

# **Drinking Water Annual Report -2006**

## **City of Quesnel Water System**

### **WATER SYSTEM OVERVIEW**

The City of Quesnel water system is currently 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. At present there is no treatment or disinfection provided to the 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 new 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 the new 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.

Effective April 1, 2006 the Drinking Water Protection Act requires testing for total coliform and E.Coli. This is a change from the previously required testing of total coliform & fecal coliform. In 2006 there were 244 samples tested for E. Coli. No E. Coli were found. 319 samples were tested for total coliform. Five samples were found to contain coliform bacteria. One exceedence at the Graham Avenue site. The retest was good with test showing negative for coliform. Three exceedences at Tatchell Reservoir were retested each time and were good. One exceedence at Well 5 on Hilborn Road, the retest was good. Due to the unexpected nature of unchlorinated water, we need to look at chlorination in the future. At present there is no treatment or disinfection provided to the City's water system.

## **CONCLUSION**

This 2006 City of Quesnel Water System Annual Report is presented to Council, with availability to the public, as required by the British Columbia Drinking Water Regulations, as well as to meet the terms and conditions of the City's Water System Operating Permit issued by the BC Drinking Water Officer.

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 2006 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](http://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
<b>BI-WEEKLY (Distribution System)</b> (every other Tues between 10am and 2pm)		
<b>First Week</b>		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)	new standpipe (Stenerson DVC hook up Feb 20/07)
<b>Third Week</b>		Parameters: Total coliforms, Ecoli, HPC's, turbidity, temp
S-B	Carradice Rd – Van Kam office (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 - 711 (94F7)	
<b>MONTHLY (Reservoirs)</b>		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)	
<b>MONTHLY (Wells)</b>		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

<b>QUARTERLY (Wells)</b> <b>(first week of March, June, Sept, Dec)</b>		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	
<b>SEMI - ANNUALLY (Distribution System)</b> <b>(first week Oct &amp; April)</b>		Parameters: Copper, Zinc, Lead, Iron, Vinyl chloride, Manganese, Temperature
S-C	Mills Rd (94E5)	
S-L	Pederson Rd (94F0)	
<b>ANNUALLY (Wells)</b>		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 :**

- 2006 Main & Small system Coliform Summary**
- 2006 Main System Coliform Exceedences**
- 2006 Semi Annual & Quarterly Main System Summary**

## 2006 Quarterly & Semi Annual Summary

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

**Facility:** Distribution System  
**Sampling Point:** 1 - S-C Mills Rd (7-2-MR, 94E5)

### Chloride

# samples: 1                      min: 7.16 mg/L  
# detects: 1                      max: 7.16 mg/L  
# non-detects: 0                  avg: 7.16 mg/L (based on 1 numerical results)  
# exceedances: 0

### Copper (total)

# samples: 3                      min: 0.005 mg/L  
# detects: 3                      max: 0.009 mg/L  
# non-detects: 0                  avg: 0.007 mg/L (based on 3 numerical results)  
# exceedances: 0

### Iron (total)

# samples: 3                      min: < 0.0500 mg/L  
# detects: 0                      max: < 0.0500 mg/L  
# non-detects: 3                  avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Lead (total)

# samples: 3                      min: < 0.0010 mg/L  
# detects: 2                      max: 0.002 mg/L  
# non-detects: 1                  avg: 0.002 mg/L (based on 2 numerical results)  
# exceedances: 0

### Manganese (total)

Report created on 10/04/2007 1:58:06 PM

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## 2006 Quarterly & Semi Annual Summary

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

# samples: 2	min: 0.007 mg/L
# detects: 2	max: 0.008 mg/L
# non-detects: 0	avg: 0.008 mg/L (based on 2 numerical results)
# exceedances: 0	

### Vinyl chloride

# samples: 2	min: < 0.0002000 mg/L
# detects: 0	max: < 0.0002000 mg/L
# non-detects: 2	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	1 - S-L Pederson Rd (7-7-MD, 94F0)

### Chloride

# samples: 1	min: 3.16 mg/L
# detects: 1	max: 3.16 mg/L
# non-detects: 0	avg: 3.16 mg/L (based on 1 numerical results)
# exceedances: 0	

### Copper (total)

# samples: 3	min: 0.001 mg/L
# detects: 3	max: 0.010 mg/L
# non-detects: 0	avg: 0.005 mg/L (based on 3 numerical results)
# exceedances: 0	

### Iron (total)

# samples: 3	min: < 0.0500 mg/L
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**2006 Quarterly & Semi Annual Summary****City of Quesnel****01/01/2006 to 12/31/2006 (mm/dd/yyyy)****City of Quesnel – Main System**

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<b># detects:</b> 0	<b>max:</b> < 0.0500 mg/L
<b># non-detects:</b> 3	<b>avg:</b> n/a (based on 0 numerical results)
<b># exceedances:</b> 0	

**Lead (total)**

<b># samples:</b> 3	<b>min:</b> < 0.0010 mg/L
<b># detects:</b> 2	<b>max:</b> 0.002 mg/L
<b># non-detects:</b> 1	<b>avg:</b> 0.002 mg/L (based on 2 numerical results)
<b># exceedances:</b> 0	

**Manganese (total)**

<b># samples:</b> 2	<b>min:</b> 0.005 mg/L
<b># detects:</b> 2	<b>max:</b> 0.098 mg/L
<b># non-detects:</b> 0	<b>avg:</b> 0.052 mg/L (based on 2 numerical results)
<b># exceedances:</b> 1	

**Vinyl chloride**

<b># samples:</b> 2	<b>min:</b> < 0.0002000 mg/L
<b># detects:</b> 0	<b>max:</b> < 0.0002000 mg/L
<b># non-detects:</b> 2	<b>avg:</b> n/a (based on 0 numerical results)
<b># exceedances:</b> 0	

<b>Facility:</b>	Well No 5 Hilborn Rd; Well No 5
<b>Sampling Point:</b>	Well No 5 at entry point to distribution (2-2-EP, 94D8)

**Chloride**

<b># samples:</b> 2	<b>min:</b> 13.5 mg/L
<b># detects:</b> 2	<b>max:</b> 14.4 mg/L



## 2006 Quarterly & Semi Annual Summary

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

# non-detects: 0      avg: 14.0 mg/L (based on 2 numerical results)  
# exceedances: 0

### Nitrate (as N)

# samples: 2      min: < 0.0500 mg/L  
# detects: 0      max: < 0.0500 mg/L  
# non-detects: 2      avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Nitrite (as N)

# samples: 2      min: < 0.0020 mg/L  
# detects: 0      max: < 0.0020 mg/L  
# non-detects: 2      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility: Well No 6 Rolph at Robertson; Well No 6  
Sampling Point: Well No 6 at entry point to distribution (3-2-EP, 94DC)

### Chloride

# samples: 2      min: 8.80 mg/L  
# detects: 2      max: 9.35 mg/L  
# non-detects: 0      avg: 9.08 mg/L (based on 2 numerical results)  
# exceedances: 0

### Nitrate (as N)

# samples: 2      min: 0.13 mg/L  
# detects: 2      max: 0.44 mg/L  
# non-detects: 0      avg: 0.29 mg/L (based on 2 numerical results)

# exceedances: 0

## Nitrite (as N)

# samples: 2	min: < 0.0020 mg/L
# detects: 1	max: 0.002 mg/L
# non-detects: 1	avg: 0.002 mg/L (based on 1 numerical results)
# exceedances: 0	

Facility:	Well No 7 off N. Fraser Dr; Well No 7
Sampling Point:	Well No 7 at entry point to distribution (4-2-EP, 94E0)

## Chloride

# samples: 2	min: 5.46 mg/L
# detects: 2	max: 6.76 mg/L
# non-detects: 0	avg: 6.11 mg/L (based on 2 numerical results)
# exceedances: 0	

## Nitrate (as N)

# samples: 2	min: 0.06 mg/L
# detects: 2	max: 0.10 mg/L
# non-detects: 0	avg: 0.08 mg/L (based on 2 numerical results)
# exceedances: 0	

## Nitrite (as N)

# samples: 2	min: < 0.0020 mg/L
# detects: 0	max: < 0.0020 mg/L
# non-detects: 2	avg: n/a (based on 0 numerical results)
# exceedances: 0	

## 2006 Quarterly & Semi Annual Summary

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

**Facility:** Well No 8 Hilborn Rd; Well No 8  
**Sampling Point:** Well No 8 at entry point to distribution (5-1-EP, 94E1)

### Chloride

**# samples:** 2      **min:** 3.61 mg/L  
**# detects:** 2      **max:** 4.75 mg/L  
**# non-detects:** 0      **avg:** 4.18 mg/L (based on 2 numerical results)  
**# exceedances:** 0

### Nitrate (as N)

**# samples:** 2      **min:** < 0.0500 mg/L  
**# detects:** 0      **max:** < 0.0500 mg/L  
**# non-detects:** 2      **avg:** n/a (based on 0 numerical results)  
**# exceedances:** 0

### Nitrite (as N)

**# samples:** 2      **min:** < 0.0020 mg/L  
**# detects:** 0      **max:** < 0.0020 mg/L  
**# non-detects:** 2      **avg:** n/a (based on 0 numerical results)  
**# exceedances:** 0

**Facility:** Well No 9 Carson Field; Well No 9  
**Sampling Point:** Well No 9 at entry point to distribution (6-2-EP, 94DF)

### Chloride

**# samples:** 2      **min:** 0.56 mg/L  
**# detects:** 2      **max:** 0.87 mg/L  
**# non-detects:** 0      **avg:** 0.72 mg/L (based on 2 numerical results)  
**# exceedances:** 0

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## 2006 Quarterly & Semi Annual Summary

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

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### Nitrate (as N)

# samples: 2	min: < 0.0500 mg/L
# detects: 0	max: < 0.0500 mg/L
# non-detects: 2	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Nitrite (as N)

# samples: 2	min: < 0.0020 mg/L
# detects: 0	max: < 0.0020 mg/L
# non-detects: 2	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Result Legend:

P=present, A=absent, PR=presumptive, ND=non-detect, U=non-detect, OR=over-range, OG=overgrown, TNTC=too numerous to count, NR=no result, NT=not tested, IG=ignore, ER=external report, SC=see comment

< means less than lower detection limit shown  
> means greater than upper detection limit shown  
« means detected & less than number shown  
» means detected & greater than number shown

\* Indicates Criteria is exceeded

Facility: Distribution System  
Sampling Point: 1 - S-A Airport (7-1-MR, 94E4)

Escherichia coli / E. coli (counts)

# samples: 9 min: < 1.0000 CFU/100mL  
# detects: 0 max: < 1.0000 CFU/100mL  
# non-detects: 9 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 12 min: < 1.0000 counts/100mL  
# detects: 0 max: < 1.0000 counts/100mL  
# non-detects: 12 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility: Distribution System  
Sampling Point: 1 - S-C Mills Rd (7-2-MR, 94E5)

Escherichia coli / E. coli (counts)

# samples: 9 min: < 1.0000 CFU/100mL  
# detects: 0 max: < 1.0000 CFU/100mL  
# non-detects: 9 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 12 min: < 1.0000 counts/100mL  
# detects: 0 max: < 1.0000 counts/100mL  
# non-detects: 12 avg: n/a (based on 0 numerical results)

# exceedances: 0

Facility: Distribution System  
Sampling Point: 1 - S-E Westpark Mall (7-4-MD, 94E7)

Escherichia coli / E. coli (counts)

# samples: 9 min: < 1.0000 CFU/100mL  
# detects: 0 max: < 1.0000 CFU/100mL  
# non-detects: 9 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 12 min: < 1.0000 counts/100mL  
# detects: 0 max: < 1.0000 counts/100mL  
# non-detects: 12 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility: Distribution System  
Sampling Point: 1 - S-G Graham Ave (7-5-MD, 94E8)

Escherichia coli / E. coli (counts)

# samples: 10 min: < 1.0000 CFU/100mL  
# detects: 0 max: < 1.0000 CFU/100mL  
# non-detects: 10 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 13 min: < 1.0000 counts/100mL  
# detects: 1 max: 1 counts/100mL

# non-detects: 12                      avg: 1 counts/100mL (based on 1 numerical results)  
# exceedances: 1

Facility:                      Distribution System  
Sampling Point:              1 - S-I West Fraser Rd (7-6-MR, 94E9)

Escherichia coli / E. coli (counts)

# samples: 8                      min: < 1.0000 CFU/100mL  
# detects: 0                      max: < 1.0000 CFU/100mL  
# non-detects: 8                      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 10                      min: < 1.0000 counts/100mL  
# detects: 0                      max: < 1.0000 counts/100mL  
# non-detects: 10                      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility:                      Distribution System  
Sampling Point:              1 - S-L Pederson Rd (7-7-MD, 94F0)

Escherichia coli / E. coli (counts)

# samples: 9                      min: < 1.0000 CFU/100mL  
# detects: 0                      max: < 1.0000 CFU/100mL  
# non-detects: 9                      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 12                      min: < 1.0000 counts/100mL

# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	2 - S-B Carradice Rd (7-3-MR, 94E6)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	2 - S-D Dixon (7-8-MR, 94F1)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)



# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	2 - S-F Hospital (7-9-MD, 94F2)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	2 - S-H Nason (7-10-MD, 94F3)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	2 - S-J North Star-Dragon Hill (7-11-MD, 94F4)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	2 - S-K North Star -South Hill (7-12-MD, 94F6)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	2 - S-M Chew Rd N (7-13-MR, 94F7)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Reservoirs
Sampling Point:	R-1 Shadow Heights (8-1-MR, 94EA)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Reservoirs
Sampling Point:	R-2 Pinecrest (8-4-MR, 94F9)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Reservoirs
Sampling Point:	R-3 Sugarloaf (8-5-MR, 94FA)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Reservoirs
Sampling Point:	R-4 #1 Abbott Dr (8-2-MR, 94EB)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Reservoirs
Sampling Point:	R-4 #2 Abbott Dr (8-3-MR, 94EC)

Escherichia coli / E. coli (counts)

# samples: 9	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 9	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 12	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Reservoirs
Sampling Point:	R-5 Dragon Hill (8-6-MR, 94FC)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Reservoirs
Sampling Point:	R-6 #2 Tatchell New Reservoir (8-8-MR, 94FF)

Escherichia coli / E. coli (counts)

# samples: 12	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 16	min: < 1.0000 counts/100mL
# detects: 3	max: 2 counts/100mL
# non-detects: 13	avg: 1 counts/100mL (based on 3 numerical results)
# exceedances: 3	

Facility:	Well No 3 Rolph at Roddis; Well No 3
Sampling Point:	Well No 3 at entry point to distribution (1-2-EP, 94D1)

Escherichia coli / E. coli (counts)

# samples: 2	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 2	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 2	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 2	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Well No 5 Hilborn Rd; Well No 5
Sampling Point:	Well No 5 at entry point to distribution (2-2-EP, 94D8)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 1	max: 1 counts/100mL
# non-detects: 12	avg: 1 counts/100mL (based on 1 numerical results)
# exceedances: 1	

Facility:	Well No 6 Rolph at Robertson; Well No 6
Sampling Point:	Well No 6 at entry point to distribution (3-2-EP, 94DC)

Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 13	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Well No 7 off N. Fraser Dr; Well No 7
Sampling Point:	Well No 7 at entry point to distribution (4-2-EP, 94E0)

Escherichia coli / E. coli (counts)

# samples: 9	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 9	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)



# samples: 12	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Well No 8 Hilborn Rd; Well No 8
Sampling Point:	Well No 8 at entry point to distribution (5-1-EP, 94E1)

Escherichia coli / E. coli (counts)

# samples: 9	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 9	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 12	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Well No 9 Carson Field; Well No 9
Sampling Point:	Well No 9 at entry point to distribution (6-2-EP, 94DF)

Escherichia coli / E. coli (counts)

# samples: 9	min: < 1.0000 CFU/100mL
# detects: 0	max: < 1.0000 CFU/100mL
# non-detects: 9	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Total coliforms (counts)

# samples: 12	min: < 1.0000 counts/100mL
# detects: 0	max: < 1.0000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

## Notes:

Result: P=present, A=absent, PR=presumptive, ND=not detected, OR=over range, OG=overgrown, NR=no result, NT=not tested

"<" = less than detection limit shown

">" = greater than upper range limit shown

"«" = less than number shown (Detected)

"»" = greater than number shown (Detected)

"\*" = Criteria exceeded

## Quesnel Main System- Exceedences 2006

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

Facility:	Distribution System
Sampling Point:	1 - S-A Airport (7-1-MR, 94E4)
Facility:	Distribution System
Sampling Point:	1 - S-C Mills Rd (7-2-MR, 94E5)
Facility:	Distribution System
Sampling Point:	1 - S-E Westpark Mall (7-4-MD, 94E7)
Facility:	Distribution System
Sampling Point:	1 - S-G Graham Ave (7-5-MD, 94E8)
Total coliforms (counts) Criteria	
* 04/04/2006 00:00	1 counts/100mL <=0, OG, P User-Defined
Facility:	Distribution System
Sampling Point:	1 - S-I West Fraser Rd (7-6-MR, 94E9)
Facility:	Distribution System
Sampling Point:	1 - S-L Pederson Rd (7-7-MD, 94F0)
Facility:	Distribution System
Sampling Point:	2 - S-B Carradice Rd (7-3-MR, 94E6)
Facility:	Distribution System
Sampling Point:	2 - S-D Dixon (7-8-MR, 94F1)
Facility:	Distribution System
Sampling Point:	2 - S-F Hospital (7-9-MD, 94F2)
Facility:	Distribution System
Sampling Point:	2 - S-H Nason (7-10-MD, 94F3)
Facility:	Distribution System
Sampling Point:	2 - S-J North Star-Dragon Hill (7-11-MD, 94F4)
Facility:	Distribution System

# Quesnel Main System- Exceedences 2006

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

Sampling Point:	2 - S-K North Star -South Hill (7-12-MD, 94F6)
Facility:	Distribution System
Sampling Point:	2 - S-M Chew Rd N (7-13-MR, 94F7)
Facility:	Reservoirs
Sampling Point:	R-1 Shadow Heights (8-1-MR, 94EA)
Facility:	Reservoirs
Sampling Point:	R-2 Pinecrest (8-4-MR, 94F9)
Facility:	Reservoirs
Sampling Point:	R-3 Sugarloaf (8-5-MR, 94FA)
Facility:	Reservoirs
Sampling Point:	R-4 #1 Abbott Dr (8-2-MR, 94EB)
Facility:	Reservoirs
Sampling Point:	R-4 #2 Abbott Dr (8-3-MR, 94EC)
Facility:	Reservoirs
Sampling Point:	R-5 Dragon Hill (8-6-MR, 94FC)
Facility:	Reservoirs
Sampling Point:	R-6 #2 Tatchell New Reservoir (8-8-MR, 94FF)
Total coliforms (counts) Criteria	
* 03/14/2006 00:00	1 counts/100mL <=0, OG, P User-Defined
* 10/24/2006 09:30	1 counts/100mL <=0, OG, P User-Defined
* 11/07/2006 11:30	2 counts/100mL <=0, OG, P User-Defined
Facility:	Well No 3 Rolph at Roddis; Well No 3
Sampling Point:	Well No 3 at entry point to distribution (1-2-EP, 94D1)
Facility:	Well No 5 Hilborn Rd; Well No 5
Sampling Point:	Well No 5 at entry point to distribution (2-2-EP, 94D8)

## Quesnel Main System- Exceedences 2006

City of Quesnel

01/01/2006 to 12/31/2006 (mm/dd/yyyy)

City of Quesnel – Main System

Total coliforms (counts)		Criteria	
* 05/24/2006 00:00	1 counts/100mL	<=0, OG, P	User-Defined
Facility:	Well No 6 Rolph at Robertson; Well No 6		
Sampling Point:	Well No 6 at entry point to distribution (3-2-EP, 94DC)		
Facility:	Well No 7 off N. Fraser Dr; Well No 7		
Sampling Point:	Well No 7 at entry point to distribution (4-2-EP, 94E0)		
Facility:	Well No 8 Hilborn Rd; Well No 8		
Sampling Point:	Well No 8 at entry point to distribution (5-1-EP, 94E1)		
Facility:	Well No 9 Carson Field; Well No 9		
Sampling Point:	Well No 9 at entry point to distribution (6-2-EP, 94DF)		

### Result Legend:

P=present, A=absent, PR=presumptive, ND=non-detect, U=non-detect, OR=over-range, OG=overgrown, TNTC=too numerous to count, NR=no result, NT=not tested, IG=ignore, ER=external report, SC=see comment

< means less than lower detection limit shown  
> means greater than upper detection limit shown  
« means detected & less than number shown  
» means detected & greater than number shown

\* Indicates Criteria is exceeded

Facility: Distribution System  
Sampling Point: S-N Standpipe Carson Plt (2-1-MR, 94EF)

Escherichia coli / E. coli (counts)

# samples: 7 min: < 1.0000 CFU/100mL  
# detects: 0 max: < 1.0000 CFU/100mL  
# non-detects: 7 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 10 min: < 1.0000 counts/100mL  
# detects: 0 max: < 1.0000 counts/100mL  
# non-detects: 10 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility: W-A; Well No W-A at entry to distribution  
Sampling Point: Well W-A Sword RdTreated water tap (1-1-EP, 94ED)

Escherichia coli / E. coli (counts)

# samples: 9 min: < 1.0000 CFU/100mL  
# detects: 0 max: < 1.0000 CFU/100mL  
# non-detects: 9 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 12 min: < 1.0000 counts/100mL  
# detects: 0 max: < 1.0000 counts/100mL  
# non-detects: 12 avg: n/a (based on 0 numerical results)

# exceedances: 0

Result Legend:

P=present, A=absent, PR=presumptive, ND=non-detect, U=non-detect, OR=over-range, OG=overgrown,  
TNTC=too numerous to count, NR=no result, NT=not tested, IG=ignore, ER=external report, SC=see comment

< means less than lower detection limit shown  
> means greater than upper detection limit shown  
« means detected & less than number shown  
» means detected & greater than number shown

\* Indicates Criteria is exceeded