



2010 ANNUAL REPORT

WATER SUPPLY

The Town of The Pas draws its raw water from the Saskatchewan River which 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. After this point, the water is sent to four (4) dual media filters before the finished water is sent into clear wells for storage. Chlorine is added as a disinfectant and fluoride for dental health.

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 & p.h.
- Treated or finished water is tested daily for turbidity, chlorine residual, temperature and fluoride.
- Water is tested 4 times per year for THM's and HAA's.
- 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 coli forms 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	26
Number of treated water samples	26	26
Number of distribution water samples (2 sampling locations)	26	26
Frequency of testing	Bi-weekly	100%
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 Town of The Pas Water System has met all the regulatory requirements for 2010.		

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 Town of The Pas tests turbidity twice per day. 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	93.7%

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%
(B) Free chlorine residual in the distribution system	≥ 0.1 mg/L	81%
(C) Frequency of testing	Daily for A	100%
	Bi Weekly for B	100%
(D) Report submissions	Monthly	100%

FLOURIDE

A fluoride content test is done to the treated water to determine mg/L of fluoride in the treated water and to meet regulatory requirements. The results of these tests are show in the table below:

	Daily Samples Passed	Composite Samples Taken	Composite Samples Passed
Number of fluoride samples	Daily	26	26
Flouride mg/L required Less than 1.5 mg/L (CDWG)	100%	100%	100%

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	0.078 mg/L
C) Bromodichloromethane sampling requirements	4 times per year	100%
D) Bromodichloromethane Standard	0.016 mg/L	0.008 mg/L

WATER CHEMISTRY ANALYSIS

A chemical analysis test was done on the raw and treated water on June 15, 2010. The treated water met all the G.C.D WQ maximum-acceptable concentrations for health-based parameters.

EMERGENCY-COMPLIANCE ISSUES-2009

- There were 24 water main breaks in 2010. This is a decrease of 66% over 2009. The main reason for the decrease is more snow fall and a warmer temperatures throughout the winter. This combination resulted in less frost and ground movement.
- There is one out standing non-compliance issue that has to deal with low chlorine residuals in the distribution system; this issue is being address with a number of solutions being implemented.

MAJOR EXPENSES-2010

- Engineered plans were completed to upgrade the water treatment plant.
- In October PUB approved the following change to the rates:

Rates \$/1,000 gallons	Existing Interim	Revised Schedule	Revised Rates
Water		Water	
First 18,000	\$8.80	First 20,000	\$11.10
Next 82,000	\$6.80	Over 20,000	\$6.75
Over 100,000	\$4.30		
Sewer	\$3.20	Sewer	\$3.40
Combined - >18K	\$12.00	Combined	
Next 82,000	\$10.00	First 20,000	\$14.50
Over 100,000	\$7.50	Over 20,000	\$10.15
Service Charge	\$11.00	Service Charge	\$17.00
Minimum Quarterly*	\$59.00	Minimum Quarterly**	\$60.50
Bulk Sales	\$8.00	Bulk Sales	\$11.75

* Included 4,000 gallons

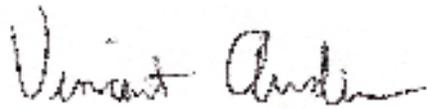
**Includes 3,000 gallons

Further information can be found at: http://www.pub.gov.mb.ca/pdf/10water/87_10.pdf

EXPENSES & UPGRADES

- An upgrade to the water treatment plant began in 2010 to provide the water plant with UV disinfection, improved safety, install back up power, provide improved distribution pumping and install baffles in the #2 reservoir.

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



Vincent Anderson, P.Eng
Municipal Superintendent
Town of The Pas