

LETTER  
OF  
THE SECRETARY OF THE INTERIOR,  
COMMUNICATING,

*In compliance with a resolution of the Senate of the 5th instant, the annual reports of the several Pacific railroad companies.*

JANUARY 7, 1869.—Referred to the Committee on the Pacific Railroad and ordered to be printed.

DEPARTMENT OF THE INTERIOR,  
*Washington, D. C., January 6, 1869.*

SIR: Pursuant to Senate resolution of the 5th instant, I have the honor to transmit herewith a copy of the last annual report of the Union Pacific Railroad Company, and of each of the companies engaged in constructing a branch or continuation of said road. These reports were filed in compliance with the requirements of the acts of July 1, 1862, and June 25, 1868.

I also communicate a copy of the reports respectively filed by the Northern Pacific Railroad Company and the Southern Pacific Railroad Company.

The department is not in possession of the other reports mentioned in the resolution.

I am, sir, very respectfully, your obedient servant,

O. H. BROWNING,  
*Secretary.*

Hon. B. F. WADE,  
*President pro tempore of the Senate.*

## No. 1.

REPORT OF THE UNION PACIFIC RAILROAD COMPANY TO THE SECRETARY  
OF THE INTERIOR, JUNE 30, 1868.

*First.—The names of the stockholders and their places of residence, so far as ascertained.*

Alley, John B., Lynn, Mass.	Hazard, Rowland, Newport, R. I.
Ames, Oakes, North Easton, Mass.	Hazard, Rolana G., Peacedale, R. I.
Ames, Oliver, North Easton, Mass.	Hedden, Josiah, New York, N. Y.
Andrews, Frank W., Boston, Mass.	Hobart, Aaron, jr., Boston, Mass.
Atkins, Elisha, Boston, Mass.	Holladay, Benjamin, New York, N. Y.
Baker, Ezra H., Boston, Mass.	Hooper & Co., Samuel, Boston, Mass.
Baker, Ezra H., jr., Boston, Mass.	Horner, Anna, Newport, R. I.
Bardwell, Josiah, Boston, Mass.	Hotchkiss, Henry, New Haven, Conn.
Bardwell, Josiah, trustee, Boston, Mass.	Jenks, Barton H., Philadelphia, Pa.
Barnes, Oliver W., Philadelphia, Pa.	Johnston, Jas. B., New York, N. Y.
Bates, Berry E., Boston, Mass.	Jenes, David, New York, N. Y.
Bates, Berry E., treas. trustee, New York.	Jordan, R. S., Boston, Mass.
Bates, B. E., trus. for Mrs. L. E. Nourse, Boston, Mass.	King, John L., Springfield, Mass.
Beard, Eli, New Haven, Conn.	Kountz, Augustus, Omaha, Neb.
Beard, Sylvester M., New Haven, Conn.	Lambard, Charles A., Boston, Mass.
Bell, Clark, New York.	Lockwood, Le Grand, New York, N. Y.
Blood, Henry, New York.	Low, Abiel A., New York, N. Y.
Boyer, B. M., Norristown, Pa.	Macy, William H., New York, N. Y.
Bradford, Gamaliel, Boston, Mass.	McComb, H. S., Wilmington, Del.
Bristol, William B., New Haven, Conn.	McCormick, John, Omaha, Neb.
Bushnell, C. S., New Haven, Conn.	McCormick, Cyrus H., New York, N. Y.
Chapman, Oliver S., Canton, Mass.	NcNiel, R. G. S., Philadelphia, Pa.
Cisco, John J., New York.	McPherson, William F., Omaha, Neb.
Cook, Ebenezer, Davenport, Iowa.	Moore, E. C., New York, N. Y.
Cook, Clarissa C., Davenport, Iowa.	Meyer, E. Reed, Philadelphia, Pa.
Crane, Henry C., Yonkers, N. Y.	Neilson, Charles H., New York, N. Y.
Crane, Henry C., trustee, New York.	Nickerson, Frederick, Boston, Mass.
Crane, J. J., New York.	Nickerson, Joseph, Boston, Mass.
Credit Mobilier of America, Philadelphia, Pa.	Nickerson, Thomas, Boston, Mass.
Cummings, William A., Darien, Conn.	Opdyke, George, New York, N. Y.
Davies, John M., New Haven, Conn.	Peck, Nathan, New Haven, Conn.
Dillon, Sidney, New York.	Pigot, Joseph B., New York, N. Y.
Dodge, Mrs. Anna, Council Bluffs, Iowa.	Pohl, Paul, Philadelphia, Pa.
Duff, John, Boston, Mass.	Richardson, Joseph, New York, N. Y.
Duff, John Robinson, Boston, Mass.	Robbins, Henry A., New York, N. Y.
Durant, William F., New York.	Robbins, Royal C., Boston, Mass.
Durant, Thomas C., New York.	Sanford, Henry, New Haven, Conn.
Emerson, Charles, New York.	Skinner, F. & Co., Boston, Mass.
Fessenden, Sewall H., Boston, Mass.	Skinner, F. & Co., trustee, Boston, Mass.
Fisk, James, jr., New York.	Smith, J. N., New York, N. Y.
Forbes, W. D., Boston, Mass.	Stetson, Thomas M., New Bedford, Mass.
Foster, Pierpont B., New Haven, Conn.	Stewart, Benedict D., Philadelphia, Pa.
French, L. Eugene, New York.	Swazey, W. T., Omaha, Neb.
Gilbert, Horatio, Boston, Mass.	Thatcher, Isaac, Boston, Mass.
Gilbert, Horatio J., Boston, Mass.	Timpson, C. F., New York, N. Y.
Gilmore, E. W., Boston, Mass.	Tony, Lydia, Newport, R. I.
Glidden, William T., Boston, Mass.	Tracey, John T., Chicago, Ill.
Gray, H. Winthrop, New York.	Train, Willie Davis, New York, N. Y.
Gray, G. Griswold, New York.	Trowbridge, Ezekiel H., New Haven, Conn.
Grimes, James W., Davenport, Iowa.	Trowbridge, Henry, New Haven, Conn.
Grinnell, Moses H., New York.	Tuttle, Charles, New York, N. Y.
Hall, Charles M., Philadelphia, Pa.	Vernon, Sophia, Newport, R. I.
Hazard, Anna, Newport, R. I.	Wait, C. C., New York, N. Y.
Hazard, Elizabeth, Newport, R. I.	White, Mrs. Emily F., New Haven, Conn.
Hazard, Elizabeth, trustee, Newport, R. I.	Williams, T. M. S., Boston, Mass.
Hazard, Isaac P., Newport, R. I.	Williams & Guion, New York, N. Y.
Hazard, Mary P., Newport, R. I.	Young, Brigham, Salt Lake, Utah Ter.

*Second.—The names and residences of the directors and all other officers of the company.*

Alley, John B., Boston, Mass.  
Ames, Oliver, Boston, Mass.  
Bardwell, Josiah, Boston, Mass.  
Bates, Benjamin E., Boston, Mass.  
Bushnell, C. S., New Haven, Conn.  
Cisco, John J., New York.  
Crane, Henry C., New York.  
Dexter, F. Gordon, Boston, Mass.

Dillon, Sidney, New York.  
Duff, John, Boston, Mass.  
Durant, Thomas C., New York.  
Lambard, Charles A., Boston, Mass.  
Macy, William H., New York.  
McComb, H. S., Wilmington, Del.  
Tracey, John F., Chicago, Illinois.

OFFICERS.

Oliver Ames, president, New York.  
Thomas C. Durant, vice president, New York.  
Henry B. Hammond, secretary, New York.  
John J. Cisco, treasurer, New York.

Chas. Tuttle, assistant treasurer, New York.  
G. M. Dodge, chief engineer, Omaha, Neb.  
S. Seymour, consulting engineer, New York.  
W. Snyder, superintendent, Omaha, Neb.

*Third.* The amount of stock subscribed and the amount thereof actually paid in.

Subscriptions have been received for 104,543 shares, of a par value of \$10,454,300, on which there has been paid in \$10,439,300.

*Fourth.* A description of the lines of road surveyed, of the lines thereof fixed upon for the construction of the road, and the cost of such survey.

The chief engineer reports as follows:

UNION PACIFIC RAILROAD COMPANY,  
*Chief Engineer's Office, Omaha, January 1, 1868.*

DEAR SIR: I have the honor to submit herewith the report of the engineering, land, and lot department of the Union Pacific Railroad Company for the year 1867, including the reports of division engineers, chiefs of parties, and geological assistants.

During the winter of 1866-'67, Mr. Bates's party was ordered to examine the outlet from the head of Salt Lake valley to Snake river, by way of Malade river and Marsh valley, with the design of obtaining some knowledge of the north rim of the basin. They examined the Malade river route sufficiently to determine its impracticability. They were snowed in a portion of the time, and were finally driven out of the Malade valley by the continuous storms and deep snows. Early in January, 1867, I sent orders to Mr. Bates, at Salt Lake, to organize a party, with Mr. Hodges as chief, to run a line from the point where Bear river debouches into the valley of Salt Lake, around the northern point of Wahsatch range, connecting with Mr. Reed's line in the valley of Black's fork. Full descriptions of the surveys are given in the reports of Messrs. Bates and Hodges, and I will notice them more fully when I come to my personal examination of that country.

In making the general organization for the surveys in 1867, the pressing work was, 1st, the revision of the location up the Lodge Pole, and on the divide to the eastern base of the Rocky mountains. To this work was assigned Mr. L. L. Hills, who, before completing it, was attacked by a band of hostile Indians and killed, some six miles east of Cheyenne.

2d. The final location of the line over the Black Hills to Fort Sanders. A party under Mr. Evans had been kept to work in the Black Hills all winter, settling upon the line to locate, observing the fall of snow, the streams, winds, &c. Mr. Evans pressed the location early in the spring, the company not giving me over two months to complete it. The location was completed, and in my opinion was far superior to the changes since made in that line.

3d. The development of the country from Fort Sanders to Green river. This work was placed in charge of Percy T. Brown, under the supervis-

ion of Mr. Evans, with full instructions to develop the country between the Medicine Bow mountains and Bitter creek on the south, and the Black Hills, Sweet Water, and Big Sandy on the north. Mr. Brown had progressed well with this work up to July 23, when he was attacked by a band of nearly 300 hostile Indians, some 15 miles north of Laclede station, on Bitter creek, and after fighting successfully from 12 o'clock until nearly dark, he was shot through the body and mortally wounded. The balance of the party were forced to abandon their stock after Brown fell, and seek safety on Bitter creek. Mr. Brown's party had been attacked twice before; once near Rock creek, when he had lost one of his best men, Mr. Clark, one of the escort, and had others wounded. The loss of the chiefs of parties was very detrimental to our work, and it required great energy to overcome the natural fears and reluctance of parties to push out into that hostile Indian country.

*Fifth.* The development of the country between Green river and Salt Lake valley, reaching north to Snake river; also a revision of Mr. Reed's line, if it was found the most practicable for location. To this work Mr. Bates was assigned, with two parties, Mr. Hodge's and his own. The loss of Mr. Hills and Mr. Brown forced me to take Mr. Bates and his party east of the Green river, to enable me fully to develop the country between Green river and Fort Sanders. This was a country comparatively unknown, but what little knowledge I had of it convinced me that through some portions of it north of the stage road and away from the foot-hills that border the great range of mountains reaching from the head of the Cache la Poudre to Echo cañon, known as the Laramie, Medicine Bow, Elk, Sage Creek, Bridge Pass or Uintah ranges, we should seek a route for our road. A full examination of this country proved that my view of it was correct. The parties got into the field early, with pretty strong escorts, and were progressing remarkably well with their work, when the combined attacks of the Indians, apparently along our whole line, not only in the parties far west, but on our graders, &c., the killing of our chiefs, the depletion of our escorts, &c., virtually broke up our work, forced me to change my orders and to use the parties whenever we could do so to advantage. Upon the killing of Mr. Hills I left Omaha, with a view to take direct charge of the parties in the field, to examine personally the line, and such portions of the country as I had never before gone over. I left the end of the track at Julesburg the 28th of June, accompanied by Mr. Blickensderfer, jr., who had been assigned by the President to the duty of determining the eastern base of the Rocky mountains, under section 11 of the act of Congress of 1862, giving subsidy for building the Union Pacific railroad and its branches; also by General J. A. Rawlins, chief of staff of the United States army; Major Dunn, aide-de-camp; John R. Duff; General Myers, chief quartermaster department of the Platte, Mr. Rodgers, Mr. John E. Corwith, and Colonel S. Seymour; construction engineer, who was accompanying; under the direction of the company, Mr. Blickensderfer in his examination; also Mr. S. B. Reed, superintendent of construction; General J. T. Casement and T. J. Carter, government directors, with one or two of my own assistants going to replace the men killed, and Mr. J. A. Evans, division engineer. Most of the party were taking advantage of the escorts that had been provided for me, to get safely through the country. I pushed out by rapid marches up the Lodge Pole Creek valley, examining the line, and entered Crow Creek valley, pitching our camp at the (now) city of Cheyenne.

Here I immediately combined O'Neill's and Maxwell's parties under Mr. Evans, who pushed forward the location from Pine Bluffs to Crow Creek crossing, the work having been abandoned, and the parties driven

out on death of Mr. Hills. This was a difficult location to make, as I required that we should in no grade exceed 35 feet to the mile, desiring to make that the ruling grade from the Missouri river to the eastern base of the mountains. After running several lines, we settled on the southerly line, entering Crow Creek valley some seven miles east of Cheyenne, following the valley to that place, and connecting with Evans's located line over the Black Hills, at the city of Cheyenne. On the completion of this location, I moved west over the Black Hills, leaving Mr. Maxwell's and Mr. O'Neill's parties in the Black Hill's to make some surveys desired by Colonel Seymour, and pushed out to Fort Sanders. Reorganizing our parties and escorts here, I left this portion of the work in charge of J. A. Evans, division engineer, while I pushed on to Messrs. Brown's and Bates' parties. Soon after leaving, the sudden death of Mr. Evans's wife called him east and deprived me of his valuable services. At Fort Sanders we enter the Laramie plains.

#### THE LARAMIE PLAINS.

The formation of these plains, which I treat as embracing the country between the western base of the Black Hills and the North Fork of Platte river or Rattlesnake range of mountains, is a singular one. They are really a park, similar in formation to the Middle and North parks, but much less elevated, the level of the plains being about 6,500 feet above the sea. On the east and north they are bordered by the Black Hills ranges of the Rocky mountains, which stretch about due north 150 miles to the Laramie Peak, where they turn almost due west and terminate in the Seminoe mountains, a prominent peak rising at the mouth of the Sweetwater, which comes into the North Platte from the west, and is really the west fork of the Platte, and the north fork of Platte river coming in from due south. On the south they are bordered by the main range of the Rocky mountains, snow-capped the year round, and reaching an elevation of from 10,000 to 17,000 feet above the level of the sea. Timber covers these slopes to 8,000 or 9,000 feet above the sea, and then gives way to continual snow, which never, to my knowledge, has left them bare. In this range we have the prominent peaks at the heads of the Little and Big Laramie rivers which border the North Park, the most noticeable of which are the Medicine Bow mountains, Elk mountains, Sheep's Head, and the peaks south of North Fork Platte crossing. On the west the Rattlesnake range juts out from the Elk mountain and runs about north to the North Platte crossing, reaching about 8,000 feet in height. The North Platte cañons through the western range in latitude  $41^{\circ} 56'$ , while the Medicine Bow cuts the eastern range at right angles, really separating that range from the foot slopes of the northerly range of the Black Hills.

Through these plains run the Big and Little Laramie rivers, which rise in the mountains bordering the south rim of the plains, cañons through the Black Hills just north of Laramie Peak, and enter the North Platte near Fort Laramie, Rock creek, which rises just east of Medicine Bow Peak, flows due north to latitude  $42^{\circ}$ , then west into the Medicine Bow; and the Medicine Bow, which rises in the peaks of that name, flows due north to latitude  $42^{\circ}$ , then westerly, cañons through the eastern range of Rattlesnake Hills and enters the north fork of the Platte river 150 miles northwest of Fort Saunders, in latitude  $52^{\circ} 3'$ . Except in the mountain slopes to the north and south of these plains, no timber exists of any importance. The plains are covered with a growth of bunch and buffalo grass, and as you get away from the foot-hills of the mountain ranges you find numerous lakes, the most important being Cooper's lake,

two or three miles long to one wide, strongly impregnated with alkali, the borders of which are impassable at most seasons of the year, destitute of vegetation and overgrown with sage, brush, and grease wood. From this description of the country it is plain to be seen that our line is necessarily confined between the range of mountains on the south and the foot-hills of the Black Hills on the north.

The indications of snow and the lack of water in parts of this country caused me to seek the lowest elevation on the plains, and clinging as closely as possible to the water-courses, by following the Laramie Rock creek, and perhaps the Medicine Bow, to obtain a line away from the high mountains unexposed to drifting snows, that would be adjacent to water and enter the coal-fields near Rock creek. The lack of fuel indicated that we should follow the valley of that creek upon reaching it, in order to avail ourselves of that great formation and supply ourselves with fuel. Orders were accordingly sent to Mr. O'Neill, as soon as he finished the location of the mouth of the Little Laramie, to run the lines above indicated.

From the Medicine Bow crossing Mr. Brown had run two lines, one down the Medicine Bow valley, which indicated the most desirable route, as it avoided crossing the Rattlesnake Hills, but which, for reasons that will appear hereafter he abandoned, and found a line reaching the summit of the eastern range of the Rattlesnake Hills about  $8\frac{1}{2}$  miles north of Fort Halleck, in latitude  $41^{\circ} 50'$  at an elevation of 7,124 feet above the sea and 555 feet above Medicine Bow, which pass has since been named Brown's Pass and is now known as such. From this summit to the north fork of the Platte, he followed down Mary's creek, which cañons through the west range of the Rattlesnake Hills, and reaching the North Platte five miles north of the mouth of Pass creek in latitude  $41^{\circ} 46'$ . I was satisfied from my examination that Brown's line could be reduced to a grade not to exceed 60 to 65 feet between the Medicine Bow and the north fork of the Platte, and this made us more anxious that O'Neill's surveys might prove a success.

We laid at the North Fork of the Platte two or three days, in which time I gave the country a pretty thorough examination, following the Platte to the point where it cañons through the west range of the Rattlesnake Hills, and determining in my own mind the fact that Mr. Brown had got the only inlet to the North Platte from the mouth of Rock creek to this cañon on the south, Mary's creek being the only creek heading in the eastern range of the Rattlesnake Hills, and flowing westerly to the Platte within these limits. I also examined the approach to Brown's line from the northwest, that Bates might be forced finally to connect at some point near Brown's crossing instead of making his connection further west near the divide of the continent. Subsequently, from letters written to me by Mr. Blickensderfer, who crossed the Platte near the mouth of the Medicine Bow river on his return, I ordered Maxwell to run a line down Martha's creek, entering the Platte north of the Rattlesnake cañon, in latitude about  $42^{\circ}$ . I also ordered Mr. Bates to run a line all the way down the Medicine Bow valley to its junction with the North Fork of the Platte. Maxwell's line was for most of the distance far superior to Brown's, having a lower summit to cross, and with lighter grades; but the crossing of the west range of the Rattlesnake Hills was so objectionable, that on my return trip, after personal examinations of the lines and surveys, I became satisfied that Brown had examined this country fully, and had not pushed his surveys in that direction for the same reason that I was obliged to abandon the lines run by Maxwell and Bates. The death of Brown before I could reach his party, with the

loss of notes and all the information he had obtained in a thorough reconnoissance of that entire country, added greatly to our labors, and in many cases forced us to cover the same ground twice.

At the North Fork of the Platte Mr. Appleton joined me. He had had charge of Mr. Brown's party since his death. The party was some 40 miles west, unable to go forward for want of water, with their horses gone, escorts used up, and apparently with no alternative but to back out of the country that Mr. Brown was killed in while endeavoring to get a line through. They were, however, in good spirits, and I had no doubt could soon be put on their feet again.

After giving the country north and south such examination as I desired, and after sending orders to O'Neill, Maxwell, and Hodges, I determined to push west to Brown's party and endeavor to reach Mr. Bates, and with their two parties develope the

#### BITTER CREEK PLAINS.

These plains are bounded on the east by the North Fork of the Platte and Rattlesnake mountains; on the north by the Seminole mountains, the Ice Gap range, and the Sweetwater Hills, all of which border the Sweetwater, which runs to the foot of the northerly slope; on the west by Green river; on the south by the main chain of the Rocky mountains, the Bridger's Pass range, the Bitter Creek range, the Black Butte, &c. Running diagonally through these plains, from southeast to northwest, is the main divide of the continent, depressed here and losing its mountainous appearance, in altitude some 7,000 feet above the level of the sea. It is a singular formation, stretching, as it does, for 100 miles from Bridger's Pass on the south to the south east point of the Wind River mountains on the north; a high, rolling prairie or plateau destitute of water and limited in vegetation. This entire plain, 200 miles east and west and from 40 to 100 miles north and south, has no living streams traversing it, and but few living springs throughout its entire extent. It is bordered on the east by the North Fork of the Platte, on the south by Sage creek and Butte creek, on the west by Green river, and on the north by the Sweetwater, surrounded by living rivers; yet within its limits rise no tributaries to any of these streams which flow the year round, and in August, when I crossed it, we travelled days and nights without water except what we hauled with us.

Another singular fact connected with the formation of this great plain is, that it is composed of a succession of independent basins, each having its own drainage, which is concentrated at its greatest depression in ponds and lakes that in some portions of the year become quite large, but generally during the dry season evaporate and become dry. These secondary basins are from 50 to 100 feet below the level of the surrounding country until the main divide is reached, and then we enter the great basin, formed right in the center of the main divide, known as Reed's basin or Dodge's basin; its extent being about 25 to 30 miles north and south and from 10 to 20 east and west. When I crossed this basin it was dry, the bed or lowest depression in it being about 300 feet below the surrounding country. It was a surprise to us, as we expected, on reaching the main divide of the continent, to strike tributaries of the Bitter creek or Green river, and there obtain a continual ascending grade from the Platte, going west, until the summit was reached, and then a continual descending grade until Green river was reached. After examining the country in the vicinity of the North Fork of the Platte, I deter-

mined to push west in about latitude  $41^{\circ} 50'$  to  $56'$  along the line run by Mr. Brown to the summit, and then endeavor to find an outlet to the west that was feasible for our purposes, flanking the Sage Creek range of mountains by the north, and Duff's Peak, Red Butte, and other isolated mountains in these plains on the south. We succeeded in obtaining a good country to Separation creek. This creek rises in the Bridger's Pass range, flows north, and loses itself in the broad plain or depression on the north border of the Bitter Creek plain. This depression is so marked and distinct that it becomes a prominent feature of the formation.

The main valley of these depressions rises near the South Pass Butte and extends east along the southern foot-slopes of the Sweetwater Hills, Ice gap, and Seminoe mountains, narrows down, and its drainage runs to a basin near Red Butte Point, in about latitude  $42^{\circ} 3'$ , and longitude —.

At Separation creek Mr. Blickensderfer, jr., and his party left me with the intention of going east, along the foot-slopes of the Black Hills, and north of the Medicine Bow river. I was informed that it was impracticable for them to do it with the train, having pushed through that country years before. They, however, obtained a good route east by taking the Sandy gap, or Frémont's East Pass of 1849, when he came down the Medicine Bow with his carts and worked over into Sweetwater valley by the Seminoe gap. The morning that we parted I, accompanied now by General Rawlings, Major Dunn, his aide-de-camp, Mr. Duff, Mr. Corwith, my geologist, Mr. Van Lennep, and Mr. Appleton, chief of Brown's party, (after giving instructions to Appleton's party to work back to the Platte, and review a part of their line run and to seek an outlet to the north toward Seminoe mountain, as I had determined to push Bates's party, when I met them, through into the upper north valley,) struck west to seek water and a crossing of the divide further north, taking the old Cherokee trail; I followed this trail to the summit, finding water in lakes and a country that would afford a good line. I reached the divide of the continent in about latitude  $42^{\circ}$ . Pushing over into the Red basin I soon found that we were at fault in all our heretofore formed opinions of the country, and were really descending into a basin instead of the waters of Goose river. In this basin I met Mr. Bates and his party, who had got into the basin, got out of water, had been out for three days, and had been forced to retire with his party to the last water on his line. A portion of his party and escort had come very near dying from the use of stagnant or poisonous water from one of the lakes in Red Desert basin. He had with him a reconnoitring party hauling water for his men, with their teams, and had calculated and was running a due line from the end of his line to Brown's line at the divide of the continent, endeavoring to develop the country, and, if possible, find water, so that he could get his line over it.

Upon meeting him and comparing notes of the north and west formation of the plains, I soon comprehended the make of the country, changed his orders, instructed him to abandon his present line and seek an outlet to the Platte further north, get into the broad valley I have described above as skirting the foot-slopes of the Sweetwater mountains, and endeavor to obtain a feasible line from the mouth of the Big Sandy to Red Butte point, which would keep him in the vicinity of the  $42^{\text{d}}$  parallel of latitude, and with the lateral lines that I ordered run, and the southern line being examined by Brown's party would effectually develop these plains, bring out their prominent features, and discover to us the true line across them; determining them, on my return, to give the southern portion as thorough an examination as I had the northern. Leaving Mr. Bates there, I pushed out at 12 o'clock at night



for water. Taking a westerly course by night, with Pilot Peak for my landmark in the day, we endeavored to find an outlet over the western rim of Red basin, that would lead us to Bitter creek, as I saw plainly that it was all important to cross these plains on the shortest possible route that would carry our line from running water to running water. Following the Cherokee trail, we soon got entangled among the cliffs and precipices at the head of Middle fork of Bitter creek, and worked our way, as well as we could, into Bitter Creek valley, striking it at Point of Rocks. This examination satisfied us that to obtain a practicable line into Bitter Creek valley, or to Green river, by this outlet, we must turn out of Red basin, further east, and before encountering the rough impassable country bordering the heads of the middle and north fork of Bitter creek. The divide or high land at the head of these streams really forms the west rim of Red basin. I accordingly started Mr. Appleton back up Bitter Creek, with his small escort, with instructions to find an approach from Bitter creek to the basin that would give us a low summit, and a feasible line, to develop the entire country between that point and the north fork of the Platte on the east, and the valley down which Mr. Bates was running on the north. He succeeded in doing this during the fall and early winter, though with great hardship and suffering, often being without water for days, and also without fire or wood. He nevertheless did the work fully and successfully. He met the question and solved it.

On reaching Bitter creek, I followed it along the line run in 1864 by Mr. Evans. The country is so marked here, so broken, that there is no question as to the proper route of the road, if it sought Green river by the Bitter Creek route, and we pushed on rapidly to Green river, reaching the crossing August 12, where Mr. Hodges, of the Salt Lake party, met me, and I immediately commenced the examination of the line and route heretofore run by Messrs. Reed, Bates, and Hodges, to overcome the Wahsatch range of mountains, and enter the Great Salt Lake basin.

Mr. Reed, in his surveys, has demonstrated that our line must seek Salt Lake valley north of the Uintah range of mountains. We were therefore confined by that range on the south, and by the north rim of the basin on the north.

The country to be examined, therefore—no matter whether the approach was made from the mouth of the Bitter creek, or as high north as the Big Sandy, or as was afterwards ascertained, as far north as South Pass, which covered all the ground on which any of our lines could approach Green river—was that portion of the eastern slope of the rim of the basin drained by Henry's Fork, Black's Fork, and Harris's Fork of Green river, and of the western slope that portion drained by the Weber river, Bear river, and their tributaries.

The singular formation of this country was, that after passing the rim of the basin, we struck Bear river, heading far south in Uintah and Wahsatch range, running almost due north to Soda springs, or Port Neuf gap, latitude  $42^{\circ} 30'$ , suddenly bending to the south and running as far south again as latitude  $41^{\circ} 30'$ , and emptying into Great Salt lake. Within this bend of Bear river lies the Wahsatch range of mountains, a spur of the Uintah, rugged, bold, and narrow, the approach to them from the east, anywhere near the head of Bear river, or south of Yellow creek, being by a descent from the summit of the basin, but from points north by tributaries of Bear river it would require a great ascent in a short distance, while the descent from the summit of the Wahsatch west was sudden. The country to the west suddenly gives down, with no available slopes for holding up our grades. All the streams heading in

the Wahsatch often cañon through spurs, and present formidable obstacles for us to overcome. At the northerly point of the Wahsatch, "Oape Horn," the rim of the basin opens out to the drainage of Snake river, without any perceptible summit, and is known as the Soda Springs or Port Neuf gap. The topography of the country has so plainly indicated this route north, and the route by Bear river, as a means of avoiding the Wahsatch entirely, that Mr. Hodges had been instructed to run the line from Salt Lake City up Bear river to the intersection of Reed's line, at the point of crossing Bear river. But its great length—being 80 to 100 miles longer than the Weber Valley line—caused me to abandon the line, for the grades obtained, though greatly reduced, in no way compensated for the extra distance. A careful examination of the north point of the Wahsatch mountains indicated a route over them by way of Harris's Fork, Hodge's Pass, Bear Lake valley, Martin's Pass, and Cash valley, to the north point of Bear river, a rim of Great Salt lake. The season was so far advanced when the route was discovered that it was too late to run a line over it this fall, but orders were issued to have a line run as soon as weather would permit in 1868.

The approach, east and west, to Martin's Pass, through the Wahsatch, is so short that I do not anticipate a line that will be as feasible as the Weber Valley line. The great obstacles to be overcome were the long tunnel at the head of Echo cañon, the heavy grade, and also the tunnel and heavy work in the Weber River narrows and cañon. To avoid the Echo cañon tunnel great effort was made to get from Bear river into Weber by some other stream, by Lost creek or one of its branches, but the instrumental survey of all the approaches for miles north demonstrated that the Echo cañon line was the best. Instructions were then given, after a personal examination of the line, to avoid the tunnel and lower the grades, if possible, by seeking the cañon proper by other ravines. Mr. Hodges in this was successful, and his line, as located, reduces the tunnel to 600 feet, and the grades to 90 feet. I am confident, however, that the work here by a more careful location and study can be reduced still further, and, I hope, the curvature lessened.

On reaching Salt lake, our trains, equipments, &c., needed repairs, and I camped at Camp Douglas to enable our transportation to be refitted and supplies refurnished, devoting the most of my time to an examination of the valley and a study of the country west. I may say that a careful examination convinced me that our true line west is north of Salt lake, and that if the Bear river arm of the lake could be crossed in about three miles' distance, in shallow water, it is better to do so rather than to overcome the high grades and elevation of Promontory Point, with the heavy work involved.

Desiring to examine the approaches from our railroad to Snake River valley, with a view to a branch or through line to Portland, Oregon, and Puget sound, and also desiring to settle beyond a doubt the question of feasibility of any route to Reed's Pass, in the Humboldt mountains, from South Pass, on any point north of Bitter creek superior to the route we then had, I determined, though late in the season, to return that way and give that country a thorough reconnoissance.

We left Salt Lake City with one company of infantry added to our escort, under command of Brevet Colonel Mills, a very energetic and efficient officer, who, during the entire trip, rendered us valuable service. We marched rapidly north on the stage road leading to Idaho, passing through the numerous towns that border the lake, and reached Bear River bridge September 6. Sending my teams around I followed the bend of the river through the cañons, watching closely Mr. Hodges' line, passing

successively the cañons at the north, the Fellow's cañon, and the volcanic formation at the northerly bend of Bear river. Bear River valley is generally one to three miles broad, occasionally spreading out into independent valleys, such as Cache, Bear Lake, &c. It is hemmed in by the Malade and Snake rivers and Green River mountains on the north and east, and the Wahsatch on the south and west, Bear river doubling the Wahsatch and watering both its eastern and western base.

The valley is generally a succession of table lands, which often require heavy grades and work to reach. However, a feasible line in grades, curvature, and alignment could be got up it, but no cheaper than the Weber Valley line.

At its northerly bend, "Cape Horn," the formation is volcanic. The old craters still exist there. The earth and ledges of rocks show wide crevices, which are very deep. Soda springs, superior to any known in the world, exist in its northerly bend in abundance, and pour out a flood of pure sparkling soda-water, the finest I ever drank. From Bear River valley there are several openings to Snake river, known as Marsh's valley, the Port Neuf gap, and Blackfoot gap. I examined them all, and all are feasible for any road running north or south. I selected the Blackfoot route, and pushed over to the waters of Snake river. After passing the north rim of the basin the country changes, the valleys become more level, wider and more luxuriant in the growth of vegetation. The northern slopes of the mountains are finely timbered. The streams are all full of fish—salmon, trout, &c. The Snake River mountains and Bear River mountains run out spurs north to Snake River valley. They are high and precipitous. The streams draining them and flowing north to Snake river are all divided and separated by the spurs of these mountains. There is no difficulty in following the valleys of any of the streams into Snake River valley, but when you undertake to cross the country at right angles to the drainage it is an impossibility. The mountains are so high, and the distance in which to overcome them so short, that no one would think of endeavoring to get west through this country from the South Pass by any line north of Hodges' Pass, latitude  $41^{\circ} 40'$ , via Bear River valley.

The entire feasibility of a railroad from several points on our line to Snake River valley and thence to Montana, Idaho, and Washington Territory, was fully demonstrated. It would be by far the best line from the Atlantic to the Pacific; would avoid the high elevation of the Wahsatch and Sierra Nevadas, with their heavy grades and troublesome snows, and no doubt ere long it will become the great through route from the northwest, and control the trade and traffic of the Indies.

Having satisfied myself as to the approach to the Pacific by this route, I turned due east, and with the South Pass as an objective point, and crossing into Salt River valley, followed it to its source, camping on the evening of September 14 at its head, prepared to make an effort to cross the numerous ranges of mountains between it and Green river. The next day, upon ascending the mountains, it commenced snowing, and for several days we struggled over the mountains in blinding snows, our stock without feed, and our trains often hauled up the mountains by the infantry. The road was horrible, and had to be built by an advanced pioneer corps. At one time it looked as though we would be entirely blocked up by the heavy snow that was falling. We crossed seven distinct ranges, and on the 19th succeeded in getting part of our troops down into the Piney, a tributary of Green river, a portion of our train having been left on the last mountain, and the stock driven forward to obtain grazing. The mountains are very high and precipitous, with very few

passes over them. They are covered with fine forests of pine. The valleys lie deep, and the streams find their way through them by long, narrow cañons, that man or beast can hardly penetrate. During the high water season most of the streams would afford sufficient water to run logs from their source to Green river; the heads of the Pinies, La Barge, Bitter Root, White Clay, Marsh, Horse Head, and other tributaries of Green river and New Fork, have heavy forests of pine and spruce, and we shall have brought to our line by way of Green river an immense lumber and timber business from this region. These pineries lie from 100 to 150 miles north of our crossing of Green river, and that river nearly all the spring and summer months affords sufficient water to run ties, logs, &c., to our crossing.

After reaching Green river we struck north of west across the country to the base of the Wind River mountains, following them around to the South Pass, and entered the Sweetwater mines, this year discovered and opened. The Indians had been so bad that very little prospecting had been done. A few quartz veins had been opened. Only a district of country some 24 miles in diameter has been prospected, and enormous yields of gold have already been obtained. The mines we visited were those of the tributaries of the Sweetwater, at the eastern base of Wind River mountains, the head of Wind river and the Porpogies. I have no doubt but that this belt of country is a continuation of the gold belt discovered by me in 1865, on the Big Horn mountains, Powder river, and Black Hills. When developed it will support an immense population, and bring to the traffic of the road a business that to-day cannot be estimated.

Portions of this country are susceptible of cultivation. The valleys of the Wind river, Porpogies, Big Horn and the eastern base of the Big Horn mountains, are favorite wintering grounds of the Indians, and some 12 years ago, when examining the country for a railroad line, I found concentrated here all the friendly Plain tribes north of the Platte. The Wind River mountains on the north and west, and the Big Horn on the east, form an immense park, sheltered from the cold winds and heavy snows of that country, while the Sweetwater valley that borders this country on the south is generally, for from three to five months in the year, impenetrable on account of the deep snows. In June, the prospectors informed me, they crossed the Willow and Sweetwater on snow bridges. The examination of the Sweetwater valley and adjacent country convinced me that the opinion of this country that I have already advanced was correct, that it was impracticable for a railroad, the routes south having lighter work and easier grades, while, even if comparing favorably with the Bitter Creek route or the Bates route, its winds and deep snows would drive us from it; and the further fact was to be considered, that after crossing the divide of the continent here, we would be forced as far south as Hedges's Pass, latitude  $41^{\circ} 40'$ , on Echo cañon, to get a feasible route west, so that nothing would be gained by following the valley of the north fork of the Platte and the Sweetwater, with its high foot hills and numerous cañons. We followed down the Sweetwater with our trains, while I examined the country to the south, crossing over to the northerly point of Red basin, to Bates's line, and connected there by reconnaissance with my westward trip.

The Bitter Creek plains extend to within ten miles of the South Pass, and are for the entire length of the Sweetwater valley only 10 to 20 miles off.

We passed through the Seminoe gap a few days behind a heavy body of Indians, that had wintered in the mountains, and from whom we had

suffered the most of our difficulties during the past season. At Red Butte springs, on the Plants road, I struck Bates and Appleton's trail and their lines, and then moved east, crossing the west range of the Rattlesnake Hills west of the north fork of the Platte, pushing through them on the Blickensderfer trail, over a pass known as the Sandy Gap Pass or Frémont's Pass of 1849.

Having visited this section of country years before, I was familiar with it, and struck east as fast as possible, meeting Mr. Bates's party at Lambert's spring, (as named by Frémont,) and Mr. Maxwell's party on the north fork of the Platte, some eight miles south of the mouth of the Medicine Bow. Messrs. Bates and Maxwell were seeking outlets to their lines west of the Rattlesnake Hills, and had no means of reaching a connection, except by the cañon some ten miles north of Brown's crossing, or by Sandy gap, both of which I considered impracticable; but as Mr. Maxwell had obtained a very good line over the eastern range of the Rattlesnake Hills, with light work and easy grades, I instructed him to make connection with Brown's line by way of the cañon, and with Bates's line by way of Sandy gap, and locate on the best line east to the crossing of the Medicine Bow. Mr. Bates was instructed to continue his surveys and make connections by way of Sandy gap on the west and Medicine Bow valley on the east.

Mr. Bates had been devoting the past three weeks in a reconnoissance of the country, with pack-mules, between the Medicine Bow river and the north fork of the Platte, following up Kellogg's fork and Bates's fork, and had also given the North-Fork-of-the-Platte cañon through the Black Hills an examination. He reported the country high and impracticable for any railroad line.

Leaving my escorts here, I pushed on over the line run by Maxwell to an examination of the northerly line that I had ordered to be run by O'Neill from Fort Saunders to the mouth of Rock creek. I found this line feasible and practicable, and ordered it to be located. The only objection to it is the great curvature in Rock Creek valley. That stream is very crooked, and a line following necessarily has great curvature, distributed, however, in easy curves.

The lines run, as presented by the division engineers in their reports that accompany this, are directed into the general lines—

1. *Via the Brown's line.*—From Fort Saunders, latitude  $41^{\circ} 16'$ , down the valley of the Big Laramie river, crossing to Rock Creek valley; down it to the Medicine Bow, latitude  $41^{\circ} 54'$ ; then to Brown's Pass, on the Rattlesnake Hills, latitude  $41^{\circ} 50'$ ; then down Mary's Creek valley to the north fork of the Platte, latitude  $41^{\circ} 46'$ ; then to the summit of the continent, by way of Rawlings's Springs, Separation creek, and Dodge's Pass, latitude  $41^{\circ} 43'$ ; thence to Bitter creek by the south point of Red desert; then to Green river by Bitter Creek valley, and then to the rim of the basin by Black's fork and Muddy Creek valley, over the Wahsatch and down Echo cañon to Weber, and down Weber valley to Great Salt Lake. This is the general line that had been run, and, after personal examination, I adopted for location, and its grades, alignments, &c., are as follows:

Table showing grades—Brown's preliminary lines from Fort Saunders to North Fork of Platte; also preliminary line from North Fork of Platte river to Great Salt Lake City, adopted for location; O'Neill's adopted located line from Fort Saunders to North Fork of Platte river.

	Level.		0 to 10 feet per mile.		10 to 20 feet per mile.		20 to 30 feet per mile.		30 to 40 feet per mile.		40 to 50 feet per mile.		50 to 60 feet per mile.		60 to 70 feet per mile.		70 to 80 feet per mile.		80 to 90 feet per mile.		Total ascent, in feet.	Total descent, in feet.	Total, in miles.
	Miles.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.				
Adopted line from North Platte river to Salt Lake City.	59.84	13.80	33.50	3.75	31.10	27.20	27.00	9.89	28.40	11.26	17.14	11.50	14.70	5.60	7.10	7.50	12.30	6.00	12.1	.....	.....	374	
Brown's preliminary line from Fort Saunders to North Fork Platte.	19.48	6.25	7.00	6.26	8.69	4.00	8.20	5.31	8.00	4.00	4.83	3.52	4.00	5.00	3.26	3.09	2.00	.....	.....	1,075	1,648	162	
Total grades on Brown's and Reed's lines from Fort Saunders to Great Salt Lake City.	79.32	20.05	40.50	43.76	39.79	31.30	35.20	15.11	36.40	15.26	21.97	15.02	18.70	10.60	19.36	10.59	14.30	6.00	12.1	5,402	8,242	485.29	
O'Neill's adopted line from Fort Saunders to North Fork Platte.	26.87	3.60	11.60	3.64	16.86	7.01	14.79	5.09	10.68	8.35	14.66	2.95	.....	1.93	.....	.....	.....	.....	.....	.....	1,081	1,723	123.05
Adopted line for location North Fork Platte to Great Salt Lake City.	59.80	13.80	33.50	3.75	31.10	27.20	27.00	9.80	28.40	11.26	17.14	11.50	14.70	5.60	7.10	7.50	12.30	6.00	12.1	.....	.....	374	

2. *The Bates and Maxwell lines.*—The Bates line, diverging from Brown's at the mouth of Rock creek, latitude  $41^{\circ} 54'$ , runs down the valley of the Medicine bow to its mouth, latitude  $42^{\circ} 3'$ , over the western range of the Rattlesnake hills, by Sandy Gap Pass; thence to Red Butte springs, latitude  $42^{\circ} 3'$ ; then west by the Bitter Creek Plains valley, at the foot of the Sweetwater range of mountains, generally in parallel of latitude  $42^{\circ}$ , crossing the divide of the continent about 40 miles south-east of the South Pass, in latitude  $42^{\circ} 11'$ , crossing Reed's basin near its centre, and crossing the north fork of Bitter creek near its head, passing the west summit of Saddle Butte and North Pilot Peak, reaching Green river at the mouth of the Big Sandy, in latitude  $41^{\circ} 54'$ ; then across the heads of the tributaries of Black's Fork, and connecting with the adopted line at the mouth of Harris's Fork. Grades, alignments and distances on this line, from the Medicine Bow to Green river, are as follows:

Level	0 to 20 feet per mile.		20 to 40 feet per mile.		40 to 60 feet per mile.		60 to 80 feet per mile.		80 to 90 feet per mile.		Total ascent.	Total descent.	Total number of miles.
	Ascent.	Descent.	Asc.	Des.	Asc.	Des.	Asc.	Des.	Asc.	Des.			
27.88	45.96	54.64	11.97	21.34	16.95	9.67	6.47	4.83	2.00	5.70	24.79	22.38	207.38

Maxwell's line is only a secondary line to Bates's, between the mouth of Rock creek and the mouth of Medicine Bow, crossing the Rattlesnake Hills between Brown's and Bates's lines, and is the best line over the Rattlesnake Hills, but is impracticable west, in consequence of having to overcome the western range of the Rattlesnake Hills, which Brown's line avoids.

The secondary lines to the main line run are the Cherokee trail line, striking off from Brown's line at Separation creek, and uniting again in Red basin with several approaches to Bitter creek, and several lines east of the Medicine Bow. Grades, alignments, &c., on this line, are as follows:

Lines.	Level.	0 to 20 feet per mile.		20 to 40 feet per mile.		40 to 60 feet per mile.		60 to 80 feet per mile.		Total ascent.	Total descent.	Total number of miles.
		Ascent.	Descent.	Asc.	Des.	Asc.	Des.	Asc.	Des.			
Appleton's line, north fork of Platte river, to Bates's line . . .	7.04*	3.44	7.14	3.56	4.73	2.08	1.13	1.13	.....	314	265	30.33
Ewan's Road line.	14.11	5.81	10.20	5.82	4.75	5.85	6.70	1.10	1.55	581	672	55.91

The grades, distance, elevation, and depression on the Bear River line, and the several approaches to the Wahsatch summit, run by Mr. Hodges, are as follows, viz:

	Level.	0 to 20 feet per mile.		20 to 40 feet per mile.		40 to 60 feet per mile.		60 to 80 feet per mile.	
		Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.
Hodges' Bear River line . . . . .	62.80	53.38	18.73	44.78	17.33	19.26	7.58	6.57	4.08
Hodges' Lost Creek line, over Wahsatch . . . . .	1.53	0.50	.....	1.96	14.35	5.07	0.95	0.76	2.63

## Grades, &amp;c., on the Bear River line, &amp;c.—Continued.

	Level.	80 to 90 feet per mile.		90 to 100 feet per mile.		100 to 116 feet per mile.		Total ascent.	Total descent.	Total number of miles.
	Miles.	Ascent.	Descent.	Ascent.	Descent.	Ascent.	Descent.			
Hodges' Bear River line.	62.80	12.05	4.96	0.38				3,946	1,814	251
Hodges' Lost Creek line, over Wahsatch.	1.53						7.76	1,655	715	3,656

Summing up the tables for a general comparison, shows the following results:

Table of grades.

Grade.	Adopted line, partially located: Fort Sammers to Great Salt Lake City.	Brown's preliminary line: Fort Sanders to the north fork of Platte.	Bates' preliminary line: Medicine Bow river to Green river.	Appleton's line: North Platte to Red Butte spring, intersecting Bates' line.	Appleton's Cherokee Trail line.	Hodges' Bear River line.	Hodges' Lost Creek line, over the Wahsatch mountains.
Level miles.....	106.15	19.48	27.88	7.04	14.11	2.30	1.53
Level to ten feet per mile:							
Ascent.....miles.....	23.65	6.25					
Descent.....do.....	52.10	7.00					
Ten to twenty feet per mile:							
Ascent.....do.....	47.40	6.26	45.91	3.44	5.81	53.38	0.50
Descent.....do.....	56.65	8.69	54.64	7.19	10.20	18.38	
Twenty to thirty feet per mile:							
Ascent.....do.....	38.31	4.10					
Descent.....do.....	49.99	8.20					
Thirty to forty feet per mile:							
Ascent.....do.....	20.20	5.31	11.97	3.56	5.82	44.78	1.96
Descent.....do.....	47.08	8.00	21.34	4.73	4.75	17.33	14.35
Forty to fifty feet per mile:							
Ascent.....do.....	23.61	4.00					
Descent.....do.....	36.63	4.83					
Fifty to sixty feet per mile:							
Ascent.....do.....	17.97	3.52	16.95	2.08	5.85	19.26	5.07
Descent.....do.....	18.70	4.00	9.67	1.13	6.70	7.58	1.95
Sixty to seventy feet per mile:							
Ascent.....do.....	12.53	5.00					
Descent.....do.....	10.36	3.26					
Seventy to eighty feet per mile:							
Ascent.....do.....	10.59	3.09	6.47	1.13	1.00	6.57	0.76
Descent.....do.....	14.30	2.00	4.83		1.00	4.08	2.63
Eighty to ninety feet per mile:							
Ascent.....do.....	6.00		2.00			12.05	
Descent.....do.....	12.10		5.70		0.55	4.96	1.05
Ninety to one hundred feet per mile:							
Ascent.....do.....						0.38	
Descent.....do.....							
One hundred to one hundred and sixteen feet per mile:							
Ascent.....miles.....							7.76
Descent.....do.....							
Total miles.....	613.34	102.00	207.38	30.34	55.91	251.00	36.56
Total ascent in feet.....	9,483	1,075	2,479	314	581	3,940	1,655
Total descent in feet.....	2,965	1,648	2,238	265	672	1,814	715

After the thorough examination of this country that has been given it, there is no question in my mind as to the line to be adopted. It is the No. 1 Brown's line, with O'Neill's located line, it being the shortest, with the best curvature, lightest grades, and cheapest work, the least



length of road without running water, the most accessible to building material, and the least liable to obstructions from snow.

The snow question has been carefully considered. A line is often laid on account of snow that would seem to violate some of the well-established principles of engineering as applied to lines where snow obstructions are not a question; and the question often arises in the mind of engineers why a line was so laid, when seen in summer, when, were it viewed in winter, with its deep drifting snows, the cause would be perfectly apparent. For this reason, and a great many others that I might mention, a change of line, after being located by the engineer who has given personal attention and study to the question right on the ground, during the winter and summer, no matter how questionable it may seem to them, criticising it from casual observation, and without hardly any knowledge of the reasons controlling its location, is dangerous, and, so far, all general changes that have been made without the sanction of the engineers have been injurious to the line, to the road, and a great and permanent loss to the company. All lines can be improved by study, and with proper time, but after that has been given by competent engineers, radical changes, made with only a partial knowledge of the country, are always dangerous, and generally a damage instead of a benefit.

Mr. James A. Evans, division engineer, has had charge of the location of the line, and of the surveys to Green river. I call attention to his report upon the line over the Black Hills. The changes of line that he discusses were made by the company against my earnest protest.

The delays and detentions of my parties in the Black Hills were almost fatal to my efforts to develop the country west of the Laramie, and prevented me from obtaining a location of the north fork of the Platte or Bitter creek this year, as I had intended; and while I bow most respectfully to the decision of the company, I must say that any detention of work in 1866, on account of want of located line, will rest solely upon them and not upon me; for while I had overcome the embarrassments consequent upon the killing of my chiefs of parties, and the breaking up of my parties by the Indians, I had not the power to control parties held from their proper and arranged work by order of the company. I shall strain every nerve to get the location so advanced in the spring of '68 as to be far out of reach of construction corps; but success will depend upon the severity of the weather.

I also call attention to the reports of Messrs. Bates, Hodges, Appleton, Maxwell, Van Lennep, House, &c. They have all taken that interest in our work, endured the hardships, exposure, and run the risk of life, that no person would have done whose heart and mind were not in the business.

The parties have run lines as follows:

During the entire year I have received that aid and courtesy from the military authorities which has characterized their conduct towards us ever since the road was commenced.

In no instance have they failed, as promptly as possible, to respond to our requests, and we are under great and lasting obligations to them.

To General C. C. Augur, commanding department of the Platte; General J. A. Rawlins, chief of staff United States army; General John Gibbon, commanding Fort Sanders; General J. D. Stevenson, commanding Fort David Russell; Colonel Mizner and Colonel Mills, commanding Fort Bridger; Colonel Lewis, commanding Camp Douglass; General W. Myers, chief quartermaster department of the Platte; to the staff officers and departments of the posts on the plains, and the commanding officers of the escorts, we are under especial obligations, and I desire here to acknowledge them.

## REPAIRS ON COMPLETED ROAD.

The party of engineers who have had charge of the repairs on the road have been under the direction and supervision of J. E. House, division engineer. All repairs have been made and new structures built by Webster Snyder, esq., general superintendent.

On April 1st the company took possession of the road, accepting it from the contractors, and Mr. Snyder was made general superintendent. From April 1 to June 24 the road was operated by the company from Omaha to the North Platte, 290 miles; from June 24 to November 1, from Omaha to Julesburg, 377 miles; from November 1 to November 18, from Omaha to Hillsdales, 495 miles; and from November 18 to December 31, from Omaha to Cheyenne, 516 miles. At Omaha, Elkhorn, Shell creek, Columbus, Grand island, and various other points, the track has been raised, new bridges constructed, larger water-ways built, and old structures enlarged, to meet the requirements of the surface drainage of the country, as shown in the floods of April, the highest and most extensive ever known in this country, and it can now be safely said that a repetition of these floods would not materially injure the road or delay the running of trains.

Where the snows of the winter of 1866-'67 blocked the road, the cuts have been widened, new fences built, and the road prepared, as far as practicable, to meet the snows of the past winter, and so far they have admirably succeeded.

New side tracks have been laid down at Diamond's, Jackson, Clark, Chapman, and McPherson stations, and it will be necessary to construct, ere long, intermediate side tracks between all the main stations, in order to accommodate the business of the road.

Two spans of 100 feet each of Howe truss, with stone pier and abutments, have been built at Columbus over the east channel of Loup Fork, (which is dry at all seasons of the year except in high water,) and the embankment on the low bottom raised above high water. It is thought this will avoid, in the future, the dangerous ice gorges and extreme high water caused by them at this place. Where foundations of trestle-work were not considered safe as against the scour of streams and rains in high water, pile foundations have been put in, rendering the structure perfectly safe. Coal-houses, with a capacity of 600 tons each, based upon stone foundations, have been erected at Grand island, Kearney, Plum creek, North Platte, Ogallalla, and Julesburg. Preparations have been made and material provided for building similar houses at Sidney, Antelope, and Hillsdale. New tank-houses have been erected at Diamond's and Chapman, and old houses have had stone foundations provided. It will be necessary to place additional tank-houses at all new stations and side tracks, and windmills should be provided for all where any considerable amount of water is used.

A temporary pile bridge was erected over the Missouri river to accommodate the travel and traffic during the winter months, costing about \$10,000. Its advantages more than compensated for its cost.

Mr. Snyder has certainly shown great energy and ability in bringing the road and equipments up to the standard he has, and the road bed shows more fully the condition of the road, work done, &c., than I could state here. It receives the decided approval of all professional railroad men who travel over it. Besides all the repairs on engines, cars, &c., executed at the shops, the company have built 3 first-class passenger cars; 4 second-class passenger cars; 4 baggage, express, and mail cars; 58 box freight cars; 91 platform cars; 25 hand cars; 1 bridge car; 20 caboose cars; 1 paymaster's car; and they have on hand, for the 517 miles

of road operated by the company, the following equipments: 53 locomotives, 9 first-class passenger cars, 4 second-class passenger cars, 6 baggage and express cars, 243 box freight cars, 449 platform car, 99 hand cars, 1 bridge car, 20 caboose cars, 25 coal cars, 1 president's cars, 1 officers' car, 1 paymaster's car, 1 cooking car, 1 pile-driver and engine car.

The above is exclusive of the large amount of rolling stock owned and run by the contractors for building the road.

The amount of freight and number of passengers transported over the road since the company assumed charge—viz: April 1 to December 31, 1867—is as follows:

Total number of passengers.....	15, 022
Number of passengers carried one mile.....	3, 381, 088
Total number tons of freight moved over line for contractors.....	25, 900, 845
Total number of men hauled one mile for contractors.....	1, 740, 681
Total number pounds of freight transported over road....	54, 144, 318

The total amount of government service performed in the transportation of troops, freight, mail, mail agents, and telegraph service, is \$812,819 73.

The above is given to show the amount of business done over the road from April 1 to December 31, 1867, and only indicates what may be the business of the road when completed.

#### LANDS.

Our lands may be considered as divided into two classes: those that are available for settlement now, and those that need continual water or irrigation to render them susceptible of cultivation. Of the first class we can count all the lands for 200 miles west of Omaha: Of the second class we have all the lands in the Platte valley, from near Fort Kearney to Julesburg, of 180 miles of which we can say that 1,152,000 acres can be made immediately available, without much expense to the company, as the Platte river runs centrally through this number of acres, and it could all be irrigated by simple acequias or ditches, taken out by any one, and at any point. To make the 1,152,000 acres between these two points available, the canals, ditches, or acequias would have to be carried back on to the bluffs, and until the Platte valley proper was settled and farmed the benefit to the company would not justify the cost. At the eastern base of the mountain there are about 600,000 acres that could be irrigated. In the Laramie plains, from the Black Hills to the Bitter Creek plains, there are about 1,000,000 acres that could be readily and cheaply irrigated, either by the purchaser and farmer or the farmer, as, flowing at suitable distances through these lands, at right angles to their length, are the Big and Little Laramie rivers, Cooper's creek, Rock creek, the Medicine Bow river, and the north fork of Platte, all flowing sufficient water to irrigate any acre. From Green river to Salt Lake valley there are about 2,000,000 acres, in the valleys of Green river, Henry's, Black's, and Ham's forks, the Muddy, Bear river, Weber river, and in the valley of Great Salt lake proper. All these lands can be readily supplied with water from the above-named streams, not only for irrigating purposes, but these streams furnish fine mill privileges, and flow plenty of water the year round for both purposes. So that we might answer that to-day the company have lands to the amount of 6,752,000 acres that could be placed in the market as fit for present settlement and susceptible of immediate cultivation, without any more cost or delay to the settler than the farmers of Colorado, Utah, and California have suffered in opening up their farms.

Irrigation once introduced, and all farmers prefer it, as it gives a never-failing supply of water, and furnishes at all seasons of the year a proper moisture for the land, preventing any failure of crops from droughts. Experience has demonstrated the fact in all irrigating countries, that settlement and the cultivation of trees renders less necessary every year the watering of the land by artificial means. Double the rain falls in Colorado and Utah to-day that fell 10 to 20 years ago, before the settlement of that country; and as improvements and settlements increase along our line, the necessity for irrigation will decrease, and thus render available for settlement and a source of profit to the road millions of acres of land on these plains that are looked upon to-day as barren wastes, fit only for the growth of cactus, sage brush, and grease wood, but which are, in fact, as shown in Utah from actual experiment, and as shown by us from chemical analysis, some of the best producing lands of the continent.

During the year the lands of the road have been put in shape, the records commenced, maps made, the lists prepared, and everything got ready for entry by the company and the placing of them upon the market. Conflicting titles have been examined, and the rights of the company protected. The papers and records of the land department have been prepared by Mr. O. F. Davis, who is experienced in such matters, from a long connection with the land department of the United States government, and the system which will be completed early in 1868 will be a simple, concise, and effective one both for the road's sale, examination, and appraisalment.

#### DEPOT TOWNS.

The depot towns have been laid off as fast as the line has been located and built, Julesburg and Cheyenne being the most prominent. The former has been rapidly built up. The roughs of the country congregated at Julesburg jumped the town, and rendered the place a hell in the eyes of all respectable men. It was a long time before the company could even hold possession of the property. At Cheyenne this state of affairs was avoided by the prompt, determined action of General Stevenson, and while he had the control of the police of that country law was enforced, respectable people protected, and business thrived.

Under this state of affairs Cheyenne, in a few months, sprang up from nothing to a place of 5,000 inhabitants. The sale of lots and entire control of that business has been under Mr. House, he attending to it in connection with his duties as division engineer in charge of the Omaha office. Separate reports, maps, &c., have been made to the company from time to time relating to the matter, and it is not necessary for me to go into further details here.

#### TIMBER.

The company and the country have labored under a misapprehension as to the timber along or in the vicinity of the road. The fact that for the entire length of the road very little timber is growing immediately upon the line, has created the belief that there is very little in that country. Assuming that there is only sufficient for the purpose of fuel east of the Black Hills, we can safely estimate, and fully demonstrate, that from that point west the pineries are so extensive that they will supply all that country with lumber, the road with ties, &c.

The belt of timber commencing in the Black Hills follows parallel to the line on the south, covering the slopes and filling the cañons of the Rocky mountains that form the southern rim of the Laramie plains, the Medicine Bow mountains, the Elk, and all the numerous spurs jutting

out from the main range, while the heads of the Laramie, the Medicine Bow, the north fork of the Platte, &c., rise in these pineries, and furnish by their waters cheap transportation for their productions to our line, less than 30 miles away.

Passing the north fork of the Platte, the pineries south of Sage creek, at Bridger's Pass, Black Butte, and bordering Current creek, will all be made available some day. No stream flows from them towards our line, but from points on the line they may all be reached by 20 or 30 miles' travel.

West of Green river the slopes of the Uintah and Wahsatch, and the immense cañons of that bold range, are covered and filled with fine timber. The heads of Henry's Fork, Black's Fork, Bear and Weber rivers are in immense timber groves, and readily accessible to the line.

On the north we find the tributaries of Green river, New Fork, &c., heading in the finest pine, hemlock, and spruce forests anywhere east of the Great Basin, and all of the forests on the eastern slopes of the Bear river, Snake river, and Green river ranges of mountains are available to us, as their productions can be carried to the Green river and floated to our crossing.

I hold and am confident that time will justify the opinion that the road will receive an immense revenue from this source, as soon as the demand is such as to justify the development of this valuable source of wealth.

#### STONE.

After passing Cheyenne, and in Lodge Pole valley, stone for building purposes is at no time far distant from our line. It exists in all its formations—the granite, sienite, and trap of the Black Hills, the limestone and sandstone of the Laramie and Bitter Creek plains, with the granite, sandstone, and limestone of Utah, are more or less suitable for our purposes.

Mr. Van Lennup in his report says:

Stones for building material are abundant. The portion which has a want of it on the surface is the region between Fort Sanders to Rock creek. The harder sandstone of the Rattlesnake Hills will afford very good material; of these some out-cropping at the crossing of the North Platte, and in its cañons, are good; also in the cañons of Pass creek.

Material of very great strength and desirability, if required, could probably be found near Rawling's spring; is one of the strongest and most durable materials that could be found, while a few miles west of this point are sandstones of good quality. With our present knowledge, the limestone occurring at this point will be valuable from the total want of the material from Fort Sanders, and west to Bitter creek, beyond Salt Well station; it is, however, probable that limestone occurs in Bitter creek near Laclede station, as fossil shells are found there, some of which I have seen covered with limestone. There may be a lack of suitable rocks near the summit, and along the Red Desert, but on the south and southwestern sides of it there are sandstones which would likely be suitable for the purpose. On Bitter creek both the sandstones between the coal-beds, and the grit capping them, but especially the grayish sandstone found between each formation, will be found good for such purposes. Good material was seen at several points west of Green river. At Fort Bridger they obtained a good material, and from there west, after crossing the Muddy to Bear river, there is no lack of it. Some thin layers of limestone are found near Pioneer's Hollow. At the head of Echo valley there are limestones, but further down, though many rocks are not good, there is a variety of sandstones that will be found suitable.

In both the Weber cañons there is a great choice of very good material; north of Fort Bridger, beyond the Muddy, is found much sandstone good for the purpose.

#### COAL.

Lignite of excellent quality in beds 5 to 11 feet in thickness exists in the lower basins, estimated at 5,000 square miles. Its most eastern limit is about 15 miles east of Rock creek, a branch of the Medicine Bow, and outcroppings show themselves in Rock creek, the Medicine Bow, the north fork of the Platte, and its numerous tributaries in the basins of Bitter Creek plains on Bitter creek, and in the basins of the Sweetwater Hills.

In the Trasitch country the outcrops are found on Henry's, Black's,

and Ham's forks of Green river, on Bear river for its entire length, and on Weber river, which flows into Great Salt lake.

The brown coal or lignite burns with a bright red flame, giving out a fair degree of heat, leaving scarcely any ashes, and is quite desirable as a fuel for domestic purposes. The Union Pacific railroad cuts this vast bed of coal nearly in the centre, traversing it through its entire length from east to west, and the cars, which generally go loaded west, and empty east, can distribute the coal over the entire length of the road, supplying fuel to the whole country adjacent to our lines, thus removing an objection that has heretofore been considered nearly fatal to its settlement.

The geologists generally give from 12 to 20 per cent. of water in this coal, and from 58 to 60 per cent. of carbon. A portion of the heat is lost in making steam in the amount it takes to change water to steam.

Notwithstanding this objection we discover at a glance that from 58 to 58 per cent. of carbon, the lignites of the interior of our continent are far superior to any other ever discovered in other portions of the world.

The geologists agree that these western lignites are undoubtedly tertiary. Those of the upper Missouri river have been shown by Dr. V. L. Hayden to be of that age, both from vegetable and animal remains. The connection of the lignite deposits has been traced by Hayden and others, uninterrupted, for 80 miles beyond Fort Laramie. They then pass north beneath the White River territory, and come to view on Powder river, the Cheyenne, Yellowstone, and upper Missouri; while in the south they pass beneath the high elevations or ridges over which Lodge Pole creek runs, and make their appearance on Lone Tree, Coal, Cache la Poudre, St. Vrain's, and Boulder creeks, pass beneath the Arkansas divide, and appear along the eastern base of the mountains at Ration Pass, the Venerego, and to an indefinite distance west.

When we reflect that we have from 10,000 to 20,000 square miles of lignite beds in the centre of a region and adjacent to a country where, for a radius of 500 miles in every direction, there is little fuel, either on or beneath the soil, the future value of these deposits cannot be over-estimated.

#### IRON.

Beds of iron are scattered all along the route, mostly limonite and hematite. They lie in numerous beds and in masses upon the surface of the ground, varying in size from one pound to several tons in weight. The nodules and concretionary masses, when broken, show regular concentric rings, varying in color from yellow to brown, looking sometimes like rusty agates, and yielding from 60 to 80 per cent. of malleable iron.

These numerous deposits of limonite beds are not all. There is magnetite iron in places at several points along the line, solid mountains, which yield from 80 to 90 per cent. of magnetite iron; and if the great mineral fuel of the plains—the lignite, which is found in such abundance adjacent to the iron, and often overlaid with it—can be made useful for smelting purposes, these lignite and iron ore beds will exert an influence over the wealth and greatness of the west that the iron and coal of Pennsylvania do over the east.

#### GOLD AND SILVER.

The gold and silver mines of Colorado are so well known that I will not endeavor to give a description of them, but only to remark that the building of the Union Pacific railroad has reduced the cost of labor and of the transportation of material and machinery to such an extent that mines that have heretofore lain idle are now being worked by the old

stamp process, where it is estimated that only about one-half of the gold and silver is saved.

The new mines that are being discovered may well attract our attention. They are immediately adjacent to our lines, and all trade, travel, and traffic will go over our road to and from them.

The prospects on the south, at the heads of Rock creek, the north fork of the Platte, Current creek, and their tributaries, constantly indicate mines that will ere long be thoroughly tested, and finally worked with profit.

In Utah the silver mines of Rush Valley, extending away to the Humboldt, are only waiting our advent to be opened and give employment to thousands of people.

The cost of labor, of obtaining and transporting so far machinery, &c., has heretofore hindered people from doing more than to test the quality and supply. There is no doubt but that they are extensive, and they will probably prove second only to Nevada in richness.

During this year the Sweetwater mines were developed. They have been discovered for years, but were never thoroughly tested until 1867. From a personal examination in 1865, and again in 1867, I am satisfied this mineral belt extends as far east as the heads of the Cheyenne, White Earth, and Powder, and other streams. In all these streams our prospects of 1865 proved very rich, and had it not been for the hostilities of the Indians and the prohibition of government the Powder river country and the Big Horn mountains would have been thoroughly prospected, and thousands of miners would have flocked there.

The Sweetwater mines proper are confined to the heads of the Sweetwater, Wind, Porpogies, and Big Horn rivers. These mines have been pretty thoroughly prospected. The miners have obtained a hold there and cannot now be driven out. At least 20,000 people will flock there during 1868, and that whole country will soon be overrun by the energy and perseverance of this hardy class of frontiersmen. From this source alone the local traffic of the road will return a good income. I have no doubt of the richness of these mines and of the feasibility of working them.

The formation of the country, its rocks, &c., indicate that the entire region extending from the point of the Wind River mountains to the northern range of the Black Hills is rich in this precious metal.

#### TRADE AND TRAFFIC OF THE ROAD.

When we reflect that China and Japan, Hindostan and the East India islands contain 500,000,000 of people, nearly half the population of the globe, the importance of this trade is apparent.

For a long time the exportation of the precious metals to that country has varied from 25,000,000 to 35,000,000 per year, chiefly in silver bullion, in return for which they have sent back tea, cotton, silk, and spices, and the list is continually enlarging.

The importation of merchandise from 13 Chinese ports in 1865 was \$210,000,000, while the island trade must have vastly swelled the sum.

Europe has reaped the advantages of most of this trade, and will be forced, if it desires to retain it, as soon as our line is completed, to take it across our continent by our railroad.

American enterprise and energy, seeing this, have already established steamship lines from the Pacific coast to all that country, and at this time New York is only 40 days from Yokohama, 15 of which are required between San Francisco and New York, including 1,000 to 1,200 miles of staging. Within two years, upon the completion of the road, it will be reduced to six, and give us from New York to Japan only 30 days.

London is to-day 45 days distant from Shanghai, with 3,000 miles of land travel to overcome between it and the capitals of the east.

It is not probable that this gap of sterile country will be bridged for years, and London must remain, as at present, 40 to 45 days distant from Shanghai, giving us a clear advantage of 15 days, a fact which makes, for all Europe, our route the shortest and quickest way to the east. With the transportation of all this vast trade secured that has heretofore been foreign to our country, let us turn to that of our own nation. The Pacific slope to-day has less than a million inhabitants, and they are yielding \$50,000,000 to \$60,000,000 of bullion yearly with quite that quantity of grain, besides immense yields of wool, hides, wines, timber, and everything that can be produced in that delightful climate and fertile soil. The best vegetable productions of the Mississippi and Missouri valleys are dwarfed in comparison with those of California. The wheat crop of California and Oregon for 1867 was 25,000,000 bushels, and far exceeded in value the gold productions of both States.

The shipments from the port of San Francisco in one year loaded 160 vessels, and to China alone were exported nearly \$10,000,000 in merchandise and minerals. With this state of prosperity now, with this favorable showing for the business of the road, what must it be when the road is completed from the Atlantic to the Pacific?

Population and capital will pour over it in a steady stream, until the one million of inhabitants become six, and the wealth of the country is multiplied tenfold. With this through-traffic let us look at the *local* To-day Idaho has 30,000 inhabitants. The product of its mines are counted by millions.

Montana has a population of 40,000 to 50,000, and the products of its mines is daily on the increase.

The rich valleys of the tributaries of the Missouri river are becoming one vast farm. Utah claims 100,000 as its population; industrious, every man, woman, and child with tasks allotted, fast growing into a mining and manufacturing, as well as an agricultural, people.

Colorado claims 60,000. The embryo Wyoming has already 20,000, and all this country is rich in mines, in salt, in soda, in sulphur, copper, lead, iron, and coal. When emigrants can be transported to the cheap and fertile lands on the Pacific coast and along the interior, and when they can for \$50 to \$100 more be landed in a country teeming with mining facilities and its future promising golden riches, it may be depended upon that they will go there. It may be safely presumed that there are 100,000 people waiting to-day in the Atlantic States for the completion of this road, and 50,000 in the Pacific; some to revisit their former homes, some to seek new ones, and others desiring to visit a country that for years has been upon everybody's tongue.

It would therefore appear that as soon as completed the traffic over the Union Pacific railroad will be limited only by the capacity of the road. California, Washington, Oregon, Nebraska, Idaho, Montana, Utah, Wyoming, and Colorado will soon fill up. Their precious metals, their rich soil and unequalled climate, will inaugurate a business and a trade that will soon demand another track, and which no man to-day can ever estimate. The road's receipts from a nation's civilization and prosperity may be gauged by its facilities for travel and transportation. "Good roads," says John Stuart Mills, "are equivalent to good tools," and it is of no consequence whether the economy of labor takes place in extracting the produce of the soil or in carrying it to a place where it is to be consumed.



Without the Union Pacific railroad, the country west of the Missouri river would be a burden to the government, and almost an uninhabitable waste; with it, it will soon be an empire and one of our principal elements of power and strength.

Very respectfully, your obedient servant,

G. M. DODGE,  
Chief Engineer.

OLIVER AMES, Esq.,  
President U. P. R. R. Co.

*Fifth.* The amount received from passengers on the road.

During the same period there has been received for transportation of freight, including transportation of government freight, one-half of which is applied in payment of United States loan, \$1,463,645 63.

*Sixth.* The amount received for freight thereon.

The entire cost of the road to June 30, unadjusted balance with engineers and contractors not included, is \$42,887,259 54.

*Seventh.* A statement of the expenses of said road and its fixtures.

*Eighth.* A statement of the indebtedness of said company.

The indebtedness of the company consists of—

First mortgage bonds.....	\$18,496,000 00
United States 6 per cent. currency bonds.....	12,957,000 00
Bills payable and unpaid bills, less cash in hand.....	1,789,599 61

The superintendent reports as follows:

UNION PACIFIC RAILROAD, SUPERINTENDENT'S OFFICE,  
Omaha, January 1, 1868.

DEAR SIR: I respectfully submit a report of the cash earnings and expenditures of this road, April 1 to December 31, 1867, together with an inventory of property on hand at this date; statements in detail of passengers and freight transported; earnings; account transportation of troops and freight for the United States, and items of transportation furnished for the contractors for building the road, &c., &c.

From April 1 to June 24, the road was operated by the company from Omaha to North Platte, 290 miles; from June 24 to November 1, from Omaha to Julesburg, 377 miles; from November 1 to November 18, from Omaha to Hillsdale, 495 miles; and from November 18 to December 31, from Omaha to Cheyenne, 516 miles.

During the month of April last, the floods of the Missouri and the Platte and its tributaries did much damage to the roads at Omaha and at various points between Omaha and North Platte, almost entirely suspending the movements of passenger and freight trains for the entire month. The water at nearly all points on the line of roads was higher than ever before known. The effect of the general flood was to demonstrate the points where more grading and bridging was necessary to prevent future interruption of trains, and it has been my endeavor to place the roads beyond danger in future from like causes.

At Omaha, Elkhorn, Shell creek, and Columbus, and various other points between Omaha and North Platte, the track has been raised, new bridges constructed, and original bridge structures enlarged at all points where the road was liable to be damaged by overflows. It may safely

be said that a repetition of last year's flows would not be likely to interfere with the movement of trains.

At points where the snows of last winter blockaded the roads, the cuts have been widened and material therefrom placed 100 feet from the track, forming earth fences, which so far this winter have protected the track from snow-drifts.

The expenses for track repairs from Omaha to North Platte have been very large, owing to the effect of the April flows, and from North Platte to Cheyenne, in consequence of the imperfect state of roads when turned over to the company. It has been my endeavor to put the road-bed in perfect order as soon as possible, employing as many men as could be worked advantageously, thereby protecting the iron and rendering safe the passage of trains.

New side tracks have been constructed at Dimond's, Jackson, Clark, Chapman, and McPherson stations; other side tracks between original stations will be necessary at various points on the line, to secure prompt movement of trains.

The Howe truss-bridge, two spans of 100 feet each, with stone pier and abutments, erected at Columbus, will probably furnish sufficient water-way for any future overflow of Loup Fork river. New trestle bridges, with pile foundations between Omaha and North Platte, have been put in at such points as were recommended by the chief engineer.

Coal-houses, with capacity of 600 tons each, have been erected at Grand island, Kearny, Plum creek, North Platte, Ogallala, and Julesburg. Stone foundations are laid, and material is on hand for buildings of the same kind at Sidney, Antelope, and Hillsdale.

New tanks and tank-houses have been erected at Dimond's and Chapman stations. Stone foundations have been put under the tank-houses between Omaha and North Platte. Additional tanks will be necessary at intermediate side tracks, to furnish water for locomotives, if the number of trains required this year is as great as anticipated. Wind-mills have been erected for tanks at Omaha and Grand island, and others are now being put up at Columbus, Plum creek, and North Platte.

These mills complete on tank-houses cost about \$1,200 each, and furnish the most economical method of pumping. I would recommend their general adoption on this road.

The bridge erected across the Missouri river at Omaha, costing less than \$10,000, has been of incalculable benefit to the company, and will yield a revenue of at least its cost, besides saving much more than its cost in the transfer of material belonging to the road. For three weeks previous to its completion, it was impossible to transfer material for the construction of this road across the river.

I attach statement of the equipment manufactured in the Omaha shops. The coaches and freight cars made by this company are equal to any that have been purchased for the road, and they can be manufactured here at as small cost as prices elsewhere.

The attack of the Indians on a freight train near Plum creek, August 7, 1867, together with the previous and subsequent depredations committed by them on the stage routes west of us, produced a feeling of alarm among shippers and passengers, which materially interfere with our earnings.

Late action on the part of the government Indian commissioners and others renders it probable that during this year's operations no difficulties from Indians need be anticipated.

There have been very few accidents on the road; no passengers have been injured and but little property lost.

Late discoveries of gold in the Sweetwater mines, reports of which so far have not exceeded the facts, the settlement and development of the lands contiguous to the road, and the constantly increasing trade of the mountain districts, make it safe to estimate that the cash earnings per mile this year will be at least one-half more than during 1867. This road has a future that in prosperity will exceed the most sanguine anticipations of its founders, and in less than ten (10) years a double track will be necessary from the Missouri river to the Pacific ocean, to transport the products seeking a market over this great national highway.

Respectfully,

W. SNYDER, *Superintendent.*

OLIVER AMES, Esq.,  
*President Union Pacific Railroad.*

Respectfully submitted:

OLIVER AMES,  
*President Union Pacific Railroad.*

On this 27th day of October, 1868, before me personally appeared Oliver Ames, the president of the Union Pacific Railroad Company, who made oath that the above report by him signed was true to the best of his knowledge and belief.

[SEAL.]

WILLIAM SUTPHEN,  
*Notary Public, New York City, (County.)*

No. 2.

ANNUAL REPORT OF THE CENTRAL PACIFIC RAILROAD COMPANY, OF CALIFORNIA, TO THE SECRETARY OF THE INTERIOR OF THE UNITED STATES, FOR THE YEAR ENDING JUNE 30, 1868.

*First.—Names and residences of stockholders.*

- |                                      |  |
|--------------------------------------|--|
| Sarah E. Avery, Sacramento, Cal.     | Ida Bowman, Sacramento, Cal.           |
| Mejissa Avery, Sacramento, Cal.      | W. J. Bowman, Sacramento, Cal.         |
| Jacob Arnold, Sacramento, Cal.       | E. Blum, Sacramento, Cal.              |
| J. J. Ayres, San Francisco, Cal.     | Ethelburt Burke, Sacramento, Cal.      |
| Wm. J. Adams, San Francisco, Cal.    | Marcus D. Boruck, San Francisco, Cal.  |
| Henry Ames, Sacramento, Cal.         | E. P. Bancroft, Boston, Mass.          |
| Ah. Fong, Sacramento, Cal.           | H. W. Bragg, Sacramento, Cal.          |
| W. H. Aspinwall, New York, N. Y.     | John Boyd, Sacramento, Cal.            |
| A. G. Agnew, New York, N. Y.         | Noah Brooks, Sacramento, Cal.          |
| Mrs. F. L. Austin, Albany, N. Y.     | Samuel Brannan, San Francisco, Cal.    |
| C. D. Bates, Sacramento, Cal.        | George E. Barnes, San Francisco, Cal.  |
| L. A. Booth, Sacramento, Cal.        | Seth Babson, Sacramento, Cal.          |
| P. J. Brickell, Illinoistown, Cal.   | Mrs. E. Barencamp, Oakland, Cal.       |
| B. Brickell, Illinoistown, Cal.      | H. A. Barling, New York, N. Y.         |
| Bradley & Finn, Dutch Flat, Cal.     | John A. Baxter, New York, N. Y.        |
| F. E. Beam, Nevada, California.      | Bennett & Dougherty, Philadelphia, Pa. |
| James Bithell, Sacramento, Cal.      | Marcus Ball, Troy, N. Y.               |
| W. C. Burnham, Sacramento, Cal.      | Sarah R. Bayne, Troy, N. Y.            |
| B. Burt, Sacramento, Cal.            | William Barringer, Schenectady, N. Y.  |
| James Bronner, Sacramento Cal.       | John S. Barrett, Sacramento, Cal.      |
| Robert Beck, Sacramento, Cal.        | Charles Crocker, Sacramento, Cal.      |
| F. Bell, Sacramento, Cal.            | O. L. Chamberlain, Sutter Creek, Cal.  |
| R. T. Brown, Sacramento, Cal.        | County of Placer, California.          |
| Daniel Brown, Sacramento, Cal.       | County of Sacramento, California.      |
| John Bellmer & Co., Sacramento, Cal. | Cornelius Cole, Sacramento, Cal.       |
| James Bauquier, Sacramento, Cal.     | James H. Culver, Sacramento, Cal.      |
| C. Barnes, Sacramento, Cal.          | C. H. Cummings, Sacramento, Cal.       |

H. S. Crocker, Sacramento, Cal.  
 Hiram Cook, Sacramento, Cal.  
 Mrs. M. F. Cochrane, Sacramento, Cal.  
 Charles H. Converse, Sacramento, Cal.  
 John Conrad, Sacramento, Cal.  
 Marie Conrad, Sacramento, Cal.  
 F. Chevalier, Sacramento, Cal.  
 D. W. Clark, Sacramento, Cal.  
 F. H. Cook, Sacramento, Cal.  
 A. Coolat, Sacramento, Cal.  
 E. B. Crocker, Sacramento, Cal.  
 B. R. Crocker, Sacramento, Cal.  
 Charles M. Chase, San Francisco, Cal.  
 James Campbell, Sacramento, Cal.  
 L. B. Crocker, Oswego, N. Y.  
 Mrs. Anna E. Crocker, Oswego, N. Y.  
 W. P. Coleman, Sacramento, Cal.  
 H. Cronkite, Sacramento, Cal.  
 D. D. Campbell, Schenectady, N. Y.  
 Nicholas Cain, Schenectady, N. Y.  
 Contract and Finance Co., Schenectady, N. Y.  
 U. L. Drew, Sacramento, Cal.  
 N. L. Drew & Co., Sacramento, Cal.  
 D. K. Drew, Sacramento, Cal.  
 James A. Duffy, Sacramento, Cal.  
 W. J. Douglas, Sacramento, Cal.  
 William Draher, Sacramento, Cal.  
 J. Domingos, Sacramento, Cal.  
 C. K. Dougherty, Sacramento, Cal.  
 Henry Dunn, Sacramento, Cal.  
 Alphonsine Deñant, San Francisco, Cal.  
 Georgiana M. Dean, Sacramento, Cal.  
 T. T. Davis, Sacramento, Cal.  
 William Doolan, San Francisco, Cal.  
 Martin Deforrest, Schenectady, N. Y.  
 Volkert P. Donn, Schenectady, N. Y.  
 Mrs. Helen L. Donn, Schenectady, N. Y.  
 Sarah A. Davis, Schenectady, N. Y.  
 Abram Doty, Schenectady, N. Y.  
 William G. English, Sacramento, Cal.  
 Daniel W. Earl, Sacramento, Cal.  
 W. L. Everett, Sacramento, Cal.  
 C. & F. Ebner, Sacramento, Cal.  
 A. Egl, Sacramento, Cal.  
 W. R. S. Faye, Sacramento, Cal.  
 J. W. Forney, Philadelphia, Pa.  
 Friend & Terry, Sacramento, Cal.  
 P. Franklin, Sacramento, Cal.  
 I. P. Floberg, Sacramento, Cal.  
 M. Fitzpatrick, Sacramento, Cal.  
 L. H. Foote, Sacramento, Cal.  
 Joseph M. Frey, Sacramento, Cal.  
 Peter B. Forster, San Francisco, Cal.  
 Frank Foster, Sacramento, Cal.  
 I. S. Friend, Sacramento, Cal.  
 Antoinette Franchot, Syracuse, N. Y.  
 John Gillig, Sacramento, Cal.  
 Robert Gardner, Knight's Landing, Cal.  
 Albert Gallatin, Sacramento, Cal.  
 Jacob Gruhler, Sacramento, Cal.  
 A. S. Grunlan, Sacramento, Cal.  
 Moses Greenbaum, Sacramento, Cal.  
 Gustave Gotthold, Sacramento, Cal.  
 Eugene Gascoet, Sacramento, Cal.  
 Charles H. Gwinn, Sacramento, Cal.  
 Christian Gruhler, Sacramento, Cal.  
 Elias Gruhler, Sacramento, Cal.  
 Mrs. C. C. Gliddon, Boston, Mass.  
 Mrs. E. M. Gliddon, Boston, Mass.  
 W. C. Gay, Sacramento, Cal.  
 Gliddon & Williams, Boston, Mass.  
 Simon C. Groot, Schenectady, N. Y.  
 Samuel C. Gilbert, Butternut, N. Y.  
 Mark Hopkins, Sacramento, Cal.  
 C. P. Huntington, Sacramento, Cal.  
 C. G. Hooker, San Francisco, Cal.  
 William H. Hill, Sacramento, Cal.  
 J. S. Harbison, Sacramento, Cal.  
 George Hepburn, Sacramento, Cal.  
 Miss M. E. Hurley, Sacramento, Cal.  
 E. Holmes, Sacramento, Cal.  
 G. F. Hartman, Sacramento, Cal.  
 I. Hector, Sacramento, Cal.  
 August Hirsch, Sacramento, Cal.  
 A. Heilbron, Sacramento, Cal.  
 Charles Heinrich, Sacramento, Cal.  
 Jacob Hepper, Sacramento, Cal.  
 Eugene Hunt, Sacramento, Cal.  
 Jane E. Hill, Sacramento, Cal.  
 Isabella M. Hill, Sacramento, Cal.  
 James H. Herrick, Sacramento, Cal.  
 Silas Hussy, jr., Sacramento, Cal.  
 S. Hooper & Co., Boston, Mass.  
 D. R. Hunt, Boston, Mass.  
 John Hillhouse, New York, N. Y.  
 Mrs. E. H. Heacock, Sacramento, Cal.  
 Joseph Hill, Sacramento, Cal.  
 Charles Holbrook, Sacramento, Cal.  
 Jared Irwin, Sacramento, Cal.  
 N. M. Jacobs, Sacramento, Cal.  
 Peter Johnson, Sacramento, Cal.  
 Elias Jacobs, Sacramento, Cal.  
 Enoch Jacobs, Sacramento, Cal.  
 Joel Johnson, Sacramento, Cal.  
 C. F. Jobson, San Francisco, Cal.  
 David Kendall, Sacramento, Cal.  
 Klink & Martfield, Sacramento, Cal.  
 H. Kohler, Sacramento, Cal.  
 Edward Kraus, Sacramento, Cal.  
 J. B. Kohl, Sacramento, Cal.  
 L. Krombach, Sacramento, Cal.  
 Tobias Kadel, Sacramento, Cal.  
 C. H. Krebs, Sacramento, Cal.  
 Frank Reed Kimball, Boston, Mass.  
 C. A. Lambert, Boston, Mass.  
 T. M. Lindley, Sacramento, Cal.  
 W. K. Lindley, Sacramento, Cal.  
 M. Littleton, Sacramento, Cal.  
 I. D. Lord, Sacramento, Cal.  
 H. W. Larkin, Sacramento, Cal.  
 Locke & Lavenson, Sacramento, Cal.  
 E. J. Loomis, Sacramento, Cal.  
 E. J. Loomis, Sacramento, Cal.  
 C. B. Linton, Sacramento, Cal.  
 Lyon & Son, Sacramento, Cal.  
 George I. Lytle, Sacramento, Cal.  
 Christopher Lages, Sacramento, Cal.  
 Philip Lynch, Forrest Hill, Cal.  
 John W. Lester, New York, N. Y.  
 George S. Locke, Sacramento, Cal.  
 O. D. Lambert, Sacramento, Cal.  
 S. Lipman & Co., Sacramento, Cal.  
 Mrs. J. V. Lindley, Sacramento, Cal.  
 Charles Marsh, Nevada, Cal.  
 John F. Morse, San Francisco, Cal.  
 B. F. Morse, Dutch Flat, Cal.  
 D. O. Mills & Co., Sacramento, Cal.  
 R. H. McDonald, Sacramento, Cal.  
 James McGuire, Sacramento, Cal.  
 D. W. Mahon, Sacramento, Cal.

- E. B. Mott, jr.,** Sacramento, Cal.  
**F. Mier,** Sacramento, Cal.  
**T. Muhlenfels,** Sacramento, Cal.  
**C. Mayer,** Sacramento, Cal.  
**P. F. Mangin,** Sacramento, Cal.  
**John Mirster,** Sacramento, Cal.  
**Samuel Mosier,** Sacramento, Cal.  
**D. Z. Moore,** Sacramento, Cal.  
**John G. McNeill,** Sacramento, Cal.  
**John McNeill,** Sacramento, Cal.  
**H. Myers,** Sacramento, Cal.  
**E. H. Miller, jr.,** Sacramento, Cal.  
**James McClutchy** Sacramento, Cal.  
**Drury Melone,** Sacramento, Cal.  
**William Martfield,** Sacramento, Cal.  
**George McDonald,** Sacramento, Cal.  
**W. P. Mitchener,** Sacramento, Cal.  
**William Morris,** Utica, N. Y.  
**W. G. Milligan,** Little Falls, N. Y.  
**Ambrose Merrill,** Sacramento, Cal.  
**C. E. McLane,** San Francisco, Cal.  
**Mrs. M. McDougal,** New York, N. Y.  
**Henry Miller,** Sacramento, Cal.  
**N. S. Nichols,** Sacramento, Cal.  
**A. Newbauer,** Sacramento, Cal.  
**Leonidas Newburg,** Sacramento, Cal.  
**A. W. North,** Sacramento, Cal.  
**James O'Neill,** Sacramento, Cal.  
**Ira E. Oatman,** Sacramento, Cal.  
**George Ochs,** Sacramento, Cal.  
**Franz Oettel,** Sacramento, Cal.  
**J. Z. Ogden,** New York, N. Y.  
**D. W. Osborn,** Virginia, Nevada.  
**J. T. Pike,** Sacramento, Cal.  
**J. S. Pond,** Sacramento, Cal.  
**John C. Park,** Dutch Flat, Cal.  
**John Peasley,** Sacramento, Cal.  
**William Patson,** New York, N. Y.  
**Thomas Paton,** New York, N. Y.  
**James M. Pattee,** New York, N. Y.  
**J. V. S. Y. Prunyn,** Albany, N. Y.  
**A. C. Powell,** Syracuse, N. Y.  
**C. A. Peake,** Sacramento, Cal.  
**George W. Pearce,** Sacramento, Cal.  
**R. J. Phillips,** New York, N. Y.  
**F. H. Phillips,** Little Falls, N. Y.  
**P. H. Russell,** Sacramento, Cal.  
**Charles Rice,** Mineral Bar, Cal.  
**Thomas Ross,** Sacramento, Cal.  
**J. W. Reeves,** Sacramento, Cal.  
**John Ryan,** Sacramento, Cal.  
**George Rowland,** Sacramento, Cal.  
**John R. Robinson,** Sacramento, Cal.  
**William M. Ruteliff,** Sacramento, Cal.  
**W. B. & D. F. Ready,** Sacramento, Cal.  
**Frank C. Ross,** Sacramento, Cal.  
**S. B. Robbins,** Sacramento, Cal.  
**Martin Raneich,** Sacramento, Cal.  
**B. B. Redding,** Sacramento, Cal.  
**H. B. Rice,** Sacramento, Cal.  
**J. P. C. Pond,** San Francisco, Cal.  
**J. M. Ripley,** Sacramento, Cal.  
**J. D. Russell,** New York, N. Y.  
**B. T. Reed,** Boston, Mass.  
**Robert Robinson,** Sacramento, Cal.  
**William Rippon,** Sacramento, Cal.  
**Leland Stanford,** Sacramento, Cal.  
**S. D. Smith,** Sacramento, Cal.  
**D. W. Strong,** Dutch Flat, Cal.  
**A. A. Sargent,** Nevada, Cal.  
**Edward Stockton,** Folsom, Cal.  
**C. W. Smith,** Grass Valley, Cal.  
**J. A. Seaman,** Sacramento, Cal.  
**William H. Spaulding,** Sacramento, Cal.  
**T. W. Strowbridge,** Sacramento, Cal.  
**E. B. Sturgeon,** Sacramento, Cal.  
**John Smith,** Sacramento, Cal.  
**Philip Schell,** Sacramento, Cal.  
**Mary Scott,** Sacramento, Cal.  
**George H. Swineston,** Sacramento, Cal.  
**John Schade,** Sacramento, Cal.  
**Julian Strutz,** Sacramento, Cal.  
**E. U. Shelton,** New York, N. Y.  
**Lewis Schafer,** Sacramento, Cal.  
**Charles Sutter,** Sacramento, Cal.  
**Charles Sellinger,** Sacramento, Cal.  
**George Schoneiser,** Sacramento, Cal.  
**P. Stanton,** Sacramento, Cal.  
**Joseph Stevens,** Sacramento, Cal.  
**George W. Stewart,** Sacramento, Cal.  
**S. H. Shroer,** Sacramento, Cal.  
**Lee Stanley,** Sacramento, Cal.  
**H. Schroder,** Sacramento, Cal.  
**Robert Seeger,** Sacramento, Cal.  
**Thomas K. Steuart,** Sacramento, Cal.  
**A. P. Stanford,** San Francisco, Cal.  
**Jacob Schrew,** San Francisco, Cal.  
**C. Stremming,** Sacramento, Cal.  
**C. Z. Sherman,** New York, N. Y.  
**W. H. Seaton,** Sacramento, Cal.  
**David Stewart,** New York, N. Y.  
**Jacob Strable,** San Francisco, Cal.  
**T. H. Selby,** San Francisco, Cal.  
**B. J. Schermerhorn,** Schenectady, N. Y.  
**A. G. Story,** Little Falls, N. Y.  
**Mrs. Anna E. Steele,** Kingston, N. Y.  
**Isaac Small,** Little Falls, N. Y.  
**Turton, Knox, & Ryan,** Sacramento, Cal.  
**J. N. Turner,** Nevada, Cal.  
**William Turton,** Sacramento, Cal.  
**S. Tryon,** Sacramento, Cal.  
**H. Thielbar,** Sacramento, Cal.  
**Dover Thielbar,** Sacramento, Cal.  
**W. E. Terry,** Sacramento, Cal.  
**Theodore Townsend,** Albany, N. Y.  
**Lauren Upson,** Sacramento, Cal.  
**Charles Van Heusen,** Sacramento, Cal.  
**E. H. Van Heusen,** Sacramento, Cal.  
**J. S. Van Hinkle,** Sacramento, Cal.  
**Mrs. J. Van Rensselaer,** Morris, Pa.  
**E. G. Waite,** Nevada, Cal.  
**John Williams,** Nevada, Cal.  
**D. W. Welty,** Sacramento, Cal.  
**O. C. Wheeler,** Sacramento, Cal.  
**C. T. Wheeler,** Sacramento, Cal.  
**Julius Weltzar,** Sacramento, Cal.  
**H. Wachhoost,** Sacramento, Cal.  
**J. C. Williams,** Drytown, Cal.  
**Conrad Weil,** Sacramento, Cal.  
**D. W. Whitmore,** Sacramento, Cal.  
**Mrs. E. L. M. Williams,** Boston, Mass.  
**W. S. Watson,** Sacramento, Cal.  
**C. Waterhouse,** Sacramento, Cal.  
**Amos Waring,** Sacramento, Cal.  
**C. Wolleb,** Sacramento, Cal.  
**Daniel K. Zounalt,** Sacramento, Cal.  
**Jacob Zounalt,** Sacramento, Cal.

*Second.* The names and residences of the directors and all officers of the company are as follows:

*Directors.*  
Leland Stanford, Sacramento, Cal.  
C. P. Huntington, New York, N. Y.  
E. B. Crocker, Sacramento, Cal.  
Mark Hopkins, Sacramento, Cal.  
E. H. Miller, jr., Sacramento, Cal.  
Charles Marsh, Nevada, Cal.  
A. P. Stanford, San Francisco, Cal.

*President.*  
Leland Stanford, Sacramento, Cal.

*Vice-President.*  
C. P. Huntington, New York, N. Y.

*Secretary.*  
E. H. Miller, jr., Sacramento, Cal.

*Treasurer.*  
Mark Hopkins, Sacramento, Cal.

*Chief engineer.*  
S. S. Montague, Sacramento, Cal.

*Consulting engineers.*  
George E. Gray, Sacramento, Cal.

*Attorney and general agent.*  
E. B. Crocker, Sacramento, Cal.

*General superintendent.*  
Charles Crocker, Sacramento, Cal.

*Third.* The amount of stock subscribed is \$14,929,800; and the amount actually paid in is \$14,861,790.

*Fourth.* As to a description of the lines surveyed during the year immediately preceding the 1st day of July, 1868, we would state that heretofore our reports filed in the Treasury Department have been made up at the end of each year, and the engineers of the company have made their returns accordingly; and we find it impossible at this time to state with accuracy the extent and condition of our surveys on the 1st day of July, 1867, as the returns of the engineers are not made to that exact date; but the following is a copy of the report of engineers relating to the surveys made during the year 1867, rendered by the company to the Secretary of the Treasury, to wit:

"For a description of the lines surveyed by this company, and the lines thereof fixed upon for the construction of the road to January 1, 1867, we would respectfully refer to the former annual reports of the company, made to the Secretary of the Treasury."

In addition thereto the following surveys have been made:

	Miles.
Revision of location west of summit .....	6
Revised location between summit of Sierra Nevada and eastern boundary of California .....	25
Final location in State of Nevada .....	20
Preliminary survey from Humboldt Wells to eastern boundary of Nevada .....	67
From eastern boundary of Nevada to mouth of Wells's cañon, Salt Lake valley .....	165
From Weber cañon to mouth of Harris's Fork .....	142
From mouth of Harris's Fork to Big Timbers, Bear Lake valley ...	105
<b>TRIAL LINES.</b>	
Between Humboldt Wells and Harris's Fork .....	76
From Big Timbers to Ogden summit, on Bear Lake road .....	62
Line west of Bear lake .....	18
Line down Blacksmith's to Cache valley .....	23
Chalk Creek line, from Weber station to Sulphur creek .....	47
From Big Timbers down Bear river to Salt Lake valley, intersecting line from Humboldt Wells to Weber cañon, at north end of Bear River bay .....	137

Miles.

From junction of Yellow creek and Bear river, up Butte creek over the summit of the "rim of the basin," near Medicine Butte, to a branch of the Little Muddy, thence south and west to the mouth of Sulphur creek, thence up Bear river to Chalk Creek line .....	41
From Passage creek to the summit of the Goose Creek mountains .	80
From Ogden City, by way of Ogden river, east summit of Wahsatch mountains, head of Lost creek, to Weber station (mouth of Echo creek) .....	98
In the Uintah mountains, south of Chalk creek, and on Bear river .	30
From Sulphur creek, a tributary of Bear river, along the northern base of Uintah mountains to Henry's Fork, a tributary of Green river .....	60
From Henry's Fork to Fort Bridger .....	35
From Fort Bridger across Big and Little Muddy Fork to summit of the "rim of the basin," thence north on the summit to Rock creek, thence easterly through Hodge's Pass and down Harris's Fork to its junction with Black Fork .....	112
From Harris's Fork to summit of Divide, west of Green river....	30
Reconnoissance of the sources of Harris's Fork and Smith's Fork (a tributary of Bear river,) and of Salt creek and John Day's river (tributaries of Snake river,) thence across the mountains to Big Timbers in Bear Lake valley .....	30

TRIANGULATIONS.

From Big Bend of Truckee to Star Peak .....	90
From Star Peak to mouth of Reese river .....	80
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Total distance travelled by transit party, from time of leaving Humboldt Wells, June 28, until returning to Salt lake, November 17, including surveys and excluding travel to and from camp .....	950
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Total distance travelled by exploring party, from time of leaving Humboldt Wells, June 28, till their arrival at Salt Lake City, November 17, including surveys .....	1,430
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This report brings the surveys up to January 1, 1868, and the following is a correct statement of the surveys made from January 1, 1868, to July 1, 1868, to wit:

"Commencing at the last crossing of the Truckee river, at the town of Wadsworth, known as the "Big Bend" of the Truckee, 189 miles from Sacramento, the official location has been made to Two-mile cañon, a distance of 248 miles. This line runs from Wadsworth by Hot springs, along the west side of Humboldt lake, crossing the Humboldt river a few miles above the lake; thence up the east side of Humboldt river, by Humboldt City, Winnemucca, Mill City, Fairbanks, through Emigration cañon, by Iron Point, Stone House, mouth of Reese river, Skull ranch, Shoshone Point, Beararre Gate, and Gravelly ford, to the Twelve-mile cañon, where it crosses the Humboldt river to the northerly side; thence up the river, through the cañon, by Trout creek and Maggie's creek, to the Two-mile cañon.

The line between Humboldt Wells and Independent springs has also

been finally located, and the same party is continuing the final location towards Salt lake. The company also has a corps of engineers engaged in making final location of the line across the promontory mountains, north of Salt lake and east and west of said mountains. We are unable to state what progress this party has made, as no reports have been received from it. The railroad and telegraph are being constructed on the line thus located. The cost of the surveys made by this company, up to to June 30, 1868, is \$271,181 68.

*Fifth.* The amount received from passengers on the road for the year ending June 30, 1868, is \$336,509 79.

*Sixth.* The amount received from freight on the road for the year ending June 30, 1868, is \$1,012,348 09.

*Seventh.* The expenses of the road and its fixtures for the year ending June 30, 1868, are \$600,269 28.

*Eighth.* The indebtedness of the company is as follows:

In United States government bonds.....	\$7, 340, 000 00
State aid convertible and first mortgage.....	14, 622, 350 00
Notes of the company.....	3, 101 867 42
Personal accounts.....	1, 798, 509 58
<b>Total.....</b>	<b>26, 862, 727 00</b>

STATE OF CALIFORNIA, *County of Sacramento :*

E. B. Crocker, being duly sworn, says that he is president *pro tem.* of the Central Pacific Railroad Company of California, and that the foregoing report is true and correct.

EDWIN B. CROCKER,  
*President pro tem. C. P. R. R. Co.*

Subscribed and sworn to before me this 25th day of November, 1868.

[SEAL.]

E. J. ROBINSON,  
*Notary Public, Sacramento Co., State of California.*

No. 3.

OFFICE UNION PACIFIC RAILWAY, EASTERN DIVISION,  
*St. Louis, September 22, 1868.*

SIR: In accordance with the 20th section of the act of Congress of July 1, 1862, 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," and the act amendatory thereof, approved June 25, 1868, I have the honor to make the following report for the Union Pacific Railway Company, eastern division, from the 1st day of January, 1868, (the date to which my report of February 29, 1868, to the Secretary of the Treasury, extended,) to the 31st day of August, 1868.

*First.—Names of stockholders and their places of residence, so far as known.*

John D. Perry, St. Louis, Mo.  
C. S. Greeley, St. Louis, Mo.  
Giles F. Filley, St. Louis, Mo.  
Thomas L. Price, Jefferson City, Mo.  
S. M. Edgell, St. Louis, Mo.  
Adolphus Meier, St. Louis, Mo.  
J. P. Usher, Terre Haute, Indiana.

James Archer, St. Louis, Mo.  
Henry Martin, Cincinnati, Ohio.  
George Partridge, St. Louis, Mo.  
O. D. Filley, St. Louis, Mo.  
John D. Locke, New York, N. Y.  
Horace Holton, St. Louis, Mo.  
Robert E. Carr, St. Louis, Mo.



Glover & Shepley, St. Louis, Mo.  
 George D. Hall, St. Louis, Mo.  
 A. C. Anderson, St. Louis, Mo.  
 D. B. Gale, St. Louis, Mo.  
 James Smith, St. Louis, Mo.  
 H. C. Creveling, St. Louis, Mo.  
 William Myers, United States army.  
 Shoemaker, Miller & Co., St. Louis, Mo.  
 Leavenworth county, Kansas.  
 H. M. Northrop, New York, N. Y.  
 J. E. Thomson, Philadelphia, Pa.  
 Seyfert, McManus & Co., Philadelphia, Pa.  
 M. W. Baldwin & Co., Philadelphia, Pa.  
 H. H. Houston, Philadelphia, Pa.  
 William Thaw, Pittsburg, Pa.  
 William F. Leach, Philadelphia, Pa.  
 Thomas A. Biddle, Philadelphia, Pa.  
 Edward Miller, Philadelphia, Pa.  
 Wm. J. Palmer, St. Louis, Mo.  
 Edward Ely, Philadelphia, Pa.  
 F. H. Jackson, Philadelphia, Pa.  
 Chas. B. Lamborn, St. Louis, Mo.  
 J. B. Anderson, Philadelphia, Pa.  
 Edward Miller, trustee, Philadelphia, Pa.  
 E. M. Shoemaker, Glendale, Ohio.  
 Thomas L. Jewett, Steubenville, Ohio.  
 Alfred Gaither, Cincinnati, Ohio.  
 H. F. Jewett, Painesville, Ohio.  
 J. N. Kinney, Cincinnati, Ohio.  
 Thomas Sherlock, Cincinnati, Ohio.  
 Wm. Dennison, Columbus, Ohio.  
 Wm. H. Clement, Cincinnati, Ohio.  
 A. H. Barney, New York, N. Y.  
 Andrew Gross, New York, N. Y.  
 L. Devinney, Cincinnati, Ohio.  
 J. W. Kirk, New York, N. Y.  
 Larz Anderson, Cincinnati, Ohio.  
 P. W. Strader, Cincinnati, Ohio.  
 J. M. Davison, Saratoga, N. Y.  
 J. Harshman, Dayton, Ohio.  
 Simon Gebhart, Dayton, Ohio.  
 V. Winters & Son, Dayton, Ohio.  
 B. L. & W. C. Brown, Columbus, Ohio.  
 B. E. Smith, Columbus, Ohio.  
 J. H. Rhodes, Cincinnati, Ohio.  
 A. H. Lewis, Cincinnati, Ohio.  
 J. R. Swan, Columbus, Ohio.  
 D. S. Gray and Jas. Means, Columbus, Ohio.  
 Geo. H. Pendleton, Cincinnati, Ohio.  
 A. L. Mowry, Cincinnati, Ohio.  
 C. H. Kilgour, Cincinnati, Ohio.  
 Geo. W. McCook, Steubenville, Ohio.  
 H. Bancroft, Columbus, Ohio.  
 S. Medbury, Columbus, Ohio.  
 J. Lough, Columbus, Ohio.  
 W. Failing, Columbus, Ohio.  
 C. P. Cassiles, Cincinnati, Ohio.  
 Ashbell Green, New York, N. Y.  
 H. B. Bissell, Cincinnati, Ohio.  
 Henry C. Smith, Baltimore, Md.  
 George Burnham, Philadelphia, Pa.  
 Wm. Hubbard, St. Louis, Mo.  
 Alex. W. Harrey, ———.  
 George J. Baker, ———.  
 Thomas A. Scott, Philadelphia, Pa.  
 H. W. Wissman, St. Louis, Mo.  
 James Means, Pittsburg, Pa.  
 M. C. Shoemaker, Glendale, Ohio.  
 Seth Evans, Cincinnati, Ohio.  
 G. Y. Roots, Cincinnati, Ohio.  
 J. H. Dickerson, Cincinnati, Ohio.  
 B. F. Strader, Cincinnati, Ohio.  
 Thomas F. Bartholow, St. Louis, Mo.  
 J. E. Jacobs, St. Louis, Mo.  
 Frederick W. Downer.  
 H. M. Alexander, New York, N. Y.  
 John F. Bartlett, Columbus, Ohio.  
 Daniel Spangler, Philadelphia, Pa.  
 F. A. Walker, Philadelphia, Pa.  
 William M. McPherson, St. Louis, Mo.  
 D. P. Morgan, New York, N. Y.  
 H. C. Swain, ———.  
 Agnes S. Kennedy, Philadelphia, Pa.  
 Charles J. Clarke, Pittsburg, Pa.  
 S. A. Stinson.

*Second.—Names of directors and other officers, and their places of residence.*

**DIRECTORS.**

John D. Perry, St. Louis, Mo.  
 Adolphus Meier, St. Louis, Mo.  
 Carlos S. Greeley, St. Louis, Mo.  
 William M. McPherson, St. Louis, Mo.  
 Thomas L. Price, Jefferson City, Mo.  
 Thomas A. Scott, Philadelphia, Pa.  
 John McManus, Reading, Pa.  
 William H. Clement, Cincinnati, Ohio.  
 H. J. Jewett, Cincinnati, Ohio.

**OFFICERS.**

John D. Perry, president, St. Louis, Mo.  
 Adolphus Meier, vice president, St. Louis, Mo.  
 Wm. J. Palmer, treasurer, St. Louis, Mo.  
 Charles B. Lamborn, secretary, St. Louis, Mo.  
 S. F. Smith, auditor, St. Louis, Mo.  
 Jno. P. Usher, solicitor, St. Louis, Mo.  
 T. F. Oakes, supply and purchasing agent,  
 St. Louis, Mo.  
 A. Anderson, general superintendent, Lawrence, Kansas.  
 J. M. Webster, general ticket and freight agent, Lawrence, Kansas.  
 Jno. P. Devereau, land commissioner, Lawrence, Kansas.

*Third.* The amount of stock subscribed, and the amount thereof actually paid in. Total stock subscribed, \$5,001,000; of which there has been issued (full paid) \$2,616,000. Stock paid up but not issued, \$2,385,000.

*Fourth.* Surveys and line of definite location. The company have continued the surveys projected and carried on in 1867, and reported in full in my report to the Secretary of the Treasury, February 29, 1868. The line of the 35th parallel to San Francisco and San Diego has been thoroughly surveyed, and additional lines have been run during the present year from Fort Wallace, Kansas, to Denver, Cañon City, and via San Louis Park to Albuquerque, on the Rio Grande.

The line of the company's road has been definitely located to Pond creek, near the military post of Fort Wallace, 420 miles west from the initial point, and the road is now completed and in operation 405 miles.

The cost of the surveys beyond Fort Wallace, begun in 1867 and still in progress, has been about \$225,000.

*Fifth.* Gross receipts of the company for the transportation of passengers from January 1 to August 31, 1868, (eight months,) \$388,662 64.

*Sixth.* Gross receipts of the company for the transportation of freight from January 1 to August 31, 1868, (eight months,) \$707,847 29; miscellaneous, \$12,288 70.

*Seventh.* The expense of constructing the road, its fixtures, rolling stock, &c., completed and to be completed, furnished and to be furnished, is at and after the rate of \$50,000 per mile of the bonds and stock of the company.

*Eighth.* The following is a statement of the indebtedness of the company, setting forth the various kinds thereof :

30-year first mortgage bonds on 380 miles, main line, at \$16,000 per mile.....	\$6,080,000
30-year United States bonds on 380 miles, main line, at \$16,000 per mile.....	6,080,000
50-year income bonds, third mortgage on main line, second mortgage on branches, bearing currency interest at seven per cent., payable after five years out of net savings, \$10,000 per mile.....	3,680,000
30-year first mortgage bonds on Leavenworth branch, 31 miles, interest 7 per cent. currency.....	600,000
Land grant mortgage bonds, lands between 140th and 240th mile posts, interest 7 per cent. currency.....	361,000
Other liabilities.....	464,000

Respectfully submitted:

JOHN D. PERRY, *President.*

Hon. O. H. BROWNING,

*Secretary of the Interior, Washington, D. C.*

STATE OF MISSOURI, *City and County of St. Louis :*

Personally appeared before the undersigned, notary public in and for said county, John D. Perry, known to me to be the identical person who subscribed to, and was duly sworn to, the truth of the above statement.

[SEAL.]

T. F. OAKES, *Notary Public.*

No. 4.

SIoux CITY AND PACIFIC RAILROAD COMPANY,  
OFFICE OF THE PRESIDENT,  
*Blairstown, New Jersey, September 30, 1868.*

SIR: In conformity to the act of Congress approved June 25, 1868, I hereby make a return of the affairs of the Sioux City and Pacific Railroad and Telegraph Line, as follows, viz:



*Directors and officers of the Sioux City and Pacific Railroad Company,  
September 29, 1868.*

## DIRECTORS ELECTED AUGUST 5, 1868.

John I. Blair, Blairstown, New Jersey.  
Oakes Ames, North Easton, Massachusetts.  
William B. Allison, Dubuque, Iowa.  
W. W. Walker, Cedar Rapids, Iowa.  
Perry H. Smith, Chicago, Illinois.  
Joseph H. Scranton, Scranton, Pa.  
D. C. Blair, Belvidere, New Jersey.  
William T. Glidden, Boston, Massachusetts.  
F. Nickerson, Boston, Massachusetts.

## OFFICERS.

John I. Blair, Blairstown, New Jersey, president.  
William B. Allison, Dubuque, Iowa, vice-president.  
J. M. S. Williams, Boston, Massachusetts, treasurer.  
W. W. Walker, Cedar Rapids, Iowa, secretary, chief engineer, and general agent.  
Charles E. Vail, Blairstown, New Jersey, assistant secretary.

## EXECUTIVE COMMITTEE.

John I. Blair.  
Oakes Ames.

William B. Allison.  
D. C. Blair.

The amount of capital stock subscribed is ..... \$4,271,000  
The amount actually paid in ..... 1,676,400

## DESCRIPTION OF THE LINE.

The line of road commences at the initial point in Sioux City, Iowa, and runs by the most direct and practicable route to a point on, and in connection with, the Union Pacific railroad, about 48 miles west of Omaha, in Nebraska.

The entire length of the line, as per map filed in the office of the Secretary of the Interior, is about 101 miles, of which 69½ miles, beginning at Sioux City, were completed, equipped, and approved in March last, and opened for business, together with 69½ miles of telegraph line.

The company connect their road with the Cedar Rapids and Missouri River railroad at Missouri valley by a short road of the Cedar Rapids and Missouri River Railroad Company's, 6½ miles long, which gives a connection with Sioux City from Chicago.

In July last the company let the contract to complete the line to its connection with the Union Pacific railroad in Nebraska, as hereinbefore stated. The contractors have a large force, and are proceeding rapidly with the grading. The track is laid about four miles to the river crossing from the road in use.

The iron is all contracted for, and principally made and on hand at Chicago and in transit; all of the best American manufacture, with fish-joint connections, and weighing 56 to 60 pounds to the yard. Ties are secured for the line. A water front of about one mile on either side of the Missouri river has been secured for a landing, and a powerful steam ferry-boat contracted for to pass the cars and do the business promptly.

For further details I would refer to the report of W. W. Walker, esq., superintendent and chief engineer, made up to October 1, 1868, and herewith submitted:

*Amount received from transportation of freight and passengers, telegraph, and miscellaneous, since the road opened for business.*

From passengers .....	\$51,407 77
From freight .....	44,156 14
From telegraph .....	1,135 97
<b>Total</b> .....	<b>96,699 90</b>
<b>Expenses of operating</b> .....	<b>53,184 98</b>
	<hr/>
	43,514 92

*Statement of the expenses of the road and fixtures.*

The amount of expenditures for said road in use and the other under construction by contractors, including the telegraph line, right of way, depots and depot grounds, lands and water fronts on the Missouri river, engineering, all the rolling stock, locomotives, passenger, freight and hand cars, machine shops, car shops, turn tables, water stations, tools, and everything connected with the road, as per books of the company.....

	\$3,675,000 00
Less percentage retained from contractors.....	375,000 00
	3,300,000 00
<b>DR.</b> —Payment cash paid collected of stockholders.....	\$1,676,000 00
Amount paid received from sale of government bonds.....	632,969 05
Amount assumed to receive from sale of government bonds.....	162,229 93
Government bonds, applicable.....	317,000 00
	2,788,298 08
Balance due contractors as per books.....	511,801 02

*Statement of the indebtedness of said company, setting forth the various kinds thereof.*

To indebtedness to stockholders for cash.....	\$1,676,000 00
To United States government bonds received on 69½ miles road, accepted.....	1,112,000 00
Due contractors.....	511,801 02
	3,299,801 02

The company has issued no stock certificates to the stockholders, neither have they as yet issued any of their first mortgage bonds. The company believe their road to be among the best in the country. The grades and curvatures, for business, are not excelled by any. The rails are of the best American manufacture, weighing from 56 to 60 pounds to the yard, nearly all 30 feet long, with fish-joint connections, laid on hardwood ties of the best quality, and 2,640 ties to the mile.

Their locomotives and rolling stock are uniform and mainly duplicates, all of the best workmanship and most approved kind.

Five steamboats are running regularly from Sioux City up the upper Missouri to Fort Benton and other points 2,000 miles above Sioux City, receiving their freight from the railroad for Montana, &c. Some have made their third trip. The navigation above Sioux City is very good in comparison with that below. It is intended to have in the spring 10 or more steamboats to move the freight up the Missouri, which will increase the business of the road.

The railroad from Dubuque is rapidly constructing across the State of Iowa to Sioux City; also, the railroad from Lake Superior to St. Paul, and from St. Paul to Sioux City. These connecting roads, opening to emigration and settlement so large a section of the best lands in the

country, will soon add additional States to the Union, and greatly increase the production and wealth of the country.

All of which is respectfully submitted.

J. I. BLAIR,

*President Sioux City and Pacific Railroad.*

Hon. O. H. BROWNING,

*Secretary of the Interior, Washington, D. C.*

SIoux CITY AND PACIFIC RAILROAD COMPANY,  
OFFICE SUPERINTENDENT AND CHIEF ENGINEER,  
*Cedar Rapids, Iowa, October 1, 1868.*

SIR: I have the honor to submit herewith the following report relative to the operations of this company:

Sixty-nine and one-half miles of the road, reaching from Sioux City to California Junction, together with six and one-half miles between the latter place and Missouri Valley, leased of the Cedar Rapids and Missouri River Railroad Company, were put in operation in March last.

The earnings from the time the first section was opened for business in November, 1867, to this date, have been as follows:

From freight.....	\$44,156 14
From passengers.....	51,407 79
From telegraph.....	1,135 97
Total.....	<u>96,699 90</u>

The operating expenses for same time have been..... \$53,184 98

The company have now on hand and in good order the following rolling stock, viz: 6 first-class locomotives, 3 first-class passenger coaches, 1 second-class passenger coach, 1 baggage, mail, and express car; 1 office car, 3 way cars, 25 box cars, 4 stock cars, 30 platform cars, 15 gondola or coal cars, 4 boarding cars, 12 hand cars.

Contracts have been made for two more first-class locomotives and 20 more box cars. Additional rolling stock will be obtained as fast as the business may require.

The road-bed and track are in very fine condition, and the company can do all the business that may offer safely and promptly.

A large portion of the freight business the past season has been merchandise and supplies bound to Montana Territory and the upper Missouri river country. Most of the government supplies for the upper country have been sent, as heretofore, by boat from St. Louis, and, as usual, several boats loaded for government have been lost.

That portion of the road between California Junction and the intersection with the Union Pacific railroad near Frémont, Nebraska, a distance of about 31½ miles, is now in rapid progress on the line heretofore located and described in my last report. The track has been entirely completed from California Junction to the Missouri river, a distance of four miles. The grading of the remainder of the line to Frémont is so far advanced that it will all be completed during next month, and the track will probably be laid and finished during December. The right of way and land for all the stations have been secured, and also about a mile of river front along the Missouri, on each side, at a cost of over \$20,000. This was deemed necessary on account of the shifting nature

of the channel of the river, and the importance of controlling at all times good ferry landings, and also the channel when we build a bridge.

A large and powerful ferry-boat, arranged with tracks, for carrying loaded cars across the river, is now completed and will be in operation within a week, or sooner if the landings can sooner be made ready.

A very large outlay will be required to make permanent landings, and prevent the banks of the river from washing away.

All the ties to complete the road are already on hand, and all the iron spike and fish-plates are either on hand or in transit.

I know now of nothing to prevent the entire line of this company's road being completed and in successful operation within the next 90 days.

W. W. WALKER,  
*Superintendent and Chief Engineer.*

Hon. JOHN I. BLAIR, *President.*

Be it remembered, that on this 30th of September, 1868, personally appeared before the subscriber, a master in chancery of New Jersey, John I. Blair, of full age, who being duly sworn, upon his oath saith that he is the president of the Sioux City and Pacific Railroad Company, and also that the facts, matters and things set forth in the accompanying report signed by him are true to the best of his knowledge and belief.

J. I. BLAIR,  
*President Sioux City and Pacific Railroad.*

Sworn and subscribed before me at Blairstown, N. J., this 30th September, 1868.

[SEAL.]

MARSHAL HUNT,  
*A Master in Chancery of New Jersey.*

#### No. 5.

The Central Branch Union Pacific Railroad Company, in pursuance of section 20 of the act of Congress approved July 1, 1862, 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," make the following report:

*First.—The names of the stockholders and their places of residence.*

Ralph M. Pomeroy, Boston, Mass.  
George S. Hale, Boston, Mass.  
William C. Claffin, Boston, Mass.  
J. W. Brooks, Boston, Mass.  
Nathaniel Thayer, Boston, Mass.  
Abraham Firth, Boston, Mass.  
William Milchen, Boston, Mass.  
Ginery Twitchell, Boston, Mass.  
A. C. Mayhew, Boston, Mass.  
A. H. Batcheller, Boston, Mass.  
J. Prescott, Boston, Mass.  
J. T. Manny, Boston, Mass.  
Francis Dane, Boston, Mass.  
E. B. Phillips, Chicago, Illinois.  
W. Butler Duncan, New York, N. Y.  
Henry Day, New York, N. Y.  
John A. Stewart, New York, N. Y.  
Clement S. Parsons, New York, N. Y.  
Etingham H. Nichols, New York, N. Y.

William C. Wetmore, New York, N. Y.  
Charles Gould, New York, N. Y.  
James C. Atwater, New York, N. Y.  
William H. Scott, New York, N. Y.  
O. H. Palmer, New York, N. Y.  
J. Freeman Tyson, New York, N. Y.  
G. E. Belcher, New York, N. Y.  
E. E. Tredwell, New York, N. Y.  
A. S. Barnes, New York, N. Y.  
Erastus Corning, Albany, N. Y.  
B. T. Nichols, Newark, N. J.  
Daniel Ahl, Cincinnati, Ohio.  
James H. Thorp, Fairfield, Conn.  
William H. Thorp, Fairfield, Conn.  
S. Lenox Tredwell, Fairfield, Conn.  
Andrew S. Thorp, Fairfield, Conn.  
Henry S. Thorp, Fairfield, Conn.  
Andrew Thorp, Fairfield, Conn.  
Samuel S. Roland, Waerton, Conn.

*Second.—The names and residences of the directors and other officers of the company.*

## OFFICERS.

<i>President.</i>	<i>Secretary.</i>
Ralph M. Pomeroy, Boston, Mass.	Thomas N. Sother, New York city.
<i>Vice-president.</i>	<i>Engineer.</i>
William C. Wetmore, New York city.	O. B. Gann, Atchison, Kansas.
<i>Treasurer.</i>	<i>Superintendent.</i>
Effingham H. Nichols, New York city.	(Vacant.)

*Directors.*

Ralph M. Pomeroy, Boston, Mass.	Clement S. Parsons, New York, N. Y.
George S. Hale, Boston, Mass.	James Wadsworth, New York, N. Y.
Ginery Twitchell, Boston, Mass.	E. B. Phillips, Chicago, Ill.
William C. Wetmore, New York, N. Y.	Richard A. Parks, Atchison, Kansas.
Effingham H. Nichols, New York, N. Y.	Benjamin F. Stringfellow, Atchison, Kansas.
John A. Stewart, New York, N. Y.	(One vacancy.)
Henry Day, New York, N. Y.	

*Third.* The amount of stock subscribed and the amount thereof actually paid in.

A. The amount of stock actually subscribed is \$1,000,000; the amount of stock actually paid in is \$746,900, and the residue, to wit, \$253,100, is now called for, and it is expected that the same will be paid in forthwith.

*Fourth.* A description of the lines of road surveyed, of the lines thereof fixed upon for the construction of the road, and the cost of surveys.

A. The 100 miles now completed starts at the city of Atchison, on the west bank of the Missouri river, and runs thence "westerly by the most direct and practicable route" to the town or village of Waterville. For a full description of this 100 miles reference is made to the map heretofore filed in your department, showing with accuracy the lines of said road. With reference to the lines for future construction, it is the purpose of this company to extend said road to a connection with the Union Pacific, at the 100th meridian of west longitude, as contemplated by the acts of Congress, or at some nearer point, west of Fort Kearney. Surveys have already been made, one connecting at or near Fort Kearney, one at or near Plumb creek, and one at or near the 100th meridian. With reference to the cost of surveys, we report that the cost of engineering was \$51,621, but we have no means of separating the cost of surveying therefrom.

*Fifth.* The amount received from passengers on the road.

A. Owing to the road being in the hands of the contractor and worked by him up to the 1st day of February, 1868, we are unable to render account of earnings previous to that date. The actual amount received from passengers from 1st February, 1868, to 1st August, 1868, being a period of six months, was \$12,597 89.

*Sixth.* The amount received from freights thereon?

A. The actual amount received for freight, from the 1st February 1868, to the 1st of August, 1868, being a period of six months, was \$19,992 16.

*Seventh.* A statement of the expense of said road and its fixtures.

A. The actual cost of said road, including fixtures, rolling stock, &c., is \$3,723,700.



*Eighth.* A statement of the indebtedness of said company, setting forth the various kinds thereof.

A. Total amount of indebtedness is \$255,597 17—which indebtedness is made up of the following “various kinds,” viz: Borrowed money, amounts due for railroad iron, freights, rolling stock, and balance of construction.

All of which is respectfully submitted.

THOMAS M. SOTHER, *Secretary.*

Hon. JOHN I. BLAIR, *President.*

CITY AND COUNTY OF ST. LOUIS, STATE OF MISSOURI, ss :

Ralph M. Pomeroy, of the city of Boston, State of Massachusetts, being duly sworn, doth depose and say that he is president of the Central Branch Union Pacific Railroad Company; that he has read the foregoing report, and that, to the best of his knowledge and belief, the various matters therein set forth are true.

R. M. POMEROY, *President.*

Sworn to and subscribed before me, a notary public within and for the county of St. Louis, and State of Missouri, in office the 30th day of September, 1868.

[SEAL.]

JOHN F. LONG, *Notary Public.*

No. 6.

ANNUAL REPORT OF THE WESTERN PACIFIC RAILROAD COMPANY, OF CALIFORNIA, TO THE SECRETARY OF THE INTERIOR, FOR THE SIX MONTHS ENDING JUNE 30, 1868, THE ANNUAL REPORT FOR THE YEAR ENDING DECEMBER 31, 1867, HAVING BEEN MADE TO THE SECRETARY OF THE TREASURY OF THE UNITED STATES.

*First.—Names and residences of stockholders.*

Charles W. Sanger, San Francisco, Cal.  
 Santa Clara County, Cal.  
 A. P. Stanford, San Francisco, Cal.  
 Leland Stanford, Sacramento, Cal.  
 C. H. Cummings, Sacramento, Cal.  
 Mark Hopkins, Sacramento, Cal.

Charles Crocker, Sacramento, Cal.  
 E. B. Crocker, Sacramento, Cal.  
 Leland Stanford & Co., Sacramento, Cal.  
 E. H. Miller, jr., Sacramento, Cal.  
 C. P. Huntington, New York, N. Y.

*Second.* The names and residences of the directors and all officers of the company are as follows:

*Directors.*

Leland Stanford, Sacramento, Cal.  
 Mark Hopkins, Sacramento, Cal.  
 E. B. Crocker, Sacramento, Cal.  
 Charles Crocker, Sacramento, Cal.  
 E. H. Miller, jr., Sacramento, Cal.  
 A. P. Stanford, San Francisco, Cal.  
 C. P. Huntington, New York, N. Y.

*President.*

Leland Stanford, Sacramento, Cal.

*Vice-president.*

C. P. Huntington, New York, N. Y.

*Secretary.*

E. H. Miller, jr., Sacramento, Cal.

*Treasurer.*

Mark Hopkins, Sacramento, Cal.

*Acting chief engineer.*

S. S. Montague, Sacramento, Cal.

*Attorney and general agent.*

E. B. Crocker, Sacramento, Cal.

*Third.* The amount of stock subscribed is \$881,100, and the amount thereof actually paid in is \$881,100.

*Fourth.* For a description of the lines of road surveyed, and the lines thereof fixed upon for the construction of the road to January 1, 1868, we would respectfully refer to the former annual reports of the company, made to the Secretary of the Treasury; in addition thereto the following surveys have been made. The company has been engaged since January last in surveying the line for the final location of its railroad and telegraph upon the whole length of the uncompleted portion, and the work of grading has been prosecuted during the season and is far advanced towards completion. The line commences at the terminus of the Central Pacific Railroad at the foot of K street in the city of Sacramento, thence along Front and R streets in the city and easterly to the town of Brighton; thence southerly, crossing the Cosumnes at Hicks's Ranch, crossing Dry Creek near the town of Liberty, and Mokelumne river about two miles above Woodbridge; thence in a direct line to the city of Stockton; thence to the crossing of the San Joaquin river near Johnson's ferry; thence to Livermore Pass by Pleasonton to the end of the track in Alameda cañon. The grading is nearly completed from Sacramento to Stockton, and the grading from the end of the track in Alameda cañon to the valley of the San Joaquin is in an advanced state. In a few months the whole of the unfinished portion will be graded ready for the track.

*Fifth.* The amount received from passengers on the road is nothing, the road not having been in operation.

*Sixth.* The amount received for freight on the road during the year is nothing.

*Seventh.* The expense of said road and its fixtures for the year is nothing.

*Eighth.* The indebtedness of the company is as follows:

In bonds of the company .....	\$211,000 00
For bonds of the United States government .....	320,000 00
	531,000 00

There is also an unsettled indebtedness to contractors for grading.  
LELAND STANFORD.

STATE OF CALIFORNIA, *County of Sacramento, ss:*

Leland Stanford, being duly sworn, says that he is the president of the Western Pacific Railroad Company, and that the foregoing report is true and correct.

LELAND STANFORD.

Subscribed and sworn to before me this 15th day of September, 1868.

[SEAL.]

CHARLES J. TOEBERT,

*Notary Public in and for Sacramento County, State of California.*

No. 7.

SIR: I have the honor to submit the following report of the transactions of the Northern Pacific Railroad Company for the past year:

In the spring of 1867, the engineer-in-chief, Edwin F. Johnson, esq., was instructed to organize a corps of engineers, and commence the surveys of the road. Two divisions were organized, the eastern or Minnesota division, extending from Lake Superior west, was placed in charge

of General Ira Spaulding, and the Pacific or Washington division in charge of General James Tilton. The surveys were commenced in July, 1867, and were continued until mid-winter, when in consequence of the inclemency of the weather they were suspended. Nearly 600 miles were surveyed on the eastern division, and explorations were made in Dakota territory as far as the Great Bend of the Cheyenne river.

A vast belt of country has been examined and much valuable information obtained in relation to the country through which the line will pass. The views of the engineer-in-chief, heretofore given to the board of directors, as to the favorable character of the country for railway construction and operation, the value of the lands for agricultural purposes, and the availability and capacity of the harbors on Lake Superior, have been fully sustained by these surveys.

The table land south and west of Lake Superior will be attained with grades not exceeding a maximum of 40 feet per mile, and it is probable that on a careful location this maximum may be reduced to 30 feet per mile, without unreasonable cost. On the western or Pacific division most satisfactory results have been attained. The doubts which have hitherto been entertained as to the passes through the Cascade or Coast range of mountains have been removed, and it is now ascertained that a favorable line can be found through either of three of the principal passes, and with admissible grades. The surveys have not been continued the past season, for lack of a military escort, which it was found impracticable to obtain, and without which surveying parties could not be kept in the field.

The following report of the engineer-in-chief will show the progress made by the several parties in the field, and the general characteristics of the route surveyed:

"SIR: In response to the request for a statement relative to surveys made and work done by the engineer's department of the Northern Pacific Railroad Company, I have the honor to state—

"That two of the principal divisions of the road were organized in June of last year, under my supervision. General Ira Spaulding was placed in charge of the Minnesota division from Lake Superior to the Dakota line, and General James Tilton of the Pacific or Washington division, including the territory of Washington and State of Oregon.

"The remoteness of the latter division prevented operations in the field being commenced upon it before some time in August next following. Upon the Minnesota division they were commenced early in July. The surveys thus far made have been confined principally to these two divisions. Upon the former division (the Minnesota) two separate lines have been run from Lake Superior to the Red river or to the east line of Dakota. These lines proceeded from different points on Lake Superior. One had its commencement or terminus at Superior harbor, at the western extremity of the lake. From thence its course was westerly, crossing the Mississippi river near the French Rapids, about 12 miles above Crow Wing; thence to the south of and near to the Otter Tail lake, and pursuing the same general course intersected the Red river at a point between Fort Abercrombie and the mouth of the Sioux Wood river.

"The other or south line was commenced at Bayfield, opposite the Apostle islands, about 60 miles to the east of Superior City, and from thence it pursued a southwesterly course for 14 miles to Pleasant Bay, which is near the head and within the limits of the larger Chignamigon bay; thence its course was westerly to a point where a branch connec-

tion can conveniently be found with Superior, the latter distant 18 miles; from thence its course was direct to the Mississippi, crossing the river at St. Cloud, near the Sauk Rapids. From St. Cloud its course was northwesterly along the Sauk valley, passing Sauk Centre and near to Alexandria and Lightning lake to the Sioux Wood river, a little above or to the south of where that river joins the Otter Tail river to form the Red river. Both of the lines described have such a direction on approaching the Red or Sioux Wood rivers; that when continued westwardly they will pass to the south of and near to the Sheyenne river in Dakota. From the crossing of the Sioux Wood and Red rivers there is a natural navigation by the latter northward into the British possessions for river steamers. The Mississippi is also navigable for some distance each way from the two points of crossing.

“Upon the two lines as described the distances and elevations are as follows. The elevations are given from the mean level of Lake Superior, which is 600 feet, very nearly, above the sea :

	Distance from Lake Superior.	Elevation.
	Miles.	Feet.
<b>North or Crow Wing line:</b>		
Divide of the Mississippi and Lake Superior waters .....	26	537
Line of Lake Superior and Mississippi railroad survey .....	32	558
Crossing of Mississippi river .....	112	552
Divide of waters of Mississippi and Red rivers .....	163	820
Crossing of Red river .....	232	331
<b>South or St. Cloud line:</b>		
Bayfield to Pleasant bay .....	14	-----
Line of St. Croix and Superior railroad, (old line) .....	83	600
Divide Superior and Mississippi waters .....	106	620
Line Mississippi and Superior railroad, Minnesota .....	121	460
Divide Mississippi and Red River waters .....	280	850
Sioux Wood river, east line of Dakota .....	331	346
Crossing of Mississippi at St. Cloud .....	200	400

“The aggregate of the two lines is 563 miles, but the miles actually surveyed were very much greater than that, because of the wooded character of the country for most of the distance, and the numerous small lakes and ponds making frequent changes in direction and retracings necessary.

“*Cost of construction.*—The estimate of the cost of construction of the two lines is given by the chief engineer of the division as follows. The estimate is exclusive of grounds, expenses of the company, and cost of telegraph, and is based upon ruling prices in Minnesota last year:

“*North or Crow Wing line.*—Distance, 232 miles; cost, \$7,967,000; average per mile, \$34,357 48.

“*South or St. Cloud line, from Pleasant bay.*—Distance, 317 miles; cost, \$11,815,000; average per mile, \$37,236 05.

“The alignment is a favorable one on both routes. The maximum gradients will not exceed 30 to 40 feet to the mile, and are of very limited extent. The curved positions will not constitute more than one-seventh of the entire distance, with a minimum radius of 1,200 to 1,500 feet.

“From Lake Superior to Dakota the country may be described as a vast plain sufficiently diversified in its surface to afford a good drainage, with no impracticable ridges or deep valleys to be encountered, and this is the general character of the country for some hundred miles further to the mountains. From Lake Superior to the Mississippi the country is nearly all wooded, the growth being a large portion of it pine on both of the lines with other forest trees, excepting the hemlock and cedar was rarely seen. West of the Mississippi the prairie region may be said to commence and the timber gradually disappears, and on reach-

ing the Red river and beyond throughout Dakota it is confined to the vicinity of the water-courses. The tamarac or larch is abundant on both sides of the Mississippi, from the lake to the Otter Tail river, and will supply ties for the road to such point as timber reappears again in quantity at the west.

"The country traversed by the surveys is favorable for settlement both as to its soil and climate. Indian corn matures throughout the valley of the Red river, and all of the cereals and many other vegetables grow there in great perfection. Information derived from reliable sources establishes the fact that wheat, barley, potatoes, and a variety of other vegetables, are reliable crops so far north as the latitude of 55°, at the eastern base of the mountains.

"*Washington division.*—The surveys upon this division have thus far been confined to an examination of the Cascade range of highlands, with a view to a knowledge of the practicable passes, and their actual elevation as derived from spirit-level measurements.

"The entire range has been examined from the Columbia river on the south to the international boundary or the valley of the Skagit on the north. Within this distance are six passes, the Cowlitz or Packwoods, the Nachess, the Yakima, the Snoqualmie, Cadys, and the Skagit, situated in the order named, the last five of which are north of W. Ranier, and all of them available on direct lines leading from the waters of Puget sound eastwardly to the Columbia at the mouth of the Yakima and above. The actual elevation of only three most eligible of these passes has as yet been ascertained, viz: the Cowlitz or Packwoods, 2,600 feet above the sea; the Snoqualmie, 3,030 feet, and Cadys, 4,800 feet.

"From all of these passes the descent westward to the waters of the sound is more rapid than in the other direction. This descent is the greatest in the vicinity of the passes, but the measurements made indicate that it will not probably exceed 80 to 90 feet per mile for 12 to 15 miles from each.

"The charter of the company contemplates the crossing of the range by the main line of their road, and provides for a branch to Portland, Oregon, which, passing down the valley of the Columbia, avoids the range altogether. No opinion can be given of the pass proper to be selected for the road until surveys have been made crossing the Columbia plain, and the position of the line through northern Idaho is determined.

"The waters of Puget sound are remarkable for their extent and depth and freedom from the usual dangers to navigation, and the number of good harbors they afford to ocean vessels. Extending as they do 150 miles into the heart of the Territory, gives to the company a wide range for a choice in fixing the terminus of their road. The country in the vicinity of the sound is in general heavily timbered, and the timber, owing to the mildness of the climate, extends far up on the slopes of the mountains.

"All through the three passes named, at an elevation of 3,000 feet and over, the trees attain a height of 200 to 250 feet. Washington Territory is rapidly adding to its population, and the same is true of Idaho, Montana, and Minnesota; Dakota also bids fair for the future, although at present a portion of it is not so attractive to settlers as the other sections named.

"Examinations have been made in the interests of the company of other portions of the route, but they have been explorations merely and not surveys, and afford no basis for a close estimate of cost, or a definite statement of the alignment of the road. They justify, however, fully, as far as they go, all that was set forth in my report to the company in November last, as to the general character of the country from Lake

Superior to the Pacific, and the character of the road that may be constructed over it.

"Respectfully submitted.

"EDWIN F. JOHNSON,

*"Engineer-in-Chief Northern Pacific Railroad.*

"Hon. O. H. BROWNING,

*"Secretary of the Interior, Washington, D. C."*

No change has been made in the board of directors the past year, except in the election of Hon. A. S. Divin, of New York, in place of Robert A. Burdell, esq., resigned. The following gentlemen constitute the board, viz:

F. Gregory Smith, St. Albans, Vermont, President.

Benj. P. Cheney, Boston, Massachusetts.

James C. Converse, Boston, Massachusetts.

Onslow Stearns, Concord, New Hampshire.

William B. Ogden, Chicago, Illinois.

J. Edgar Thompson, Philadelphia, Pennsylvania.

Geo. W. Cass, Pittsburg, Pennsylvania.

A. S. Divin, New York.

William G. Fargo, Buffalo, New York.

Thomas H. Canfield, Burlington, Vermont.

Philander Reed, New York.

L. D. M. Sweet, Portland, Maine.

Richard D. Rice, Augusta, Maine.

A. H. Barney, esq., New York, Treasurer.

Respectfully submitted:

J. GREGORY SMITH,

*President Northern Pacific Railroad Company.*

ST. ALBANS, VERMONT, October 24, 1868.

No. 8.

ANNUAL REPORT OF THE SOUTHERN PACIFIC RAILROAD COMPANY TO THE SECRETARY OF THE INTERIOR OF THE UNITED STATES.

*First.* The following are the names of the stockholders of said Company, with their places of residence:

Lloyd Tevis, San Francisco, Cal.

C. J. Hutchinson, San Francisco, Cal.

B. G. Lathrop, San Francisco, Cal.

J. B. Cox, San Francisco, Cal.

John F. Sears, San Francisco, Cal.

L. Upson, San Francisco, Cal.

W. B. Carr, San Francisco, Cal.

T. B. Shannon, San Francisco, Cal.

Charles Mayne, San Francisco, Cal.

Lewis Cunningham, San Francisco, Cal.

Estate of B. W. Hathaway, (dec'd,) late of San Francisco, Cal.

T. G. Phelps, San Mateo, Cal.

W. S. Rosecrans, Cincinnati, Ohio.

Wm. T. Coleman, New York, N. Y.

B. D. Murphy, Santa Clara county, Cal.

James P. Luce, New Albany, Ind.

Edgar Mills, Sacramento, Cal.

Charles F. Reed, Yolo county, Cal.

*Second.* The following are the names of the directors and all other officers of the said company:

*Directors.*

T. G. Phelps, San Mateo, Cal.

B. G. Lathrop, San Francisco, Cal.

W. B. Carr, San Francisco, Cal.

T. B. Shannon, San Francisco, Cal.

Lloyd Tevis, San Francisco, Cal.

Lewis Cunningham, San Francisco, Cal.

Edgar Mills, Sacramento, Cal.

*President.*

T. G. Phelps.

*Secretary.*

Lloyd Tevis.

*Treasurer.*

Edgar Mills.

*Third.* The amount subscribed of the capital stock of the said company is 18,000 shares, of \$100 each, amounting to \$1,800,000.

The amount actually paid in on the said capital stock is \$72,000.

*Fourth.* The following is a description of the lines of the road of said company surveyed, and of the lines thereof fixed upon for the construction of the road:

Up to this date but few lines have been surveyed, and only so much as were necessary to commence and carry on the construction of that portion of the railroad of the company lying between the towns of San José and Gilroy, in the county of Santa Clara. The line thus surveyed and finally located is thirty miles in length, and runs in nearly a direct line between these points. The work of grading that portion of the road of the company is rapidly progressing, and will soon be completed. The iron for laying the track on this portion of the line has been purchased and shipped, and is now on its way to San Francisco, and the company confidently expect to have the said 30 miles between San José and Gilroy completed on or before the 1st day of April, 1869.

The company has not deemed it necessary, up to this date, to prosecute any surveys beyond Gilroy, as for a long distance beyond the line will run through valleys which need surveys only as the work progresses.

The actual cost of the surveys up to this date is \$1,829 50.

*Fifth, sixth, seventh.* As no portion of the railroad of the company is yet completed or in running order, no amounts have been received from passengers or for freight, and no expenses have been incurred in running or operating the same.

*Eighth.* The following is a statement of the indebtedness of said company: The said company has issued to H. M. Newhall, Charles Mayne, and Peter Donahue, as trustees for its bondholders, 480 bonds for \$1,000 each, amounting to \$480,000, dated July 1, 1868, and payable 30 years from date, with interest at the rate of six per centum per annum, and paid to said parties upon a contract for the construction of that portion of the railroad of said company between San José and Gilroy. These bonds are secured by a mortgage upon said portion of said railroad.

No reports have been made to the company from its engineers or officers.

T. G. PHELPS,

*President of Southern Pacific Railroad Company.*

STATE OF CALIFORNIA, *City and County of San Francisco, ss:*

Timothy G. Phelps, being duly sworn, says that he is the president of the said Southern Pacific Railroad Company, and that the foregoing report and statement by him subscribed is true and correct, according to the best of his knowledge, information and belief.

T. G. PHELPS.

Subscribed and sworn to before me, Henry Haight, a notary public, and as such authorized to administer oaths, this 11th day of September, 1868, as witness my hand and official seal.

[SEAL.]

HENRY HAIGHT,  
*Notary Public.*