

Rayleigh Waterworks District

WATER QUALITY MONITORING

Water quality samples are taken daily at the source and after treatment and analyzed to confirm compliance with applicable Interior Health Condition of Permit requirements. Weekly bacteriological samples are taken from a rotating location within the distribution system and submitted to ALS Environmental Accredited Laboratories for independent analysis. These weekly samples are also analyzed in house for free and total chlorine and turbidity.

RWWD personnel also sample the treated water daily for bacteriological analysis using IDEXX Colilert Test. Colilert simultaneously detects total coliforms and *e. coli* in water. All daily water samples taken and analyzed using the Colilert as an early result interpretation measure of current conditions.

Potable Water Disinfection By-Products

Under the Interior Health Authority recommendation, we sample our distribution system quarterly for THM's, HAA's and Total Organic Carbon. This analysis is performed by ALS Environmental accredited lab.

Raw Water Analysis

Water quality analysis is conducted twice per year during spring freshet and early fall conditions on the source water as recommended by Interior Health permit conditions. This analysis is performed by ALS Environmental accredited Laboratories.

Water Quality Monitoring Program

SOURCE WATER	FREQUENCY	IN HOUSE	ACCREDITED LAB
Temperature	Daily	X	
pH	Daily	X	
NTU	Daily	X	
UVT	Daily	X	
Iron, Total	Weekly	X	
Full Chemical Analysis	Freshet & Fall		X

TREATED WATER	FREQUENCY	IN HOUSE	ACCREDITED LAB
Bacteriological	Daily	X	
Temperature	Daily	X	
pH	Daily	X	
NTU	Daily	X	
Iron, Total	Weekly	X	

Aluminum, Al ³⁺	Weekly	X	
UVT	Daily	X	
UV Dose	Daily	X	
UV Intensities	Daily	X	

DISTRIBUTION	FREQUENCY	IN HOUSE	ACCREDITED LAB
Bacteriological	Weekly	X	X
Chlorine Residual	Weekly	X	
NTU	Weekly	X	
THM's	Quarterly		X
HAA's	Quarterly		X
TOC	Quarterly		X

DISTRIBUTION SAMPLING LOCATIONS:

Old Yellowhead Highway (Frontage Road) South
 Old Yellowhead Highway (Frontage Road) North
 Hyas Place
 Reighmount Place
 Reighmount Drive
 Raleigh Elementary School
 Davie Road
 Strawberry Lane
 Pinantan Place

Routine Water Analysis - Physical and Chemical Properties					
Test Description	Results		Unit of	GCDWQ	Aesthetic
	Date	date	Measure	MAC	Objective
Physical Tests					
Colour			CU		15
Conductivity			µS/cm		
Hardness (as CaCO ₃)			mg/L		500
pH			pH		7-10.5
Total Suspended Solids			mg/L		
Total Dissolved Solids			mg/L		500
Turbidity			NTU		
Anions and Nutrients					
Alkalinity, Total (as CaCO ₃)			mg/L		

Chloride (Cl)			mg/L		250
Flouride (F)			mg/L	1.5	
Nitrate (as N)			mg/L	10	
Nitrite (as N)			mg/L	1	
Sulfate (SO4)			mg/L		500
Organic / Inorganic Carbon					
Total Organic Carbon			mg/L		
Total Metals					
Aluminum (Al) - Total			mg/L		0.1
Antimony (Sb) - Total			mg/L	0.006	
Arsenic (As) - Total			mg/L	0.01	
Barium (Ba) - Total			mg/L	1	
Boron (B) - Total			mg/L	5	
Cadmium (Cd) - Total			mg/L	0.005	
Calcium (Ca) - Total			mg/L		
Chromium (Cr) - Total			mg/L	0.05	
Copper (Cu) - Total			mg/L	2.0	1.0
Iron (Fe) - Total			mg/L		0.3
Lead (Pb) - Total			mg/L	0.005	
Magnesium (Mg) - Total			mg/L		
Manganese (Mn) - Total			mg/L	0.12	0.02
Mercury (Hg) - Total			mg/L	0.001	
Potassium (K) - Total			mg/L		
Selenium (Se) - Total			mg/L	0.05	
Sodium (Na) - Total			mg/L		200
Uranium (U) - Total			mg/L	0.02	
Zinc (Zn) - Total			mg/L		5.0
Dissolved Metals					
Aluminum (Al) - Dissolved			mg/L		0.1
Antimony (Sb) - Total			mg/L	0.006	
Arsenic (As) - Dissolved			mg/L	0.01	
Barium (Ba) - Dissolved			mg/L	1	
Beryllium (Be) - Dissolved					
Bismuth (Bi) - Dissolved					
Boron (B) - Dissolved			mg/L	5	
Cadmium (Cd) - Dissolved			mg/L	0.005	

Calcium (Ca) - Dissolved			mg/L		
Cesium (Cs) - Dissolved					
Chromium (Cr) - Dissolved			mg/L	0.05	
Cobalt (Co) - Dissolved					
Copper (Cu) - Dissolved			mg/L	2.0	1.0
Iron (Fe) - Dissolved			mg/L		0.3
Lead (Pb) - Dissolved			mg/L	0.005	
Lithium (Li) - Dissolved					
Magnesium (Mg) - Dissolved			mg/L		
Manganese (Mn) - Dissolved			mg/L	0.12	0.02
Mercury (Hg) - Dissolved			mg/L	0.001	
Molybdenum (mo) - Dissolved					
Nickel (Ni) - Dissolved					
Phosphorus (P) - Dissolved					
Potassium (K) - Dissolved			mg/L		
Rubidium (Rb) - Dissolved					
Selenium (Se) - Dissolved			mg/L	0.05	
Silicon (Si) - Dissolved					
Silver (Ag) - Dissolved					
Sodium (Na) - Dissolved			mg/L		200
Strontium (Sr) - Dissolved			mg/L		
Sulfur (S) - Dissolved					
Tellurium (Te) - Dissolved					
Thallium (Tl) - Dissolved					
Thorium (Th) - Thorium					
Tin (Sn) - Dissolved					
Titanium (Ti) - Dissolved					
Tungsten (W) - Dissolved					
Uranium (U) - Dissolved			mg/L	0.02	
Vanadium (V) - Dissolved					
Zinc (Zn) - Dissolved			mg/L		5.0
Zirconium (Zr) - Dissolved					
GCDWQ = Guidelines for Canadian Drinking Water Quality limits updated annually					
MAC - Maximum Allowable Concentration					
*GCDWQ for Nitrate + Nitrite-N is the limit for nitrate only. If present as Nitrate, then the limit is 10 mg/L					
< or N.D. = less than detection limit					
- A blank entry designates no known limit					