

ANNUAL REPORT

OF

THE MANAGERS

OF

**THE UNION CANAL COMPANY
OF PENNSYLVANIA,**

TO

THE STOCKHOLDERS.

November 16, 1830.

PHILADELPHIA:
PRINTED BY LYDIA R. BAILEY,
NO. 10, NORTH ALLEY.
1830.

AT the Annual Meeting of the Stockholders of the Union Canal Company of Pennsylvania, held at their Office, in Carpenter's Court, November 16th 1830, the following Report was presented, read, and accepted; and is now printed in compliance with the provisions of the Charter.

On the same day, the following Gentlemen were elected to manage the affairs of the Company for the ensuing year.

PRESIDENT.

WILLIAM READ.

MANAGERS.

GEORGE VAUX,	PETER HAHN,
WILLIAM BOYD,	WILLIAM Y. BIRCH,
CHARLES GRAFF,	SAMUEL BAIRD, of Reading.
WILLIAM W. FISHER,	HENRY J. WILLIAMS,
JACOB GRATZ,	THOMAS W. MORRIS,
FRANCIS G. SMITH,	JOHN A. LEAMY.

Engineers now in the employment of the Company.

CANVASS WHITE, Chief Engineer.

WILLIAM LEHMAN, Resident Engineer.

W. MILNOR ROBERTS, } Assistant Engineers.
T. GORTON, }

REPORT.

THE Board of Managers of the Union Canal Company, in conformity with the provisions of the Charter, now lay before the Stockholders a view of the works committed to their charge, the amount of tonnage passed on the Canal, and a statement of the financial concerns of the Company for the last twelve months.

The Managers have great pleasure in confirming the assurances heretofore given of the stability of all the works along the line, from Reading to Middletown, as no breaks or injuries, except of a trifling character, have occurred since the last report.

The navigation on the Union Canal opened on the 27th of March last, but owing to the state of the works of the Schuylkill Navigation Company, no boats passed upwards until the 11th of April. A delay of several weeks was also experienced during the most important part of the season, in consequence of the alterations and additions on the Schuylkill, rendered necessary by the increasing trade of that river.

From the commencement of the season, until the middle of August, the Canal had a plentiful supply of water at the summit level; the weekly report of tolls gave satisfactory proof of the flourishing state of the inland trade, and held forth the most flattering hopes for the future; particularly, as at that time, no advan-

tage was derived from the trade of the State Canal, nor has it, until very recently, contributed to increase the revenue of the Union Canal.

The Managers have, however, lately been gratified by the arrival at the city wharves on the Schuylkill, of boats from Lewistown and Mifflin, on the Juniata; from Berwick and Danville, on the East Branch, and from Milton, on the West Branch, of the Susquehanna, bringing with them the produce of those distant regions, all having passed through the Union Canal, which now forms a complete line of communication between the waters of the Delaware and the Susquehanna.

The Board enjoy great satisfaction in being enabled to state, that experience has fully verified their expectations, as heretofore expressed, relative to the burden of boats on the Canal. It is now fully ascertained, that boats properly constructed, do actually carry more than 25 tons, and some have even exceeded 30 tons. A boat built at Lebanon, called The Lorenzo, has carried upwards of 30 tons, at various times. The Ann-Mary, built at Middletown, has carried 1076 bushels of wheat, equal to 27 tons; and the Isaac Koons, and other boats, have carried 275 barrels of flour, upwards of 26 tons. They also observe with particular satisfaction, that the boats which have been recently built on the Susquehanna, are according to the best models, and much superior to those first brought into use. Two hundred and seventy-one boats have been employed in the carrying trade, on the Union Canal, during the present season, and a number more have been or are about to be constructed along the Susquehanna, for the business of the ensuing year.

The extreme drought, and the unfinished state of the Great Dam, rendered it impossible to supply the

summit level with sufficient water for the passage of boats throughout the season ; and the Managers had occasion to regret that several were detained for a considerable period in the Canal. Though this circumstance occasioned the Board great solicitude at the time, it was caused more by the disappointment and delays to individuals, than from any fears entertained by them of the ultimate and entire success of the Canal, when the water from the Great Dam can be brought to aid in supplying the summit level.

During the last summer, and part of the autumn, the extreme dryness in that quarter occasioned a stoppage on the Canal of about 65 days. The water which the Great Reservoir will contain, has been estimated by Mr. White as sufficient for upwards of 200 days ; with this addition to the supply of former years, they consider as groundless all fears of a deficiency for the future.

At the last annual meeting, the Managers confidently expressed a belief, that the Great Dam would have been finished before the commencement of the dry season ; in this they experienced a disappointment, owing to the magnitude of the work itself, as well as the extensive operations necessary for constructing the towing path along the Reservoir, and clearing away and destroying the timber in the basin, the completion of which has only been effected within a few weeks. The Branch Canal has been extended from the Dam near Weidman's Forge, to the Great Dam ; a towing path, constructed along the margin of the Reservoir to its head, from which place the Canal has been extended to the basins at Pine Grove ; from thence the grading of the Rail Road has been extended for 3 miles 57 chains, along the valley of the Swatara Creek, into the coal region. The whole work is now complete, except the Rail Road, for which

the sleepers are nearly all sawed ; the iron rails are near the spot, and ready to be laid down ; the road can be finished early in the spring, if found to be necessary.

The Great Dam is a subject of pride with the Managers, and they offer their congratulations to the Stockholders, on the completion of this extensive and important undertaking. The magnitude and utility of this work, constructed in the Swatara Gap of the Blue Mountain, will be better understood by a more detailed account than is usually given by the Board of Managers, and they feel assured, that in so doing they will meet the wishes of the Stockholders, and gratify the curiosity of the public, whose interests are to a very great extent identified with that of the Company.

The Managers adopted a plan and report furnished by Mr. White, and commenced operations in October, 1828, under the immediate superintendence of Mr. William Lehman, Resident Engineer. It was resolved to locate the work in a narrow part of the gorge through which the Swatara passes, and near to the northern declivity of the mountain ; the width of the pass at this place is 430 feet. The Dam is divided into two parts, and constructed on different principles ; the part on the western side is of crib work, filled in with stone, to which is added a backing of earth ; the other, which connects it with the eastern side, is of stone and earth. The crib work measures 200 feet across the stream, and 40 feet in perpendicular height ; the timbers are 10 inches by 12 inches square ; those at the base are of white oak, and the superstructure of white pine, laid at right angles, forming squares of from 6 feet to 8 feet from centre to centre, firmly treenailed, filled with stone, and strongly fitted against the mountain on the

west side, which furnishes an excellent abutment of solid rock. The east side of the cribs is supported and confined by an immense stone abutment, laid in hydraulic cement, which rises to the height of 48 feet, being 8 feet higher than the cribs, and is intended to protect the embankment of earth and stone from the effects of the ice freshets. The apron in front of the cribs is of white oak planks; the cribs extend up the stream 110 feet, with a backing of earth extending in the same direction to the distance of 110 feet more, making the base 220 feet up the stream, by 200 feet across the same, covering a surface of 44,000 square feet.

The second part, viz.—the embankment of earth and stone, reaches from the stone abutment to the east side of the Gap, a distance of 230 feet, and extends, at the base, 260 feet up the stream, and 60 feet wide at the water surface. The east side of the embankment is well protected by a natural abutment of solid rock in the mountain. This embankment rises 2 feet higher than the stone abutment, viz. 50 feet, and covers a surface of 59,800 square feet, which, united to the sum of the space covered by the crib work, will give 103,800 square feet for the base of the structure, part of which is natural. The whole, in the opinion of the Managers, has been executed in a firm and substantial manner.

The sluice-gates, 12 in number, are of cast iron, each comprising a surface of 2 square feet; are connected with pieces of yellow pine timber, of sufficient length to extend several feet above the level of the water, and can be either raised or lowered by means of screws. The sluice-gates and the machinery are surrounded by a strong frame-work, to guard the whole from the inju-

rious effects of ice freshets and floating timber. The sluice house is connected with the western shore by means of a light bridge, raised beyond the utmost height of the water in the reservoir, so that the gates may be regulated with ease and safety at every stage of the water.

The water from the reservoir passes through a substantial stone lock, on the east side, into the Canal. When it is at its greatest height, the lift of the lock will be 10 feet, but will diminish as the water is drawn off, and may be reduced 10 feet without affecting the communication with Pine Grove. The reservoir, when filled, will form a lake, covering a surface of between 700 and 800 acres, and present to the eye an object combining at once utility and beauty.

The claims for damages along the line of the Canals, have, in most cases, been settled on equitable terms; some few, in which the demands were considered unreasonable, remain to be adjusted.

At Pine Grove, where the Canal terminates, and the Rail Road begins, extensive basins have been commenced, for the accommodation of the coal trade, and will be finished some time in the next month.

Annexed, is the Treasurer's account, the amount of tonnage, and a statement of the receipt for tolls.

All of which is respectfully submitted.

WILLIAM READ, *President.*

Philadelphia, November 16th, 1830.

DR. *Union Canal Company in account with Thomas P. Roberts, Treasurer.* CR.

	Dolls.	C.		Dolls.	C.
1829.	To cash paid by order of the Board of Managers, from November 1, 1829, to February 1, 1830,	-	By balance, as per settlement of the Committee of Accounts, November 1, 1829,	13,957	56
1830.	To cash paid by order of ditto, from February 1, to May 1,	-	By cash received, from November 1, 1829, to February 1, 1830,	29,231	59
	To cash paid by order of ditto, from May 1, to August 1,	-	By cash received, from February 1, to May 1,	92,172	81
	To cash paid by order of ditto, from August 1, to November 1,	-	By cash received, from May 1, to August 1,	82,379	09
			By cash received, from August 1, to November 1,	116,889	81
	Balance, - - -	12,019	28	334,680	86
			By balance, November 1, 1830,	12,019	28
				334,680	86

E. E.

Philadelphia, November 1, 1830.

THOMAS P. ROBERTS, *Treasurer.*

Examined and compared with entries, and found correct.

WILLIAM BOYD, }
 JACOB GRATZ, } Committee of Accounts.
 CHARLES GRAFF, }

The whole amount of tonnage which passed the Canal, from the 1st of November, 1829, to 1st of November, 1830, was 41,094 tons, 10 cwt., 0 qrs., 19 lbs., as follows:—

Tons.	cwt.	qrs.	lbs.	
5,766	4	2	20	Flour.
4,205	17	3		Wheat.
770	5	2		Whiskey.
1,156	9	1	14	Iron.
1,038	9	1		Coal.
12,367	8	2		Lumber.
1,859	9			Shingles.
60	2	2		Staves.
3,930	16	3	17	Gypsum.
809	16	2	10	Fish.
2,177	19	2		Salt.
3,592	19		22	Merchandise.
3,358	11	1	20	{ Flax seed, clover seed, butter, lard, { leather, limestone, soap, bricks, &c.
41,094	10	0	19	

In regard to tolls, the amount of cash received, from November 1st, 1829, to November 1st, 1830, was 35,133 dollars 82 cents; of this sum, 32,636 dollars 23 cents was received, from April 1st, to November 1st, 1830.

RATES OF TOLL

UPON THE UNION CANAL.—1830.

ARTICLES.	PER TON, &c.	Toll	
		per Mile.	the whole Distance.
Ashes, pot and pearl,	Per Ton of 7 barrels,	1½	1 20
Bark,	Cord,	1	0 80
Do. ground,	Ton,	1½	1 00
Bricks,	Ton of 500,	¾	0 60
Beef, salted,	Ton of 8 barrels,	1½	1 20
Boards and other sawed stuff,	1000 feet, board measure,	1½	1 00
Barley,	Ton of 50 bushels,	1½	1 20
Butter,	Ton,	1½	1 20
Clay,	Ton,	½	0 40
Cider,	Ton of 8 barrels, or 2 Hhds.	1½	1 20
Coal,	Ton,	¾	0 60
Corn, Indian,	Ton of 40 bushels,	1½	1 20
Earth,	Ton,	½	0 40
Fish, salted,	Ton of 7½ barrels, or 14 half-bbls.	1½	1 20
Flour,	Ton of 10½ barrels,	1½	1 20
Furniture, household,	Ton,	2	1 60
Grindstones,	Ton,	1	0 80
Gypsum,	Ton,	1	0 80
Hay,	Ton,	1	0 80
Hoop poles, for barrels,	Ton of 400	1	0 80
Do. for hogsheads and pipes,	Ton of 200		
Heading for do.	Ton of 400		
Do. for barrels,	Ton of 500	1½	1 00
Iron, bar, blooms, or wrought,	Ton,		
Do. castings,	Ton,	1½	1 00
Do. ore,	Ton,	½	0 40
Do. pig,	Ton,	1	0 80
Lard,	Ton,	1½	1 20
Lime,	Ton of 28 bushels,	¾	0 60
Limestone,	Ton,	½	0 40
Manure,	Ton,	½	0 40
Marble, unwrought,	Ton,	¾	0 60
Do. manufactured,	Ton,	2	1 60
Merchandise,	Ton,	2	1 60
Mill stones, and French burrs,	Ton,	1½	1 00
Oats,	Ton of 80 bushels,	1½	1 20
Oysters,	Ton of 4000,	2	1 60
Pork, salted,	Ton of 8 barrels,	1½	1 20
Posts, and rails, split,	Hundred,	1	0 80
Rye,	Ton of 40 bushels,	1½	1 20
Rosin,	Ton of 8 barrels,	2	1 60
Salt, fine,	Ton of 45 bushels,	2	1 60
Do. coarse,	Ton of 32 bushels,		

ARTICLES.	PER TON, &c.	Toll	Toll
		per Mile.	the whole Distance.
		Cents	Dolls. Cts.
Seed, clover,	Per Ton of 40 bushels,	1½	1 20
Do. flax,			
Do. of all other kinds,			
Shingles,	Thousand,	¾	0 60
Straw,	Ton,	½	0 40
Staves, for pipes,	Ton of 400	1	0 80
Do. for hogsheads,	Ton of 500		
Do. for barrels,	Ton of 600		
Stone,	Ton of four-fifths of a perch,	½	0 40
Tar,	Ton of 7 barrels,	2	1 60
Timber, round and square,	90 solid feet,	1½	1 00
Wheat,	Ton of 40 bushels,	1½	1 20
Whiskey, and other domestic dis- tilled spirits,	Ton of 2 Hhds. or 8 barrels,	1¾	1 40
Window glass,	Ton of 2800 feet,	2	1 60
Wood,	Cord,	1	0 80
On all articles, not enumerated, passing eastward,	Ton,	1½	1 20
On all articles, not enumerated, passing westward,	Ton,	2	1 60
On passage boats,	Mile,	20	16 00
On boats used for transportation, carrying over 5 tons,	Mile,	2	1 60
On boats, if empty, or carrying not more than 5 tons, besides the toll on cargo,	Mile,	4	3 20
For passing the outlet locks at Mid- dletown, (except such boats as have come or are going immediately on the Union Canal,)			
On every loaded boat,			0 75
On every empty boat,			0 50