

WATER SUPPLY

The Town of The Pas draws its raw water from the Saskatchewan River that is gravity fed to a well. The water is pumped from the well into the water treatment plant.

TREATMENT PROCESS

At the well potassium permanganate is introduced to the raw water for taste and odor control.

When the water enters the plant aluminum sulphate and a coagulant are added. The water is then sent to two mixing chambers. In the mixing chambers another coagulant aid is introduced. The raw water and additives are then mixed and suspended solids precipitate from the water. After this point, the water passes through four (4) dual media filters before the finished water is sent into clear wells for storage. Chlorine is added as a residual disinfectant, the water is sterilized by ultra violet reactors. Fluoride is no longer added for dental health as of May 20th 2015.

WATER DISTRIBUTION SYSTEM

The treated water is pumped from the water treatment plant to the consumers via a system of underground pipes. The water is metered for consumption and is billed accordingly.

WATER TESTING

- Raw water is tested daily for turbidity & temperature.
- Treated or finished water is tested daily for turbidity, chlorine residual, and temperature.
- Water is tested 4 times per year for THM’s and HAA’s.
- Raw and Treated Water is tested yearly for total water chemistries.

BACTERIOLOGICAL TESTING

Samples of raw water, treated water and points in the distribution system are tested bi-weekly for coliforms and E.Coli. The results of these tests are shown in the table below:

BACETERIOLOGICAL MONITORING AND REPORTING	Regulatory Requirement	PWS Performance
Number of raw/incoming water samples	26	25
Number of treated water samples	26	25
Number of distribution water samples (2 sampling locations)	26	25
Frequency of testing	Bi-weekly	96%
Total coli form present in water samples	0 TC per 100 mL	100%
E.coli present in water samples	0 EC per 100 mL	100%

COMMENTS:

The public water system has met the bacteriological sampling requirements for 2015.

TURBIDITY TESTING

Turbidity is a measurement of water clarity. This test is used as a benchmark on how the treatment process is working. Facilities are obligated to meet regulatory requirements on the filtering process and the treated water that is sent to consumers. The results of these tests are shown in the table below:

Turbidity Standards	Regulatory Requirement	PWS Performance
Chemically assisted, rapid gravity filtration process	≤ 0.3 NTU in at least 95% of the samples taken per month	100%
	Not to exceed 0.3 NTU for more than 12 continuous hours	100%
	Not to exceed 1.0 NTU at anytime	100%
Frequency of testing	Daily	100%

DISINFECTION TESTING & MONITORING

This testing is done to ensure that the water is safe for the consumer and to meet the regulatory requirements. The results of these tests are shown in the table illustrated below:

Chlorine Requirements	Regulatory Requirement	PWS Performance
(A) Free chlorine residual entering the distribution system	≥ 0.5 mg/L	100% (2.14 mg/L)
(B) Free chlorine residual in the distribution system	≥ 0.1 mg/L	100% (0.478 mg/L)
(C) Frequency of testing	Daily for A	100%
	Bi Weekly for B	96%
(D) Report submissions	Monthly	100%

FLUORIDE

The Town of The Pas no longer fluoridates the as of May 20th 2015.

DISINFECTION BY-PRODUCTS MONITORING & REPORTING

These tests are done to meet Regulatory requirements. The results of these tests are shown on the following table:

DISINFECTION BY –PRODUCTS MONITORING AND REPORTING	Regulatory Requirement	PWS Performance
A) Trihalomethane sampling requirements	4 times per year	100%
B) Total Trihalomethane Standard*	0.1 mg/L	0.0975 mg/L
C) Bromodichloromethane sampling requirements	4 times per year	100%
D) Bromodichloromethane Standard**	0.016 mg/L	0.0092 mg/L

*THM and HAA results were higher than the previous year. Last year's result was 0.089 mg/L.

**Bromodichloromethane results were lower than previous year. Last year's result was 0.0095 mg/L.

WATER CHEMISTRY ANALYSIS

Chemical analysis tests were done on the raw and treated water on December 15th 2015. The treated water met all the G.C.D WQ maximum-acceptable concentrations for health-based parameters.

EMERGENCY-COMPLIANCE ISSUES-2013

- There were 15 water main breaks in 2015. This is a decrease of 57% under 2013 and 75% over 2014. The main reason for the decreases is attributed to the milder winter temperatures versus those in 2014.

EXPENSES & UPGRADES

- A turbidity meter was replaced with a new turbidity meter this will insure the cleanest water is sent to the storage tanks.
- New Pumps installed for Potassium permanganate

For general questions during regular business hours call the Engineering Dept. at 1-204-627-1125. For emergency calls please phone 1-204-623-2330



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