

Dec. 1836.

**SECOND REPORT**

OF

**WILLIAM MILNOR ROBERTS,**

*CHIEF ENGINEER*

OF THE

**CUMBERLAND VALLEY**

**RAIL ROAD COMPANY,**

*MADE TO THE BOARD, ON THE 29th DECEMBER 1836.*

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CHAMBERSBURG, PA.

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## REPORT.

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*To the President and Directors of the  
Cumberland Valley Rail Road Company.*

GENTLEMEN:—I have the honour to present you the following report on the past operation and present condition of the Cumberland Valley Rail Road:

In November 1835, the location of the line was so far completed as to enable us to let out to contractors the work to be done upon the graduation and masonry between Carlisle and a point three miles west of the Susquehanna river; and between Shippensburg and Chambersburg. In December, the graduation and masonry upon the remainder of the line, with the exception of three miles adjacent to the river, were disposed of. Owing to unusual competition amongst numerous and respectable bidders, the work, generally, was contracted for upon terms sufficiently low, and placed in the hands of good contractors.

Immediately after the breaking up of the severe winter of 1835-36, the work was vigorously begun, and has since been prosecuted with energy and perseverance.

The remaining three miles, comprising the heaviest work on the route, were not under contract until March last. It will be recol-

lected, that several lines had been traced between Harrisburg and Carlisle; the leading routes from which, crossed the river at two points. One immediately above the head of Foster's Island, opposite the State Capitol—the other, touching on the lower end of the Island and entering Mulberry street.

Some of the citizens of Harrisburg, owning property contiguous to these routes, took an active interest in the expected decision of the Company and even offered liberal inducements to determine upon a particular place for crossing the river and entering Harrisburg. The various interests to be consulted in Harrisburg and on the Cumberland side of the river, rendered a hasty decision unadvisable, and the question remained unsettled until March, when the Board adopted the lower crossing; which, independently of any local consideration, had been decidedly recommended by your Engineer. The work upon the remaining three miles was soon after let to the present contractors, who commenced operation forthwith, and have since carried on their work in a spirited and satisfactory manner.

The masonry of the Abutments and Piers of the Susquehanna Bridge was let to Messrs. Wm. & Jas. Cameron, in March. Afterwards an arrangement was made admitting Messrs. J. & J. S. Lee, contractors for the western Abutments and Piers, and James Madden contractor for six Piers in the middle.

The water rose very high in the spring of the year and was kept up by a succession of freshets to a late period, so that the foundation of the first Pier could not be laid till the first of May. In the Summer the river fell to its lowest stage and continued very low for several months, rendering the conveyance of materials to the sites of the Piers expensive and inconvenient. Owing to these adverse circumstances the work upon this important structure has been very considerably retarded.

Contracts were made for the Timber required for the superstructure of the bridge last winter, and a small portion of it was received during the summer. It is expected that the balance will be delivered by the spring freshets of 1837.

Eight piers of the bridge are raised above high water mark, nine piers are raised above low water mark, and six piers are not yet commenced. The abutments are all completed and ready for the frame work.

This bridge will be built upon the Lattice plan, with a water-tight deck on the top, on which the railway is to be laid. It will have two roadways beneath for ordinary carriages, and a footpath on each side, elevated a little above the lower roadway.

It will be perceived that a novel arrangement is required at the entrances, to admit the ordinary travelling. This is effected by the introduction of a second abutment or pier, about 60 feet beyond each end of the main structure, connecting the railway with it by a Truss bridge, under which carriages and wagons may pass on a curved road, rising gradually from the lower roadway on either side of the bridge.

The superstructure will have a rise or ascent in it, from east to west, of 20 feet. This plan was adopted in order to reduce the grade of the first section across the river, below 45 feet to the mile.

In November 1835 proposals were received for furnishing the white-oak Rails and Sills for the superstructure of the Rail Road, and contracts were shortly after made for a considerable portion of them. Private contracts have since been entered into for nearly the whole quantity required, and we may anticipate a full supply next spring, when we shall be prepared to lay the Railway.

In March last, the Board concluded to purchase the whole of the Iron required to complete a single track and the requisite turnouts, and arrangements were made by Mr. Boker for its immediate manufacture and importation. Agreeably to the wishes of the Board, a contract was made with Mr. Jos. S. Snowden, of Philadelphia, to take charge of it upon its arrival, and for transporting it from Philadelphia to Harrisburg. At a later period contracts were made for its delivery along the line of the road.

I have ascertained that 1184 tons of rails, spikes and plates have arrived at Philadelphia, leaving only about 75 tons yet to be received.

About 400 tons have been forwarded to Harrisburg, nearly the whole of which has been delivered along the Rail Road.

Contracts were entered into in August last, for the erection of an Engine-house and Passenger Depot, at Chambersburg. These buildings are now under roof, and will be finished next year in good season.

Contracts have also been made for three Locomotive Engines, one large Passenger Car, and twelve Burthen Cars; all of which are to be delivered early in the spring of 1837.

The work, generally, along the line, is in a very forward State. The Rail Road is 50 miles in length, including the bridge across the Susquehanna river, and it is divided into 53 sections. The graduation is finished on Sections Nos. 6, 7, 8, 9, 10, 11, east end of No. 12, 13, 14, 15, 16, 17, 18, 20, 24, 25, 26, 28, 30, 35, 37, 38, 41, 42, 43, 51, and 52. In all 27 sections. Sections Nos. 5, 19, 21, 22, 27, 34, 36, 39, 44, 46 and 53 are nearly completed. The only heavy sections yet unfinished are Nos. 2, 3, 23, 31, 32, 33, 40, 45, 49 and 50. Should the winter prove favourable they can all be completed very early in the spring.

Annexed to this report is a statement, in detail, of the whole amount of money expended for construction and materials from the commencement, from which the following summary is abstracted:—

Graduation,	\$125,402 90
Bridges and Culverts,	22,325 07
Timber,	22,404 51
Railway Superstructure,	1,510 00
Depot Buildings,	3,600 00
Locomotive Engines,	5,400 00
Transporting Iron,	2,310 75
Incidental. Making fence,	199 50
	<u>\$183,152 73</u>

The above sum is the whole amount paid out of the funds placed in the Carlisle and Chambersburg Banks, to the credit of the Chief Engineer.

\$126,500 00 have been deposited in the Carlisle Bank, and \$125,301 31 drawn out in checks; leaving a balance of \$1,198 69.

\$60,000 00 have been deposited in the Bank at Chambersburg and \$57,851 42 drawn out in checks; leaving a balance of \$2,148 58. Making the balance in the two Banks, appropriated towards the payment of contractors \$3,347 27.

In addition to the above sum, the Board have at various times appropriated to the payment of expenses of the Engineer Department \$14,589 43.

STATEMENT exhibiting the whole amount of money paid in drafts, drawn by the President of the Company, and the purposes to which it has been applied, to Dec. 28, 1836, viz :

Materials, Construction, &c.	\$186,500 00
Engineering expenses,	14,589 43
Managers', Treasurer and Secretary's pay,	3,489 36
Damages,	16,199 32
Purchase of Lots in Harrisburg,	3,625 00
Do. Do. in Chambersburg,	450 00
Purchase of Iron,	73,700 00
Freight of Do.	8,250 81
Duty on Spikes,	2,497 70
Purchase of Quarry Lot in Carlisle,	500 00
L. Harlan, (Engineering expenses,)	200 00
Incidental expenses, Rent, Stationary, &c.	273 00
	<u>\$310,274 62</u>

#### ESTIMATED COST OF THE CUMBERLAND VALLEY RAIL ROAD.

Grading and Masonry, (exclusive of Susq. Bridge,)	\$220,000 00
Timber for Railway Superstructure,	57,000 00
Iron for Rail Road, including transportation,	95,000 00
Railway Superstructure,	54,000 00

Bridge across Susquehanna River, - - - -	95,000 00
Depots, Collector's houses and water stations, - - - -	12,000 00
Turnouts, - - - - -	5,000 00
Engineering expenses, Salaries of Officers, and Incidental expenses of the Company, - - - -	30,000 00
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	\$603,000 00
Add estimated cost of Locomotives and Cars, - - - -	78,400 00
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	\$681,400 00

The present estimated cost of the graduation is less than the original estimate, given in my first report. This may be accounted for from the fact, that on many sections of the road, less rock excavation than was anticipated, has been encountered.

It will be seen, also, that the original estimate of the cost of Railway superstructure, is less than the present one. This difference is, in a great measure, owing to the advanced price of Iron and Timber—the most important items in its construction—and the advanced rate of wages and provisions, compelling the Company to pay corresponding prices to contractors.

An estimate was given, in a former report, of the probable amount of Trade and Travel upon the C. V. Rail Road. My impression now is, that the estimated amount of *through* trade, there given, was too small—and the estimated annual cost of working the road and keeping it in repair, too liberal.\*

\*The estimate of business and revenue made in the first Report, was as follows, viz:

51,950 tons produce &c., carried an average distance of 30 miles, at 4½ cts. per ton per mile, - - - -	\$70,132 50
35,000, tons, <i>through trade</i> , carried 49 miles, at an average rate of 4½ cts. per ton per mile, - - - -	77,175 00
100 passengers per day, in each direction, at 3 cts. per mile, for 49 miles, - - - -	107,310 00
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Aggregate receipts, - - - - -	\$254,617 50
The expense of repairs, and of working the Locomotives and	

A reference to the report of the Union Canal Company, shews that 117,136 tons of freight passed through the canal during the year 1835, yielding tolls to the amount of \$133,025 21. On the Columbia and Philadelphia Rail Road, a parallel improvement, there were received, during the same period, in railway tolls, \$246,963 63

Motive Power tolls, - - - -	166,281 04
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	\$413,244 67

Upon the completion of the C. V. Rail Road, a continuous railway will be opened between Philadelphia and Chambersburg—more than half the distance to Pittsburg. We may then reasonably calculate upon carrying on this road a large proportion of the great and increasing trade and travel between the Sea Board and the West. Your road will command nearly the whole of the winter business, now performed in stages and wagons; and in addition, it will receive a considerable part of what is termed the *Spring Trade*.

It is familiar to all, that the canals, which constitute the longest links in the chain of public works through Pennsylvania, cannot be brought into useful operation before the middle of March, and that from the vast accumulation of goods, in our eastern cities, in the spring, many western merchants do not obtain their goods before the months of May or June; thus losing the most favourable season for effecting their spring sales.

The C. V. Rail Road, by reducing the distance upon which it will be necessary to employ wagons, more than one half, will present inducements which men of business will not fail to take advantage of.

In July last, a highly respectable Convention, composed of Delegates from the city of Pittsburg and the Southern counties of Pennsylvania, met at Bedford, for the purpose of considering the best

Cars, and keeping them in order, was estimated at \$155,000. It is now ascertained that on straight roads, without short curves, as this road is, the wear and tear of Locomotives and Cars, and the expense of managing them, are much less than was then anticipated. The nett profit of the stock, then estimated, was \$99,617 50.

means of connecting your road with the emporium of the West. They were unanimous in their expression of their sense of the importance of an extension of this improvement. An excellent report was made to the Convention, by a committee of their own body, and adopted; and the Convention—

“*Resolved*, That it is an important interest of Pennsylvania that there should be a communication completed from Philadelphia, by means of the Columbia and Philadelphia Rail Road, Harrisburg and Lancaster Rail Road, and C. V. Rail Road, and thence through the Southern counties, by Pittsburg & Beaver Valley, to Lake Erie.”

And “*Resolved*, That a committee be appointed, whose duty it shall be to draft a memorial to the Legislature on the subject, asking that a law be passed to carry into effect the measures recommended by this Convention, and that said committee cause the memorial to be printed and circulated for the purpose of obtaining the signatures of the citizens of the State.” And previous to the adjournment of the Convention it was “*Resolved*, That we recommend to such of our citizens as are favourable to the construction of an uninterrupted communication from Philadelphia to the Lakes, through the Southern counties of this Commonwealth, to assemble in Convention by Delegates, at Bedford, on the 3d Tuesday of July, 1837.” The object of this Convention was to establish a communication of the utmost importance to this Company.

The portion of the State traversed by the C. V. Rail Road, has been, from the commencement of the great works of Internal Improvement, contributing its full share, in the shape of taxes, to advance the general good, without deriving any immediate advantage from the construction of the publick works. It is, therefore, not unreasonable to expect that now, when enterprising individuals have embarked their means, and thus far prosecuted with energy, an improvement destined to lend important aid in facilitating the communication through Pennsylvania, the Legislature will view, with a favourable eye, the claims of this portion of her citizens, and extend to them a fostering hand.

During the past season, surveys have been made by the Franklin Rail Road Company, of a route between Chambersburg and Williamsport, connecting this road with the Baltimore and Ohio Rail Road. The surveys were conducted under the direction of Hotho Hage, Esq., an experienced Engineer, and have established the certainty of an easy communication.

The Harrisburg and Lancaster Rail Road, which, at the date of my last report, was just fairly commenced, has since, with the exception of about 7 miles in the middle, been opened for publick use; and passengers and freight are carried regularly upon the finished portions of the line. The work upon the remaining 7 miles, including the Tunnel and some very heavy grading, is progressing rapidly and will be completed early in the summer. So that upon the first opening of the Cumberland Valley Rail Road, passengers may be taken through, on a continuous railway, from Chambersburg to Philadelphia.

If funds are early provided, we can, in all probability, complete a single track of railway between Chambersburg and the river during the ensuing summer.

Respectfully submitted,

W. MILNOR ROBERTS, *Eng'r.*

Chambersburg, Dec. 29, 1836.