

City Water Supply Varies in Purity; is Inadequate

Is Finding of M. H. O. Dr. Pearson and City Engineer T. Harry Jones After Inspecting the Works

---Recommendations Made For Improvements

At last evening's session of the City Council, a lengthy report from Dr. Pearson, M.H.O., and T. Harry Jones, City Engineer, was submitted upon the subject of their investigation of the waterworks system in the city. The report, in part, reads:

Source of Supply.
At the time the Water Works were installed in the Holmesdale the water was pumped from the pump well, which was fed by water collected in 15 inch tile pipes as laid with open joints. There was no direct or indirect connection with the river except by the emergency pipe laid to the canal. At the same time it was recognized by many that while it was correct to refer to the supply as being obtained from springs on the grounds that was dependent for its source on the Grand River.

As bearing on this question as well as on the quality of water, the available we quote from a published report of the City Engineer dated February 1893:
"Before locating the source of supply twenty test wells were driven by the writer in the Holmesdale, extending up the river from the present new buildings for about a mile and covering an area half a mile in width. Observations extending over a period of three months were made and the length and variation of the water in the wells and river, the character of the strata and the depth of the clay were noted. The level of the water in the different wells was found to rise on an average about one foot in three hundred, going Northward from the river to the hills while the water in the wells going up to the mill race about one foot in five hundred. It was found that when through any cause the water in the river rose the wells were affected in a like manner although often it was not until the following day that the change of level occurred in them. From the data thus collected it was determined to locate the works in their present position. The greatest abundance of pure water was found there and a fine bed of gravel extending in many places from the clay to the surface of the ground. The depth of the water above the clay at the well will average about seven feet and at the Western end of the collecting gallery about three feet. The average cut in the collecting gallery will be about six feet higher at the westerly end of the gallery than at the well. It was found that when the centrifugal pump during the construction of the well was discharging water from the well at the rate of two million gallons per day the water level one hundred feet up the collecting gallery was lowered only one foot, while at the westerly end of the gallery the water level remained constant."

The original source of supply not providing adequate demands the water was brought from the Grand River by the Elliott Gallery the lower part of which acted as a distributing gallery to the collecting galleries and later as a feeder to the Moore distributing gallery—the water from which after natural filtration supplied the collecting gallery. The supply was also supplemented by discharging water on the ground from the canal both on the North and South sides and when in 1893 the canal was cleaned out by pumping into the dead creek and from the river to the West of the Collecting Galleries—the water in all these cases reaching the Collecting Galleries after natural filtration. In 1912-1913 the new Collecting Gallery was laid as already described. It was also found that in emergency cases it was necessary to resort to the Canal as a source of supply from which the water was pumped directly.

Quantity of Water Used and Required.
From schedules compiled from the local records, it will be seen that the number of gallons per head per day was 127 in the year 1912, that it rose to 161 during 1914 and dropped to 110 for the past year, while the number of meters in use increased from 171 in 1912 to 1970 in 1916.
The following of the streets would be affected in a like manner although often it was not until the following day that the change of level occurred in them. From the data thus collected it was determined to locate the works in their present position. The greatest abundance of pure water was found there and a fine bed of gravel extending in many places from the clay to the surface of the ground. The depth of the water above the clay at the well will average about seven feet and at the Western end of the collecting gallery about three feet. The average cut in the collecting gallery will be about six feet higher at the westerly end of the gallery than at the well. It was found that when the centrifugal pump during the construction of the well was discharging water from the well at the rate of two million gallons per day the water level one hundred feet up the collecting gallery was lowered only one foot, while at the westerly end of the gallery the water level remained constant."

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FRUITS		
Apples, bushel	40 to 50	80
Bananas, basket	30 to 40	50
Pears, basket	30 to 40	50
MEATS		
Bacon, side	\$0.31 to \$0.33	80
Bacon, back	0.23 to 0.25	80
Beef, per lb. steers	0.19 to 0.20	80
Beef, hinds	0.14 to 0.16	80
Chickens, each	0.75 to 0.80	80
Dry salt pork	0.18 to 0.20	80
Dressed pork	0.19 to 0.20	80
Kidneys	0.25 to 0.30	80
Lamb	0.10 to 0.12	80
Live Hogs	0.10 to 0.12	80
Smoked shoulder	0.18 to 0.20	80
VEGETABLES		
Beans, quart	0.08 to 0.10	80
Beets, 3 bunches	2.00 to 0.00	80
Cabbage, doz.	3.00 to 0.25	80
Cabbage, each	3 for 10 cents	80
Cherry	0.25 to 0.50	80
Onions, bushel	0.15 to 0.20	80
Onions, pk.	0.50 to 0.60	80
Potatoes, bushel	1.35 to 0.00	80
Potatoes, bag	0.25 to 0.50	80
Pumpkins	0.05 to 0.00	80
Turnips, bushel	0.05 to 0.00	80
Parsley, bunch	0.05 to 0.00	80
FISH		
Hallbut steak, lb.	0.20 to 0.00	80
Kippered herring	0.12 to 0.15	80
Pickled herring	0.12 to 0.15	80
Perch	0.17 to 0.00	80
Whitefish, lb.	0.18 to 0.15	80
DAIRY PRODUCTS		
Butter, creamery, per lb.	0.48 to 0.50	80
Butter, dairy, per lb.	0.00 to 0.00	80
Eggs, per dozen	0.00 to 0.00	80
Heavy, comb, clover	0.25 to 0.00	80

Sale of Used Pianos and Organs

We have a number of used pianos and organs which we propose to sell at bargain prices in order to make room for new goods. The terms offered will be so liberal that anyone wishing to buy an instrument will be able to take advantage of these low prices.

BRIGGS piano of Boston—This is one of the high-grade American instruments, fine walnut case, 7 1-3 octaves, ivory keys, 3 pedals, first-class action. \$185, payable \$15 cash, and \$5 per month.

CHICKERING square, 7 1-3 octaves, ivory keys, first-class practise piano, \$65, payable \$5 cash and \$1 per week.

PEASE & CO. of New York, square piano, 7 1-3 octave, ivory keys, price \$55, payable \$5 cash and \$1 per week.

THOMAS organ, piano case, mahogany, 6 octaves, used about six months, price, new, \$140. Now \$95, payable \$5 cash, and \$1 per week.

BELL organ, piano case, 6 octaves in good condition, \$45; \$5 cash, and \$1 per week.

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These instruments are all in good condition and we can recommend them to the public.

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Three beautiful homes on William street. All modern conveniences, and two good cottages on Brock street, north of Wellington street. Also that beautiful home of Mrs. Haskett's, No. 13 Chatham street. Apply

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162 William—Story and a half frame; 3 bedrooms, hall, parlor, dining room, kitchen, summer kitchen, gas, electric light with fixtures. Good lot. Easy terms.

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Although somewhat increased in price owing to the continued high cost of potash, glue and other raw materials, are of the usual high standard of quality which has made them famous for two thirds of a century.

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CONNECTING AT WINNIPEG FOR ALL WESTERN CANADA AND PACIFIC COAST PORTS.
Time Table and all information from any Grand Trunk, Canadian Government Railways, or T. & N. O. Railway Agent.

Bowling

Verity's last night succeeded in taking the odd game from the Y. M. C. A. bowlers in the Y.M.C.A. ten pin league. Bob Long was high man of the evening. The scores:

Y. M. C. A.			
Lister	131	172	162-466
Sanderson	165	129	132-426
Bing	179	148	141-468
Hiepton	129	187	150-446
	604	616	686-1896

Verity's:
Gibbs 190 163 132-485
Thompson 124 134 296-464
Long 199 153 136-488
VanDerstein 190 136 144-440

703 586 618-1907

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G & CO.

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Thousands of dollars are wasted by circulars. There is no surer method of reaching the man who wants than through the CLASSIFIED ADS OF THE COURIER. There is no city in CLASSIFIED ADVERTISING which a greater number of possible buyers below that of sending circulars, and the needed is to write your copy.

Special office basket waste and turn your CLASSIFIED ADVERTISING.

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The Christmas Savings Club, the Merchants Bank has proven its right to a place among the most popular of savings banks. This Club gives everybody a chance to save. It encourages saving and it is willing to pay. Even boys and girls are invited to become members. The saving habit needs to be fostered in the young. The young mind realizes how really easy it is to save. It is to have money in the bank, the saving habit.

Members, whether their incomes are large or small, find it financially. They postpone the time when they save for the rainy day because they never seem to have a cent to start a bank account. The Christmas Club is a simple plan in this city to get started with the first small saving. The start is the important thing. The week of December 27th and runs for fifty weeks, so saves check in time for Christmas shopping. When regularly the bank allows interest on the account, encouragement to saving. Payments may be started at any time.

Members are offered and members may select one or more classes. One may pay 25c, 50c, or \$1.00 weekly, respectively to \$12.50, \$25.00 and \$50.00. Another class is the Progressive class, in which the payment is 50c per week. The first payment is made on the 27th of December. The Club matures at \$25.50. Then there is a 5c per week class.

Members are not needed in carrying the Christmas Club. The Bank of Canada using a patented card system, in payment is made by punching cards. This not only receipt, but also shows exactly how much has been saved and with any possibility of error. The method of saving has proven most popular.