



## Administration Report

**Report Date:** June 23, 2011

**Meeting Date:** July 4, 2011

**To:** City Manager

**From:** Acting Director of Public Works and Engineering - Ken Coombs

**Subject:** 2010 Drinking Water Annual Report

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Please find attached, the 2010 Drinking Water Annual Report prepared by Chris Coben, Utilities Superintendent.

# **Drinking Water Annual Report -2010**

## **City of Quesnel Water System**

### **PURPOSE**

The City of Quesnel annual water report describes the water system and provides a summary of quality testing and water management during 2010. It is a requirement under the British Columbia Drinking Water Regulations Drinking Water Protection Act.

### **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. 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. In 2010, water usage in the City system resulted in 662,835,765 imperial gallons used.

### **WATER MANAGEMENT**

A bulk water site was constructed and commissioned in May 2010. This preserves the safety and integrity of the water system as fire hydrants are no longer used for bulk water filling. The costs of bulk water supply are also recovered.

The SCADA monitoring system enables City staff to observe real-time data and information of changing water system conditions. This includes well operation and reservoir levels. System operators have the ability to remotely respond to system conditions and demands. This reduces failure of equipment as well as increases pumping efficiency.

Staff continue to update the water system emergency plan. Operating procedures continue to be created in order to improve reliability of the distribution network.

Water system operators are certified under the Environmental Operators Certification Program. In order to maintain certification, operators must receive 24 hours of approved training in every two year period and achieve a minimum of 70% on written examinations.

## **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 Maxxam Analytics Laboratory (formerly Cantest Lab) 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) and 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 13 per month. The City exceeds that number of monthly sampling. The City samples 16 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 2010, 318 samples were tested for E.Coli with zero exceedences. There were 318 samples tested for total coliform with three exceedences. One exceedence at Well #7, one at Well #8 and one at Sword Road. Subsequent testing proved negative for coliform.

## **CONCLUSION**

The 2010 City of Quesnel Water System Annual Report is presented to Council as required by the British Columbia Drinking Water Regulations Drinking Water Protection Act. It has been established as a requirement to ensure accountability to the community for the water service provided. 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 at Maxxam Labs for the City of Quesnel

Attachment "B" contains:

- Water sampling result summary reports for 2010 from Maxxam 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

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City of Quesnel Water Quality Monitoring Program		
Page 1 of 2		
SITE	LOCATION	PARAMETERS
BI-WEEKLY (Distribution System) (every other Tues between 10am and 2pm)		
FIRST WEEK		
Water Trax Locator #		
94 E4	Airport	Parameters: Total coliforms, Ecoli, HPC’s, turbidity, temp
94 E5	Mills Rd	
94 E7	Marsh Dr	
94 E8	Graham Avenue	
94 E9	West Fraser Rd	
94 FO	Pederson Rd	
94 EF	Carson Pit	
179 CA	Dennis Road	
THIRD WEEK		
94 E6	Carradice Rd	Parameters: Total coliforms, Ecoli, HPC’s, turbidity, temp
94 F1	Dixon St	
94 F2	Front St – Hospital	
94 F3	Nason St	
94 F4	N. Star Dragon Hill	
94 F6	N Star South Hill	
94 F7	Chew Rd	
21 D9B	Bulk Water on North Star	
MONTHLY (Reservoirs)		
94 EA	R-1 Shadow Heights	Parameters: Total coliforms, Ecoli, Temp
94 F9	R-2 Pinecrest	
94 FA	R-3 Sugar Loaf	
94 EB	R-4 Abbott Dr 1	
94 EC	R-4 Abbott Dr 2	
94 FC	R-5 Dragon Hill	
94 FF	R-6 New Tatchell Reservoir	
MONTHLY (Wells)		
94 ED	Well A Sword Rd	Parameters: Total coliforms, Ecoli, Temp
94 D1	Well 3 Rolph at Roddis	
94 D8	Well 5 Hilborn Rd	
94 DC	Well 6 Rolph at Robertson	
94 EO	Well 7 N. Fraser Dr	
94 E1	Well 8 Hilborn Rd	
94 DF	Well 9 Carson Sub	

# City of Quesnel Water Quality Monitoring Program

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## QUARTERLY (Wells) (first week of March, June, Sept, Dec)

Water Trax Locator #		
94 ED	Well A Sword Rd	Parameters: Chloride, Nitrate, Nitrite, Temperature
94 D1	Well 3 Rolph at Roddis	
94 D8	Well 5 Hilborn Rd	
94 DC	Well 6 Rolph at Robertson	
94 EO	Well 7 N. Fraser Drive	
94 E1	Well 8 Hilborn Rd	
94 DF	Well 9 Carson Sub	

## SEMI - ANNUALLY (Distribution System) (first week Oct & April)

94 E5	Mills Rd (94E5)	Parameters: Copper, Zinc, Lead, Iron, Vinyl chloride, Manganese, Temperature
94 FO	Pederson Rd (94F0)	

## ANNUALLY (Wells)

94 ED	Well A Sword Rd	Parameters: Enhanced Potability , Metals, Langelier saturation index ( LSI) Volatile Organic Compounds, Temp.
94 D1	Well 3 Rolph at Roddis	
94 D8	Well 5 Hilborn Rd	
94 DC	Well 6 Rolph at Robertson	
94 EO	Well 7 N. Fraser Drive	
94 E1	Well 8 Hilborn Rd	
94 DF	Well 9 Carson Sub	

## **Attachment "B"**

**Water sample result reports (in pdf format):**

- 2010 Quesnel Main System Coliform Summary**
- 2010 Quesnel Small System Coliform Summary**
- 2010 Quesnel Main System Coliform/Ecoli Exceedences**
- 2010 Quesnel Small System Coliform/Ecoli Exceedences**
- 2010 April & October Semi-Annual Summary**
- 2010 Quarterly on Small & Main System**

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

Facility: Distribution System  
Sampling Point: Bulk Water Site #1 (7-15-QC, 21D9B)

### Escherichia coli / E. coli (counts)

# samples: 7 min: < 1.00000 CFU/100mL  
# detects: 0 max: < 1.00000 CFU/100mL  
# non-detects: 7 avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 7 min: < 1.00000 CFU/100mL  
# detects: 0 max: < 1.00000 CFU/100mL  
# non-detects: 7 avg: n/a (based on 0 numerical results)  
# exceedances: 0

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

### Escherichia coli / E. coli (counts)

# samples: 12 min: < 1.00000 CFU/100mL  
# detects: 0 max: < 1.00000 CFU/100mL  
# non-detects: 12 avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 12 min: < 1.00000 counts/100mL  
# detects: 0 max: < 1.00000 counts/100mL



## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# non-detects: 12      avg: n/a (based on 0 numerical results)  
# exceedances: 0

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

### Escherichia coli / E. coli (counts)

# samples: 12      min: < 1.00000 CFU/100mL  
# detects: 0      max: < 1.00000 CFU/100mL  
# non-detects: 12      avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 12      min: < 1.00000 counts/100mL  
# detects: 0      max: < 1.00000 counts/100mL  
# non-detects: 12      avg: n/a (based on 0 numerical results)  
# exceedances: 0

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

### Escherichia coli / E. coli (counts)

# samples: 12      min: < 1.00000 CFU/100mL  
# detects: 0      max: < 1.00000 CFU/100mL  
# non-detects: 12      avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# samples: 12	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	S- Dennis Road (7-14-MD, 179CA)

### Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 10	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

### Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

### Total coliforms (counts)

# samples: 10	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
Sampling Point:	S- Marsh Drive (7-4-MD, 94E7)

### Escherichia coli / E. coli (counts)

# samples: 12	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 12	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

### Escherichia coli / E. coli (counts)

# samples: 12	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# exceedances: 0

### Total coliforms (counts)

# samples: 12      min: < 1.00000 counts/100mL  
# detects: 0      max: < 1.00000 counts/100mL  
# non-detects: 12      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility: Distribution System  
Sampling Point: S- N. Star Dragon Hill (7-11-MD, 94F4)

### Escherichia coli / E. coli (counts)

# samples: 12      min: < 1.00000 CFU/100mL  
# detects: 0      max: < 1.00000 CFU/100mL  
# non-detects: 12      avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 12      min: < 1.00000 counts/100mL  
# detects: 0      max: < 1.00000 counts/100mL  
# non-detects: 12      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility: Distribution System  
Sampling Point: S- N.Star South Hill (7-12-MD, 94F6)

### Escherichia coli / E. coli (counts)

# samples: 12      min: < 1.00000 CFU/100mL

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 12	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

### Escherichia coli / E. coli (counts)

# samples: 13	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 13	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 13	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

### Escherichia coli / E. coli (counts)

# samples: 11	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 11	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

### Escherichia coli / E. coli (counts)

# samples: 11	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 11	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Distribution System
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## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

**Sampling Point:** S-Graham Ave (7-5-MD, 94E8)

### Escherichia coli / E. coli (counts)

# samples: 12	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 12	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

### Escherichia coli / E. coli (counts)

# samples: 12	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 12	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 12	avg: n/a (based on 0 numerical results)
# exceedances: 0	

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

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

### Escherichia coli / E. coli (counts)

# samples: 10      min: < 1.00000 CFU/100mL  
# detects: 0      max: < 1.00000 CFU/100mL  
# non-detects: 10      avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 10      min: < 1.00000 counts/100mL  
# detects: 0      max: < 1.00000 counts/100mL  
# non-detects: 10      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: < 1.00000 CFU/100mL  
# detects: 0      max: < 1.00000 CFU/100mL  
# non-detects: 10      avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 10      min: < 1.00000 counts/100mL  
# detects: 0      max: < 1.00000 counts/100mL  
# non-detects: 10      avg: n/a (based on 0 numerical results)



## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# exceedances: 0

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

### Escherichia coli / E. coli (counts)

# samples: 10 min: < 1.00000 CFU/100mL  
# detects: 0 max: < 1.00000 CFU/100mL  
# non-detects: 10 avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 10 min: < 1.00000 counts/100mL  
# detects: 0 max: < 1.00000 counts/100mL  
# non-detects: 10 avg: n/a (based on 0 numerical results)  
# exceedances: 0

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

### Escherichia coli / E. coli (counts)

# samples: 10 min: < 1.00000 CFU/100mL  
# detects: 0 max: < 1.00000 CFU/100mL  
# non-detects: 10 avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 10 min: < 1.00000 counts/100mL

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# detects: 0                      max: < 1.00000 counts/100mL  
# non-detects: 10                avg: n/a (based on 0 numerical results)  
# exceedances: 0

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

### Escherichia coli / E. coli (counts)

# samples: 10                    min: < 1.00000 CFU/100mL  
# detects: 0                      max: < 1.00000 CFU/100mL  
# non-detects: 10                avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 10                    min: < 1.00000 counts/100mL  
# detects: 0                      max: < 1.00000 counts/100mL  
# non-detects: 10                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: < 1.00000 CFU/100mL  
# detects: 0                      max: < 1.00000 CFU/100mL  
# non-detects: 10                avg: n/a (based on 0 numerical results)  
# exceedances: 0

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

### Total coliforms (counts)

# samples: 10	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

### Escherichia coli / E. coli (counts)

# samples: 10	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 10	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 10	avg: n/a (based on 0 numerical results)
# exceedances: 0	

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

### Escherichia coli / E. coli (counts)

# samples: 4	min: < 1 CFU/100mL
# detects: 0	max: < 1 CFU/100mL
# non-detects: 4	avg: n/a (based on 0 numerical results)

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# exceedances: 0

### Total coliforms (counts)

# samples: 4                      min: < 1 counts/100mL  
# detects: 0                      max: < 1 counts/100mL  
# non-detects: 4                  avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility:                      Well 5 Hilborn Rd; Well No 5  
Sampling Point:              Well 5 Hilborn Rd (2-2-EP, 94D8)

### Escherichia coli / E. coli (counts)

# samples: 8                      min: < 1.00000 CFU/100mL  
# detects: 0                      max: < 1.00000 CFU/100mL  
# non-detects: 8                  avg: n/a (based on 0 numerical results)  
# exceedances: 0

### Total coliforms (counts)

# samples: 8                      min: < 1.00000 counts/100mL  
# detects: 0                      max: < 1.00000 counts/100mL  
# non-detects: 8                  avg: n/a (based on 0 numerical results)  
# exceedances: 0

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

### Escherichia coli / E. coli (counts)

# samples: 11                      min: < 1.00000 CFU/100mL

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 11	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Facility:	Well 7 N. Fraser Dr; Well No 7
Sampling Point:	Well 7 N. Fraser Dr (4-2-EP, 94E0)

### Escherichia coli / E. coli (counts)

# samples: 11	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 11	min: < 1.00000 counts/100mL
# detects: 1	max: 2 counts/100mL
# non-detects: 10	avg: 2.000 counts/100mL (based on 1 numerical results)
# exceedances: 1	

Facility:	Well 8 Hilborn Rd; Well No 8
Sampling Point:	Well 8 Hilborn Rd (5-1-EP, 94E1)

## 2010 Main System Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

### Escherichia coli / E. coli (counts)

# samples: 11	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 11	min: < 1.00000 counts/100mL
# detects: 1	max: 3 counts/100mL
# non-detects: 10	avg: 3.000 counts/100mL (based on 1 numerical results)
# exceedances: 1	

Facility:	Well 9 Carson Sub; Well No 9
Sampling Point:	Well 9 Carson Sub (6-2-EP, 94DF)

### Escherichia coli / E. coli (counts)

# samples: 11	min: < 1.00000 CFU/100mL
# detects: 0	max: < 1.00000 CFU/100mL
# non-detects: 11	avg: n/a (based on 0 numerical results)
# exceedances: 0	

### Total coliforms (counts)

# samples: 11	min: < 1.00000 counts/100mL
# detects: 0	max: < 1.00000 counts/100mL
# non-detects: 11	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**

## 2010 Small Syst Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Small System

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

Escherichia coli / E. coli (counts)

# samples: 11 min: < 1.00000 CFU/100mL  
# detects: 0 max: < 1.00000 CFU/100mL  
# non-detects: 11 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 11 min: < 1.00000 counts/100mL  
# detects: 0 max: < 1.00000 counts/100mL  
# non-detects: 11 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Facility: Well A Sword Rd; Well A Sword Rd  
Sampling Point: Well A Sword Rd (1-1-EP, 94ED)

Escherichia coli / E. coli (counts)

# samples: 11 min: < 1.00000 CFU/100mL  
# detects: 0 max: < 1.00000 CFU/100mL  
# non-detects: 11 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Total coliforms (counts)

# samples: 11 min: < 1.00000 counts/100mL  
# detects: 1 max: 1 counts/100mL



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## 2010 Small Syst Coliform Summary

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Small System

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# non-detects: 10                      avg: 1.000 counts/100mL (based on 1 numerical results)  
# exceedances: 1

### 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

## 2010 Main Syst Coliform Ecoli Exceedences

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

Facility:	Distribution System
Sampling Point:	Bulk Water Site #1 (7-15-QC, 21D9B)
Facility:	Distribution System
Sampling Point:	S- Airport (7-1-MR, 94E4)
Facility:	Distribution System
Sampling Point:	S- Carradice Rd (7-3-MR, 94E6)
Facility:	Distribution System
Sampling Point:	S- Chew Rd (7-13-MR, 94F7)
Facility:	Distribution System
Sampling Point:	S- Dennis Road (7-14-MD, 179CA)
Facility:	Distribution System
Sampling Point:	S- Dixon (7-8-MR, 94F1)
Facility:	Distribution System
Sampling Point:	S- Marsh Drive (7-4-MD, 94E7)
Facility:	Distribution System
Sampling Point:	S- Mills Rd (7-2-MR, 94E5)
Facility:	Distribution System
Sampling Point:	S- N. Star Dragon Hill (7-11-MD, 94F4)
Facility:	Distribution System
Sampling Point:	S- N.Star South Hill (7-12-MD, 94F6)
Facility:	Distribution System
Sampling Point:	S- Nason (7-10-MD, 94F3)
Facility:	Distribution System
Sampling Point:	S- Pederson Rd (7-7-MD, 94F0)
Facility:	Distribution System

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## 2010 Main Syst Coliform Ecoli Exceedences

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

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Sampling Point:	S- West Fraser Rd (7-6-MR, 94E9)
Facility:	Distribution System
Sampling Point:	S-Graham Ave (7-5-MD, 94E8)
Facility:	Distribution System
Sampling Point:	S-Hospital (7-9-MD, 94F2)
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 Abbott Dr 1 (8-2-MR, 94EB)
Facility:	Reservoirs
Sampling Point:	R-4 Abbott Dr 2 (8-3-MR, 94EC)
Facility:	Reservoirs
Sampling Point:	R-5 Dragon Hill (8-6-MR, 94FC)
Facility:	Reservoirs
Sampling Point:	R-6 New Tatchell Reservoir (8-8-MR, 94FF)
Facility:	Well 3 Rolph at Roddis; Well No 3
Sampling Point:	Well 3 Rolph at Roddis (1-2-EP, 94D1)
Facility:	Well 5 Hilborn Rd; Well No 5
Sampling Point:	Well 5 Hilborn Rd (2-2-EP, 94D8)
Facility:	Well 6 Rolph at Robertson; Well No 6
Sampling Point:	Well 6 Rolph at Robertson (3-2-EP, 94DC)

## 2010 Main Syst Coliform Ecoli Exceedences

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

Facility: Well 7 N. Fraser Dr; Well No 7  
Sampling Point: Well 7 N. Fraser Dr (4-2-EP, 94E0)

Total coliforms (counts) Criteria  
\* 05/18/2010 16:33 2 counts/100mL <=0, OG, P User-Defined

# samples: 11 min: < 1.00000 counts/100mL  
# detects: 1 max: 2 counts/100mL  
# non-detects: 10 avg: 2.000 counts/100mL (based on 1 numerical results)  
# exceedances: 1

Facility: Well 8 Hilborn Rd; Well No 8  
Sampling Point: Well 8 Hilborn Rd (5-1-EP, 94E1)

Total coliforms (counts) Criteria  
\* 04/28/2010 10:30 3 counts/100mL <=0, OG, P User-Defined

# samples: 11 min: < 1.00000 counts/100mL  
# detects: 1 max: 3 counts/100mL  
# non-detects: 10 avg: 3.000 counts/100mL (based on 1 numerical results)  
# exceedances: 1

Facility: Well 9 Carson Sub; Well No 9  
Sampling Point: Well 9 Carson Sub (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  
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» means detected & greater than number shown

\* Indicates Criteria is exceeded

## 2010 Small Syst Coliform Ecoli Exceedences

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Small System

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

Facility: Well A Sword Rd; Well A Sword Rd  
Sampling Point: Well A Sword Rd (1-1-EP, 94ED)

Total coliforms (counts)	Criteria
* 04/28/2010 09:16	1 counts/100mL <=0, OG, P User-Defined

# samples: 11	min: < 1.00000 counts/100mL
# detects: 1	max: 1 counts/100mL
# non-detects: 10	avg: 1.000 counts/100mL (based on 1 numerical results)
# exceedances: 1	

### 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

## 2010 April Semi Annual Summary

City of Quesnel

04/20/2010 to 04/20/2010 (mm/dd/yyyy)

City of Quesnel – Main System

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

Copper (total)		Criteria	
04/20/2010 12:51	0.0051 mg/L	<=1.0	AO

# samples: 1	min: 0.0051 mg/L
# detects: 1	max: 0.0051 mg/L
# non-detects: 0	avg: 0.0051 mg/L (based on 1 numerical results)
# exceedances: 0	

Escherichia coli / E. coli (counts)		Criteria	
04/20/2010 12:51	< 1 CFU/100mL	<=0, P, PR	User-Defined

# samples: 1	min: < 1 CFU/100mL
# detects: 0	max: < 1 CFU/100mL
# non-detects: 1	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Heterotrophic Plate Count / HPC		Criteria	
04/20/2010 12:51	< 1.0 CFU/mL	<=500	User-Defined

# samples: 1	min: < 1.0 CFU/mL
# detects: 0	max: < 1.0 CFU/mL
# non-detects: 1	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Iron (total)		Criteria	
04/20/2010 12:51	0.009 mg/L	<=0.3	AO

## 2010 April Semi Annual Summary

City of Quesnel

04/20/2010 to 04/20/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# samples: 1	min: 0.009 mg/L
# detects: 1	max: 0.009 mg/L
# non-detects: 0	avg: 0.009 mg/L (based on 1 numerical results)
# exceedances: 0	

Lead (total)		Criteria	
04/20/2010 12:51	0.0009 mg/L	<=0.010	MAC

# samples: 1	min: 0.0009 mg/L
# detects: 1	max: 0.0009 mg/L
# non-detects: 0	avg: 0.0009 mg/L (based on 1 numerical results)
# exceedances: 0	

Manganese (total)		Criteria	
04/20/2010 12:51	0.002 mg/L	<=0.05	AO

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

Temperature		Criteria
04/20/2010 12:51	5 degrees C	

# samples: 1	min: 5 degrees C
# detects: 1	max: 5 degrees C
# non-detects: 0	avg: 5.000 degrees C (based on 1 numerical results)
# exceedances: 0	



# 2010 April Semi Annual Summary

City of Quesnel

04/20/2010 to 04/20/2010 (mm/dd/yyyy)

City of Quesnel – Main System

Total coliforms (counts)		Criteria	
04/20/2010 12:51	< 1 counts/100mL	<=0, OG, P	User-Defined

# samples: 1	min: < 1 counts/100mL
# detects: 0	max: < 1 counts/100mL
# non-detects: 1	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Turbidity		Criteria	
04/20/2010 12:51	< 0.1 NTU	<=1	User-Defined

# samples: 1	min: < 0.1 NTU
# detects: 0	max: < 0.1 NTU
# non-detects: 1	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Vinyl chloride		Criteria	
04/20/2010 12:51	< 0.0005 mg/L	<=0.002	MAC

# samples: 1	min: < 0.0005 mg/L
# detects: 0	max: < 0.0005 mg/L
# non-detects: 1	avg: n/a (based on 0 numerical results)
# exceedances: 0	

Zinc (total)		Criteria	
04/20/2010 12:51	0.007 mg/L	<=5	AO

# samples: 1	min: 0.007 mg/L
# detects: 1	max: 0.007 mg/L

# 2010 April Semi Annual Summary

City of Quesnel

04/20/2010 to 04/20/2010 (mm/dd/yyyy)

City of Quesnel – Main System

# non-detects: 0 avg: 0.007 mg/L (based on 1 numerical results)  
# exceedances: 0

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

Copper (total) Criteria  
04/20/2010 13:15 0.0064 mg/L <=1.0 AO

# samples: 1 min: 0.0064 mg/L  
# detects: 1 max: 0.0064 mg/L  
# non-detects: 0 avg: 0.0064 mg/L (based on 1 numerical results)  
# exceedances: 0

Escherichia coli / E. coli (counts) Criteria  
04/20/2010 13:15 < 1 CFU/100mL <=0, P, PR User-Defined

# samples: 1 min: < 1 CFU/100mL  
# detects: 0 max: < 1 CFU/100mL  
# non-detects: 1 avg: n/a (based on 0 numerical results)  
# exceedances: 0

Heterotrophic Plate Count / HPC Criteria  
04/20/2010 13:15 < 1.0 CFU/mL <=500 User-Defined

# samples: 1 min: < 1.0 CFU/mL  
# detects: 0 max: < 1.0 CFU/mL  
# non-detects: 1 avg: n/a (based on 0 numerical results)  
# exceedances: 0



## 2010 April Semi Annual Summary

City of Quesnel

04/20/2010 to 04/20/2010 (mm/dd/yyyy)

City of Quesnel – Main System

Iron (total)		Criteria	
04/20/2010 13:15	0.017 mg/L	<=0.3	AO

# samples: 1	min: 0.017 mg/L
# detects: 1	max: 0.017 mg/L
# non-detects: 0	avg: 0.017 mg/L (based on 1 numerical results)
# exceedances: 0	

Lead (total)		Criteria	
04/20/2010 13:15	0.0006 mg/L	<=0.010	MAC

# samples: 1	min: 0.0006 mg/L
# detects: 1	max: 0.0006 mg/L
# non-detects: 0	avg: 0.0006 mg/L (based on 1 numerical results)
# exceedances: 0	

Manganese (total)		Criteria	
* 04/20/2010 13:15	0.093 mg/L	<=0.05	AO

# samples: 1	min: 0.093 mg/L
# detects: 1	max: 0.093 mg/L
# non-detects: 0	avg: 0.093 mg/L (based on 1 numerical results)
# exceedances: 1	

Temperature		Criteria	
04/20/2010 13:15	6.6 degrees C		

# samples: 1	min: 6.6 degrees C
# detects: 1	max: 6.6 degrees C

# non-detects: 0      avg: 6.600 degrees C (based on 1 numerical results)  
# exceedances: 0

Total coliforms (counts)      Criteria  
04/20/2010 13:15      < 1 counts/100mL      <=0, OG, P      User-Defined

# samples: 1      min: < 1 counts/100mL  
# detects: 0      max: < 1 counts/100mL  
# non-detects: 1      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Turbidity      Criteria  
04/20/2010 13:15      < 0.1 NTU      <=1      User-Defined

# samples: 1      min: < 0.1 NTU  
# detects: 0      max: < 0.1 NTU  
# non-detects: 1      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Vinyl chloride      Criteria  
04/20/2010 13:15      < 0.0005 mg/L      <=0.002      MAC

# samples: 1      min: < 0.0005 mg/L  
# detects: 0      max: < 0.0005 mg/L  
# non-detects: 1      avg: n/a (based on 0 numerical results)  
# exceedances: 0

Zinc (total)      Criteria  
04/20/2010 13:15      0.005 mg/L      <=5      AO

# samples: 1	min: 0.005 mg/L
# detects: 1	max: 0.005 mg/L
# non-detects: 0	avg: 0.005 mg/L (based on 1 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

## 2010 Quarterly Small System

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Small System

Facility: Well A Sword Rd; Well A Sword Rd  
Sampling Point: Well A Sword Rd (1-1-EP, 94ED)

Chloride		Criteria	
01/05/2010 00:00	0.20 mg/L	<=250	AO
04/28/2010 09:16	< 0.5 mg/L	<=250	AO
05/18/2010	< 0.5 mg/L	<=250	AO
06/22/2010 10:30	< 0.5 mg/L	<=250	AO
09/14/2010 09:50	< 0.5 mg/L	<=250	AO
12/13/2010 13:20	0.6 mg/L	<=250	AO

Nitrate (as N)		Criteria	
01/05/2010 00:00	0.11 mg/L		
04/28/2010 09:16	0.12 mg/L		
05/18/2010	0.14 mg/L		
06/22/2010 10:30	0.15 mg/L		
09/14/2010 09:50	0.12 mg/L		
12/13/2010 13:20	0.12 mg/L		

Nitrate + Nitrite (as N)		Criteria	
01/05/2010 00:00	0.11 mg/L		
04/28/2010 09:16	0.12 mg/L		
05/18/2010	0.14 mg/L		
06/22/2010 10:30	0.15 mg/L		
09/14/2010 09:50	0.12 mg/L		
12/13/2010 13:20	0.12 mg/L		

Nitrite (as N)		Criteria	
01/05/2010 00:00	< 0.00200 mg/L		
04/28/2010 09:16	< 0.005 mg/L		
05/18/2010	< 0.005 mg/L		
06/22/2010 10:30	< 0.005 mg/L		
09/14/2010 09:50	< 0.005 mg/L		



Nitrite (as N)

Criteria

12/13/2010 13:20 &lt; 0.005 mg/L

## 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

## 2010 Quarterly Main System

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

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

Chloride		Criteria	
05/18/2010 12:40	7.6 mg/L	<=250	AO
09/14/2010 13:00	6.3 mg/L	<=250	AO

Nitrate (as N)	Criteria
05/18/2010 12:40	< 0.02 mg/L
09/14/2010 13:00	0.12 mg/L

Nitrate + Nitrite (as N)	Criteria
05/18/2010 12:40	< 0.02 mg/L
09/14/2010 13:00	0.12 mg/L

Nitrite (as N)	Criteria
05/18/2010 12:40	< 0.005 mg/L
09/14/2010 13:00	< 0.005 mg/L

Facility: Well 5 Hilborn Rd; Well No 5  
Sampling Point: Well 5 Hilborn Rd (2-2-EP, 94D8)

Chloride		Criteria	
01/05/2010 00:00	18.4 mg/L	<=250	AO
04/28/2010 10:30	14 mg/L	<=250	AO
05/18/2010 13:45	16 mg/L	<=250	AO
06/22/2010 11:00	14 mg/L	<=250	AO

Nitrate (as N)	Criteria
01/05/2010 00:00	< 0.05000 mg/L
04/28/2010 10:30	< 0.02 mg/L
05/18/2010 13:45	< 0.02 mg/L
06/22/2010 11:00	< 0.02 mg/L



## 2010 Quarterly Main System

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

## Nitrate + Nitrite (as N)

## Criteria

01/05/2010 00:00	< 0.05000 mg/L
04/28/2010 10:30	< 0.02 mg/L
05/18/2010 13:45	< 0.02 mg/L
06/22/2010 11:00	< 0.02 mg/L

## Nitrite (as N)

## Criteria

01/05/2010 00:00	< 0.00200 mg/L
04/28/2010 10:30	< 0.005 mg/L
05/18/2010 13:45	< 0.005 mg/L
06/22/2010 11:00	< 0.005 mg/L

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

## Chloride

## Criteria

01/05/2010 00:00	11.8 mg/L	<=250	AO
04/28/2010 11:30	9.4 mg/L	<=250	AO
05/18/2010 13:15	9.7 mg/L	<=250	AO
06/22/2010 13:00	9.0 mg/L	<=250	AO
09/14/2010 13:15	8.2 mg/L	<=250	AO
12/13/2010 13:20	11 mg/L	<=250	AO

## Nitrate (as N)

## Criteria

01/05/2010 00:00	0.25 mg/L
04/28/2010 11:30	0.15 mg/L
05/18/2010 13:15	0.16 mg/L
06/22/2010 13:00	0.20 mg/L
09/14/2010 13:15	0.32 mg/L
12/13/2010 13:20	0.18 mg/L

## Nitrate + Nitrite (as N)

## Criteria

01/05/2010 00:00	0.25 mg/L
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# 2010 Quarterly Main System

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

## Nitrate + Nitrite (as N)

## Criteria

04/28/2010 11:30	0.15 mg/L
05/18/2010 13:15	0.16 mg/L
06/22/2010 13:00	0.20 mg/L
09/14/2010 13:15	0.32 mg/L
12/13/2010 13:20	0.18 mg/L

## Nitrite (as N)

## Criteria

01/05/2010 00:00	0.002 mg/L
04/28/2010 11:30	< 0.005 mg/L
05/18/2010 13:15	< 0.005 mg/L
06/22/2010 13:00	< 0.005 mg/L
09/14/2010 13:15	< 0.005 mg/L
12/13/2010 13:20	< 0.005 mg/L

Facility: Well 7 N. Fraser Dr; Well No 7  
Sampling Point: Well 7 N. Fraser Dr (4-2-EP, 94E0)

## Chloride

## Criteria

01/05/2010 00:00	8.68 mg/L	<=250	AO
04/28/2010 11:00	4.6 mg/L	<=250	AO
05/18/2010 16:33	6.4 mg/L	<=250	AO
06/22/2010 13:25	6.3 mg/L	<=250	AO
09/14/2010 12:55	6.8 mg/L	<=250	AO
12/13/2010 13:20	5.4 mg/L	<=250	AO

## Nitrate (as N)

## Criteria

01/05/2010 00:00	0.07 mg/L
04/28/2010 11:00	0.08 mg/L
05/18/2010 16:33	0.10 mg/L
06/22/2010 13:25	0.14 mg/L
09/14/2010 12:55	0.08 mg/L
12/13/2010 13:20	0.05 mg/L



## 2010 Quarterly Main System

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

## Nitrate + Nitrite (as N)

## Criteria

01/05/2010 00:00	0.07 mg/L
04/28/2010 11:00	0.08 mg/L
05/18/2010 16:33	0.10 mg/L
06/22/2010 13:25	0.14 mg/L
09/14/2010 12:55	0.08 mg/L
12/13/2010 13:20	0.05 mg/L

## Nitrite (as N)

## Criteria

01/05/2010 00:00	< 0.00200 mg/L
04/28/2010 11:00	< 0.005 mg/L
05/18/2010 16:33	< 0.005 mg/L
06/22/2010 13:25	< 0.005 mg/L
09/14/2010 12:55	< 0.005 mg/L
12/13/2010 13:20	< 0.005 mg/L

Facility: Well 8 Hilborn Rd; Well No 8  
 Sampling Point: Well 8 Hilborn Rd (5-1-EP, 94E1)

## Chloride

## Criteria

01/05/2010 00:00	3.32 mg/L	<=250	AO
04/28/2010 10:30	4.0 mg/L	<=250	AO
05/18/2010 16:33	4.4 mg/L	<=250	AO
06/22/2010 11:20	4.2 mg/L	<=250	AO
09/14/2010 11:10	3.4 mg/L	<=250	AO
12/13/2010 13:20	4.0 mg/L	<=250	AO

## Nitrate (as N)

## Criteria

01/05/2010 00:00	< 0.05000 mg/L
04/28/2010 10:30	< 0.02 mg/L
05/18/2010 16:33	< 0.02 mg/L
06/22/2010 11:20	< 0.02 mg/L
09/14/2010 11:10	< 0.02 mg/L
12/13/2010 13:20	< 0.02 mg/L

## Nitrate + Nitrite (as N)

## Criteria

01/05/2010 00:00	< 0.05000 mg/L
04/28/2010 10:30	< 0.02 mg/L
05/18/2010 16:33	< 0.02 mg/L
06/22/2010 11:20	< 0.02 mg/L
09/14/2010 11:10	< 0.02 mg/L
12/13/2010 13:20	< 0.02 mg/L

## Nitrite (as N)

## Criteria

01/05/2010 00:00	< 0.00200 mg/L
04/28/2010 10:30	< 0.005 mg/L
05/18/2010 16:33	< 0.005 mg/L
06/22/2010 11:20	< 0.005 mg/L
09/14/2010 11:10	< 0.005 mg/L
12/13/2010 13:20	< 0.005 mg/L

Facility: Well 9 Carson Sub; Well No 9  
Sampling Point: Well 9 Carson Sub (6-2-EP, 94DF)

## Chloride

## Criteria

01/05/2010 00:00	0.88 mg/L	<=250	AO
04/28/2010 09:06	0.9 mg/L	<=250	AO
05/18/2010 16:33	0.7 mg/L	<=250	AO
06/22/2010 11:50	0.8 mg/L	<=250	AO
09/14/2010 10:30	1.0 mg/L	<=250	AO
12/13/2010 13:20	1.9 mg/L	<=250	AO

## Nitrate (as N)

## Criteria

01/05/2010 00:00	< 0.05000 mg/L
04/28/2010 09:06	< 0.02 mg/L
05/18/2010 16:33	< 0.02 mg/L
06/22/2010 11:50	< 0.02 mg/L
09/14/2010 10:30	< 0.02 mg/L
12/13/2010 13:20	< 0.02 mg/L

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## 2010 Quarterly Main System

City of Quesnel

01/01/2010 to 12/31/2010 (mm/dd/yyyy)

City of Quesnel – Main System

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### Nitrate + Nitrite (as N)

### Criteria

01/05/2010 00:00	< 0.05000 mg/L
04/28/2010 09:06	< 0.02 mg/L
05/18/2010 16:33	< 0.02 mg/L
06/22/2010 11:50	< 0.02 mg/L
09/14/2010 10:30	< 0.02 mg/L
12/13/2010 13:20	< 0.02 mg/L

### Nitrite (as N)

### Criteria

01/05/2010 00:00	< 0.00200 mg/L
04/28/2010 09:06	< 0.005 mg/L
05/18/2010 16:33	< 0.005 mg/L
06/22/2010 11:50	< 0.005 mg/L
09/14/2010 10:30	< 0.005 mg/L
12/13/2010 13:20	< 0.005 mg/L

### 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