

Drinking Water Annual Report -2007

City of Quesnel Water System

WATER SYSTEM OVERVIEW

The City of Quesnel water system is comprised of 6 operating groundwater wells (Main System), 8 reservoirs, 5 booster pump stations, 2 main PRV stations and approximately 100 km of water main. In addition the City also maintains one independent well on Sword Road (Small System) in South Quesnel to provide water to the soccer fields. On February 20th, the DVC/ Stenersen water system was connected to the City of Quesnel's main distribution system. The existing well and reservoir on Racing Road were decommissioned in accordance with the Groundwater Protection Regulations. At present there is no treatment or disinfection provided to the City's water system.

Approximately 10,500 residents are serviced by the City water system.

WATER MONITORING

To ensure the delivery of safe drinking water, the City has a program to monitor water quality at the source.

Historically, drinking water quality within the City has been monitored in consultation with the Provincial Health Inspector. The challenge and responsibility to ensure safe drinking water has been assisted by the adoption, in May 2003, by the province of the "British Columbia Drinking Water Regulations". In accordance with these regulations, the City has developed a drinking water quality monitoring program to enhance present practices.

In May 2004 the City commenced sending their water samples to Cantest Laboratory in Burnaby, for all sampling points. The City has direct contact with the lab on results and concerns. Our local Drinking Water Officer at Northern Health Authority, also has access to these results. From the laboratory, the results are downloaded directly to Water Trax, the City's water quality database.

The sampling parameters used to monitor potability are listed in the Guidelines for Canadian Drinking Water Quality (GCDWQ) & the British Columbia Drinking Water Regulations (BCDWR). These sampling parameters are used as indicators for bacteriological, chemical and physical contaminants.

Sampling frequency is also important in obtaining an accurate overview of water quality within the distribution system.

As a minimum, the number of samples to be taken of the source and distribution system, as required by provincial regulations, are based on population. The minimum number of samples to be taken for the City of Quesnel's approximately 10,500 people, is 12 per month. The City exceeds that number of monthly sampling. The City samples 15 individual sites bi-weekly, for total coliforms, E. Coli, heterotrophic plate count and turbidity. As well, all reservoirs and wells are tested on a monthly basis for bacterial contaminants. In addition to the bacteriological parameters, additional testing is done for chemical & physical contaminants.

WATER QUALITY

Samples are taken at the start, middle and end of the entire City water distribution system. Lab results are transmitted to the City via email, as well as to the Drinking Water Officer. Results are downloaded into the City's water quality database, Water Trax.

If it is observed during testing that certain parameters exceed the limits specified in the GCDWQ or BCDWR guidelines, a procedure is in place for retesting and notification of any results or conditions that render or could render the water unfit to drink.

The standard protocol when a water sample is found to contain the presence of coliforms, however minute, is to resample the water immediately at the same location and resubmit for testing. The provincial Drinking Water Officer will determine if any action by the City is necessary only after a second test also shows the presence of coliforms.

In accordance with the regulations of our operating permit, the City has a plan in effect to respond to emergencies to ensure the delivery of safe drinking water to all its residents.

In 2007, 340 samples were tested for E.Coli with zero detects. 346 samples were tested for total coliform with seven exceedences. One at the hospital site, one at the well on Sword Road and five at the Tatchell reservoir site. All sites were resampled and found negative for coliform. Chlorination may need to be considered in the future due to the unexpected nature of unchlorinated water.

CONCLUSION

The 2007 City of Quesnel Water System Annual Report is presented to Council as required by the British Columbia Drinking Water Regulations Drinking Water Protection Act. In order to meet the terms and conditions of the City's Water System Operating Permit issued by the BC Drinking Water Officer, this report is made available to the public.

Attachment "A" contains:

- a list of the sampling point sites and the parameters tested by the City of Quesnel

Attachment "B" contains:

- Water sampling result summary reports for 2007 from Cantest Labs on both of the City's water systems; Main System, & Small System (on Sword Road)

LINKS:

The Health Canada website (www.hc-sc.gc.ca) contains "Summary of Guidelines for Canadian Drinking Water Quality", which Health Canada publishes on current guidelines and updates each spring on their website.

Attachment "A"

City of Quesnel Water Quality Monitoring Program

SITE	LOCATION	PARAMETERS
BI-WEEKLY (Distribution System) (every other Tues between 10am and 2pm)		
First Week		Parameters: Total coliforms, Ecoli, HPC's, turbidity, temp
S-A	Airport (Watertrax Locator #94E4)	
S-C	Mills Rd (94E5)	
S-E	Marsh Dr- West Park Mall (94E7)	
S-G	Graham Avenue (94E8)	
S-I	W. Fraser Rd. (94E9)	
S-L	Pederson Rd (94FO)	
S-N	Standpipe at Carson Pit (94EF)	
S-O	Dennis Road (179CA)	
Third Week		Parameters: Total coliforms, Ecoli, HPC's, turbidity, temp
S-B	Carradice Rd (94E6)	
S-D	Dixon St (94F1)	
S-F	Front St – Hospital (94F2)	
S-H	Nason St (94F3)	
S-J	N Star Rd – Booster Dragon Hill Feed (94F4)	
S-K	N Star Booster -S. Hill Feed (94F6)	
S-M	Chew Rd (94F7)	
MONTHLY (Reservoirs)		Parameters: Total coliforms, Ecoli, Temp
R-1	Hwy 97 – Shadow Heights (94EA)	
R-2	Pinecrest Rd (94F9)	
R-3	Baker Dr – Sugar Loaf (94FA)	
R-4 (2)	Abbott Dr (Abbott #1, Abbott #2) (94EB) (94EC)	
R-5	Dragon Hill (94FC)	
R-6 (2)	Tatchell (Southills #1, Southills #2) (94FF)	
	(old) (new)	
MONTHLY (Wells)		Parameters: Total coliforms, Ecoli, Temp
W-A	Sword Rd – Soccer Field Well (94ED)	
W-3	Rolph St at Roddis Dr (94D1)	
W-5	Hillborn Rd (94D8)	
W-6	Rolph St at Robertson Ave (94DC)	
W-7	Off North Fraser Dr (94EO)	
W-8	Hillborn Rd (94E1)	
W-9	Carson Subdivision Flats (94DF)	

City of Quesnel Water Quality Monitoring Program

QUARTERLY (Wells) (first week of March, June, Sept, Dec)		Parameters: Chloride, Nitrate, Nitrite, Temperature
W-A	Sword Rd - Soccer Field Well	
W-3	Rolph St at Roddis Dr	
W-5	Hillborn Rd	
W-6	Rolph St at Robertson Ave	
W-7	Off North Fraser Dr	
W-8	Hillborn Rd	
W-9	Carson Subdivision Flats	
SEMI - ANNUALLY (Distribution System) (first week Oct & April)		Parameters: Copper, Zinc, Lead, Iron, Vinyl chloride, Manganese, Temperature
S-C	Mills Rd (94E5)	
S-L	Pederson Rd (94F0)	
ANNUALLY (Wells)		Parameters: Enhanced Potability, molybdenum, nickel, phosphorus, silver, Aggressive Index Number (Langelier saturation index) , Volatile Organic Compounds, Temperature
W-A	Sword Rd – Soccer Field well	
W-3	Rolph St at Roddis Dr.	
W-5	Hillborn Rd	
W-6	Rolph St at Robertson Ave	
W-7	Off North Fraser Dr	
W-8	Hillborn Rd	
W-9	Carson Sub Flats	

Attachment "B"

Water sample result reports in pdf format :

- 2007 Quesnel Main System Coliform Summary**
- 2007 Quesnel Small System Coliform Summary**
- 2007 Quesnel Main System Coliform Exceedences**
- 2007 Quesnel Small System Coliform Exceedences**
- 2007 May & October Semi-annual Summary**
- 2007 Quarterly Summary**