

Denver Pacific Railway Report and Map

First Annual Report of the Officers of the Denver Pacific Railway and Telegraph Company to the Stockholders. Chicago: Rand McNally for the Denver Pacific Railway and Telegraph Company, 1869. pp. 20-29, with F. M. Case, “Denver Pacific Railway Map Showing the Final Location with Prospective Connections Compiled from Railroad and Govt Surveys.” Newberry Library call number: Graff 1054.

CONSULTING ENGINEER’S REPORT.

ENGINEER’S OFFICE, DENVER PACIFIC RAILWAY,
DENVER, NOV. 19, 1868.

To the President and Directors Denver Pacific Railway and Telegraph Company:

SIRS- At your request I herewith submit a report showing, as far as data can be obtained, the sources from which business can be derived for your railway, and the probable chances of its being remunerative.

COAL.

The nearest point on the Union Pacific Railroad, where coal of a good quality can be obtained is at Carbon, 138 miles west of Cheyenne, and west of the eighty and ninety foot grades by which that railroad ascends and descends the Black Hills, and west, also, of that portion of the railroad most likely to be interrupted by snows.

Between Carbon and the middle of the State of Iowa, a distance of about 1,000 miles, no coal is found on or near the line of the Union Pacific Railroad which can be used for domestic or steam purposes, and it is reasonable to suppose that for that portion of the railroad east of the Black Hills and west of Omaha, both the railroad and the country round it must be dependent on your railway for its supply of fuel, and the more so, that the country for that distance is already stripped of what timber there was on it. This demand, at a low estimate, cannot fall short of 1,000 tons per day, though, in estimating the business of your railway, I have taken but half that amount.

The only questions arising in the matter, are, First, whether the coal of Colorado is of a quality to compete with all other accessible coals; and, Second, whether there is a large enough supply to meet the demand.

In regard to the quality, I cannot do better than to quote from the report of Professor F. W. Hayden, U. S. Geologist for Colorado and Wyoming. He says:

“I spent two evenings at Mr. Marshall’s, burning this fuel in a furnace, and it seemed to me that it would prove to be superior to ordinary western bituminous coal, and rank next to anthracite for domestic purposes. It is as neat as anthracite, leaving no stain on the fingers. It produces no offensive gas or odor, and is thus superior in a sanitary point of view, and when brought into general use will be a great favorite for culinary purposes. It contains no destructive

elements, leaves very little ashes, no clinkers, and produces no more erosive effect on stoves, grates, or steam boilers than dry wood.”

This opinion has been more than confirmed by the experience of our people for the past eight years.

Mr. Lesquereux, in his report to Dr. Leconte, Geologist to the Union Pacific Railway, E. D., says, in speaking of the coal from the Boulder beds: The specimen is remarkably fine, and if the whole bed should be composed of the same material, and not intersected by clay or shale partings, its value could not be estimated too high. The coal is light, though compact, laminated in narrow, very adhesive glassy layers, without intercolation of sulphur or charcoal, marked on its vertical face by small dents, apparently scars left by the rupture of large ducts or vessels of endogenous trees (palms.) The coal contains a fair proportion of bitumen, burns with a bright yellow flame, and with a smoke which, though pretty thick, has scarcely any smell but that of wood. It does not cake at all in burning; yields about six per cent. of yellow or buff-colored ashes. This coal would serve as a most excellent fuel for locomotives.”

Dr. Leconte says: “I believe, with slight modifications in the form of furnace, and possibly with a small admixture of charcoal, their coals will serve for the reduction of iron ore: and that they can be used for any other smelting process required in Colorado, as well as for manufacturing purposes, is beyond a doubt.”

The following is an analysis of the Boulder coal:

Water at 212°..	8.86
Volatile matter..	37.10
Fixed Carbon	51.04
Ash	<u>3.00</u>
	100.00

This is very excellent coal.

Respectfully, WILLIAMS & MOSS,
118 North Broad Street, Philadelphia.

The different veins vary in gas-producing qualities, yet the coal poorest for gas, of the worked mines, will produce from 500 to 1,000 cubic feet of gas per ton-more than the best Pittsburg coals.

The above, with the fact that many tons of this coal are hauled by ox teams to Cheyenne, a distance of seventy-eight miles, bringing, readily, \$30 per ton at that place, while the coal from the Laramie Plains is worth only \$21 per ton, is enough in regard to the quality of the Colorado coals.

In regard to the quantity which is accessible to your road:

Directly on the line of your road, about forty miles from Denver, toward Cheyenne, a vein has been opened of three feet in thickness, which now supplies the immediate neighborhood, and, in quality, is equal to the best.

The indications are that other veins will be found near there and under your road bed. On the opposite side of the Platte, near the mouth of St. Vrain’s creek, and four miles from your line, the great Boulder vein has been opened, and its indications are found along the Platte from that point south some ten miles, and parallel with the line of your railway.

On Coal creek, twelve miles west of your line, is the mine of the Denver Gas Company. The bed is sixteen feet thick, of the best quality of coal, and highest in its gas-producing qualities of any known in Colorado. Above this, on Coal creek, extending up the creek southward eight miles, are the Chase, the Watson, the Islander, the Ulner, and the Baker mines, all of which have been opened on the sixteen foot vein, but the Islander is the only one of these now worked.

All of these mines are accompanied by inexhaustible beds of iron ore (limonite) and fire clay, and by other veins of coal of from five to ten feet in thickness.

These veins stretch along the base of the mountains from Ralston creek on the south to the St. Vrain on the north, a distance of about twenty miles.

The Murphy mine on Ralston creek, is sixteen feet thick, but like all the veins at the immediate base of the mountains, is vertical, and of course not as available as the horizontal beds at Belmont, and on Coal creek and the Platte. The developed veins indicate a continuance of the great Boulder bed under a country about twenty miles by thirty, or six hundred square miles in extent, of which your line forms the eastern boundary, and from the whole of which it will be descending grades to your line.

The present daily production of coal is as follows :

Denver Gas Company's mine	10 tons.
Marshall mine	12 "
Idander mine	20 "
Murphymiae	50 "
Other mines	<u>10</u> "
Total.	102 tons,

per day, nearly the whole of which finds a market in Denver.

The amount to which this production can be increased, is without limit; it could be readily increased to 1,000 tons per day in a week's time, should the market demand it.

All of this coal must seek a market over your road, whether it goes to the Union Pacific Railroad, or to Denver, the mountains, or to the Union Pacific, E. D.

In regard to the probable demand for cal, I append the following extract from a letter from General W. W. Fright, Chief Engineer Union Pacific Railway, E. D., to Col. Thomas A. Scott, a copy of which is furnished me by Mr. Jerry Kershaw with information that he had permission to publish it.

He says: "Dr. Leconte and other eminent geologists are of the opinion that no good coal will be met with after leaving Eastern Kansas until we reach the Raton mountains on the Santa Fé line, and the Denver basin on the Denver line * * *."

The best point to get at the Raton basin is from the Red river, south of the mountains. At this point our line is estimated to be sixteen miles from the coal beds. Assuming that our railroad is to be built by Cheyenne Wells, and that the Denver Branch leaves it at or near that point, the following will be a comparison of distances to that point :

RATON BASIN.

From coal at Maxwell's to Red River.	16 miles
" Red River to Raton Mountains.	64 "
" Raton to Fort Lyon.	90 "
" Fort Lyon to Cheyenne Wells.	<u>70</u> "
Total.	240 miles.

DENVER BASIN.

Coal mine to Denver	16 miles
Denver to Cheyenne Wells.....	<u>70</u> “
Total.....	160 miles.
In favor of Denver.....	80 “

If it is a fact that there is no good coal no the Omaha road east of the Laramie Plains, then the Denver coal becomes a matter of great importance to that road. The Proposed road from Denver is intended to intersect that road at Pine Bluffs.

The following will then be a comparison of the distances from available coal to that point:

Coal in the Laramie Plains to Cheyenne.....	165 miles
Cheyenne to Pine Bluffs.....	<u>50</u> “
Total.....	215 miles
Coal mines to Denver.....	22 “
Denver to Pine Bluffs.....	<u>100</u> “
Total.....	122 miles
In favor of Denver.....	93 “

(Signed) W. W. WRIGEF, *Chief Engineer.*

Making the correction of figures, unknown to General Wright, the showing would be as follows:

Boulder coals to Cheyenne.....	70 miles
Carbon to Cheyenne	138 “
In favor of your road	70 miles

While on both the Union Pacific Railroads it range of mountains lies between the coal and the points named.

LUMBER.

I take it for granted that your connections will be extended up the Platte to the vast timber regions extending along the foot-hills, from Bear creek on the north to the Arkansas on the south, while the Denver Gas Company’s railway will open the timber region around the base of Long’s Peak and the Boulder basin. But even with your road completed to Denver, the amount of timber and lumber shipped from these vast forests and the pineries to the south-east of Denver, can hardly be over-estimated.

During the past year nearly two millions of feet of lumber have gone from Colorado to points north and west on the Union Pacific Railroad, by wagon transportation, in some cases as far west as Green river, and the fact that the Union Pacific Railroad Company is stripping the country along its line of timber, and will require nearly a million of ties for repairs annually, and vast amounts of lumber, this, with the local demand along the line of your road, will make the forests of Colorado a source of constantly increasing revenue to your railway.

The shipments of lumber to the line of the Union Pacific Railroad during the past year, from November 1, 1867, to November 1, 1868, have been as follows:

Charles' Ruter	600,000 feet.
S. A. Rice	210,000 "
Morrison & Hallack.. ..	450,000 "
Maxwell & Co	200,000 "
Mason & Allen.. ..	260,000 "
Charles Hallack.. ..	169,000 "
Other dealers.. ..	100,000 "
Total	1,819,000 feet.

FARM PRODUCE.

Until this year the farmers of Colorado have had no market for their surplus produce, and, of course, the farming interest is not what it would have been under more favorable circumstances. With a market created by your road and its connections, it is fair to estimate that the surplus will be much larger than this year, and that the whole surplus will be moved to a market over your road.

Mr. W. R. Thomas, having spent the whole summer in canvassing the farms of Colorado, and obtaining the exact number of acres cultivated, and bushels of produce raised, gives me the following results, which will fall short of the actual yield, as there are many farms and valleys that he did not visit:

DIVISION.	WHEAT.	CORN.	OATS.	VEGETABLES.
South of Denver...	213,136	414,760	155,180	619,410
North of Denver...	201,510	38,494	154,982	137,467
Totals.....	414,646	453,254	310,162	756,877
In pounds.....	24,878,690	18,158,080	12,402,480	45,313,920

Total, in pounds 100,753,170
 Estimated surplus, in pounds.. 60,316,685

It will be fair to estimate that, in a population not exceeding 50,000 north of the Sangre de Cristo mountains (and this estimate does not include the Park of the San Luis), at least one-half of the crop will be surplus, and would go out over your road were it completed, especially as such, farm products as butter, cheese and hay are not included. This would give you the transporting of 50,376,585 pounds of produce.

CATTLE.

In the production of cattle, beef, wool and hides, your road will find a large transportation business.

During the last year the number of cattle in Colorado has more than quadrupled, and the supply is already far in advance of any possible home demand. With 40,000,000 acres of land

that can only be used as pasturage, and which cattle live on the year round without other feed, no one will for an instant doubt that cattle breeding is to be the great source of wealth of Colorado.

These cattle must seek a market, either as packed beef or live cattle; and will go to the great beef markets of Chicago and New York over your road. Men of means have already commenced operations, preparatory to the packing business, on the opening of the railway. The coolness of the nights during the whole year making packing possible at all times, and the cheapness of the production of cattle, will probably cause beef to go forward in barrels.

The number of cattle that have gone northward the present year is as follows:

Patterson & Co..	2,000 head.
Iiff..	7,000 “
Fowler & Co..	2,000 “
A. J. Williams & Co..	500 “
Other dealers and forwarders.	<u>2,000</u> “
Total.	13,500 head.

ORES.

Whether your railway may look to the silver and gold mining ores as a source of revenue, will depend entirely on whether it will be cheaper to bring the ores to the coal of the valley and smelt them, or to ship them to Eastern smelters. Our present rates of transportation by wagon to Cheyenne, and thence by rail, and taking ore that contains \$200 per ton of silver, the figures are as follows: Value of ore at Central, as paid for by smelters there, per ton, \$120, no payment being made for base metals. Cost of shipping to Cheyenne, \$30; from Cheyenne to Newark, \$38. Total \$68; as against \$80 at Central.

In addition to this, the Newark smelters pay for the lead and zinc contained in the ore, and as all the silver ores are also ores of lead and zinc, the loss on these metals more than compensates for the \$80 per ton charged for reduction. At present prices of lead, a sixty per cent. galena is worth, for lead alone, in Newark, \$144 per ton, or on ore of this character, containing \$200 per ton in silver, \$86 per ton in favor of shipping to Newark, even by present modes of transportation. With unlimited capacity of production in the mines, it will be fair to estimate that your road will transport large quantities of the silver ores of the country; and when, as you contemplate, you shall have extended your connections to Georgetown and Central, and the vast mineral regions of the South Park, the business from this source will assume magnificent proportions. From known sources of supply, now seeking transportation, I estimate that your road will open with a business from this source of at least ten carloads per day.

MISCELLANEOUS.

The business of shipping wool, hides and peltry, was only commenced in July last, by but two or three firms in Denver. The shipments for the last three months have been as follows, in pounds:

HIDES – By W. C. Lobenstein & co., in September..	10,416
“	October..... 16,629
“	November..... 31,251
“	By James Tynon, three months..
Total.....	<u>2,000</u>
	60,296

WOOL – Shipped in the same time, by	D.G. Peabody.....	3,000
“	Bartles & Co.....	10,000
“	Hooper.....	30,000
“	Tynon.....	<u>4,000</u>
Total pounds.....		27,000

For the coming crop of wool one firm has made contracts for 200,000 pounds.

PASSENGER BUSINESS.

The books of the two coach lines show the present passenger business to be as follows:

Wells, Fargo & Co., to Denver, per week..	116
“ “ “ from Denver, per week..	105
Mason & Ganow, both ways, per week..	<u>96</u>
Total per week..	318

An average of 46 passengers per day, and with other conveyances not less than 60 per day. With this basis, and the known increase of travel with railroad facilities, it will be a low estimate that places the travel over your road at less than 200 passengers per day.

The express matter carried by the two coach lines is 2,700 pounds per month, and bullion \$200,000 per month.

MERCHANDISE.

The incoming business of the Territory is estimated at 9,000 tons per year or 30 tons per day. This is a low estimate, and does not include my except what now passes through or to Denver, from the two Union Pacific Railroads.

From the above data, I would estimate the business of your road as follows, the figures being from actual business now done, except the usual allowance on passengers and the items of coal and ore:

Passengers, 200 per day..	\$ 441,000
Produce, BUP~IUR, 60,376,586 lbs..	61,882
Cattle, 1600 head..	24,000
Merchandise to Denver, 18,000,9000 lbs..	176, 000
Lumber, 1,519,000 feet..	16,911
Wood, 60 car 1Qads per day ..	225,000
Ore, 10 car loads per day ..	45,000
aides and Wool, 841,OQO lbs..	4,766
Express matter ..	<u>20,250</u>
Total ..	\$1,003,511
Deducting expenses, 50 per cent..	\$501,905
Net earnings ..	501,905

Or 14 8-10 per cent. on the capital stock of the Company, of \$4,000,000.

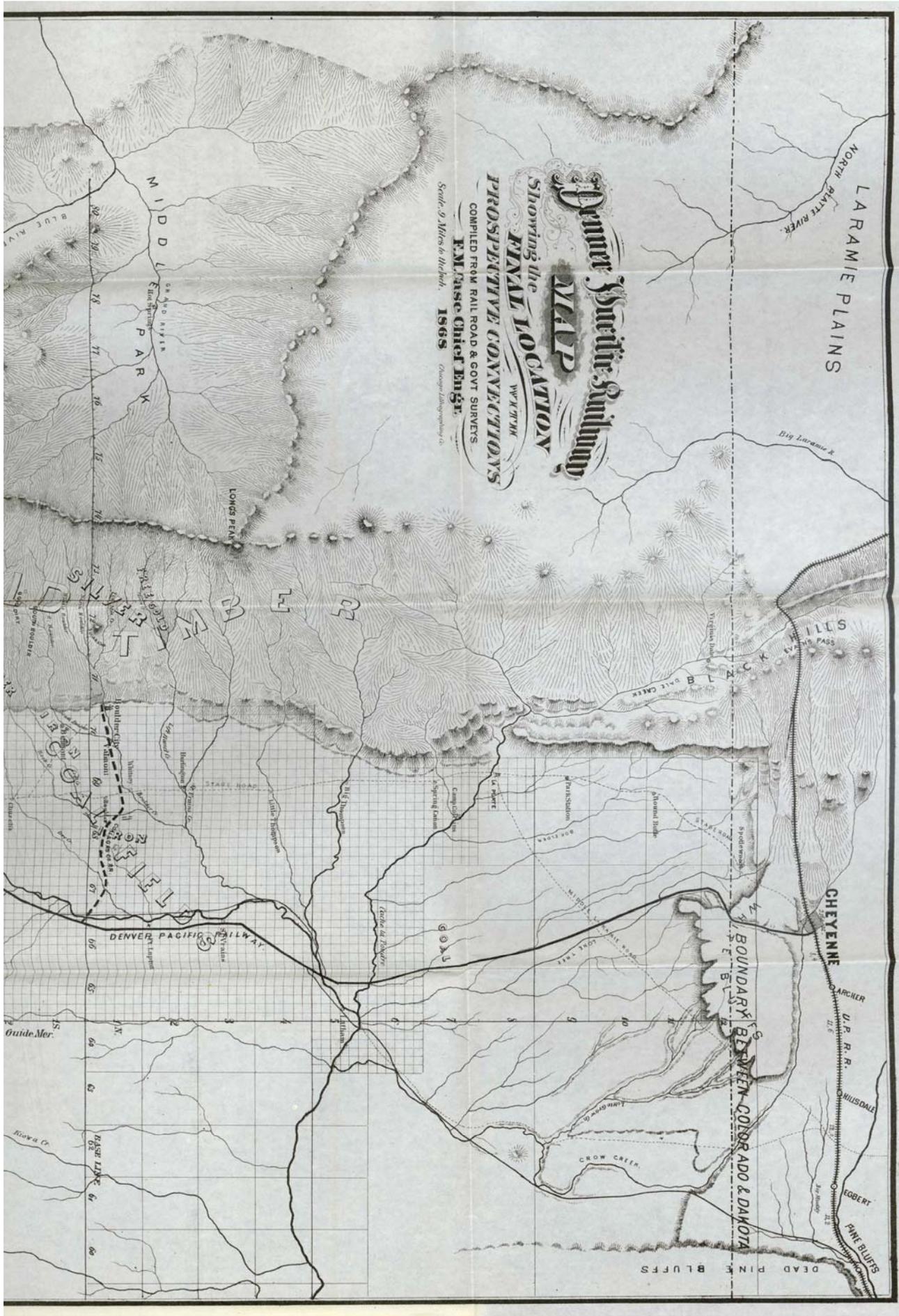
This calculation is based on the present tariff of the Union Pacific Railroad, and includes all the business of the northern portion of Colorado.

The completion of &e Union Pacific Railway, E. D., to Denver, will divide this business with you, but you will be more than compensated by forming a link in one of the great through lines to the Pacific.

Very Respectfully,

JOHN PIERCE,

Consulting Engineer Denver Pacific Railway and Telegraph Co.



Denver Pacific Railway

Showing the Final Location

of the Prospective Connections

Compiled from Rail Road & Govt Surveys
by E. M. Case, Chief Engineer, 1868

Scale: 9 Miles to an Inch. *Copyright, 1868, by E. M. Case.*

LARAMIE PLAINS

NORTH PLATTE RIVER

Big Laramie R.

CHEYENNE

U.P.R.R.

EGBERT

PINE BLUFFS

BOUNDARY BETWEEN COLORADO & DAKOTA

DEAD PINE BLUFFS

MIDDLE PARK

BLUE RIVER

LONGS PEAK

BLUE MOUNTAINS

DENVER PACIFIC RAILWAY

GOAT

CROW CREEK

Guide Mer.

ROCKY CR.

RAISER LINE

