

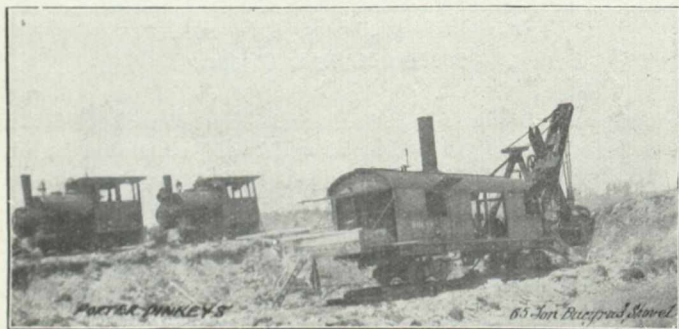
# A PAGE OF COSTS

## ACTUAL, ESTIMATED and CONTRACTED

### COST OF EXCAVATING GRAVEL WITH A 65-TON STEAM SHOVEL IN A CANAL PRISM.

J. B. Brophy.\*

This work was done in June 1908, in the heavy cutting south of the Grand Trunk Railway, near Trenton, Ontario—this cutting being a portion of Section No. 1 Ontario-Rice Lake Division of the Trent Canal. The material excavated



was a coarse gravel mixed with medium sized boulders, and the cutting, at that stage of the work, was a side cutting averaging about 10½ feet in depth. The material was loaded into cars as high as the crane would reach.

From June 1st to 13th the amount of excavation was 16,000 cubic yards, the average haul being 1,200 feet, and from June 15th to 30th 20,000 cubic yards were excavated, the haul averaging 1,400 feet, making a total of 36,000 cubic yards of excavation for the month, with an average haul of 1,311 feet. All the material excavated was put in a spoil bank, averaging from 10 to 18 feet deep.

The following is a list of the plant used on this work: A 65-ton steam shovel with a 2½ cubic yard dipper, made by the Bucyrus Steam Shovel Company, of South Milwaukee, Wisconsin. Two 12-ton Porter Dinkey Engines, 22 dump cars of four cubic yards capacity, and about half mile of track.

The value of this plant would be approximately as follows:—

65-ton shovel .....	\$ 8,500
2 twelve-ton dinkey's .....	5,400
22 four yard dump cars at \$220 .....	4,480
17 tons rails at \$30.....	510
1,100 ties at \$0.10 .....	110
Shovels, bars, etc., say .....	40

Total ..... \$19,400

Allowing 2 per cent. for monthly interest, repairs and depreciation, gives a monthly charge of \$388.

The shovel, hauling and dump gangs worked twelve hours per day. The track gang and water wagon only worked ten hours per day.

Assuming the standard rates of wages for this class of work, we get the following:—

\* Division Engineer, Ontario—Rice Lake Division of the Trent Valley Canal.

Shovel runner....	\$125.00	per Mo. for 10 hour day
Craneman .....	90.00	" " "
Fireman .....	60.00	" " "
Watchman .....	45.00	" " "
Dinkey runners...	3.00	per day of 10 hours
Brakemen .....	1.75	" " "
Foremen .....	3.50	" " "
Pitmen .....	1.75	" " "
Oiler .....	1.75	" " "
Laborers .....	1.50	" " "
Water boy .....	1.00	" " "
Teams .....	5.00	2 2 " "

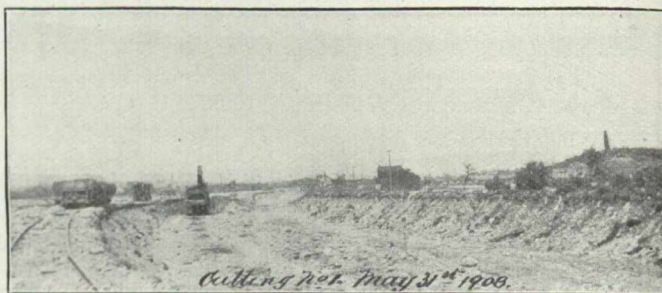
As 26 days were worked during the month, the cost of the work and the organization of the forces, would therefore be:—

#### Loading—

1 Shovel runner .....	\$150.00
1 Craneman .....	108.00
1 Fireman .....	72.00
4 Pitmen .....	218.00
1 Team hauling water .....	130.00
52 Tons coal at \$5 .....	260.00
Oil, waste, etc., say .....	10.00
	<hr/> \$ 948.00

#### Hauling—

2 Dinkey runners .....	\$187.00
2 Brakemen .....	109.00
1 Oiler .....	45.50
1 Trackman .....	45.50
48 Tons coal at \$5 .....	240.00
Oil, waste, etc., say .....	14.00
	<hr/> \$ 641.00



#### Dumping—

1 Foreman .....	\$109.20
16 Laborers .....	748.80
1 Water boy .....	31.00
	<hr/> 889.00

#### Track Gang—

1 Foreman .....	\$ 78.00
5 Laborers .....	195.00
	<hr/> \$ 273.00

#### Miscellaneous—

1 Superintendent .....	\$150.00
Proportion of timekeeper's wages....	30.00
1 Watchman .....	45.00
	<hr/> \$ 225.00
Interest, repairs and depreciation, estimated..	388.00

Grand total..... \$3,364.00