

## 108 Waterworks Annual Report

In accordance with Interior Health Permit No. 14-124-00001 for 108 Waterworks, the following is an annual report on the status of the 108 Waterworks for the period of June 2023 to June 2024.

The report contains:

- An overview of maintenance for the system
- Average daily water flows
- Results of bacteriological and chemical water testing
- Groundwater Supply

Please forward questions or concerns to the Cariboo Regional District Environmental Services Department at (250) 392-3351 or 1-800-665-1636.

### **Electoral Areas**

A – Red Bluff-Quesnel South • B – Quesnel West-Bouchie Lake-Ten Mile • C – Barlow-Bowron • D – Wildwood-McLeese Lake  
E – Esler-Dog Creek • F – Horsefly-Likely-150 Mile House • G – Lac La Hache-108 Mile House • H – Canim Lake-Forest Grove  
I – Narcosli-Nazko • J – West Chilcotin • K – East Chilcotin • L – Lone Butte-Interlakes

### **Municipalities**

Quesnel • Wells • Williams Lake • 100 Mile House

## 108 Waterworks Maintenance Schedule

Maintenance Item	Frequency
Inspect treatment plant.	Daily
Check pump houses to ensure proper operation of the pumps and automatic pump-up system.	Twice per week
Inspect the total supply area for signs of leaks or abuse of the water system.	Weekly
Inspect back wash.	Twice per month
Service pumps including testing of any standby pumps, and any minor maintenance and cleanup.	Monthly
Obtain biological water samples and deliver to Interior Health.	Monthly
Check heating system in the pump houses.	During winter months
Inspect storage tanks for any signs of freezing or icing problems.	During winter months
Service all fire hydrants and standpipes and ensure clear access.	Annually
Flush distribution pipelines and exercise all isolating gate valves.	Annually
Clean, flush and disinfect storage tanks.	Annually
Obtain chemical water samples and deliver to Interior Health.	Annually
Clean reservoirs.	Annually
Clean inside of buildings, paint pipes as required and clear weeds around building.	Annually or as required
Test and inspect all new water connections, and attend to water service turn-off and turn-on.	As requested
Paint hydrants, standpipes and valve boxes.	As required
Attend to unscheduled inspections, emergency calls and repairs.	As required

**108 Waterworks  
Average Daily Water Flows  
June 2023 to June 2024**

<u>Month</u>	<u>Cubic Meters</u>	<u>Imperial Gallons</u>
June	1337	294,055
July	1637	360,089
August	1449	318,735
September	1005	221,069
October	781	171,796
November	722	158,818
December	795	174,875
January	945	207,871
February	848	186,534
March	741	162,997
April	760	167,176
May	1068	234,927
June	1184	260,443

**108 Waterworks  
Microbiological Monthly Monitoring  
June 2023 to June 2024**

2023	Sampling Point	Total Coliforms Results	E. coli Results	Chlorine (Range) mg/L
June	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.14 - .45
July	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.22 - .39
August	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.36 - .89 (Total – Free not available)
September	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.31 - .67 (Total – Free not available)
October	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.34 – 1.23
November	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.70 – 1.09
December	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.84 – 1.21

2024	Sampling Point	Total Coliforms Results	E. coli Results	Chlorine (Range) mg/L
January	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.79 – 1.18
February	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	.76 – 1.29
March	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	0.62 – 1.12
April	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	0.68 – 1.29
May	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	0.95 – 1.57
June	108 Mall 108 WTP Sepa Well Kyllo Road	<1 <1 <1 <1	<1 <1 <1 <1	0.88 – 1.15

Bacteriological tests are performed routinely for total coliforms and E. coli. Potable water standards are outlined in [Schedule A](#) as per the Sec. 2 of the [Drinking Water Protection Regulation](#).

## 108 Waterworks Water Quality Monitoring Chemical Analysis

Parameters	Sampling Point			Maximum Acceptable Concentration (MAC) – limit	Aesthetic Objective (AO) - limit
	Sepa 2		Sepa 3		
	Mar 19/24	May 7/24	May 7/24		
<b>Conventional Parameters</b>					
PH, Laboratory	8.21	8.54	8.53		7.0 – 10.5 pH units
True Color	<5.0	<5.0	<5.0		15 CU
Turbidity	<0.10	<0.10	<0.10	1 NTU	
Total Dissolved Solids	944	756	770		500 mg/L
Hardness	568	576	561		
Chloride	97.7	102	100		250 mg/L
Fluoride	0.503	0.524	0.516	1.5 mg/L	
Nitrate	0.769	0.81	0.803	10 mg/L	
Nitrite	<0.0050	0.0142	0.0124	1 mg/L	
Sulfate	81.5	79.2	78		500 mg/L
<b>Total Metals Analysis</b>					
Arsenic	0.00122	0.00174	0.00169	0.01 mg/L	
Barium	<0.0200	<0.0200	<0.0200	2 mg/L	
Boron	<0.100	<0.100	<0.100	5 mg/L	
Cadmium	<0.000200	<0.000200	<0.000200	0.007 mg/L	
Chromium	<0.00200	<0.00200	<0.00200	0.05 mg/L	
Copper	1.4	0.00124	0.00123	2 mg/L	1 mg/L
Iron	<0.030	<0.030	<0.030		0.3 mg/L
Lead	<0.000500	<0.000500	<0.000500	0.005 mg/L	
Manganese	<0.00200	0.319	0.294	0.12 mg/L	0.02 mg/L
Mercury	0.0000064	0.000009	0.0000094	0.001 mg/L	
Selenium	<0.00100	<0.00100	<0.00100	0.05 mg/L	
Sodium	99.3	99.9	99.6		200 mg/L
Uranium	0.00557	0.00507	0.00499	0.02 mg/L	
Zinc	<0.0500	<0.0500	<0.0500		5 mg/L

CU = color units

mg/L = milligrams per liter

≤ = less than or equal to detection limit

NTU = nephelometric turbidity units

ug/L = micrograms per liter

< = less than detection limit

**MAC** This standard sets the maximum acceptable concentration for various substances in the water. Concentration of a given substance above the MAC could be hazardous to health.

**AO** This standard determines acceptable appearance (cloudiness), smell or taste of the water being tested.

## **108 Waterworks Groundwater Supply and Treatment Plant**

Construction of the water treatment plant to remove Manganese was completed in June 2018. The treatment plant is achieving greater than 95% removal of Manganese. Manganese concentration in raw water ranges between 0.4 mg/L and 0.5 mg/L and is about 0.015 mg/L after treatment. A new groundwater supply was drilled in November 2018, near the existing Well #2. The well was completed in the same aquifer as Well #2 and has similar water quality. The well was connected to the system in March of 2020. The water treatment plant was classified by EOCP in 2023 as WT II.