the Bridges at Long Ravine and Second Crossing of the Truckee River, full description of which have been given in former reports.

The Trussed girder is built on the same plan as described in a former report and used at first crossing of Humboldt.

The whole bridge rests upon substantial stone piers laid in hydraulic cement and is constructed of the best materials and in the most thorough manner throughout.

actually on next Section 411.
Second Crossing of Mary's Creek, One span, straining beam truss, 50 feet in clear and resting on stone piers.

Third. Crossing of Maggie's Creek. Same as next above.

Note The bridges at Mary's and Maggie's Creeks are on the same plan as Drivers Creek Bridge near Summit of Sierra Nevada Mountains described in detail in a former report.

Fourth One trestle bridge. 4 bents each 16 feet long, total length 64 feet.

Fifth. One trestle bridge, 6 bents each 16 feet long. Total length 96 feet.

The timber used in these bridges is of the best quality of

white and yellow pine, and the iron of the best quality of American manufacture.

There are twelve Public Road Crossings No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is 20 miles in length, with 1300 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish-joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines. the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these 20 miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The Ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at a rate of one and one quarter cubic yards per lineal yard of road.

There is one station on said portion of railroad line, to wit; One at Beowawe, 417 miles from Sacramento.

There are no machine shops on this portion of said railroad. The machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth.

There are now in use on the road the following cars, to wit:

10	First Class Passenger cars, each costing	\$3,700.
2	Passenger and baggage	" " " 1,880.
6	Baggage Mail & Express	" " " 2,000.
215	Box Freight	" " " 800.
941	Platform	" " " 550.
95	Dump	" " " 725.
66	Hard	" " " 230.
56	Section	" " " 75.
26	Track	" " " 125.

There are seven ty one Locomotives now in use on the road, all of them the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a List of the Locomotives now in use:

No	Names of Engines	No of Drivers	D iam. of Drivers	Diam of Cylinders	Length Stroke	Weight including tender	Cost
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C. P. Huntington	2	4½	11	15	22	10,589.58
4	T.D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctoc	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Heroules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroc	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	23,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klams th	4	5	16	22		17,988.54

32	Ajax	6	4	16	24	38
33	Achilles	6	4	16	24	38
34	El Dorado	4	5½	16	24	
35	Boise	4	5½	16	24	
36	Shoshone	4	5	16	22	
37	Mohave	4	5	16	22	
38	Ogdensburg	6	4½	18	24	56
39	Malone	6	4½	18	24	56
40	Solano	4	5	16	22	
41	Stanislaus	4	5	16	22	
42	Tuolumne	4	5	16	22	
43	Tulare	4	5	16	22	
44	Colossus	6	4½	18	24	
45	Majestic	6	4½	18	24	
46	Unicorn	6		17	22	
47	Griffin	6		17	22	
48	Toiyabe	6		17	22	
49	Toquima	6		17	22	
50	Champion	4	5	16	24	
51	Climax	4	5	16	24	
52	Tip Top	4	5	16	24	
53	Summit	4	5	16	24	
64	Emigrant	4	5	16	24	
65	Mikado	4	5	16	24	
66	Tycoon	4	5	16	24	
67	Hector	4	5	16	24	
72	Niagara	6	4½	18	24	
73	Terrible	6	4½	18	24	
75	Growler	6	4½	18	24	
80	Phil Sheridan	4	5	16	24	
81	U. S. Grant	4	5	16	24	
82	Buffalo	6	4½	18	24	
83	Mountaineer	6	4½	18	24	
84	Gazelle	4	5	16	24	
85	White Bear	6	4½	18	24	
93	Cronoco	4	5	14	24	
122	Willamette	4	5	16	24	
123	Geo L Woods	4	5	16	24	
124	Umpqua	4	5	16	24	
125	J. R. Moores	4	5	16	24	

The road is well constructed , and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 miles) of said railroad from section 411 to Section 430 both inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Sacramento Nov. 21 A. D. 1868.

Thos J. Henley,
Frank Denver
John Bigler } Commissioners

UNITED STATES OF AMERICA

State of California.

To His Excellency, Andrew Johnson President, the Hon. H. Mc Cukloch, Secretary of the Treasury and the Hon. O. H. Browning Secretary of the Interior, of the United States:

The undersigned, Thomas J. Henley, Frank Denver and John Bigler Commissioners, Appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California; under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use if same for postal military and other purposes." approved July 1, 1862 and the Acts Amending thereof, approved July 2, 1864, March 3, 1865 and July 3, 1866. would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of the said railroad and telegraph line, commencing at the termination of the Four hundred and thirtieth mile, and ending at the termination of the Four Hundred and fiftieth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and certify. That in the said twenty miles of said Railroad the number of degrees of curved line is 2192 degrees and 37 minutes; the length of curved line is 49,429 $\frac{9}{10}$ feet and of the tangent lines 56,936 $\frac{4}{10}$ feet; the percentage of curved lines is 46 $\frac{47}{100}$. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical:

The Culverts are all either built with an arch, or in the open of box form of hard stone and their number and size are as follows:

LIST OF CULVERTS
On Sections 331 to 450 both inclusive.

No	Description	Size
2"	Open Culverts	16 feet span
8	" "	8 " "
27	" "	6 " "
2	" "	4 " "
5	Box	3 x 4 feet
1	" "	3 x 3 "
15	" "	2 x 3 "
7	" "	2 x 2 "
67	Culverts.	

The following are the Bridges on said section of twenty miles;

First. Crossing of Mary's Creek, one span straining beam truss, 50 feet in clear and resting on stone piers.

Second. Crossing on Maggier's Creek same as above.

(Note These bridges are on the same plan as Driver's Creek Bridge near Summit of Sierra Nevada Mountains described in detail in a former report.

These bridges have also been erroneously reported in report of November 21, 1868, as being located in the 20 mile section 410 to 430th mile.

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are Five public road crossings. No fences or farm gates have been built on said section as none are needed, the road being built almost entirely on vacant public land and where built through enclosed fields, fences have not been found necessary,

The main track of this section is 20 miles in length, with 9300 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weigh one half pound each, and number about ten thousand five hundred per mile, upon

straight lines, the number being increased upon the curves.

Upon this portion of the railroad there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these 20 miles is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. The material consists largely of rock sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are Two stations on said portion of said railroad line to wit: One at Palisade. 435½ miles from Sacramento and one at Carlin, 444½ miles from Sacramento.

There are no machine shops on this portion of the railroad the machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth.

There are now in use on the road the following cars, to wit;

10 First Class Passenger cars,	each costing	\$3,700.
22 passenger and Baggage "	" "	1,880.
8 Baggage Mail and Express "	" "	2,000.
257 Box Freight	" "	800.
1000 Platform	" "	550.
95 Dump	" "	725.
71 Hand	" "	2.30
63 Section	" "	75.
36 Track	" "	125.
1 Family	" "	5,000.

There are eighty two Locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, and manufactured by American builders, and well adapted for service on heavy grades and sharp curves..

The following is a list of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers feet	Diam of Cylinders inches	Length including Stroke inches	Weight including Tender tons	Cost
1	Gov. Stanford	4	4½	16	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24

8	Navada	6	4	18	22	55	\$36.438. 57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	5	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970. 05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.58
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	
33	Achilles	6	4	16	24	38	
34	El Dorado	4	5½	16	24		
35	Boise	4	5½	16	24		
36	Shoshone	4	5	16	22		
37	Mohave	4	5	16	22		
38	Ogdensburg	6	4½	18	24	46	
39	Malone	6	4½	18	24	56	
40	Solano	4	5	16	22		
41	Stanislaus	4	5	16	22		
42	Tuolumne	4	5	16	22		
43	Tulare	4	5	16	22		
44	Colossus	6	4½	18	24		
45	Majestic	6	4½	18	24		
46	Unicorn	6		17	22		
47	Griffin	6		17	22		
48	Tiyabe	6		17	22		
49	Toquima	6		17	22		
50	Champion	4	5	16	24		
51	Climax	4	5	16	24		
52	Tip Top	4	5	16	24		
53	Summit	4	5	16	24		
56	Grizzly	6	4	18	24		
64	Emigrant	4	5	16	24		
65	Mikado	4	5	16	24		
66	Tycoon	4	5	16	24		
67	Hector	4	5	16	24		
68	Pecquop	6	4½	18	24		
69	Vulcan	6	4½	18	24		

72	Niagara	6	4½	18	24
73	Terrible	6	4½	18	24
74	Dragon	6	4½	18	24
75	Growler	6	4½	18	24
76	Carrier	4	5	16	24
77	Confucius	4	5	16	24
78	Mars	4	5	16	24
79	Apollo	4	5	16	24
80	Phil Sheridan	4	5	16	24
81	U. S. Grant	4	5	16	24
82	Buffalo	6	4½	18	24
83	Mountaineer	6	4½	18	24
84	Gazelle	4	5	16	24
85	White Bear	6	4½	18	24
88	Hurricane	6	4½	18	24
89	Giant	6	4½	18	24
93	Oronoco	4	5	14	24
95	Driver	4	5	15	24
122	Williamette	4	5	16	24
123	Geo. L. Woods	4	5	16	24
124	Umpqua	4	5	16	24
125	J. R. Moores	4	5	16	24

The road is well constructed and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 miles) of said railroad, from section 431 to Section 450 both inclusive. The Map shows correctly the various curves and tangents and the Profile correctly exhibits the surface line, and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Thos. J. Henley	} Commissioners.
Frank Denver	
John Bigler	

Sacramento December 9th A. D. 1868.

UNITED STATES OF AMERICA

State of California.

To His Excellency, Andrew Johnson President, the Hon. H. Mc Culloch, Secretary of the Treasury and the Hon. O. H. Browning, Secretary of the Interior of the United States:

The undersigned Thomas J. Henley, Frank Denver and John Bigler, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal, military and other purposes." approved July 1st, 1862, and the Acts amendatory thereof, approved July 2, 1864, March 3, 1865, and July 3, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of the said railroad and Telegraph line, commencing at the termination of the 450th mile and ending at the termination of the 470th mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully.

REPORT AND CERTIFY, That in the said twenty miles of said railroad the number of degrees of curved line is 1191 degrees and 42 minutes; the length of the curved lines is 39,793 2/10 feet, and of the tangent lines is 65,806 8/10 feet; the percentage of curved line is 37.7. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an Arch, or in the open or box form, of hard stone and their number and size are as follows:

List of Culverts
On Sections 451 to 470 both inclusive.

1	Open Culvert	12 feet span
1	" "	10 " "
14	" "	8 " "
22	" "	6 " "
8	" "	4 " "
1	Box "	3 x 4 feet
15	" "	2 x 3 "
62	Culverts.	

There are no bridges on said portion of twenty miles.

There are eight Public Road Crossings. No fences or farm gates have been built on said section as none are needed, the road being built almost entirely on public vacant land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is twenty miles in length, with 1400 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile upon the straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these twenty miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There is one station on said portion of said railroad line, to wit; One at Moleen, 456 miles from Sacramento.

There are no machine shops on this portion of the railroad the machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth.

There are now in use on the road the following cars:

10 First Class Passenger Cars	each costing	\$3,700.
2 Passenger and Baggage	" " "	1,880.
8 Baggage, Mail & Express	" " "	2,000.
1037 Box Freight	" " "	800.
294 Platform	" " "	550.
95 Dump	" " "	725.
76 Hand	" " "	2.30
63 Section	" " "	75.
34 Track	" " "	125.
1 Family	" # "	5000.

There are eighty three locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use.

No	Names of Engines	No of Drivers	Diam of Drivers feet	Diam of Cylinder inches	Length Stroke inches	Weight including tender tons.	Cost
1	Gov. Stanford	4	4½	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliath	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	
33	Achilles	6	4	16	24	38	
34	El Dorado	4	5½	16	24		20,009.58
35	Boise	4	5½	16	24		20,218.36
36	Shoshone	4	5	16	22		17,739.39
37	Mohave	4	5	16	22		17,633.98
38	Ogdensburg	6	4½	18	24	56	17,830.43
39	Malone	6	4½	18	24	56	17,838.94
40	Solano	4	5	16	22		
41	Stanislaus	4	5	16	22		
42	Tuolumne	4	5	16	22		
43	Tulare	4	5	16	22		

						Cost
44	Colossus	6	4½	18	24	\$16,663.22
45	Majestic	6	4½	18	24	16,934.73
46	unicorn	6		17	22	
47	Griffin	6		17	22	
48	Toiyabe	6		17	22	
49	Toquima	6		17	22	16,236.38
50	Champion	4	5	16	24	13,969.54
51	Climax	4	5	16	24	13,624.77
52	Tip Top	4	5	16	24	13,908.84
53	Summit	4	5	16	24	13,830.37
56	Grizzly	6	4	18	24	14,887.48
64	Emigrant	4	5	16	24	13,159.78
65	Mikado	4	5	16	24	12,906.00
66	Tycoon	4	5	16	24	13,066.09
67	Hector	4	5	16	24	13,175.65
68	Pequop	6	4½	18	24	14,481.81
69	Vulcan	6	4½	18	24	14,495.82
72	Niagara	6	4½	18	24	13,187.52
73	Terrible	6	4½	18	24	15,470.71
74	Dragon	6	4½	18	24	14,370.91
75	Growler	6	4½	18	24	15,055.17
76	Carrier	4	5	16	24	12,207.92
77	Confucius	4	5	16	24	
78	Mars	4	5	16	24	
79	Apollo	4	5	16	24	
80	Phil Sheridan	4	5	16	24	
81	U. S. Grant	4	5	16	24	
82	Buffalo	6	4½	18	24	
83	Mountaineer	6	4½	18	24	
84	Gazelle	4	5	16	24	
85	White Bear	6	4½	18	24	
88	Hurricane	6	4½	18	24	
89	Giant	6	4½	18	24	
93	Oronoco	4	5	14	24	
94	Eclipse	4	5	15	24	
95	Driver	4	5	15	24	
122	Willamette	4	5	16	24	13,009.28
123	Geo L. Woods	4	5	16	24	13,009.29
124	Umpqua	4	5	16	24	13,009.29
225	J. R. Moores	4	5	16	24	13,009.29

The road is well constructed and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 miles) of said railroad from section 451 to Section 470 both inclusive. The Map shows correctly the various curves and tangents and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Thos J Henley }
 Frank Denver } Commissioners
 John Bigler }

Sacramento December 28th A. D. 1868.

UNITED STATES OF AMERICA

State of California.

To His Excellency, Andrew Johnson President, the Hon H. McCulloch, Secretary of the Treasury and the Hon. O. H. Browning Secretary of the Interior, of the United States:

The undersigned, Thomas J. Henleu, Frank Denver and John Bigler, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and telegraph line from the Missouri River to the Pacific Ocean and to secure to the Government the use of same for postal, military and other purposes." approved July 1, 1862 and the Acts amendatory thereof, approved July 2, 1864, March 3 1865, and July 3, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of the said railroad and telegraph line commencing at the termination of the Four Hundred and seventieth mile, and ending at the termination of the four hundred and ninetieth mile. which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and Certify That in the said twenty miles of said Railroad, the number of degrees of curved line is 1255 degrees and 17 minutes; the length of the curved line is 46,612 $7/10$ feet, and of the tangent lines is 58,987 $3/10$ feet; the percentage of curved line is 44.15. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half foot horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows; through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS
On sections 471 to 490 both inclusive

3	Open Culverts	16 feet span
77	" "	8 " "
18	" "	6 " "
29	" "	4 " "
<u>57</u>	Culverts.	

The following are the bridges on said section of twenty miles.

BRIDGES

First North Fork Bridge, consisting of one span of Howe Truss one hundred and fifty feet in clear across the North Fork of the Humboldt River.

This bridge is built of similar materials and in the same manner as the bridges on the second crossing of the Truckee and second crossing of the Humboldt. It rests on substantial stone abutments and is in every respect a first class structure.

The timber use on these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are seven Public Road Crossings, No fences or farm gates have been built on said section, as none are needed. the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track on this section is 20 miles in length with 2200 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish-joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick. fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine. tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these twenty miles, is, of itself good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of rock, sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are no machine shops on this portion of the railroad the machine shops and engine houses being located at Sacramento,

Rocklin, Wadsworth, Winnemucca and Carlin,

There is one station on said portion of said railroad line, to wit: One at Osino 478 miles from Sacramento.

There are now in use on the road the following cars, to wit:

10	First class Passenger cars, each costing	\$3,700.
2	Passenger and Baggage "	1,880.
8	Baggage mail & Express "	2,000.
294	Box Freight "	800.
1094	Platform "	580.
95	Dump "	725.
79	Hand "	230.
68	Section "	75.
35	Track "	125.
1	Family "	5000.

There are eighty eight Locomotives now in use on the road, all of them of the best quality and style of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylind	Length Stroke	Weight including tender	Cost
			feet	inch	inch	tons	
1	Gov. Stanford	4	4 $\frac{1}{2}$	15	22	44	\$15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C. P. Huntington	2	4 $\frac{1}{2}$	11	15	22	10,589.58
4	T. D. Judah	2	4 $\frac{1}{2}$	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.85
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Heracles	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4 $\frac{1}{2}$	18	24	56	20,649.58
21	Tamaroo	6	4 $\frac{1}{2}$	18	24	56	21,311.97
22	Auburn	6	4 $\frac{1}{2}$	18	24	56	21,283.27
23	Mono	6	4 $\frac{1}{2}$	18	24	56	21,235.71
24	Montana	6	4 $\frac{1}{2}$	18	24	56	19,116.94
25	Yuba	6	4 $\frac{1}{2}$	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86

28	Gold Run	4	5	16	24	\$ 16,994.56
29	Antelope	4	5	16	24	16,816.24
30	Tahoe	4	5	16	22	17,981.13
31	Klamath	4	5	16	22	17,988.54
32	Ajax	6	4	16	24	38
33	Achilles	6	4	16	24	38
34	El Dorado	4	5 $\frac{1}{2}$	16	24	20,009.58
35	Boise	4	5 $\frac{1}{2}$	16	24	20,218.36
36	Shoshone	4	5	16	22	17,739.39
37	Mohave	4	5	16	22	17,633.98
38	Ogdensburg	6	4 $\frac{1}{2}$	18	24	56
39	Malone	6	4 $\frac{1}{2}$	18	24	56
40	Solano	4	5	16	22	17,838.94
41	Stanislaus	4	5	16	22	
42	Tuolumne	4	5	16	22	
43	Tulare	4	5	16	22	
44	Colossus	6	4 $\frac{1}{2}$	18	24	16,663.22
45	Majestic	6	4 $\frac{1}{2}$	18	24	16,934.73
46	Unicorn	6		17	22	
47	Griffin	6		17	22	
48	Toiyabe	6		17	22	
49	Toquima	6		17	22	16,236.38
50	Champion	4	5	16	24	13,969.54
51	Climax	4	5	16	24	13,624.77
52	Tip Top	4	5	16	24	13,908.84
53	Summit	4	5	16	24	13,830.37
54	Grizzly	6	4	18	24	14,687.48
55	Bison	6	4	18	24	
64	Emigrant	4	5	16	24	13,159.78
65	Mikado	4	5	16	24	12,906.00
66	Tycoon	4	5	16	24	13,066.09
67	Heotor	4	5	16	24	13,175.65
68	Pequop	6	4 $\frac{1}{2}$	18	24	14,481.81
69	Vulcan	6	4 $\frac{1}{2}$	18	24	14,495.82
72	Niagara	6	4 $\frac{1}{2}$	18	24	13,187.52
73	Terrible	6	4 $\frac{1}{2}$	18	24	15,470.71
74	Dragon	6	4 $\frac{1}{2}$	18	24	14,370.91
75	Crowler	6	4 $\frac{1}{2}$	18	24	15,055.17
76	Carrier	4	5	16	24	12,207.92
77	Confucius	4	5	16	24	
78	Mars	4	5	16	24	
79	Apollo	4	5	16	24	
80	Phil Sheridan	4	5	16	24	
81	U.s. Grant	4	6	16	24	
82	Buffalo	6	4 $\frac{1}{2}$	18	24	
83	Mountaineer	6	4 $\frac{1}{2}$	18	24	
84	Gazelle	4	5	16	24	
85	White Bear	6	5 $\frac{1}{2}$	18	24	
86	Gorilla	6	4 $\frac{1}{2}$	18	24	
87	Tempest	6	4 $\frac{1}{2}$	18	24	
88	Hurricane	6	4 $\frac{1}{2}$	18	24	
89	Giant	6	4 $\frac{1}{2}$	18	24	
93	Oronoco	4	5	14	24	
94	Eclipse	4	5	15	24	
95	Driver	4	5	15	24	

108	Stager	4	4 2/3	15	22	
109	Flier	4	4 2/3	15	22	
122	Willamette	4	5	16	24	\$ 13,009.28
123	Geo. L. Woods	4	5	16	24	13,009.29
124	Umpqua	4	5	16	24	13,009.29
125	J. R. Moores	4	5	16	24	13,009.29

The road is well constructed and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 Miles) of said Railroad. from section 471 to 490 both inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Thos. J. Henley

Frank Denver

John Bigler

Commissioners.

Sacramento, Jan. 13th A. D. 1869.

UNITED STATES OF AMERICA.

State of California.

To His Excellency. Andrew Johnson President, the Hon H. Mc Culloch, Secretary of the Treasury and the Hon, O. H. Browning Secretary of the Interior, of the United States:

The undersigned Thomas J. Henley, Frank Denver and John Bigler, Commissioners appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal, military and other purposes," approved July 1st, 1862 and the Acts amendatory thereof, approved July 2nd, 1864, March 3rd, 1865, and July 3, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of the said railroad and telegraph line, commencing at the termination of the four hundred and ninth mile, and ending at the termination of the five hundred and tenth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and Certify, That in the said twenty miles of said Railroad, the number of degrees of curved line is 186 degrees and 54 minutes; the length of the curved lines is 30,429 feet, and of the tangent lines is 75,171 feet; The percentage of curved line is 28.8. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form of hard stone and their number and size are as follows:

LIST OF CULVERTS
On sections 491 to 510 both inclusive.

No	Description	Size
5	Box Culvert	16 feet span
3	" "	12 " "
11	" "	8 " "
28	" "	4 " "
<u>49</u>	Culverts	

The following are the bridges on said portion if twenty miles/

BRIDGES.

First Third Crossing of Humboldt, Consisting of a single span of Howe Truss, 150 feet in clear, resting upon substantial stone piers. The bridge and masonry are built in a similar manner to that at "second crossing of Truckee" described in a former report.

The timber used in these bridges is of the best quality of white and yellow pine, and the iron of the best quality of American manufacture.

There are nine Public Road crossings, No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is 20 miles in length, with 2200 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion, are, however tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed , for the greater portion of these twenty miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand, rock and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There is one station on said portion of said railroad line to wit; One at Deeth, 50 $\frac{1}{2}$ miles from Sacramento.

There are no machine shops on this portion of the railroad-- the machine shops and engine houses being located at Sacramento, Rocklin and Wadsworth, Winnemucca and Carlin.

There are now in use on the road the following cars, to wit:

10	First Class Passenger cars,	each costing	\$3,700.
2	Passenger and Baggage	" " "	1,880.
8	Baggage mail and Express	" " "	2,000.
294	Box Freight	" " "	800.
1168	Platform	" " "	550.
95	Dump	" " "	725.
89	Hand	" " "	230.
80	Section	" " "	75.
34	Track	" " "	125.
1	Family	" " "	5000.

There are ninety two locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the locomotives now in use:

No	Names of Engines	No of Drivers	Weight				Cost
			Diam of Cylin.	Diam of Stroke	Length Tender	including	
			FEET	INCHES	INCHES	TONS	
1	G ov Stanford	4	4 $\frac{1}{2}$	15	22	44	\$ 15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	W.P. Huntington	2	4 $\frac{1}{2}$	11	15	22	10,589.58
4	T. D. Judah	2	4 $\frac{1}{2}$	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washoe	6	4	18	22	55	23,128.39

16	Owyhee	6	4	17	24	55	\$ 24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	18,354.84
33	Achilles	6	4	16	24	38	17,915.69
34	El Dorado	4	5½	16	24		20,009.58
35	Boise	4	5½	16	24		20,218.36
36	Shoshone	4	5	16	22		17,739.39
37	Mohave	4	5	16	22		17,633.98
38	Ogdensburg	6	4½	18	24	56	17,830.43
39	Malone	6	4½	18	24	56	17,838.94
40	Solan	4	5	16	22		12,000.00
41	Stanislaus	4	5	16	22		12,000.00
42	Tuolumne	4	5	16	22		12,000.00
43	Tulare	4	5	16	22		12,000.00
44	Colossus	6	4½	18	24		16,663.22
45	Majestic	6	4½	18	24		16,934.73
46	Unicorn	6	4	17	22		19,008.29
47	Griffin	6	4	17	22		18,992.21
48	Toiyabe	6	4	17	22		18,963.86
49	Toquima	6	4	17	22		16,236.38
50	Champion	4	5	16	24		13,969.54
51	Climax	4	5	16	24		13,624.77
52	Tip Top	4	5	16	24		13,908.84
53	Summit	4	5	16	24		13,830.37
56	Grizzly	6	4	18	24		
57	Bison	6	4	18	24		
64	Emigrant	4	5	16	24		13,159.78
65	Mikado	4	5	16	24		12,906.00
66	Tycoon	4	5	16	24		13,066.09
67	Hector	4	5	16	24		13,175.65
68	Peoquop	6	4½	18	24		
69	Vulcan	6	4½	18	24		
72	Niagara	6	4½	18	24		
73	Terrible	6	4½	18	24		15,391.66
74	Dragon	6	4½	18	24		
75	Growler	6	4½	18	24		
76	Carrier	4	5	16	24		
77	Confucius	4	5	16	24		
78	Mars	4	5	16	24		
79	Apollo	4	5	16	24		

80	Phil Sheridan	4	5	16	24	\$ 13,659.84
81	U. S. Grant	4	5	16	24	13,674.67
82	Buffalo	6	4 $\frac{1}{2}$	18	24	
83	Mountaineer	6	4 $\frac{1}{2}$	18	24	
84	Gazelle	4	5	16	24	
85	White Bear	6	4 $\frac{1}{2}$	18	24	
88	Hurricane	6	4 $\frac{1}{2}$	18	24	
89	Giant	6	4 $\frac{1}{2}$	18	24	
93	Oronoco	4	5	14	24	
94	Eclipse	4	5	15	24	
95	Driver	4	5	15	24	
96	Racer	4	5	15	24	
108	Stager	4	4 $\frac{2}{3}$	15	22	
109	Flier	4	4 $\frac{2}{3}$	15	22	
111	Chamois	4	4 $\frac{2}{3}$	15	22	
119	Golden Eagle	4	2 $\frac{2}{3}$	15	22	
122	Willimette	4	5	16	24	13,009.28
123	Geo. L. Woods	4	5	16	24	13,009.29
124	Umpqua	4	5	16	24	13,009.29
125	J. R. Moores	4	5	16	24	13,009.29
138	Blue Bird	4	4 $\frac{2}{3}$	15	22	
139	Blue Jay	4	4 $\frac{2}{3}$	15	22	
140	Ostrich	4	4 $\frac{2}{3}$	15	22	

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 miles) of said railroad, from Section 491 to Section 510, both inclusive. The Map shows correctly the various curves and tangents. and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Thos J. Henley	}	Commissioners.
Frank Denver		
John Bigler		

Sacramento January 30th A. D. 1869.

UNITED STATES OF AMERICA.

State of California.

To His Excellency Andrew Johnson President, the Hon H. Mc Culloch Secretary of the Treasury, and the Hon C. H. Browning Secretary of the Interior of the United States.

The undersigned, Thomas J. Henley, Frank Denver and John Bigler Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for Postal, military and other purposes," approved July 1st, 1862, and the Acts amendatory thereof, approved July 2nd, 1864, March 3rd, 1865 and July 3rd, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of the said railroad and Telegraph line, commencing at the termination of the Five Hundred and tenth mile and ending at the termination of the Five Hundred and thirtieth mile, which is hereby referred to, That in addition to the matters therein stated, they would further respectfully

Report and Certify That in the said twenty ^{26,650} miles of said Railroad, the number of degrees of curved line is 415 degrees and 39 minutes; the length of the curved line is 78,950 feet; and of the tangent lines is 78,950 feet; the percentage of curved line is 25 25/100. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: Through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an Arch, or in the open or box form, or hard stone and their number and size are as follows:

LIST OF CULVERTS

On Sections 511 to 530 both inclusive

No	Description	Size.
1	Box Culvert	3x4 feet
1	" "	3 x 3 "
5	" "	2 x 3 "
4	Open "	16 feet span
2	" "	8 " "
9	" "	6 " "
17	" "	4 " "

39 Culverts.

The following are the bridges on said section of twenty miles.

BRIDGES

First. Bishop's Creek Bridge. consisting of one span of H owe Truss 107 feet in clear, resting upon substantial stone piers laid in hydraulic cement mortar.

This bridge is built in the same manner as all the Howe Bridges on the line having its timbers and iron work graduated to the length of span and strain imposed, it being framed from the same patterns as the 150 feet span heretofore described at "Second Crossing of the Truckee" and Second and Third Crossings of the Humboldt and is precisely similar to these spans, shortened by removing three end panels.

The timber used in these bridges is of the best quality of white and yellow pine. and the iron of the best quality of American manufacture.

There are eight Public Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fence have not been found necessary.

The main track of this section is twenty miles in length, with 2600 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four

bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these twenty miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There is one station on said portion of said Railroad line, to wit: One at Tulasco, 517 miles from Sacramento.

There are no machine shops on this portion of the railroad the machine shops and engine houses being located at Sacramento, Rocklin, Wadsworth, Winnenucca and Carlin.

There are now in use on the road the following cars, to wit:

10 First Class Passenger Cars,	each costing	\$3,700.
2 Passenger and Baggage	" " "	1,880/
9 Baggage mail and Express	" " "	2,000.
294 Box Freight	" " "	800.
492 Platform	" " "	550.
95 Dump	" " "	725.
94 Hand	" " "	230.
89 Section	" " "	75.
34 Track	" " "	125.
1 Family	" " "	5000.

There are ninety three Locomotives now in use on the road, all of them of the best style and quality. of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylins	Stroke	Length	Weight including Tender	Cost
			feet	inch	inch	inch	ton	
1	Gov. Stanford	4	4½	51	22	44		\$ 15,733.65
2	Pacific	4	5	16	24	46		18,205.08
3	C.P. Huntington	2	4½	11	15	22		10,589.58
4	T. D. Judah	2	4½	11	15	22		10,603.49
5	Atlantic	4	5	15	22	44		16,629.91
6	Conness	6	4	17	24	54		19,161.74
7	Sargent	4	5	16	24	52		22,762.24
8	Nevada	6	4	18	22	55		36,438.57
9	Utah	6	4	18	22	55		36,438.57
10	Humboldt	6	4	18	22	55		24,761.45
11	Arctic	4	5	15	22	46		20,013.13
12	Truckee	6	4	17	24	54		21,435.89
13	Hercules	6	4	18	22	55		24,716.49
14	Oneonta	6	4	18	22	55		23,226.87
15	Washoe	6	4	18	22	55		23,128.39
16	Owyhee	6	4	17	24	55		24,482.38
17	Idaho	6	4	17	24	55		23,473.06
18	Plute	6	4	18	22	55		22,598.65
19	Carson	6	4	18	22	55		23,379.22
20	Amazon	6	4½	18	24	56		20,649.58
21	Tamaroo	6	4½	18	24	56		21,311.97
22	Auburn	6	4½	18	24	56		21,283.27
23	Monp	6	4½	18	24	56		21,235.71
24	Montana	6	4½	18	24	56		19,116.94
25	Yuba	6	4½	18	24	56		18,970.05
26	Sampson	6	4	17	22			18,671.45
27	Goliah	6	4	17	22			18,220.86
28	Gold Run	4	5	16	24			16,994.56
29	Antelope	4	5	16	24			16,816.24
30	Tahoe	4	5	16	22			17,981.13
31	Klamath	4	5	16	22			17,988.54
32	Ajax	6	4	16	24	38		18,354.84
33	Axnilles	6	4	16	24	38		17,915.69
34	El Dorado	4	5½	16	24			20,009.58
35	Boise	4	5½	16	24			20,218.36
36	Shoshone	4	5	16	22			17,739.39
37	Mohave	4	5	16	22			17,633.98
38	Ogdensburg	6	4½	18	24	56		17,830.43
39	Malone	6	4½	18	24	56		17,838.94
40	Solano	4	5	16	22			12,000.00
41	Stanislaus	4	5	16	22			12,000.00
42	Tuolumne	4	5	16	22			12,000.00
43	Tulare	4	5	16	22			12,000.00
44	Colossus	6	4½	18	24			16,663.22
45	Majestic	6	4½	18	24			16,934.73
46	Unicorn	6	4	17	22			19,008.29
47	Griffin	6	4	17	22			18,992.21
48	Toiyabe	6	4	17	22			18,963.86
49	Toquima	6	4	17	22			16,236.38
50	Champion	4	5	16	24			13,969.54
51	Climax	4	5	16	24			13,624.27
52	Tip Top	4	5	16	24			13,908.84
53	Summit	4	5	16	24			13,830.37

56	Grizzly	6	4	18	24	\$
57	Bison	6	4	18	24	
64	Emigrant	4	5	16	24	13,159.78
65	Mikado	4	5	16	24	12,906.00
66	Tycoon	4	5	16	24	13,066.09
67	Hector	4	5	16	24	13,175.65
68	Pesoquop	6	4½	18	24	
69	Vulcan	6	4½	18	24	
72	Niagara	6	4½	18	24	
73	Terrible	6	4½	18	24	15,391.66
74	Dragon	6	4½	18	24	
75	Growler	6	4½	18	24	
76	Carrier	4	5	16	24	
77	Confucius	4	5	16	24	
78	Mars	4	5	16	24	
79	Apollo	4	5	16	24	
80	Phil Sheridan	4	5	16	24	13,659.84
81	U. S. Grant	4	5	16	24	13,674.67
82	Buffalo	6	4½	18	24	
83	Mountainieer	6	4½	18	24	
84	Gazelle	4	5	16	24	
85	White Bear	6	4½	18	24	
88	Hurricane	6	4½	18	24	
89	Giant	6	4½	18	24	
93	Oronoco	4	5	14	24	
94	Eclipse	4	5	15	24	
95	Driver	4	5	15	24	
96	Racer	4	5	15	24	
108	Stager	4	4 2/3	15	22	
109	Flier	4	4 2/3	15	22	
111	Chamoise	4	4 2/3	15	22	
119	Golden Eagle	4	4 2/3	15	22	
120	Bals Eagle	4	4 2/3	15	22	
122	Willamette	4	5	16	24	13,009.29
123	Geol L. Woods	4	5	16	24	13,009.29
124	Umpqua	4	5	16	24	13,009.29
125	J. R. Moores	4	5	16	24	13,009.29
138	Blue Bird	4	4 2/3	15	22	
139	Blue Jay	4	4 2/3	15	22	
140	Ostrich	4	4 2/3	15	22	

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A", is a correct drawing of this section (20 miles) of said railroad, from section 511 to section 530, both inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said Railroad is constructed.

All of which is respectfully submitted

Sacramento Feb. 10th A. D. 1869

Thos J. Henley
Frank Denver
John Bigler
} Commissioners

UNITED STATES OF AMERICA

State of California.

To His Excellency ,Andrew Johnson President, the Hon. H. Mc+ Culloch, Secretary of the Treasury, and the Hon. O. H. Browning, Secretary of the Interior of the United States.

The undersigned Thomas J. Henley, Frank Denver and John Bigler, Commissioners appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal, military and other purposes." approved July 1, 1862, and the Acts amendatory thereof approved July 2, 1864, March 3, 1865, and July 3, 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of the said Railroad and Telegraph line commencing at the termination of the five hundred and thirtieth mile, and ending at the termination of the five hundred and fiftieth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully

Report and Certify, That in the said twenty miles of said Railroad, the number of degrees of curved line is 1792° degrees and 05 minutes; the length of the curved line is 58,303.7 feet, and of the tangent lines is 47,296.3 feet; the percentage of curved line is 55.21. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS
On sections 531 to 550 both inclusive.

No.	Description	Size
23	Box Culverts	2 x 3
7	" "	3 x 3
2	" "	3 x 4
9	Open "	4 feet span
14	" "	6 " "
1	" "	8 " "
1	" "	10 " "
1	" "	14 " "
<u>58</u>	Culverts.	

There are no bridges on this section of twenty miles. There are . . . public Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fence have not been found necessary.

The main track of this section is 20 miles in length, with 5900 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five nad one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are however tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these twenty miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand, rock and gravel from the

excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are two stations on said portion of said railroad line, to wit; One at Cedar, 530½ miles from Sacramento and one at Independence, 539 miles from Sacramento.

There are no machine shops on this portion of the railroad--the machine shops and engine houses being located at Sacramento, Rocklin, Wadsworth, Winnemucca and Carlin.

There are now in use on the road the following cars, to wit;

10	First Class Passenger Cars, each costing	\$3,700.
2	Passenger and Baggage	1,880.
13	Baggage Mail & Express	2,000.
294	Box Freight	800.
1211	Platform	550.
95	Dump	725.
99	Hand	230.
89	Section	75.
45	Track	125.
1	Family	5000.

There are 109 Locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American Builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylin	Length Strile	Weight including Tender	Cost
			FEET	INCHES	INCHES	TON	
1	Gov Stanford	44	4½	15	22	44	\$ 15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C. P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	26,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Bruckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87

15	Washoe	6	4	18	22	55	\$ 23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.88
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24		18,354.84
33	Achilles	6	4	16	24	38	17,915.69
34	El Dorado	4	5½	16	24	38	20,009.58
35	Boise	4	5½	16	24		20,218.36
36	Shoshone	4	5	16	22		17,739.39
37	Mohave	4	5	16	22		17,633.98
38	Ogdensburg	6	4½	18	24	56	17,830.43
39	Malone	6	4½	18	24	56	17,838.94
40	Solano	4	5	16	22		12,000.00
41	Stanislaus	4	5	16	22		12,000.00
42	Tuolumne	4	5	16	22		12,000.00
43	Tulare	4	5	16	22		12,000.00
44	Colossus	6	4½	18	24		16,663.22
45	Majestic	6	4½	18	24		16,934.73
46	Unicorn	6	4	17	22		19,008.29
47	Griffin	6	4	17	22		18,992.21
48	Toiyabe	6	4	17	22		18,963.86
49	Toquima	6	4	17	22		16,236.38
50	Champion	4	5	16	24		13,969.54
51	Climax	4	5	16	24		13,624.77
52	Tip Top	4	5	16	24		13,908.84
53	Sunnit	4	5	16	24		13,830.37
54	Red Deer	4	5	16	24		
56	Grizzly	6	4	18	24		
57	Bison	6	4	18	24		
58	Placer	6	4	18	24		
59	Pluto	6	4	18	24		
64	Emigrant	4	5	16	24		13,159.78
65	Mikado	4	5	16	24		12,906.00
66	Tycoon	4	5	16	24		13,066.09
67	Hector	4	5	16	24		13,175.65
68	Pequop	6	4½	18	24		
69	Vulcan	6	4½	18	24		
72	Niagara	6	4½	18	24		
73	Terrible	6	4½	18	24		15,391.66
74	Dragon	66	4½	18	24		

75	Growler	6	4½	18	24	
76	Carrier	4	5	16	24	
77	Confucius	4	5	16	24	
78	Mars	4	5	16	24	
79	Apollo	4	5	16	24	
80	Phil Sheridan	4	5	16	24	13,659.84
81	U. S. Grant	4	5	16	24	13,674.67
82	Buffalo	6	4½	18	24	
83	Mountaineer	6	4½	18	24	
84	Gazelle	4	5	16	24	
85	White Bear	6	4½	18	24	
86	Gorilla	6	4½	18	24	
87	Tempest	6	4½	18	24	
88	Hurricane	6	4½	18	24	
89	Giant	6	4½	18	24	
93	Oronoco	4	5	14	24	
94	Eclipse	4	5	15	24	
95	Driver	4	5	15	24	
96	Clipper	4	5	15	24	
97	Racer	4	5	15	24	
98	Rattler	4	5	15	24	
99	Ranger	4	5	15	24	
100	Rover	4	5	15	24	
102	Runner	4	4 2/3	15	22	
103	Rusher	4	4 2/3	15	22	
108	Stager	4	4 2/3	15	22	
109	Flier	4	4 2/3	15	22	
110	Fire Fly	4	4 2/3	15	22	
111	Chamois	4	4 2/3	15	22	
112	Hawk	4	4 2/3	15	22	
113	Falcon	4	4 2/3	15	22	
118	Grey Eagle	4	4 2/3	15	22	
119	Golden Eagle	4	4 2/3	15	22	
120	Bald Eagle	4	4 2/3	15	22	
122	Williamette	4	5	16	24	13,009.28
123	Geo. L. Woods	4	5	16	24	13,009.29
124	Umpqua	4	5	16	24	13,009.29
125	J. R. Moores	4	5	16	24	13,009.29
132	Deer Hound	4	4 2/3	15	22	
138	Blue Bird	4	4 2/3	15	22	
139	Lune Jay	4	4 2/3	15	22	
140	Ostrich	4	4 2/3	15	22	

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high as rate of speed as any similar railroad in the United States.

The Map and Profile ,marked "A" is a correct drawing of this section (20 miles) of said railroad, from section 531 to

section 550. both inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

Thos J. Henley	}	Commissioners
Frank Denver		
John Bigler		

Sacramento February 27th, A, D, 1869.

UNITED STATES OF AMERICA

State of California .

To His Excellency, Ulysses S. Grant President, the Hon. George S. Boutwell, Secretary of the Treasury, and the Hon. Jacob D. Cox, Secretary of the Interior. of the United States:

The undersigned, Thomas J. Henley, Frank Denver and John Bigler, Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal, military and other purposes." approved July 1, 1862, and the Acts amendatory thereof, approved July 2, 1864. March 3. 1865. July 3 1866; would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty miles of the said Railroad and Telegraph line, commencing at the termination of the five hundred and fiftieth mile and ending at the termination of the five hundred and seventieth mile, which is hereby referred to. That in addition to the matters therein stated, they would further respectfully.

Report and Certify, That in the said twenty miles of said Railroad, the number of degrees of curved line is 792 degrees and 03 minutes; the length of the curved lines is 26,042 feet, and of the tangent lines is 79,558 feet; the percentage of curved line is 24 65/100. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 15 to 20 feet. according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows: through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS

On Sections 551 to 570 both inclusive.

No	Description	Size
42	Box Culverts	2 x 3 feet
2	" "	3 x 4 "
19	Open "	6 Feet Span

63 Culverts

There are no bridges on said section of twenty miles.

There arepublic Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on public vacant land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is twenty miles in length, with 3800 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. the rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square. weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines, the number being increased upon the curves.

Upon this portion of the railroad, there is an average of 2260 cross-ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these 20 miles, is of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand, rock and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The Ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are two stations on said portion of said railroad line, to wit: One at East Peoquop, 550½ miles from Sacramento. one at Toano, 559½ miles from Sacramento.

There are no machine shops on this portion of the railroad-- the machine shops and engine houses being located at Sacramento, Rocklin. Wadsworth, Winnemucca and Carlin.

There are now in use on the road the following cars, to wit

10	First Class Passenger cars, each costing	\$3,700.
2	Passenger and Baggage	" " " 1,880.
15	Baggage Mail & Express	" " " 2,000.
318	Box Freight	" " " 800.
1212	Platform	" " " 550.
95	Dump	" " " 725.
107	Hand	" " " 230.
91	Section	" " " 75.
50	Track	" " " 125.
1	Family	" " " 5000.

There are 113 Locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use;

No	Names of	No of	Diam of	Diam of	Length	Weight	Cost
	Engines	Drivers	Drivers	Cylin	Stroke	Tender	
			feet	inch	inch	tons	
1	Gov. Stanford	4	4½	15	22	44	\$ 15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P.Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	8	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctiw	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87
15	Washie	6	4	18	22	55	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Plute	6	4	18	22	55	22,598.65
19	Carsdn	6	4	18	22	55	23,379.32
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97

22	Auburn	6	4½	18	24	56	\$ 21,283.27
23	Monro	6	4½	18	24	56	21,235.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24		18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliah	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	18,354.84
33	Achilles	6	4	16	24	38	17,915.69
34	El Dorado	4	5½	16	24		20,009.58
35	Boise	4	5½	16	24		20,218.36
36	Schoshone	4	4	16	22		17,739.39
37	Mohave	4	4	16	22		17,633.98
38	Ogdensburg	6	4½	18	24	56	17,830.43
39	Malone	6	4½	18	24	56	17,838.94
40	Solano	4	5	16	22		12,000.00
41	Stanislaus	4	5	16	22		12,000.00
42	Tuolumne	4	5	16	22		12,000.00
43	Tulare	4	5	16	22		12,000.00
44	Colossus	6	4½	18	24		16,663.22
45	Majestic	6	4½	18	24		16,934.73
46	Unicorn	6	4	17	22		19,008.29
47	Griffin	6	4	17	22		18,992.21
48	Toiyabe	6	4	17	22		18,963.86
49	Toquima	6	4	17	22		16,236.38
50	Champion	4	5	16	24		13,969.54
51	Climax	4	5	16	24		13,624.77
52	Tip Top	4	5	16	24		13,908.84
53	Summit	4	5	16	24		13,830.37
54	Red Deer	4	5	16	24		
56	Grizzly	6	4	18	24		
57	Bison	6	4	18	24		
58	Placer	6	4	18	24		
59	Pluto	6	4	18	24		
64	Emigrant	4	5	16	24		13,159.78
65	Mikado	4	5	16	24		12,906.00
66	Tycoon	4	5	16	24		13,066.09
67	Hector	4	5	16	24		13,175.65
68	Poquop	6	4½	18	24		
69	Vulcan	6	4½	18	24		
72	Niagara	6	4½	18	24		
73	Terrible	6	4½	18	24		15,391.66
74	Dragon	6	4½	18	24		
75	Growler	6	4½	18	24		
76	Carrier	4	5	16	24		
77	Confucius	4	5	16	24		
78	Mars	4	5	16	24		
80	Apollo	4	5	16	24		
81	Phil Sheridan	4	5	16	24		13,659.84
82	Ul S Grant	4	5	16	24		13,674.67

82	Buffalo	6	4½	18	
83	Mountaineer	6	4½	18	
84	Gazelle	4	5	16	
85	White Bear	6	4½	18	
86	Gorilla	6	4½	18	
87	Tempest	6	4½	18	
88	Hurricane	6	4½	18	
89	Giant	6	4½	18	
93	Oronoco	4	5	14	
94	Eclipse	4	5	15	
95	Driver	4	5	15	
96	Clipper	4	5	15	
97	Racer	4	5	15	
98	Rattler	4	5½	15	
99	Ranger	4	5	15	
100	Rover	4	5½	15	
101	Hunter	4	5½	15	
102	Runner	4	4 2/3	15	
103	Rusher	4	4 2/3	15	
108	Stager	4	4 2/3	15	
109	Flier	4	4 2/3	15	
110	Fire Fly	4	4 2/3	15	
111	Chamois	4	4 2/3	15	
112	Hawk	4	4 2/3	15	
113	Falcon	4	4 2/3	15	
118	Grey Eagle	4	4 2/3	15	
119	Golden Eagle	4	4 2/3	15	
120	Bald Eagle	4	4 2/3	15	
122	Willamette	4	5	16	\$ 13,009.28
123	Geo. J. Woods	4	5	16	13,009.29
124	Umpqua	4	5	16	13,009.29
125	J. R. Moores	4	5	16	13,009.29
132	Deer Hound	4	4 2/3	15	
133	Fox Hound	4	4 2/3	15	
134	Trapper	4	4 2/3	15	
138	Blue Bird	4	4 2/3	15	
139	Blue Jay	4	4 2/3	15	
140	Ostrich	4	4 2/3	15	

The road is well constructed, and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" is a correct drawing of this section (20 Miles) of said railroad, from section 551 to section 570, both inclusive. The Map shows correctly the various curves and tangents, and the Profile correctly exhibits the original surface and the grades upon which this section of said railroad is constructed

All of which is respectfully submitted.

Thos. J. Henley }
 Frank Denver } Commissioners
 John Bigler }

Sacramento March 15th A. D. 1869.

UNITED STATES OF AMERICA

State of California

To His Excellency, Ulysses S. Grant President, The Hon. George S. Boutwell, Secretary of the Treasury, and the Hon. Jacob D. Cox, Secretary of the Interior, of the United States;

The undersigned James W. Haines, Frederick A. Tritle and William Sherman, Commissioners appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress; entitled "An Act to aid in the construction of a Railroad and Telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military and other purposes," approved July 1, 1862, and the acts amendatory thereof, approved July 2, 1864, March 3 1865 and July 3 1866, would respectfully state that they have this day made a report upon the construction and completion of an addition and continuation of One Hundred miles of the said Railroad and Telegraph line, commencing at the termination of the five hundred and seventieth mile and ending at the termination of the six hundred and seventieth mile, which is hereby referred to. That in addition to the matters therein stated they would further respectfully

Report and Certify, That in the said One Hundred miles of said railroad, the number of degrees of curved line is 2205 degrees and 42 minutes; the length of the curved line is 108054.2 feet, and of the tangent lines is 419,945.8 feet; the percentage of curved line is 20.48%. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts; and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows; through earth, one foot horizontal to one foot vertical; soft rock, one half to one, three fourths to one, and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The Culverts are all either built with an arch, or in the open or box form, of hard stone and their number and size are as follows:

LIST OF CULVERTS
On Sections 571 to 670 both inclusive.

NO	Description	Size
5	Box Culverts	3 x 4 feet
1	" "	3 x 3 "
48	" "	2 x 3 "
1	" "	2 x 2 1/2 "
1	Open "	14 feet span
18	" "	12 " "
30	" "	10 " "
25	" "	8 " "
18	" "	6 " "
39	" "	4 " "

There are no bridges on said section of one Hundred miles.

There are no Public Road Crossings. No fences or farm gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is 100 miles in length with 31,100 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile, upon straight lines the number being increased upon the curves.

Upon this portion of the railroad there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed for the greater portion of these 100 miles, is, of itself, good ballasting, and is used for that purpose, the ties being firmly imbedded therein. This material consists largely of sand, rock and gravel from the excavations. The ballasting cannot be fully completed until the

embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There are nine stations on said portion of said railroad line to wit: One at Montello, 577 miles from Sacramento, one at Tecoma, 586½ miles from Sacramento; one at Lucin, 596 miles from Sacramento; one at Bovine 609 miles from Sacramento, one at Terrace 621 miles, one at Matlin 636 miles, one at Kelton 651 3/4 miles and one at Monument 669 miles from Sacramento.

There are no machine shops on this portion of the railroad the machine shops and engine houses being located at Sacramento, Rocklin, Wadsworth, Winnemucca and Carlin.

There are now in use on the road the following cars, to wit.

10	First class Passenger cars	, each costing	\$3,800.
2	Passenger and Baggage #	" "	1,880.
17	Baggage mail & Express	" "	2,000.
470	Box Freight	" "	800.
1240	Platform	" "	725.
95	Dump	" "	550.
121	Hand	" "	230.
101	Section	" "	75.
50	Track	" "	125.
1	Family	" "	5000.

There are 141 Locomotives now in use on the road, all of them the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a List of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers feet	Diam of Cylind inches	Length Stroke inches	Weight including Tender tons	Cost
1	Gov. Stanford	4	4½	15	22	44	\$ 15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C.P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantoc	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	55	23,226.87

ninth station?
probably Royal-
See report TTT

15	Washoe	6	4	18	22	55	\$ 23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	56	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,335.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,671.45
27	Goliath	6	4	17	22		18,220.86
28	Gold Run	4	5	16	24		16,994.56
29	Antelope	4	5	16	24		16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	18,354.84
33	Achilles	6	4	16	24	38	17,915.69
34	El Dorado	4	5½	16	24		20,009.58
35	Boise	4	5½	16	24		20,218.36
36	Shoshone	4	5	16	22		17,739.39
37	Mohave	4	5	16	22		17,633.98
38	Ogdensburg	6	4½	18	24	56	17,830.43
39	Malone	6	4½	18	24	56	17,838.94
40	Solano	4	5	16	22		12,000.00
41	Stanislaus	4	5	16	22		12,000.00
42	Tuolumne	4	5	16	22		12,000.00
43	Tulare	4	5	16	22		12,000.00
44	Colossus	6	4½	18	24		16,663.22
45	Majestic	6	4½	18	24		16,934.73
46	Unicorn	6	4	17	22		19,008.29
47	Griffin	6	4	17	22		18,992.21
48	Toiyabe	6	4	17	22		18,963.86
49	Toquima	6	4	17	22		16,236.38
50	Champion	4	5	16	24		13,969.54
51	Alimax	4	5	16	24		13,624.77
52	Tip Top	4	5	16	24		13,908.84
53	Summit	4	5	16	24		13,830.37
54	Red Deer	4	5	16	24		
55	Black Deer	4	5	16	24		
56	Grizzly	6	4	18	24		
57	Bison	6	4	18	24		
58	Placer	6	4	18	24		
59	Pluto	6	4	18	24		
60	Jupiter	4	5	16	24		
61	Storm	4	5	16	24		
62	Whirlwind	4	5	16	24		
63	Leviathan	4	5	16	24		
64	Emigrant	4	5	16	24		13,159.78
65	Mikado	4	5	16	24		12,906.00
66	Tycoon	4	5	16	24		13,066.09
67	Hector	4	5	16	24		13,175.65

68	Pooquop	6	4½	18	24	
69	Vulcan	6	4½	18	24	
72	Niagara	6	4½	18	24	
73	Terrible	6	4½	18	24	
74	Dragon	6	4½	18	24	15,391.66
75	Growler	6	4½	18	24	
76	Carrier	4	5	16	24	
77	Confucius	4	5	16	24	
78	Mars	4	5	16	24	
79	Apollo	4	5	16	24	
80	Phil Sheridan	4	5	16	24	
81	U. S. Grant	4	5	16	24	13,659.84
82	Buffalo	6	4½	18	24	13,674.67
83	Mountaineer	6	4½	18	24	
84	Gazelle	4	5	16	24	
85	White Bear	6	4½	18	24	
86	Gorilla	6	4½	18	24	
87	Tempest	6	4½	18	24	
88	Hurricane	6	4½	18	24	
89	Giant	6	4½	18	24	
90	Gladadiator	6	4½	18	24	
91	Tiger	6	4½	18	24	
92	Verdi	6	4½	18	24	
93	Oronico	4	5	14	24	
94	Eclipse	4	5	15	24	
95	Driver	4	5	15	24	
96	Clipper	4	5	15	24	
97	Racer	4	5	15	24	
98	Rattler	4	5	15	24	
99	Ranger	4	5	15	24	
100	Rover	4	5	15	24	
101	Hunter	4	5	15	24	
102	Runner	4	4 2/3	15	22	
103	Rusher	4	4 2/3	15	22	
104	Rambler	4	4 2/3	15	22	
105	Roller	4	4 2/3	15	22	
106	Pacer	4	4 2/3	15	22	
107	Courser	4	4 2/3	15	22	
108	Stager	4	4 2/3	15	22	
109	Flier	4	4 2/3	15	22	
110	Fire Fly	4	4 2/3	15	22	
111	Chamois	4	4 2/3	15	22	
112	Hawk	4	4 2/3	15	22	
113	Falcon	4	4 2/3	15	22	
114	Heron	4	4 2/3	15	22	
115	Eagle	4	4 2/3	15	22	
116	White Eagle	4	4 2/3	15	22	
117	Red Eagle	4	4 2/3	15	22	
118	Grey Eagle	4	4 2/3	15	22	
119	Golden Eagle	4	4 2/3	15	22	
120	Bald Eagle	4	4 2/3	15	22	
121	American Eagle	4	4 2/3	15	22	

122	Willamette	4	5	16	24	\$ 13,009.28
123	Geo. L. Woods	4	5	16	24	13,009.29
124	Umpqua	4	5	16	24	13,009.29
215	J. R. Moores	4	5	16	24	13,009.29
126	Swiftsure	4	4 2/3	15	22	
127	Mercury	4	4 2/3	15	22	
128	Herald	4	4 2/3	15	22	
129	Fleetfoot	4	4 2/3	15	22	
130	Favorite	4	4 2/3	15	22	
131	Grey Hound	4	4 2/3	15	22	
132	Deer Hound	4	4 2/3	15	22	
133	Fox Hound	4	4 2/3	15	22	
341	Trapper	4	4 2/3	15	22	
135	Peeler	4	4 2/3	15	22	
138	Blue Bird	4	4 2/3	15	22	
139	Blue Jap	4	4 2/3	15	22	
140	Ostrich	4	4 2/3	15	22	
141	Magpie	4	4 2/3	15	22	
142	Raven	4	4 2/3	15	22	
143	Swan	4	4 2/3	15	22	
144	Crane	4	4 2/3	15	22	
145	Dart	4	4 2/3	15	22	

The road is well constructed and Passenger Trains can be safely run over it at a rate of forty miles per hour, and at as high rate of speed as any similar railroad in the United States.

The Maps and Profiles marked "A" "B" "C" and "D" are correct drawings of this section (100 miles) of said railroad. from Section 571 to section 670, both inclusive. The Map shows correctly the various curved and tangents, and the Profile correctly exhibits the original surface line and the grades upon which this section of the said railroad is constructed.

All of which is respectfully submitted.

James W. Haines	} Commissioners
Frederick A. Trutle	
William Sherman	

Sacramento April 28th, A. D. 1869.

UNITED STATES OF AMERICA

State of California.

To His Excellency, Ulysses S. Grant President, the Hon. George S. Boutwell, Secretary of the Treasury, and the Hon. Jacob D. Cox Secretary of the Interior, of the United States:

The undersigned, James W. Haines, Frederick A. Tritle and William Sherman Commissioners, appointed by the President of the United States to examine and report upon the Central Pacific Railroad of California, under and in pursuance of the provisions of the Act of Congress, entitled, "An Act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military and other purposes," approved July 1, 1862, and the Acts amendatory thereof, approved July 2, 1864, March 3, 1865 and July 3 1866, would respectfully state, that they have this day made a report upon the construction and completion of an addition and continuation of twenty 3/10 miles of the said railroad and telegraph line, commencing at the termination of the six hundred and seventieth mile, and ending at the termination of the six hundred and ninetieth 3/10 mile, which is hereby referred to. That in addition to the matters therein stated they would farther respectfully

Report and Certify That in the said twenty and 3/10 miles of said railroad, the number of degrees of curved line is 965 degrees and 36 minutes; the length of the curved line is 45,728.2 feet and of the tangent lines is 61,433.2 feet; the percentage of curved line is 43.25. The width of the embankments at grade line is fourteen feet, and the inclination of the slopes of the embankments is one and one half feet horizontal to one foot vertical. The width of the excavations at grade line varies from 16 to 20 feet, according to the material forming the sides of the cuts, and the inclination of the slopes of the excavations varies with the nature of the material through which the excavation is made, and is as follows; Through earth, one foot horizontal to one foot vertical; soft rock one half to one, three fourths to One and one foot horizontal to one foot vertical; through hard rock, one fourth of a foot horizontal to one foot vertical.

The culverts are all either built with an arch, or in the open or box form. of hard stone and their number and size are as follows:

LIST OF CULVERTS
On Sections 671 to 690 3/10 both inclusive.

No	Description	Size
4	Box Culverts	2 x 3 feet
1	" "	2 x 2 "
1	" "	2 x 2 1/2 "
4	Open "	6 feet span
25	" "	4 " "

25 Culverts.

1 Trestle, 48 feet long.

The following are the bridges on said section of twenty 3/10 miles;

BRIDGES.

First. There are no bridges on said section of twenty 3/10 miles.

There are no public Road Crossings. No fences or farm gates or gates have been built on said section, as none are needed, the road being built almost entirely on vacant public land, and where built through enclosed fields, fences have not been found necessary.

The main track of this section is Twenty 3/10 miles in length with 2000 feet of side tracks attached thereto, being sufficient to accommodate the present business of the road.

The weight of the rails used is not less than 56 pounds per yard. They are connected by fish joints. This consists of two wrought iron bars, twenty inches in length by two and one half inches in width, and three fourths of an inch thick, fitting closely to the neck of the rail, and held firmly in place by four bolts and nuts. The rails used are generally twenty eight feet in length.

The spikes used are of wrought iron, five and one half inches in length, nine sixteenths of an inch square, weight one half pound each, and number about ten thousand five hundred per mile upon straight lines, the number being increased upon the curves.

12 per 28' rail
Upon this portion of the railroad, there is an average of 2260 cross ties per mile. These ties are red spruce, yellow pine, tamarack and white cedar. The greater portion are, however, tamarack and pine. They are eight feet in length, not less than six by eight inches in size, the joint ties being not less than six by ten inches.

The material forming the road bed, for the greater portion of these 20 3/10 miles, is, of itself, good ballasting, and is used for that purpose. the ties being firmly imbedded therein. The material consists largely of sand rock and gravel from the excavations. The ballasting cannot be fully completed until the embankments have had time to settle, which will take several months. The ballast is used at the rate of one and one quarter cubic yards per lineal yard of road.

There is one station on said portion of said railroad line to wit: One at Rozel $682\frac{1}{2}$ miles from Sacramento.

There are no machine shops on this portion of the railroad-- the machine shops and engine houses being located at Sacramento, Rocklin, Wadsworth, Winnemucca, Carlin and Toano.

There are now in use on the road the following cars, to wit;

14	First Class Passenger Cars, Each costing \$3,700.			
2	Passenger and Baggage "	"	"	1,880.
18	Baggage Mail and Express "	"	"	2,000.
480	Box Freight	"	"	800.
1293	Platform	"	"	725.
95	Dump	"	"	550.
127	Hand	"	"	230.
100	Section	"	"	75.
50	Track	"	"	125.
1	Family	"	"	5000.

There are 143 Locomotives now in use on the road, all of them of the best style and quality, of the best class used on American roads, are manufactured by American builders, and well adapted for service on heavy grades and sharp curves.

The following is a list of the Locomotives now in use:

No	Names of Engines	No of Drivers	Diam of Drivers	Diam of Cylinders	Length Stroke	Weight including Tender	Cost
			FEET	INCHES	INCHES	TONS	
1	Gov. Stanford	4	4½	15	22	44	\$ 15,733.65
2	Pacific	4	5	16	24	46	18,205.08
3	C. P. Huntington	2	4½	11	15	22	10,589.58
4	T. D. Judah	2	4½	11	15	22	10,603.49
5	Atlantic	4	5	15	22	44	16,629.91
6	Conness	6	4	17	24	54	19,161.74
7	Sargent	4	5	16	24	52	22,762.24
8	Nevada	6	4	18	22	55	36,438.57
9	Utah	6	4	18	22	55	36,438.57
10	Humboldt	6	4	18	22	55	24,761.45
11	Arctic	4	5	15	22	46	20,013.13
12	Truckee	6	4	17	24	54	21,435.89
13	Hercules	6	4	18	22	55	24,716.49
14	Oneonta	6	4	18	22	56	23,226.87
15	Washoe	6	4	18	22	56	23,128.39
16	Owyhee	6	4	17	24	55	24,482.38
17	Idaho	6	4	17	24	55	23,473.06
18	Piute	6	4	18	22	55	22,598.65
19	Carson	6	4	18	22	55	23,379.22
20	Amazon	6	4½	18	24	55	20,649.58
21	Tamaroo	6	4½	18	24	56	21,311.97
22	Auburn	6	4½	18	24	56	21,283.27
23	Mono	6	4½	18	24	56	21,255.71
24	Montana	6	4½	18	24	56	19,116.94
25	Yuba	6	4½	18	24	56	18,970.05
26	Sampson	6	4	17	22		18,670.45
27	Goliath	6	4	17	22		18,220.86
28	Gold Run	6	5	16	24		16,994.56

86	Gorilla	6	4 1/2	18	24
87	Tempest	6	4 1/2	18	24
88	Hurricane	6	4 1/2	18	24
89	Giant	6	4 1/2	18	24
90	Gladiator	6	4 1/2	18	24
91	Tiger	6	4 1/2	18	24
92	Verdi	6	4 1/2	18	24
93	Oronoco	4	5	14	24
94	Eclipse	4	5	15	24
95	Driver	4	5	15	24
96	Clipper	4	5	15	24
97	Racer	4	5	15	24
98	Rattler	4	5	15	24
99	Ranger	4	5	15	24
100	Rover	4	5	15	24
101	Hunter	4	5	15	24
102	Runner	4	4 2/3	15	22
103	Rusher	4	4 2/3	15	22
104	Rambler	4	4 2/3	15	22
105	Roller	4	4 2/3	15	22
106	Pacer	4	4 2/3	15	22
107	Courser	4	4 2/3	15	22
108	Stager	4	4 2/3	15	22
109	Flier	4	4 2/3	15	22
110	Fire Fly	4	4 2/3	15	22
111	Chamois	4	4 2/3	15	22
112	Hawk	4	4 2/3	15	22
113	Falcon	4	4 2/3	15	22
114	Heron	4	4 2/3	15	22
115	Eagle	4	4 2/3	15	22
116	White Eagle	4	4 2/3	15	22
117	Red Eagle	4	4 2/3	15	22
118	Grey Eagle	4	4 2/3	15	22
119	Golden Eagle	4	4 2/3	15	22
120	Bald Eagle	4	4 2/3	15	22
121	American Eagle	4	4 2/3	15	22
122	Willamette	4	5	15	24
123	Geo L Woods	4	5	15	24
124	Umpqua	4	5	15	24
125	J. R. Moores	4	5	15	24
126	Swiftsure	4	4 2/3	15	22
127	Mercury	4	4 2/3	15	22
128	Herald	4	4 2/3	15	22
129	Fleetfoot	4	4 2/3	15	22
130	Favorite	4	4 2/3	15	22
131	Grey Hound	4	4 2/3	15	22
132	Deer Hound	4	4 2/3	15	22
133	Fox Hound	4	4 2/3	15	22
134	Trapper	4	4 2/3	15	22
135	Peeler	4	4 2/3	15	22
138	Blue Bird	4	4 2/3	15	22
139	Blue Jay	4	4 2/3	15	22
140	Ostrich	4	4 2/3	15	22

\$ 13,009.28
13,009.29
13,009.29
13,009.29

29	Antelope	4	5	16	24		\$ 16,816.24
30	Tahoe	4	5	16	22		17,981.13
31	Klamath	4	5	16	22		17,988.54
32	Ajax	6	4	16	24	38	18,354.84
33	Achilles	6	4	16	24	38	17,915.69
34	El Dorado	4	5½	16	24		20,009.58
35	Boise	4	5½	16	24		20,218.36
36	Shoshone	4	5	16	22		17,739.39
37	Mohave	4	5	16	22		17,633.98
38	Ogdensburg	6	4½	18	24	56	17,830.43
39	Malone	6	4½	18	24	56	17,838.94
40	Solano	4	5	16	22		12,000.00
41	Stanislaus	4	5	16	22		12,000.00
42	Tuolumne	4	5	16	22		12,000.00
43	Tulare	4	5	16	22		12,000.00
44	Colossus	6	4½	18	24		16,663.22
45	Majestic	6	4½	18	24		16,934.73
46	Unicorn	6	4	17	22		19,008.29
47	Griffin	6	4	17	22		18,992.21
48	Toiyabe	6	4	17	22		18,963.86
49	Toquima	6	4	17	22		16,236.38
50	Champion	4	5	16	24		13,969.54
51	Climax	4	5	16	24		13,624.77
52	Tip Top	4	5	16	24		13,908.84
53	Summit	4	5	16	24		13,830.37
54	Red Deer	4	5	16	24		
55	Black Deer	4	5	16	24		
56	Grizzly	6	4	18	24		
57	Bison	6	4	18	24		
58	Blacer	6	4	18	24		
59	Pluto	6	4	18	24		
60	Jupiter	4	5	16	24		
61	Storm	4	5	16	24		
62	Whirlwind	4	5	16	24		
63	Leviathan	4	5	16	24		
64	Emigrant	4	5	16	24		13,159.78
65	Mikado	4	5	16	24		12,906.00
66	Tycoon	4	5	16	24		13,066.09
67	Hector	4	5	16	24		13,175.65
68	Poquoop	6	4½	18	24		
69	Vulcan	6	4½	18	24		
72	Niagara	6	4½	18	24		
83	Terrible	6	4½	18	24		15,391.65
74	Dragon	6	4½	18	24		
75	Growler	6	4½	18	24		
86	Carrier	4	5	16	24		
77	Confucius	4	5	16	24		
78	Mars	4	5	16	24		
79	Apollo	4	5	16	24		
80	Phil Sheridan	4	5	16	24		13,659.84
81	U, S, Grant	4	5	16	24		13,674.67
82	Buffalo	6	4½	18	24		
83	Mountaineer	6	4½	18	24		
84	Gazelle	4	5	16	24		
85	White Bear	6	4½	18	24		

141	Magpie	4	4 2/3	15	22
142	Raven	4	4 2/3	15	22
143	Swan	4	4 2/3	15	22
144	Crane	4	4 2/3	15	22
145	Dart	4	4 2/3	15	22
164	Esmeralda	4	5	16	22
165	Aurora	4	5	16	22

The road is well constructed, and Passenger Trains can be safely run over it at the rate of forty miles per hour, and at as high a rate of speed as any similar railroad in the United States.

The Map and Profile marked "A" , is a correct drawing of this section (20 3/10) ^{miles} of said railroad, from section 671 to section 690 3/10. both inclusive. The Map shows correctly the various curves and tangents, and the profile correctly exhibits the original surface line and the grades upon which this section of said railroad is constructed.

All of which is respectfully submitted.

James W. Haines	}	Commissioners.
Frederick A. Tittle		
William Sherman		

Sacramento, May 15th, A. D. 1869.