# City of White Rock
# 2019 Annual Water Report

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## Introduction

The City of White Rock (CoWR) is a unique, ocean-side community of nearly 20,000 citizens known for its sunny weather, expansive beach, historic pier, delightful restaurants, and sense of community. The City is located half an hour south of Vancouver on the shore of Semiahmoo Bay.

The City of White Rock's Water Services provide safe and clean drinking water to its residents. The Engineering and Municipal Operations Department is responsible for the maintenance, repair and upgrades of the water supply and distribution system.

The Conditions of Permit issued by Fraser health was issued on August 21, 2019 (Appendix A):

1. The drinking water must be treated to provide an acceptable secondary disinfectant to the whole system that meets requirements of the Guidelines for Canadian Drinking Water Quality and is acceptable to Fraser Health Authority.
2. Arsenic and Manganese levels of the treated water must be monitored on a quarterly basis as a minimum. The results are to be provided to Fraser Health.
3. By June 30, 2021, the City of White Rock must have a Level Ill certified water treatment operator. The operator must be certified by Environmental Operators Certification Program (EOCP). As an interim measure, the City must have Level II certified operator and maintenance or repair of the treatment system must be conducted following procedures approved by a person certified by EOCP.

## Overview: Water Quality Milestones

2019 was the City of White Rock's Fourth full year of operating the water utility. Since acquiring the water utility in October 2015, the City has accomplished some substantial milestones, all of which reflect our commitment to delivering safe and clean drinking water to our residents. While our water meets Canadian Drinking Water Guidelines, we are always striving to improve water quality beyond what is mandated, enhance the reliability and resiliency of our water infrastructure, and plan for our future.

Stay up to date with water related initiatives in White Rock at www.whiterockcity.ca/mywater

## Source Water

Drinking water is obtained from the Sunnyside Uplands Aquifer, and distributed through seven wells located throughout the City, Figure-1.

The Sunnyside Aquifer is an important natural resource that is used as the water supply source for the CoWR. Population growth, climate change, sea level rise, and other users of the aquifer
 may put increasing pressure on the water supply system. The CoWR developed an Aquifer Protection Plan in 2018 as a key component in protecting the community's water supply source. Groundwater protection goals include stakeholder engagement, advancing the understanding of aquifer characteristics, protecting groundwater quality from contamination, and ensuring future withdrawals sustainably meet future demands.

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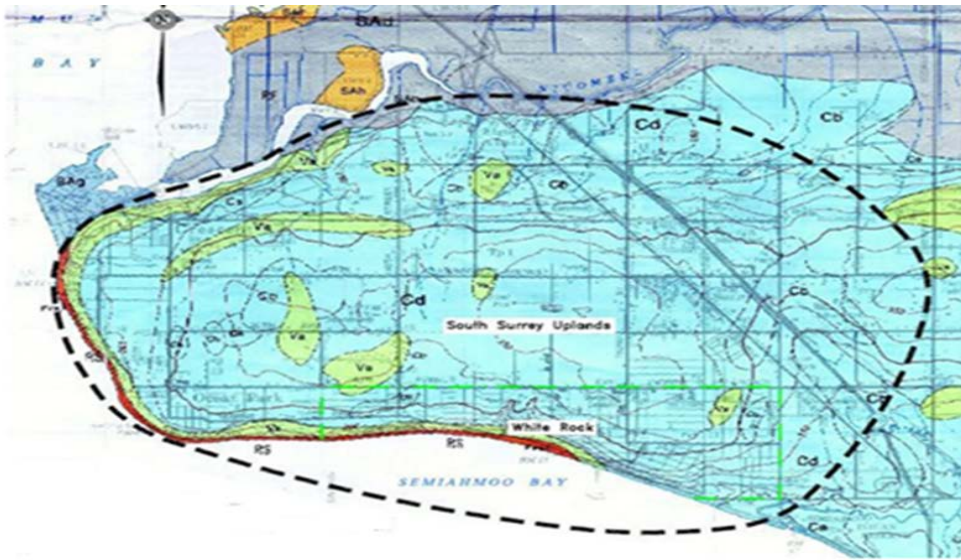
Figure-1: Sunnyside Uplands Aquifer

## Water Distribution System

The existing well network includes seven pumping wells located at four different sites as shown in Figure-2.

The wells can provide a combined supply of approximately 15 ML per day. These wells provide an adequate water supply for the CoWR community even at peak consumption during the summer months, when consumption can typically rise to 10 ML per day. Wells 1, 2, 3, and 8 are located at the Oxford Site. Well 4 used to be a seasonal well utilized during the months of June, July and August and is located at High Street, is connected to supply water to the Water Treatment Plant. Wells 6 and 7 are located at the Merklin Site. Well 5 was taken out of service on February 16th 2017 and Well #8 was constructed in 2018, Figure-2.



Figutre-2: City of White Rock Water Wells

## Maintenance Programs

The maintenance and day-to-day water operations for the water treatment plant, 2 pumping stations, 3 reservoirs, 80 km of pipes, 7 wells and 350 hydrants are conducted by the staff of the Water Department, Engineering and Municipal Operations, City of White Rock. The water distribution operators are licensed with the Environmental Operators Certification Program (EOCP). The City has an ongoing preventative maintenance program that includes:

- Operation and maintenance of the pumping station

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- Valve exercising
- Hydrant inspection and servicing
- Flushing of water mains
- Testing and calibration of WTP analyzers
- Regular backwash of filters of the Water Treatment Plants
- Chemicals addition and monitoring
- Maintenance of Backwash Tank


Other services include:
- Installation of water services
- Water infrastructure repairs and maintenance
- Water quality sampling and testing
- Residents request for sampling

In 2019 there were a total of 5 water main breaks throughout the City; all were cast iron. In 2018, there were 6 water main breaks, the majority of the broken pipes (4) were cast iron, and 2 were ductile iron. In 2017, the City experienced a total of 7 water main breaks. Most of the breaks occurred in cast iron pipes, and the cause of breaks was mainly corrosion, and shear break.

## Facilities Security

Municipal and private water systems facilities security measures throughout Canada are being elevated to reduce the potential for vandalism or other activities that could impact water quality or water supply to the public.

The Oxford Pumping Station, the New Water Treatment Plant were the last facilities that needed to have fencing as additional security measures to be implemented to mitigate the potential for damage.
As part of the City's commitment to water security, the City's Water Department provided in 2018 fencing for the Merklin Pumping Station and Reservoir, Roper Reservoir and the High Street Well #4.

Fencing for the new Water Treatment Plant and the Oxford Pumping Station/Reservoir started in 2019 after the completion of the construction of the Water Treatment Plant (Figure-3). The project was completed in February 2020. The fenced property includes the Water Treatment Plant, Oxford Pumping Station, the Old Pump House and 4 Wells (1, 2, 3 & 8).

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Figure-3, Fence Construction for the White Rock Water Treatment Plant

## Pressure Monitoring System

Public infrastructure systems are complex, many are underground and therefore difficult to access and inspect. It is standard practice to differentiate between linear assets (pipes, roads, etc.) and non-linear or discrete assets (pumps, plants, etc.) since each category presents different type of management challenges. Providing services to the public requires all the components within a system to perform adequately since the robustness – and therefore the safety and quality of the service is dependent on its certain challenging issues.

Infrastructure assets also have very long service lives – water mains in the distribution are in use in many locations as long as for 80 years, or longer. Pressure is one of the primary optimization parameters for the delivery of safe drinking water. The loss of pressure in the distribution system can potentially allow outside water sources to contaminate the distribution system. Fluctuations in pressure can affect the physical integrity of pipes. Pressure surges are known to generate an increase in leaks, and water main breaks, which affects the service life of the water system. The use of pressure sensors provides a proper assessment process for the integrity of the water system.

Establishing the exposure and sensitivity of infrastructure to threats, whether from extreme climate events, earthquakes, or from uncontrolled activities such as new development, or unlawful use of water hydrants.

The City completed the work on the implementation of a remote pressure monitoring system that was deployed in the water distribution system where communication networks were available. The system contains sensors located in both the high and low pressure zones areas that transmit readings to a secure web server. These readings were transmitted to the SCADA system, which allows the operators to receive real-time information on water pressure.

**Hydrant 1**
2020-Mar-01 to 2020-Mar-05

Hydrant 1 – Battery Level (V) [R]     Hydrant 1 – Pressure (psi) [L]     Hydrant 1 – Temperature (°C) [R]



**Hydrant 3**
2020-Mar-01 to 2020-Mar-05

Hydrant 3 – Battery Level (V) [R]     Hydrant 3 – Pressure (psi) [L]     Hydrant 3 – Temperature (°C) [R]
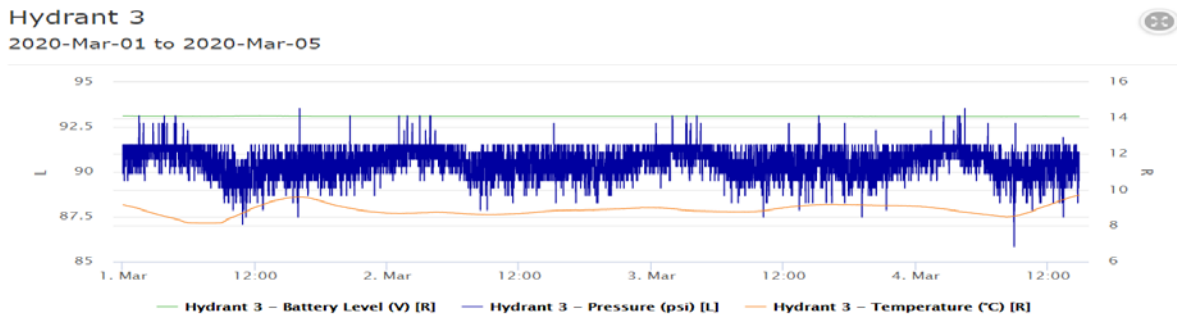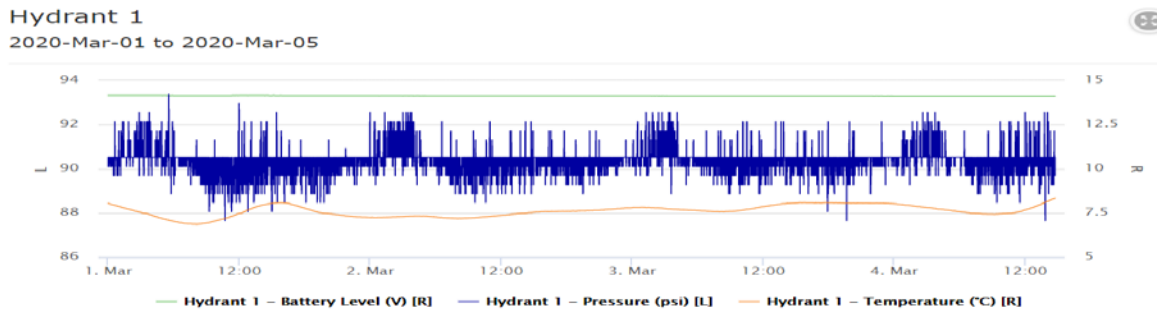
Figure-4     Pressure Monitoring in the Distribution System

## Unidirectional Flushing Program

Unidirectional Flushing Program is an important component of any water utility's routine distribution system maintenance. Flushing removes sediments, deposits and biofilm build-up from the water distribution system, improves water quality, triggering reductions in customer complaints. Incorporating unidirectional flushing (UDF) techniques allow utilities to improve degree of watermain cleaning, reduce total water consumption per flush and decrease frequency of flushing. Flushing of the distribution system is important to the maintenance and to preservation or improvement of water quality and control of bacterial growth. The utility could use a protocol to investigate problems, evaluate the objectives of flushing, to define data collection requirements, to plan and implement flushing program, and to refine or upgrade the existing program.

Water main flushing at the City of White Rock is conducted regularly since 2016 for a variety of reasons: corrosion control; sediment removal; taste and odour control; maintain low turbidity; maintain disinfectant residual; and to prevent the potential of bacterial growths. The City was divided into 3 Areas (Figure-5).



Figure-5,   Unidirectional Flushing Areas 1, 2 & 3
Significant improvements were noticed during the operation of the UDF program in the City of White Rock Distribution System. The program was implemented every year, starting in 2016 in the months of October-December.

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The program was implemented twice in 2017 in order to have a higher improvement after noticing the results of 2016. After 3 years of conducting the UDF program a significant improvement are noticed. In addition, since end of March 2019, the new White Rock Water Treatment Plant has been delivering a significantly improved water quality with Manganese concentration reduced to below detection limit, while the water supplied prior to the plant operation contained an average of 120-150 µg/L of Manganese.

Figure-7 shows clearly the reduction in turbidity due to the removal of Manganese deposits in the Distribution System. The other important factors noticed were the reduction of Backwash Volume of Water used and the time needed for backwash (Table-1).

Table-1 Volume of Backwash water and Time comparisons for Backwash in 2016 and 2019

Area 1

| Total Backwash Water Volume, 2016 | 2854 m³ | Total Backwash Water Volume, 2019 | 1151 m³ |
|---|---|---|---|
| Time | 1211  min. | Time | 481  min. |

Area 2

| Total Backwash Water Volume, 2016 | 6385 m³ | Total Backwash Water Volume, 2019 | 2194 m³ |
|---|---|---|---|
| Time | 2263 min. | Time | 1088 min. |

Area 3

| Total Backwash Water Volume, 2016 | 2133 m³ | Total Backwash Water Volume, 2019 | 1348 m³ |
|---|---|---|---|
| Time | 1114 min. | Time | 636 min. |

The cost of conducting the backwash is almost reduced by 50% due to the reduction of staff time involved and volume of backwash water used.



Figure-6, The Water Department Operators conducting the Unidirectional Flushing program
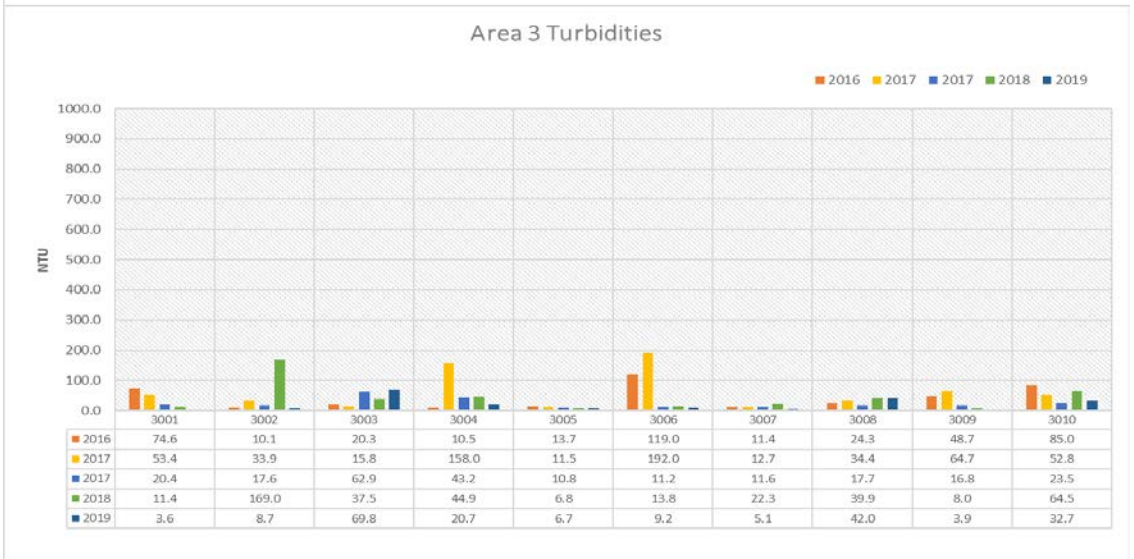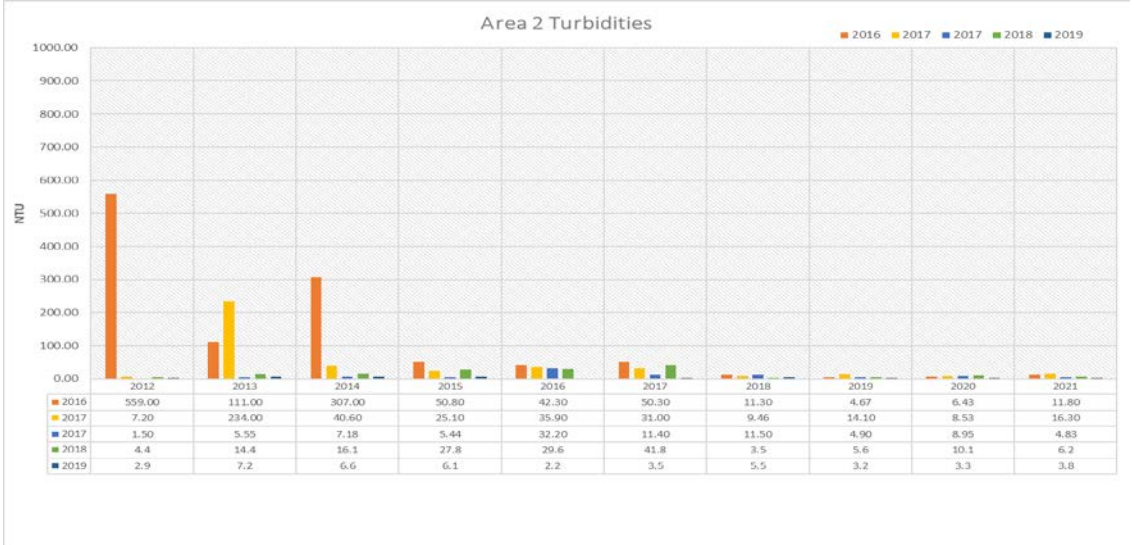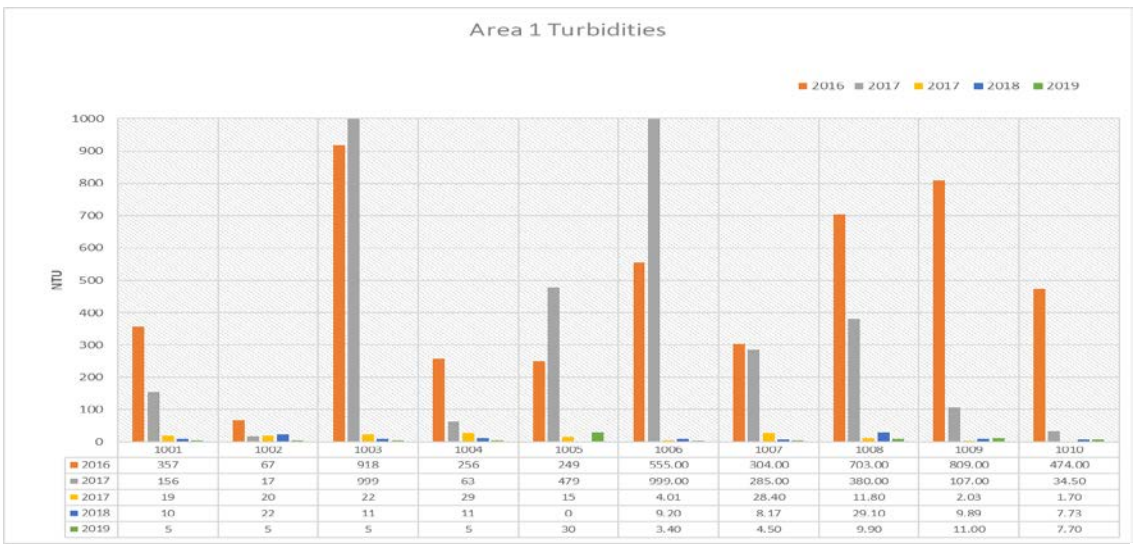
Figure-7, Improvement in the Distribution System after the UDF

**Area 1 Turbidities** (NTU)

| | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2016 | 357 | 67 | 918 | 256 | 249 | 555.00 | 304.00 | 703.00 | 809.00 | 474.00 |
| 2017 | 156 | 17 | 999 | 63 | 479 | 999.00 | 285.00 | 380.00 | 107.00 | 34.50 |
| 2017 | 19 | 20 | 22 | 29 | 15 | 4.01 | 28.40 | 11.80 | 2.03 | 1.70 |
| 2018 | 10 | 22 | 11 | 11 | 0 | 9.20 | 8.17 | 29.10 | 9.89 | 7.73 |
| 2019 | 5 | 5 | 5 | 5 | 30 | 3.40 | 4.50 | 9.90 | 11.00 | 7.70 |

**Area 2 Turbidities** (NTU)

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2016 | 559.00 | 111.00 | 307.00 | 50.80 | 42.30 | 50.30 | 11.30 | 4.67 | 6.43 | 11.80 |
| 2017 | 7.20 | 234.00 | 40.60 | 25.10 | 35.90 | 31.00 | 9.46 | 14.10 | 8.53 | 16.30 |
| 2017 | 1.50 | 5.55 | 7.18 | 5.44 | 32.20 | 11.40 | 11.50 | 4.90 | 8.95 | 4.83 |
| 2018 | 4.4 | 14.4 | 16.1 | 27.8 | 29.6 | 41.8 | 3.5 | 5.6 | 10.1 | 6.2 |
| 2019 | 2.9 | 7.2 | 6.6 | 6.1 | 2.2 | 3.5 | 5.5 | 3.2 | 3.3 | 3.8 |

**Area 3 Turbidities** (NTU)

| | 3001 | 3002 | 3003 | 3004 | 3005 | 3006 | 3007 | 3008 | 3009 | 3010 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2016 | 74.6 | 10.1 | 20.3 | 10.5 | 13.7 | 119.0 | 11.4 | 24.3 | 48.7 | 85.0 |
| 2017 | 53.4 | 33.9 | 15.8 | 158.0 | 11.5 | 192.0 | 12.7 | 34.4 | 64.7 | 52.8 |
| 2017 | 20.4 | 17.6 | 62.9 | 43.2 | 10.8 | 11.2 | 11.6 | 17.7 | 16.8 | 23.5 |
| 2018 | 11.4 | 169.0 | 37.5 | 44.9 | 6.8 | 13.8 | 22.3 | 39.9 | 8.0 | 64.5 |
| 2019 | 3.6 | 8.7 | 69.8 | 20.7 | 6.7 | 9.2 | 5.1 | 42.0 | 3.9 | 32.7 |

The UDF Program improved the condition of Distribution System, by removing sediment, and biofilm, which reduce potential impacts on water quality delivered to the public, and reduce the potential of having negative aesthetical impact on the water delivered. In addition, this is an important step in reducing discharged water, a significant

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reduction of the volume withdrawn from the Sunnyside Aquifer, which is an important step in water conservation and in management of water resources considering the relationship between Climate Change and Water.

## New Guidelines for Manganese
(**Guidelines for Canadian Drinking Water Quality, Guideline Technical Document Manganese, May 2019)**

Manganese occurs naturally in the environment, and is widely distributed in air, water and soil. Manganese may be present in water in the environment from natural sources (rock and soil weathering) or as a result of human activities (such as mining, industrial discharges and landfill leaching). It is used in various industries, including in the steel industry, in the manufacture of various products (e.g., fireworks, dry-cell batteries, fertilizers, fungicides and cosmetics and paints). Manganese may also be added to water as an oxidizing agent (permanganate), or as an impurity in coagulants used in the treatment of drinking water.

The new guideline is based on reviews and assesses all identified health risks associated with manganese in drinking water. It incorporates new studies and approaches and takes into consideration the availability of appropriate treatment technology. Based on this review, the drinking water guideline for manganese is a maximum acceptable concentration (MAC) of 0.12 mg/L (120 µg/L), based on infants, the most sensitive population. Although the MAC established is based on infants, this value is intended to protect all Canadians.

### -Health effects
Manganese is an essential element for humans. Deficiency is considered unlikely in Canada, as adequate amounts are obtained from food. A non-cancer endpoint was chosen for this assessment as available studies are not adequate to support a link between manganese and cancer. Some studies in humans suggest an association between manganese in drinking water and neurological effects in children; however, they can only be used to support the choice of the key health effect. The effects observed in children are consistent with the neurological effects reported in the key animal studies used to establish the MAC.

### -Aesthetic considerations
Concerns regarding the presence of manganese in drinking water are often related to consumer complaints regarding discoloured water. The new aesthetic objective (AO) of 0.02 mg/L (20 µg/L) is intended to minimize the occurrence of discoloured water complaints based on the presence of manganese oxides and to improve consumer confidence in drinking water quality.

## Construction of the Water Treatment Plant

The quality of drinking water is of the utmost importance to the City, which is why regular water testing is conducted,. The City of White Rock has taken steps to build a water treatment plant to remove arsenic and manganese, hired in-house experts and consultants who have extensive experience. The City applied for infrastructure grants funding programs by the provincial and federal governments, which is not available to private organizations. The Government of Canada and the Province of British Columbia provided funding from the Clean Water and Wastewater Fund (CWWFA) to the City of White Rock for the "Arsenic and Manganese Water Treatment Project No. C40174".

As part of its acquisition and operation of the water utility, the City is under mandate by the Fraser Health Authority to implement a secondary form of water disinfection and to reduce the arsenic concentration levels in the drinking water. The work is necessary to treat the water supply and upgrade critical infrastructure in the White Rock system and is a part of the City's commitment to implement the Total Water Quality Management (TWQM) Project. That requirement was completed in 2017.

The City of White Rock collaborated with RES'EAU-WaterNET, a research program funded by the Natural Sciences and Engineering Research Council (NSERC) and partnerships with 26 public and private organizations. The RES'EAU-WaterNET Mobile Water Treatment Pilot Plant was utilized to conduct testing of various combinations of

technologies to identify a sustainable and robust water treatment system capable of removing arsenic and manganese.

## -Water treatment processes and technologies design

The White Rock Water Treatment Plant is designed to treat the City's existing groundwater supplies to remove naturally occurring manganese and arsenic to ensure that an improved drinking water quality is supplied to the residents that meets the guidelines and aesthetic objectives. The plant is built next to the Oxford Pumping Station of the City of White Rock.

The water treatment plant process is a multi-stage and includes the following key treatment components:

- Pre-Oxidation with ozone for arsenic and manganese in the raw water supply.
- Removal of manganese using Greensand Plus media filters.
- Removal of arsenic using Bayoxide E33 media filters.

## -Ozone pre-oxidation

Research has shown that the application of ozone for water treatment processes can enhance the ability to remove many emerging contaminants and reduce disinfectant byproducts.
Ozone, a strong oxidant, is very effective in the oxidation of organic and Inorganic compounds more effectively than chlorine. Arsenic present in groundwater in As(III) form needs to be oxidized to As(V). To have an optimum removal of As(III) which is neutrally charged, it should be oxidized to As(V) which is negatively charged.

Strong chemical oxidants like ozone oxidize As(III) very rapidly, thus contact time generally is not a critical factor for optimizing arsenic removal. The simple oxidation reactions between ozone and arsenic, and manganese are as follows:

$$O_3 + H_3AsO_3 = H_2AsO_4^- + O_2 + H^+ \text{ (@ pH 6.5)}$$
$$O3 + H_3AsO_3 = HAsO_4^{2-} + O_2 + 2H^+ \text{ (@ pH 8.5)}$$
$$O_3 + H_2O + Mn^{2+} = MnO_2(s) + 2H^+ + O_2$$
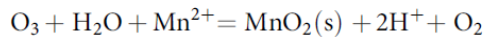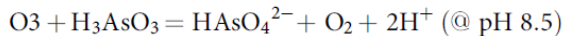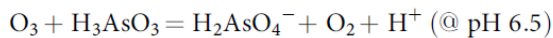
## -Manganese and arsenic removal

Manganese removal in groundwater supplies has been practiced for many decades. Technology approaches are mature, and improvements in treatment efficiency have been only incremental.
The focus on arsenic removal technologies has been increasing due to more emerging evidence of concerns over human exposure risks of arsenic that led to changes of guidelines for arsenic in drinking water. Knowledge of raw water quality is an important factor in the selection of the technology and processes to
remove certain organic or inorganic compounds that might interfere in achieving the targeted effluent water quality. The City of White Rock's groundwater has elevated, naturally occurring arsenic and manganese. The research conducted by the City of White Rock and RES'EAUWaterNet showed that the use of ozone as a pre-oxidant, followed by greensand and adsorption filter media for the removal of manganese and arsenic, respectively, is effective for groundwater sources like White Rock's water supply. NAC/Associated Engineering Team developed the design to include; filtration using Greensand Plus media for manganese reduction, and AdEdge E33 adsorption media, for arsenic polishing to achieve the low target levels required by the City. The use of ozone for pre-oxidation of the arsenic and manganese prior to the two-stage process; filtration and adsorption process was included in the design due to the facts that:

- Many arsenic removal technologies are more effective at removing the pentavalent form of arsenic, arsenate, As(V) than arsenite, As(III). Therefore, many treatment systems include a peroxidation step to convert Arsenite, As(III) to Arsenate As(V)

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- Ozone can achieve 100% oxidation of As(III) to As(V)
- Oxidation alone does not remove arsenic from solution, and must be coupled with a removal process such as coagulation, adsorption or ion exchange
- Manganese removal was very effective using ozone followed by Greensand Plus

-Water treatment objectives

The treatment objectives of the White Rock WTP are to deliver drinking water meeting the following operational targets:
- Mn < 0.02 mg/L
- As < 0.002 mg/L (95% of time, 0.005 mg/L for 5% of operation)

All other water quality parameters shall meet the objectives of the Guidelines for Canadian Water Quality (GCDWQ).

The Water Treatment Plant started operation in March 2019. Water quality improvement was noticeable with removal of arsenic and manganese.

Performance changes to the water treatment plant were monitored closely. The staff of the Water Department worked diligently and tirelessly to investigate the reasons for performance' change which resulted in an increase in concentrations of arsenic and manganese in the final treated effluent.

Adjustments were made to initial ozone dosages; monitoring the impact on manganese concentration in the Greensand Plus effluent. Remarkable results were achieved, bringing manganese concentration to below detection limit. Arsenic Speciation was monitored to make sure that process change did not have an impact on arsenic oxidation. The analysis confirmed complete oxidation of As(III) to As(V) at low ozone dosages.

To improve arsenic removal, an introduction of a coagulant was recommended to NAC and AdEdge to improve the removal of arsenic and to bring arsenic level to be within the Design Objectives.

**CLIMATE CHANGE IMPLICATIONS**

The water quality analysis indicated a significant improvement in drinking water quality supplied to the resident of the City of White Rock after the operation of Water Treatment Plant, many positive comments came from residents who indicated that they are using tap water instead of bottled water, which reduces waste in landfills and plastics pollution in our water sources.

The new Water Treatment Plant delivered drinking water with significantly low manganese, which almost eliminated the addition of manganese to the distribution system. The Unidirectional Flushing (UDF) of the distribution system made a noticeable reduction in deposited manganese in the distribution system, reducing water used for flushing, and the energy used to produce and pump that amount of water.

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Figure-8, The Ozone System


Figure-9, The newly constructed White Rock Water Treatment Plant

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# Communications and Education

Since acquiring the water utility from EPCOR in October of 2015, the City of White Rock has provided unprecedented information to the public on the state of the City's water, including steps the City must take as mandated by Health Canada and the Fraser Health, i.e. providing a secondary disinfection throughout the entire system, as well as important capital infrastructure work like the new Water Treatment Plant. This information is readily available on the City's website under the Water page, which includes links to various projects and initiatives so the public is aware of the action the City has taken, or is taking, to address and improve the water quality and communicating with the public:

**Minister of Infrastructure and Communities Visit**
The new Water Treatment Plant was visited by the Honourable Francois-Philippe Champagne, Minister of Infrastructure and Communities and MP Gordon Hogg on April 24, 2019.



Figure-8, Visit of the Honourable Francois-Philippe Champagne, Minister of Infrastructure and Communities and MP Gordon Hogg on April 24, 2019 to the newly constructed Water Treatment Plant

**City of Surrey Visit**
Six Engineers from the City of Surrey requested to come and tour the Water Treatment Plant, they expressed an interest in the processes to have a significant reduction of Arsenic and Manganese. During the Aquifer Protection Plan Project in 2018, the City of Surrey indicated the potential of future use of water supply from the Sunny Side Aquifer.

**BCIT Environmental Health Program Visit**
25 Student accompanied by a Faculty member from the BCIT Environmental Health program, visited the City of White Rock on May 15, 2019. The program provide education and training to the student to graduate as a health inspector and an environmental public health professional.

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**Chemical and Biological Engineering, University of British Columbia Tour**

On November 11, graduate 12 graduate students from the Chemical and Biological Engineering, University of British Columbia came for a tour for the Water Treatment Plant, a presentation was delivered to the students regarding the water treatment processes followed by a tour for the Water Treatment Plant.
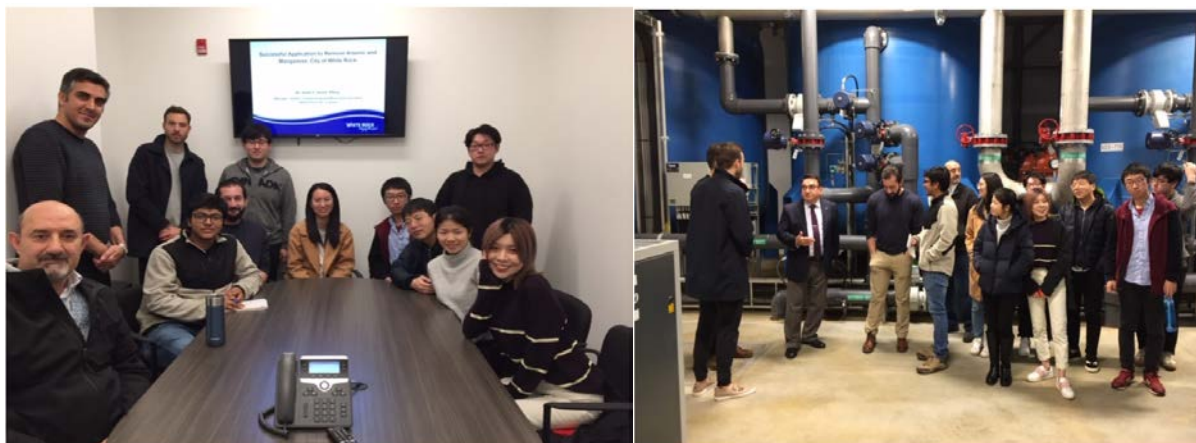


Figure-9, UBC tour to the Water Treatment Plant

**-Conference Presentations**

**1-  BCWWA Annual Conference**, **May 26-28, 2019, Victoria, BC**
Dr. Jasim Presented a paper at the BCWWA Annual Conference about the Construction and the Operation of the Water Treatment Plant to reduce Arsenic and Manganese in drinking water.

2-  **The 24th World Congress and Exhibition-International Ozone Association, October 20-25, 2019 Nice, France**.
Dr. Saad Jasim, Manager of the Utilities was inaugurated as the President of the International Ozone Association, that marked the commencement of the First Canadian to lead the association, which was established in 1973. Dr. Jasim's term starts on January 2020-January 2022. Representatives from 32 countries attended the 24th World Congress.

**3-  2019 National Water and Wastewater Conference, November 4-6, 2019, Banff, AB**
Dr. Jasim presented a paper at the National Water and Wastewater Conference about the joint research with Reseau-WaterNet, that led to the Design Build project for the White Rock Water Treatment Plant.

**Water Quality Testing**

The City has been consolidating all the testing data from January to December 2019. This data is included in Appendix-B: City of White Rock Water Quality Testing for 2019. In addition, testing data is updated regularly on the City of White Rock's website: https://www.whiterockcity.ca/300/Water-Quality
The City performed 1,424 sampling collections for total coliform and e-coli tests and 6 non-routine tests. 1,422 of the results and all 6 of the non-routine tests were below the guideline limit for the year of 2019.

The City conducted 1,210 individual tests for arsenic, copper, iron, lead and manganese throughout 2019 for routine sampling from sample stations and reservoirs. 180 individual tests were conducted for; Chloroform, Bromodichloromethane, Dibromochloromethane, Bromoform, Total THMs, Dibromofluoromethane, Toluene-d8, Bromofluorobenzene, Monochloroacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid, Bromochloroacetic Acid, Dibromoacetic Acid, Trichloroacetic Acid and Total HAA6 throughout 2019.

The City performed 1,060 individual tests pre- treatment plant, and 1,035 tests post-treatment plant, for organic carbon, ammonia, aluminum, antimony, arsenic, barium, boron, cadmium, chromium, copper, lead, selenium, uranium, vanadium, zinc, mercury, colour, turbidity, pH, electrical conductivity, calcium, iron, magnesium,

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manganese, potassium, silicon, sodium, t-alkalinity, chloride, fluoride, nitrate, nitrite, sulfate, hardness, and the total dissolved solids.

The City also recommends to residents anytime the water in a particular faucet has not been used, to flush the cold-water pipes by running the water until you notice a change in temperature. This could take a short time if there has been recent heavy water use such as showering or toilet flushing. The more time water has been sitting in your home's pipes, the more manganese it may contain.

Conserving water is still important. Rather than just running the water down the drain, residents could use the water for their plants, garden, or lawn.

**Water Consumption**

Water consumption patterns are tracked to ensure that the White Rock system continues to provide sufficient water services to customers. Annual, monthly water consumptions and the highest daily consumption (peak day) are shown below, Tables-2, 3, and Figure-10.

**-Annual Water Consumption**

Table 2: Total Annual Water Consumption

| **2019 Water Consumption (ML)\*** | |
| --- | --- |
| Total Water Consumption | 2248.2 |
| Max. Day (Aug. 3) | 10.1 |
| Annual Average Daily Consumption | 6.2 |

\* Million Liters
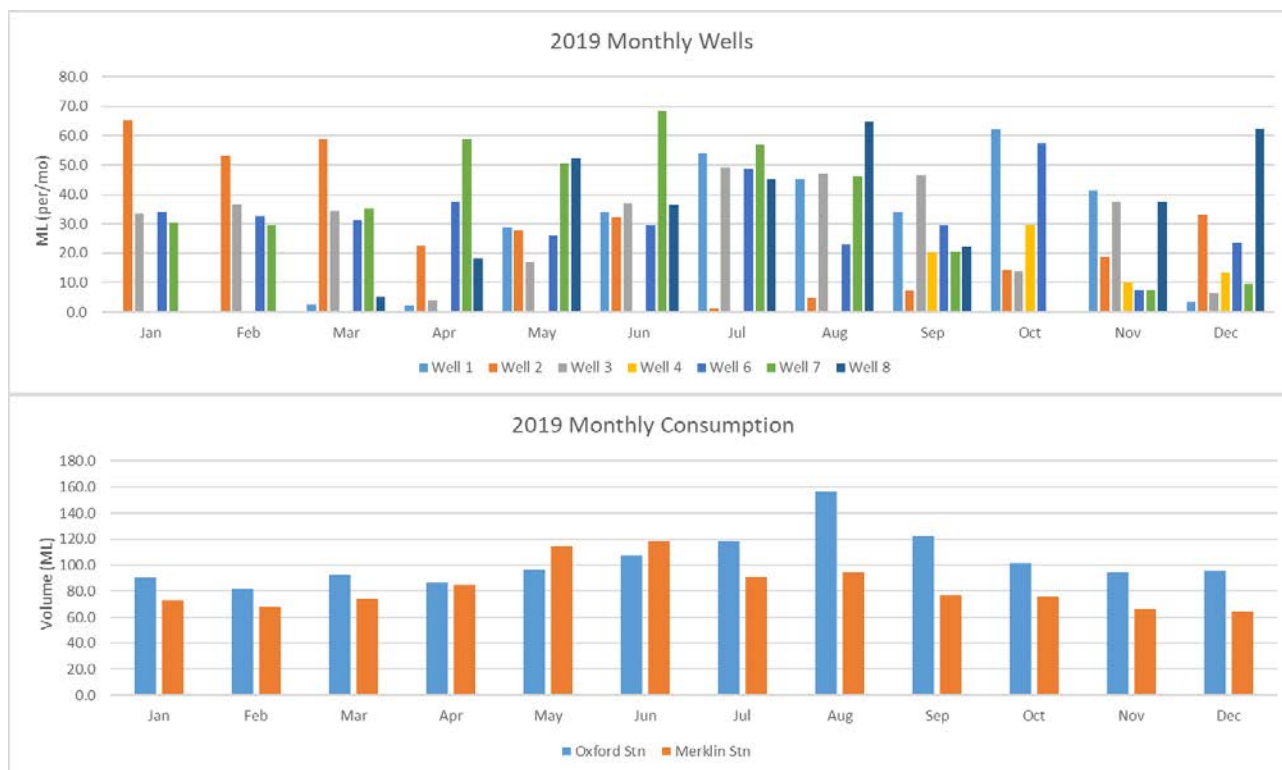


Figure-10, Water Consumption

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**-Storage Capacity**

The storage requirements for forecasted demands are as shown in the following table. It is noted that the 16% value for balancing storage is based on past studies estimating the specific balancing requirement needs for the City of White Rock's system (Kerr Wood Leidal, 2010).
The available storage capacity was provided in the 2017 Water Master Plan Update.

| | | |
|---|---|---|
| Required Balancing Storage: | 12.4 MLD (144 L/s) x 16% | = 1.99 ML |
| Required Fire Storage: | 212 L/s for 2.6 hours | = 1.98 ML |
| Required Emergency Storage: | 25% of above storage | = 0.99 ML |
| **Total Required** | | **= 4.96 ML** |
| Available Storage: | Merklin Reservoirs | = 3.01 ML |
| | Oxford Reservoir | = 1.95 ML |
| | Roper Reservoir (Low Zone) | = 1.14 ML |
| **Total Available** | | **= 6.10 ML** |
| **Excess Available for Pump Cycling** | | **= 1.14 ML** |

Table 3: Balancing Storage Required Versus Available

## Capital Projects:

**-Completion of the Water Treatment Plant:** The Water Treatment Plant came into operation end of March 2019, providing significantly improved water quality to the residents of the City of White Rock.

**-Roper Reservoir Design Upgrade**: Tybo Constructors was awarded the contract to modify the inlet for the reservoir in October 2019. This work is ongoing as well as a structural assessment of the reservoir while it is out of service. The work will be completed in May 2020.

**-Pipe Bursting of Watermain on Marine Drive:** Replacement of 130m of 150mm cast iron watermain was grouped with other storm and sanitary work in the same area to achieve cost savings. The watermain was replaced using pipe bursting technology to a 150mm HDPE with additional valves that were not previously available.

**-Oxford Water Facility Fencing:** Installed perimeter fencing for the Oxford Water Facilities that encompasses 4 wells, reservoir, pump station and the water treatment plant. Through consultations with residents the fencing alignment was changed to include provisions for a future park access and a walkway between Goggs Avenue and Oxford Street.

**-Brearley Street Watermain Extension:** The dead end watermain in the 1500 block of Brearley Street will be extended to the 200mm diameter watermain along North Bluff Road. This will improve circulation of treated water which improves water quality and reduces staff time to flush the dead end watermain.

**Emergency Response Action Plan**

The City has an emergency response plan in case the water supply is interrupted for any reason. There are procedures that City water operators follow whether it is a major or minor problem.
The Emergency Response Plan Action Plan follows five general steps:

1. Analyze the type and severity of the emergency;
2. Take any action needed to save lives;
3. Take action to reduce system damage and injuries and reduce environmental damage;
4. According to priority demand, make appropriate repairs, and
5. Return the system to normal operation.

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The Emergency Response Plan was update in 2019 to the City of White Rock website.

**Next Steps for 2020**

- Continue the optimization of the Water Treatment Plant processes
- Complete the 2019 approved Capital Works projects
- Work on the 2020 Capital Works projects
- Maintain the improvement and upgrade for the water distribution system
- Provide the training for the Water Operators to have them update/upgrade their licenses
- Work with Communication Department to maintain updated information on the website

**Summary**

The City of White Rock has now owned the water utility for four full years. During 2019 City staff worked on engaging the community and explained steps taken to improve the City's water quality with the addition of a new water treatment plant for the arsenic and manganese removal.

During the year of 2019, staff collected and sent samples for water quality testing.
The City completed the full implementation of secondary disinfection to the distribution system, and reducing the arsenic and manganese in the drinking water, meeting the requirements of the Permit to Operate by Fraser Health. The City continues to monitor the levels of arsenic and manganese and will be informing the community on the solutions to reduce the level of arsenic and manganese from the data provided from the operation of the water treatment plant which is made available on the City of White Rock web site.

# Appendix A
# Fraser Health Permit to Operate

# fraserhealth

**HEALTH PROTECTION**

# PERMIT
## TO OPERATE
A Drinking Water System with
301-10000 Connections

Water Supplier:     Corporation of the City of White Rock, The
Facility Name:      City of White Rock Water System

## CONDITIONS OF PERMIT:

1. The drinking water must be treated to provide an acceptable secondary disinfectant to the whole system that meets requirements of the Guidelines for Canadian Drinking Water Quality and is acceptable to Fraser Health Authority.
2. Arsenic and Manganese levels of the treated water must be monitored on a quarterly basis as a minimum. The results are to be provided to Fraser Health.
3. By June 30, 2021, the City of White Rock must have a Level III certified water treatment operator. The operator must be certified by Environmental Operators Certification Program (EOCP). As an interim measure, the City must have Level II certified operator and maintenance or repair of the treatment system must be conducted following proce res approved by a person certified by EOCP.

21-Aug-2019
Effective Date

Environmental Health Officer

*This permit must be displayed
in a conspicuous place and is nontransferable*

**fraserhealth**
*Expires March 31 2020*
772205

PRINTSHOP #261332     REV:24APR06,OW

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# Appendix B
# City of White Rock Water Quality Testing Results, January-December 2019

# Bacterial Results – 2019

| Microbioligical Analysis MPN / 100mL | Date | Guideline Limit 0 per 100 ml | # of Samples | Pass | Fail | Guideline Comments |
|---|---|---|---|---|---|---|
| Total Coliforms | 02-Jan-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 02-Jan-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 08-Jan-19 | 0 per 100 mL | 8 | 8 | 0 | Below Guideline |
| Escherichia Coli | 08-Jan-19 | 0 per 100 mL | 8 | 8 | 0 | Below Guideline |
| Total Coliforms | 09-Jan-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |
| Escherichia Coli | 09-Jan-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |
| Total Coliforms | 15-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 15-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 16-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 16-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 22-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 22-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 23-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 23-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 29-Jan-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |
| Escherichia Coli | 29-Jan-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |
| Total Coliforms | 30-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 30-Jan-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 05-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 05-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 13-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 13-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 19-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 19-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 27-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 27-Feb-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 08-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 08-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 13-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 13-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 19-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 19-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 26-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 26-Mar-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 02-Apr-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 02-Apr-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 09-Apr-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 09-Apr-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 16-Apr-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 16-Apr-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 17-Apr-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 17-Apr-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 24-Apr-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Escherichia Coli | 24-Apr-19 | 0 per 100 mL | 14 | 14 | 0 | Below Guideline |
| Total Coliforms | 30-Apr-19 | 0 per 100 mL | 10 | 10 | 0 | Below Guideline |
| Escherichia Coli | 30-Apr-19 | 0 per 100 mL | 10 | 10 | 0 | Below Guideline |
| Total Coliforms | 01-May-19 | 0 per 100 mL | 4 | 4 | 0 | Below Guideline |
| Escherichia Coli | 01-May-19 | 0 per 100 mL | 4 | 4 | 0 | Below Guideline |
| Total Coliforms | 07-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 07-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 08-May-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |
| Escherichia Coli | 08-May-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |

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| Microbioligical Analysis MPN / 100mL | Date | Guideline Limit 0 per 100 ml | # of Samples | Pass | Fail | Guideline Comments |
|---|---|---|---|---|---|---|
| Total Coliforms | 14-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 14-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 15-May-19 | 0 per 100 mL | 7 | 6 | 1 | Above Guideline * |
| Escherichia Coli | 15-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 21-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 21-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 22-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 22-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 27-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 27-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 28-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 28-May-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 03-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 03-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 04-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 04-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 10-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 10-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 11-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 11-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 17-Jun-19 | 0 per 100 mL | 7 | 6 | 1 | Above Guideline ** |
| Escherichia Coli | 17-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 18-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 18-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 24-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 24-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 25-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 25-Jun-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 02-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 02-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 03-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 03-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 08-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 08-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 09-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 09-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 16-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 16-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 17-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 17-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 22-Jul-19 | 0 per 100 mL | 8 | 8 | 0 | Below Guideline |
| Escherichia Coli | 22-Jul-19 | 0 per 100 mL | 8 | 8 | 0 | Below Guideline |
| Total Coliforms | 23-Jul-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |
| Escherichia Coli | 23-Jul-19 | 0 per 100 mL | 6 | 6 | 0 | Below Guideline |
| Total Coliforms | 29-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 29-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 30-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 30-Jul-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 06-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 06-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 07-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 07-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |

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| Microbioligical Analysis MPN / 100mL | Date | Guideline Limit 0 per 100 ml | # of Samples | Pass | Fail | Guideline Comments |
|---|---|---|---|---|---|---|
| Total Coliforms | 12-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 12-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 13-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 13-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 19-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 19-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 20-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 20-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 26-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 26-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 27-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 27-Aug-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 03-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 03-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 04-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 04-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 09-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 09-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 10-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 10-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 16-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 16-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 17-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 17-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 23-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 23-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 24-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 24-Sep-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 01-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 01-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 02-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 02-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 07-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 07-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 08-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 08-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 15-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 15-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 16-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 16-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 21-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 21-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 28-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 28-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 29-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 29-Oct-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 04-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 04-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 05-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 05-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 12-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 12-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |

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| Microbioligical Analysis MPN / 100mL | Date | Guideline Limit 0 per 100 ml | # of Samples | Pass | Fail | Guideline Comments |
|---|---|---|---|---|---|---|
| Total Coliforms | 18-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 18-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 20-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 20-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 25-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 25-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 26-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 26-Nov-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 02-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 02-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 02-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 02-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 09-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 09-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 10-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 10-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 17-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 17-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 18-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 18-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 23-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 23-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Total Coliforms | 30-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| Escherichia Coli | 30-Dec-19 | 0 per 100 mL | 7 | 7 | 0 | Below Guideline |
| **TOTALS** | | | 1424 | 1422 | 2 | |

* May 15 Total Coliforms was retested on May 18, results showed no coliforms. Retesting results found on Non-Routine results

** Jun 17 Total Coliforms was retested on June 20, results showed no coliforms. Retesting results found on Non-Routine results

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## Water Treatment Plant Metal Results 2019

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| WTP - E700* | 20-Mar-19 | <0.0001 | <0.0005 | 0.00002 | <0.004 | 0.005 | <5 | 7.72 |
| WTP - E710* | 20-Mar-19 | <0.0001 | <0.0005 | 0.00002 | <0.004 | 0.007 | <5 | 7.70 |
| WTP - E720* | 20-Mar-19 | <0.0001 | <0.0005 | 0.00001 | <0.004 | 0.005 | <5 | 7.84 |
| WTP - E730* | 20-Mar-19 | <0.0001 | <0.0005 | 0.00003 | <0.004 | 0.003 | <5 | 7.87 |
| WTP - E700 | 23-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 7.89 |
| WTP - E710 | 23-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.04 |
| WTP - E720 | 23-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.12 |
| WTP - E730 | 23-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.14 |
| WTP - E700 - 2 | 23-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | 0.003 | <5 | 8.07 |
| WTP - E710 - 2 | 23-Mar-19 | <0.0001 | <0.0005 | 0.00008 | <0.004 | 0.003 | <5 | 8.05 |
| WTP - E720 - 2 | 23-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | 0.003 | <5 | 8.08 |
| WTP - E730 - 2 | 23-Mar-19 | <0.0001 | <0.0005 | <0.00001 | 0.009 | 0.002 | <5 | 8.09 |
| WTP - E700 | 28-Mar-19 | <0.0001 | <0.0005 | <0.00001 | 0.005 | <0.001 | <5 | 7.78 |
| WTP - E710 | 28-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.88 |
| WTP - E720 | 28-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.90 |
| WTP - E730 | 28-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.92 |
| WTP - E700 | 29-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.93 |
| WTP - E710 | 29-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.91 |
| WTP - E720 | 29-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.93 |
| WTP - E730 | 29-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.96 |
| **WTP - Raw Water\*\*** | **29-Mar-19** | **0.0069** | **<0.0005** | **<0.00001** | **<0.004** | **0.11** | **<5** | **8.14** |
| WTP - E700 | 30-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.94 |
| WTP - E710 | 30-Mar-19 | <0.0001 | <0.0005 | <0.00001 | 0.028 | <0.001 | <5 | 7.88 |
| WTP - E720 | 30-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.91 |
| WTP - E730 | 30-Mar-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.92 |
| **WTP - Raw Water** | **30-Mar-19** | **0.0074** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **8.14** |
| WTP - E700 | 01-Apr-19 | <0.0001 | <0.0005 | <0.00001 | 0.005 | <0.001 | <5 | 7.86 |
| WTP - E710 | 01-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.86 |
| WTP - E720 | 01-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.90 |
| WTP - E730 | 01-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.91 |
| **WTP - Raw Water** | **01-Apr-19** | **0.0068** | **<0.0005** | **<0.00001** | **0.006** | **0.11** | **<5** | **8.07** |
| WTP - E700 | 02-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.83 |
| WTP - E710 | 02-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.00 |
| WTP - E720 | 02-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| WTP - E730 | 02-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| **WTP - Raw Water** | **02-Apr-19** | **0.0070** | **<0.0005** | **<0.00001** | **<0.004** | **0.098** | **<5** | **8.18** |
| WTP - E700 | 03-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.94 |
| WTP - E710 | 03-Apr-19 | <0.0001 | <0.0005 | 0.00006 | <0.004 | <0.001 | <5 | 8.00 |
| WTP - E720 | 03-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.04 |
| WTP - E730 | 03-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.04 |
| **WTP - Raw Water** | **03-Apr-19** | **0.0073** | **<0.0005** | **<0.00001** | **0.004** | **0.14** | **<5** | **8.11** |
| WTP - E700 | 04-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.82 |
| WTP - E710 | 04-Apr-19 | <0.0001 | <0.0005 | <0.00001 | 0.007 | <0.001 | <5 | 8.04 |
| WTP - E720 | 04-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| WTP - E730 | 04-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.09 |
| **WTP - Raw Water** | **04-Apr-19** | **0.0072** | **<0.0005** | **<0.00001** | **<0.004** | **0.14** | **<5** | **8.14** |
| WTP - E700 | 05-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.81 |
| WTP - E710 | 05-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| WTP - E720 | 05-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.10 |
| WTP - E730 | 05-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.11 |
| **WTP - Raw Water** | **05-Apr-19** | **0.0074** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **8.14** |

City of White Rock 2019 Annual Water Report

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| WTP - E700 | 06-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.00 |
| WTP - E710 | 06-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| WTP - E720 | 06-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |
| WTP - E730 | 06-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.14 |
| **WTP - Raw Water** | **06-Apr-19** | **0.0065** | **<0.0005** | **0.00001** | **<0.004** | **0.099** | **<5** | **8.01** |
| WTP - E700 | 07-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.85 |
| WTP - E710 | 07-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| WTP - E720 | 07-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.12 |
| WTP - E730 | 07-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |
| **WTP - Raw Water** | **07-Apr-19** | **0.0071** | **<0.0005** | **<0.00001** | **<0.004** | **0.089** | **<5** | **8.17** |
| **WTP - Raw Water** | **08-Apr-19** | **0.0070** | **<0.0005** | **<0.00001** | **<0.004** | **0.089** | **<5** | **8.09** |
| Treated Water | 08-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| **WTP - Raw Water** | **09-Apr-19** | **0.0069** | **<0.0005** | **<0.00001** | **<0.004** | **0.11** | **<5** | **8.05** |
| Treated Water | 09-Apr-19 | <0.0001 | <0.0005 | <0.00001 | 0.005 | <0.001 | <5 | 7.97 |
| **WTP - Raw Water** | **10-Apr-19** | **0.0069** | **<0.0005** | **<0.00001** | **<0.004** | **0.110** | **<5** | **8.06** |
| Treated Water | 10-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.05 |
| **WTP - Raw Water** | **11-Apr-19** | **0.0076** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **7.91** |
| Treated Water | 11-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.04 |
| **WTP - Raw Water** | **12-Apr-19** | **0.0068** | **<0.0005** | **<0.00001** | **<0.004** | **0.10** | **<5** | **8.10** |
| Treated Water | 12-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.09 |
| **WTP - Raw Water** | **13-Apr-19** | **0.0076** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **8.14** |
| Treated Water | 13-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.11 |
| **WTP - Raw Water** | **14-Apr-19** | **0.0076** | **<0.0005** | **<0.00001** | **0.007** | **0.15** | **<5** | **8.14** |
| Treated Water | 14-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.12 |
| **WTP - Raw Water** | **15-Apr-19** | **0.0075** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **8.03** |
| Treated Water | 15-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.84 |
| **WTP - Raw Water** | **16-Apr-19** | **0.0055** | **<0.0005** | **<0.00001** | **0.006** | **0.11** | **<5** | **7.91** |
| Treated Water | 16-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.09 |
| **WTP - Raw Water** | **17-Apr-19** | **0.0056** | **<0.0005** | **<0.00001** | **0.005** | **0.11** | **<5** | **8.09** |
| Treated Water | 17-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| **WTP - Raw Water** | **18-Apr-19** | **0.0061** | **<0.0005** | **<0.00001** | **<0.004** | **0.14** | **<5** | **8.05** |
| Treated Water | 18-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.81 |
| **WTP - Raw Water** | **20-Apr-19** | **0.0055** | **<0.0005** | **<0.00001** | **0.008** | **0.090** | **<5** | **8.12** |
| Treated Water | 20-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |
| **WTP - Raw Water** | **21-Apr-19** | **0.0053** | **<0.0005** | **<0.00001** | **<0.004** | **0.09** | **<5** | **8.12** |
| Treated Water | 21-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |
| **WTP - Raw Water** | **22-Apr-19** | **0.0058** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **8.12** |
| Treated Water | 22-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |
| **WTP - Raw Water** | **23-Apr-19** | **0.0058** | **<0.0005** | **<0.00001** | **0.004** | **0.15** | **<5** | **8.16** |
| Treated Water | 23-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.14 |
| **WTP - Raw Water** | **24-Apr-19** | **0.0058** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **7.95** |
| Treated Water | 24-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.24 |
| **WTP - Raw Water** | **25-Apr-19** | **0.0063** | **<0.0005** | **<0.00001** | **<0.004** | **0.16** | **<5** | **7.83** |
| Treated Water | 25-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.03 |
| **WTP - Raw Water** | **26-Apr-19** | **0.0062** | **<0.0005** | **0.00002** | **0.039** | **0.16** | **<5** | **8.02** |
| Treated Water | 26-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.82 |
| **WTP - Raw Water** | **27-Apr-19** | **0.0052** | **<0.0005** | **<0.00001** | **<0.004** | **0.18** | **<5** | **8.10** |
| Treated Water | 27-Apr-19 | <0.0001 | <0.0005 | 0.00006 | <0.004 | <0.001 | <5 | 8.08 |
| **WTP - Raw Water** | **28-Apr-19** | **0.0075** | **<0.0005** | **0.00002** | **<0.004** | **0.12** | **<5** | **8.08** |
| Treated Water | 28-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| **WTP - Raw Water** | **29-Apr-19** | **0.0069** | **<0.0005** | **<0.00001** | **<0.004** | **0.15** | **<5** | **8.11** |
| Treated Water | 29-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| **WTP - Raw Water** | **30-Apr-19** | **0.0067** | **<0.0005** | **<0.00001** | **<0.004** | **0.14** | **<5** | **8.00** |
| Treated Water | 30-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |

City of White Rock 2019 Annual Water Report

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| WTP - Raw Water | 01-May-19 | 0.0068 | <0.0005 | <0.00001 | <0.004 | 0.14 | <5 | 7.61 |
| Treated Water | 01-May-19 | <0.0001 | <0.0005 | 0.00001 | <0.004 | <0.001 | <5 | 8.02 |
| WTP - Raw Water | 02-May-19 | 0.0068 | <0.0005 | <0.00001 | <0.004 | 0.14 | <5 | 8.07 |
| Treated Water | 02-May-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| WTP - Raw Water | 03-May-19 | 0.0067 | <0.0005 | <0.00001 | <0.004 | 0.14 | <5 | 6.80 |
| Treated Water | 03-May-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.66 |
| WTP - Raw Water | 04-May-19 | 0.0069 | <0.0005 | <0.00001 | <0.004 | 0.15 | <5 | 8.12 |
| Treated Water | 04-May-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.12 |
| WTP - Raw Water | 05-May-19 | 0.0063 | <0.0005 | <0.00001 | 0.004 | 0.17 | <5 | 7.92 |
| Treated Water | 05-May-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.10 |
| WTP - Raw Water | 06-May-19 | 0.0065 | <0.0005 | <0.00001 | <0.004 | 0.13 | <5 | 8.09 |
| Treated Water | 06-May-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| WTP - Raw Water | 07-May-19 | 0.0067 | <0.0005 | <0.00001 | <0.004 | 0.093 | <5 | 7.87 |
| Greensand BWW*** | 07-May-19 | | | | | 1.9 | | |
| Treated Water | 07-May-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| WTP - Raw Water | 08-May-19 | 0.0066 | <0.0005 | <0.00001 | <0.004 | 0.092 | <5 | 8.08 |
| Treated Water | 08-May-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.10 |
| WTP - Raw Water | 09-May-19 | 0.0066 | <0.0005 | <0.00001 | <0.004 | 0.094 | <5 | 7.82 |
| Treated Water | 09-May-19 | <0.0001 | <0.0005 | <0.00001 | 0.006 | <0.001 | <5 | 8.04 |
| Greensand BWW | 10-May-19 | | | | | 2.5 | | |
| WTP - Raw Water | 11-May-19 | 0.0064 | <0.0005 | <0.00001 | <0.004 | 0.087 | <5 | 8.00 |
| Treated Water | 11-May-19 | 0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.00 |
| WTP - Raw Water | 13-May-19 | 0.0066 | <0.0005 | <0.00001 | <0.004 | 0.10 | <5 | 7.81 |
| Treated Water | 13-May-19 | 0.0002 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.99 |
| WTP - Raw Water | 14-May-19 | 0.0057 | <0.0005 | <0.00001 | <0.004 | 0.14 | <5 | 8.09 |
| Greensand BWW | 14-May-19 | | | | | 1.5 | | |
| Treated Water | 14-May-19 | 0.0005 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.09 |
| WTP - Raw Water | 15-May-19 | 0.0055 | <0.0005 | <0.00001 | <0.004 | 0.14 | <5 | 7.89 |
| Greensand BWW | 15-May-19 | | | | | 1.4 | | |
| Treated Water | 15-May-19 | 0.0004 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| WTP - Raw Water | 16-May-19 | 0.0057 | <0.0005 | <0.00001 | <0.004 | 0.14 | <5 | 7.54 |
| Treated Water | 16-May-19 | 0.0004 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.03 |
| Greensand BWW | 16-May-19 | | | | | 1.3 | | |
| WTP - Raw Water | 17-May-19 | 0.0071 | <0.0005 | <0.00001 | <0.004 | 0.16 | <5 | 8.09 |
| Treated Water | 17-May-19 | 0.0004 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| WTP - Raw Water | 18-May-19 | 0.0074 | <0.0005 | <0.00001 | <0.004 | 0.16 | <5 | 7.90 |
| Treated Water | 18-May-19 | 0.0004 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| Greensand BWW | 18-May-19 | | | | | 1.2 | | |
| Greensand BWW | 18-May-19 | | | | | 1.0 | | |
| WTP - Raw Water | 19-May-19 | 0.0076 | <0.0005 | <0.00001 | <0.004 | 0.16 | <5 | 7.53 |
| Treated Water | 19-May-19 | 0.0004 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.02 |
| Greensand BWW | 19-May-19 | | | | | 0.88 | | |
| WTP - Raw Water | 20-May-19 | 0.0076 | <0.0005 | <0.00001 | <0.004 | 0.16 | <5 | 8.09 |
| Greensand BWW | 20-May-19 | 0.0005 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.07 |
| Treated Water | 20-May-19 | | | | | 0.89 | | |
| WTP - Raw Water | 21-May-19 | 0.0076 | <0.0005 | <0.00001 | <0.004 | 0.16 | <5 | 8.07 |
| Treated Water | 21-May-19 | 0.0005 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.08 |
| WTP - Raw Water | 22-May-19 | 0.0064 | <0.0005 | <0.00001 | <0.004 | 0.11 | <5 | 7.83 |
| Treated Water | 22-May-19 | 0.0005 | <0.0005 | <0.00001 | <0.004 | 0.004 | <5 | 8.11 |
| Greensand BWW | 22-May-19 | | | | | 1.6 | | |
| Greensand BWW | 22-May-19 | | | | | 1.2 | | |
| WTP - Raw Water | 23-May-19 | 0.0065 | <0.0005 | <0.00001 | <0.004 | 0.11 | <5 | 7.97 |
| Treated Water | 23-May-19 | 0.0005 | <0.0005 | <0.00001 | <0.004 | 0.005 | <5 | 8.02 |
| Greensand BWW | 23-May-19 | | | | | 0.95 | | |

City of White Rock 2019 Annual Water Report

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| WTP - Raw Water | 24-May-19 | 0.0072 | <0.0005 | <0.00001 | <0.004 | 0.11 | <5 | 7.57 |
| Treated Water | 24-May-19 | 0.0005 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 7.90 |
| Greensand BWW | 24-May-19 | | | | | 0.79 | | |
| WTP - Raw Water | 25-May-19 | 0.0073 | <0.0005 | <0.00001 | <0.004 | 0.12 | <5 | 7.97 |
| Treated Water | 25-May-19 | 0.0006 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.23 |
| Greensand BWW | 25-May-19 | | | | | 0.89 | | |
| WTP - Raw Water | 26-May-19 | 0.0062 | <0.0005 | <0.00001 | <0.004 | 0.086 | <5 | 8.25 |
| Treated Water | 26-May-19 | 0.0006 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.26 |
| Greensand BWW | 26-May-19 | | | | | 0.57 | | |
| WTP - Raw Water | 27-May-19 | 0.0066 | <0.0005 | <0.00001 | <0.004 | 0.087 | <5 | 8.24 |
| Treated Water | 27-May-19 | 0.0007 | <0.0005 | <0.00001 | <0.004 | 0.008 | <5 | 8.27 |
| Greensand BWW | 27-May-19 | | | | | 0.52 | | |
| WTP - Raw Water | 28-May-19 | 0.0071 | <0.0005 | <0.00001 | <0.004 | 0.12 | <5 | 7.83 |
| Treated Water | 28-May-19 | 0.0007 | <0.0005 | <0.00001 | <0.004 | 0.001 | <5 | 8.03 |
| Greensand BWW | 28-May-19 | | | | | 0.56 | | |
| WTP - Raw Water | 29-May-19 | 0.0064 | <0.0005 | <0.00001 | <0.004 | 0.088 | <5 | 7.84 |
| Treated Water | 29-May-19 | 0.0008 | <0.0005 | <0.00001 | <0.004 | 0.001 | <5 | 7.98 |
| Greensand BWW | 29-May-19 | | | | | 0.67 | | |
| WTP - Raw Water | 30-May-19 | 0.0071 | <0.0005 | 0.00002 | <0.004 | 0.12 | | |
| Treated Water | 30-May-19 | 0.0010 | <0.0005 | <0.00001 | <0.004 | 0.00 | | |
| Greensand BWW | 30-May-19 | | | | | 1.5 | | |
| E33 BWW | 30-May-19 | | | | | 0.87 | | |
| WTP - Raw Water | 31-May-19 | 0.0063 | <0.0005 | <0.00001 | <0.004 | 0.088 | <5 | 7.81 |
| Treated Water | 31-May-19 | 0.0010 | <0.0005 | 0.00004 | <0.004 | 0.007 | <5 | 7.98 |
| Greensand BWW | 31-May-19 | | | | | 0.98 | | |
| WTP - Raw Water | 01-Jun-19 | 0.0066 | <0.0005 | 0.00001 | <0.004 | 0.091 | <5 | 8.03 |
| Treated Water | 01-Jun-19 | 0.0010 | <0.0005 | 0.00001 | <0.004 | 0.002 | <5 | 8.05 |
| Greensand BWW | 01-Jun-19 | | | | | 0.77 | | |
| WTP - Raw Water | 02-Jun-19 | 0.0066 | <0.0005 | 0.00001 | <0.004 | 0.088 | <5 | 7.81 |
| Treated Water | 02-Jun-19 | 0.0011 | <0.0005 | 0.00001 | <0.004 | 0.001 | <5 | 7.99 |
| Greensand BWW | 02-Jun-19 | | | | | 0.86 | | |
| WTP - Raw Water | 03-Jun-19 | 0.0063 | <0.0005 | <0.00001 | <0.004 | 0.088 | <5 | 8.00 |
| Treated Water | 03-Jun-19 | 0.0010 | <0.0005 | 0.00003 | <0.004 | <0.001 | <5 | 8.17 |
| Greensand BWW | 03-Jun-19 | | | | | 0.71 | | |
| WTP - Raw Water | 04-Jun-19 | 0.0062 | <0.0005 | 0.00002 | <0.004 | 0.092 | <5 | 8.20 |
| Treated Water | 04-Jun-19 | 0.0011 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.24 |
| Greensand BWW | 04-Jun-19 | | | | | 0.58 | | |
| WTP - Raw Water | 05-Jun-19 | 0.0062 | <0.0005 | 0.00001 | 0.004 | 0.090 | <5 | 7.81 |
| Treated Water | 05-Jun-19 | 0.0011 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| Greensand BWW | 05-Jun-19 | | | | | 0.70 | | |
| WTP - Raw Water | 06-Jun-19 | 0.0063 | <0.0005 | <0.00001 | <0.004 | 0.090 | <5 | 7.98 |
| Treated Water | 06-Jun-19 | 0.0011 | <0.0005 | 0.00003 | <0.004 | <0.001 | <5 | 8.07 |
| Greensand BWW | 06-Jun-19 | | | | | 0.73 | | |
| WTP - Raw Water | 07-Jun-19 | 0.0068 | <0.0005 | <0.00001 | <0.004 | 0.12 | <5 | 8.19 |
| Treated Water | 07-Jun-19 | 0.0010 | <0.0005 | <0.00001 | <0.004 | 0.001 | <5 | 8.18 |
| Greensand BWW | 07-Jun-19 | | | | | 0.77 | | |
| WTP - Raw Water | 08-Jun-19 | 0.0062 | <0.0005 | <0.00001 | <0.004 | 0.900 | <5 | 7.91 |
| Treated Water | 08-Jun-19 | 0.0012 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.12 |
| Greensand BWW | 08-Jun-19 | | | | | 0.63 | | |
| WTP - Raw Water | 09-Jun-19 | 0.0062 | <0.0005 | <0.00001 | <0.004 | 0.091 | <5 | 8.18 |
| Treated Water | 09-Jun-19 | 0.0012 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.18 |
| Greensand BWW | 09-Jun-19 | | | | | 0.56 | | |
| WTP - Raw Water | 10-Jun-19 | 0.0060 | <0.0005 | <0.00001 | <0.004 | 0.092 | <5 | 8.15 |
| Treated Water | 10-Jun-19 | 0.0013 | <0.0005 | <0.00001 | <0.004 | 0.006 | <5 | 8.15 |
| Greensand BWW | 10-Jun-19 | | | | | 0.63 | | |

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| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| WTP - Raw Water | 11-Jun-19 | 0.0067 | <0.0005 | 0.00002 | <0.004 | 0.13 | <5 | 8.03 |
| Treated Water | 11-Jun-19 | 0.0015 | 0.0010 | 0.00001 | <0.004 | 0.010 | <5 | 8.16 |
| Greensand BWW | 11-Jun-19 | | | | | 0.62 | | |
| WTP - Raw Water | 12-Jun-19 | 0.0070 | 0.0009 | 0.00002 | 0.005 | 0.14 | <5 | 7.94 |
| Treated Water | 12-Jun-19 | 0.0020 | 0.0016 | 0.00002 | <0.004 | 0.020 | <5 | 8.03 |
| Greensand BWW | 12-Jun-19 | | | | | 0.78 | | |
| WTP - Raw Water | 13-Jun-19 | 0.0066 | <0.0005 | <0.00001 | <0.004 | 0.11 | <5 | 8.09 |
| Treated Water | 13-Jun-19 | 0.0020 | <0.0005 | <0.00001 | <0.004 | 0.022 | <5 | 8.08 |
| Greensand BWW | 13-Jun-19 | | | | | 1.4 | | |
| WTP - Raw Water | 14-Jun-19 | 0.0073 | <0.0005 | 0.00001 | <0.004 | 0.13 | <5 | 7.67 |
| Treated Water | 14-Jun-19 | 0.0021 | 0.0080 | 0.00006 | <0.004 | 0.021 | <5 | 7.97 |
| Greensand BWW | 14-Jun-19 | | | | | 0.64 | | |
| E-33 BWW | 14-Jun-19 | | | | | 0.75 | | |
| WTP - Raw Water | 15-Jun-19 | 0.0071 | <0.0005 | <0.00001 | <0.004 | 0.13 | <5 | 7.96 |
| Treated Water | 15-Jun-19 | 0.0024 | <0.0005 | 0.00001 | <0.004 | 0.026 | <5 | 8.07 |
| Greensand BWW | 15-Jun-19 | | | | | 0.74 | | |
| Greensand BWW | 17-Jun-19 | | | | | 0.96 | | |
| WTP - Raw Water | 18-Jun-19 | 0.0072 | 0.0016 | 0.00002 | <0.004 | 0.13 | <5 | 7.83 |
| Treated Water | 18-Jun-19 | 0.0026 | 0.0006 | 0.00001 | <0.004 | 0.030 | <5 | 8.06 |
| Greensand BWW | 18-Jun-19 | | | | | 0.73 | | |
| WTP - Raw Water | 19-Jun-19 | 0.0067 | 0.0007 | 0.00003 | <0.004 | 0.11 | <5 | 8.19 |
| Treated Water | 19-Jun-19 | 0.0026 | 0.0006 | 0.00001 | <0.004 | 0.031 | <5 | 8.19 |
| Greensand BWW | 19-Jun-19 | | | | | 0.59 | | |
| E-33 BWW | 19-Jun-19 | | | | | 0.75 | | |
| Greensand BWW | 22-Jun-19 | | | | | 0.68 | | |
| Greensand BWW | 23-Jun-19 | | | | | 0.71 | | |
| WTP - Raw Water | 25-Jun-19 | 0.0059 | <0.0005 | <0.00001 | <0.004 | 0.10 | <5 | 7.81 |
| Treated Water | 25-Jun-19 | 0.0026 | <0.0005 | 0.00001 | <0.004 | 0.025 | <5 | 7.82 |
| Greensand BWW | 25-Jun-19 | | | | | 0.59 | | |
| WTP - Raw Water | 26-Jun-19 | 0.0062 | <0.0005 | 0.00001 | <0.004 | 0.10 | <5 | 7.92 |
| Treated Water | 26-Jun-19 | 0.0024 | <0.0005 | <0.00001 | <0.004 | 0.022 | <5 | 8.06 |
| Greensand BWW | 26-Jun-19 | | | | | 0.81 | | |
| WTP - Raw Water | 27-Jun-19 | 0.0064 | <0.0005 | 0.00001 | <0.004 | 0.12 | <5 | 8.05 |
| Treated Water | 27-Jun-19 | 0.0024 | <0.0005 | <0.00001 | <0.004 | 0.008 | <5 | 8.05 |
| WTP - Raw Water | 28-Jun-19 | 0.0064 | <0.0005 | 0.00001 | <0.004 | 0.12 | <5 | 8.07 |
| Treated Water | 28-Jun-19 | 0.0023 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.07 |
| Greensand BWW | 28-Jun-19 | | | | | 0.74 | | |
| Greensand BWW | 29-Jun-19 | | | | | 1.0 | | |
| WTP - Raw Water | 30-Jun-19 | 0.0065 | <0.0005 | 0.00002 | <0.004 | 0.11 | <5 | 7.76 |
| Treated Water | 30-Jun-19 | 0.0026 | 0.0018 | <0.00001 | <0.004 | 0.008 | <5 | 8.02 |
| Greensand BWW | 30-Jun-19 | | | | | 1.1 | | |
| WTP - Raw Water | 02-Jul-19 | 0.0064 | 0.0007 | 0.00001 | <0.004 | 0.11 | <5 | 7.74 |
| Treated Water | 02-Jul-19 | 0.0026 | 0.0018 | 0.00003 | <0.004 | 0.007 | <5 | 7.83 |
| WTP - Raw Water | 15-Jul-19 | 0.0069 | <0.0005 | <0.00001 | <0.004 | 0.13 | <5 | 7.77 |
| Treated Water | 15-Jul-19 | 0.0033 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.00 |
| WTP - Raw Water | 18-Jul-19 | 0.0066 | 0.0023 | <0.00001 | <0.004 | 0.13 | <5 | 8.07 |
| Treated Water | 18-Jul-19 | 0.0032 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.11 |
| Greensand BWW | 18-Jul-19 | | | | | 1.10 | | |
| WTP - Raw Water | 22-Jul-19 | 0.0066 | <0.0005 | <0.00001 | 0.006 | 0.13 | <5 | 8.00 |
| Treated Water | 22-Jul-19 | 0.0033 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| WTP - Raw Water | 25-Jul-19 | 0.0062 | <0.0005 | <0.00001 | <0.004 | 0.004 | <5 | 8.07 |
| Treated Water | 25-Jul-19 | 0.0037 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.11 |
| Greensand BWW | 29-Jul-19 | | | | | 2.20 | | |
| WTP - Raw Water | 29-Jul-19 | 0.0065 | <0.0005 | <0.00001 | <0.004 | 0.13 | <5 | 7.73 |
| Treated Water | 29-Jul-19 | 0.0032 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |

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| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| Greensand BWW | 06-Aug-19 | | | | | 1.5 | | |
| WTP - Raw Water | 06-Aug-19 | 0.0062 | 0.0009 | <0.00001 | <0.004 | 0.14 | <5 | 8.13 |
| Treated Water | 06-Aug-19 | 0.0032 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.11 |
| WTP - Raw Water | 12-Aug-19 | 0.0065 | <0.0005 | <0.00001 | <0.004 | 0.16 | <5 | 7.98 |
| Treated Water | 12-Aug-19 | 0.0035 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| Greensand BWW | 12-Aug-19 | | | | | 2.10 | | |
| WTP - Raw Water | 19-Aug-19 | 0.0063 | <0.0005 | <0.00001 | <0.004 | 0.13 | <5 | 7.75 |
| Treated Water | 19-Aug-19 | 0.0036 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.91 |
| Greensand BWW | 19-Aug-19 | | | | | 2.10 | | |
| WTP - Raw Water | 26-Aug-19 | 0.0072 | <0.0005 | <0.00001 | <0.004 | 0.16 | <5 | 7.99 |
| Treated Water | 26-Aug-19 | 0.0041 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.90 |
| Greensand BWW | 27-Aug-19 | | | | | 3.12 | | |
| WTP - Raw Water | 28-Aug-19 | 0.0065 | <0.0005 | 0.00001 | <0.004 | 0.13 | <5 | 7.96 |
| Treated Water | 28-Aug-19 | 0.0038 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 7.87 |
| WTP - Raw Water | 03-Sep-19 | 0.0062 | <0.0005 | <0.00001 | <0.004 | 0.13 | <5 | 7.89 |
| Treated Water | 03-Sep-19 | 0.0036 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| Greensand BWW | 03-Sep-19 | | | | | 2.2 | | |
| WTP - Raw Water | 09-Sep-19 | 0.0064 | <0.0005 | 0.00003 | <0.004 | 0.16 | <5 | 8.21 |
| Treated Water | 09-Sep-19 | 0.0038 | <0.0005 | <0.00001 | 0.031 | <0.001 | <5 | 8.14 |
| Greensand BWW | 09-Sep-19 | | | | | 2.8 | | |
| WTP - Raw Water | 16-Sep-19 | 0.0071 | <0.0005 | <0.00001 | <0.004 | 0.11 | <5 | 7.78 |
| Treated Water | 16-Sep-19 | 0.0038 | 0.0006 | 0.00004 | <0.004 | <0.001 | <5 | 8.20 |
| Greensand BWW | 16-Sep-19 | | | | | 1.8 | | |
| Greensand BWW | 19-Sep-19 | | | | | 1.1 | | |
| Greensand BWW | 23-Sep-19 | | | | | 0.82 | | |
| WTP - Raw Water | 25-Sep-19 | 0.0068 | <0.0005 | <0.00001 | 0.005 | 0.11 | <5 | 7.71 |
| Treated Water | 25-Sep-19 | 0.0034 | <0.0005 | <0.00001 | 0.006 | <0.001 | <5 | 8.03 |
| WTP - Raw Water | 30-Sep-19 | 0.0068 | 0.0102 | 0.00004 | <0.004 | 0.09 | <5 | 7.76 |
| Treated Water | 30-Sep-19 | 0.0039 | 0.0006 | 0.00007 | <0.004 | <0.001 | <5 | 8.11 |
| Greensand BWW | 30-Sep-19 | | | | | 0.9300 | | |
| WTP - Raw Water | 07-Oct-19 | 0.0070 | <0.001 | <0.0001 | <0.01 | 0.099 | <5 | 7.45 |
| Treated Water | 07-Oct-19 | 0.0041 | <0.001 | <0.0001 | <0.01 | <0.005 | <5 | 7.86 |
| Greensand BWW | 07-Oct-19 | | | | | 0.6570 | | |
| Greensand BWW | 15-Oct-19 | | | | | 0.76 | | |
| WTP - Raw Water | 15-Oct-19 | 0.0057 | <0.0005 | <0.00001 | <0.004 | 0.078 | <5 | 7.97 |
| Treated Water | 15-Oct-19 | 0.0039 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.10 |
| Greensand BWW | 21-Oct-19 | | | | | 1.00 | | |
| WTP - Raw Water | 28-Oct-19 | 0.0064 | <0.0005 | <0.00001 | <0.004 | 0.11 | <5 | 7.99 |
| Treated Water | 28-Oct-19 | 0.0040 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| Greensand BWW | 28-Oct-19 | | | | | 0.69 | | |
| WTP - Raw Water | 04-Nov-19 | 0.0072 | <0.0005 | <0.00001 | <0.004 | 0.089 | <5 | 8.10 |
| Treated Water | 04-Nov-19 | 0.0039 | 0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| Greensand BWW | 05-Nov-19 | | | | | 0.63 | | |
| WTP - Raw Water | 13-Nov-19 | 0.0062 | <0.0005 | 0.00002 | <0.004 | 0.00 | <5 | 8.21 |
| Treated Water | 13-Nov-19 | 0.0037 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.27 |
| Greensand BWW | 13-Nov-19 | | | | | 0.81 | | |
| WTP - Raw Water | 18-Nov-19 | 0.0070 | <0.0005 | <0.00001 | 0.005 | 0.11 | <5 | 8.01 |
| Treated Water | 18-Nov-19 | 0.0038 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.11 |
| Greensand BWW | 18-Nov-19 | | | | | 1.70 | | |
| WTP - Raw Water | 25-Nov-19 | 0.0057 | 0.0007 | <0.00001 | <0.004 | 0.12 | <5 | 8.19 |
| Treated Water | 25-Nov-19 | 0.0035 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.18 |
| Greensand BWW | 25-Nov-19 | | | | | 0.95 | | |
| WTP - Raw Water | 02-Dec-19 | 0.0053 | <0.0005 | <0.00001 | <0.004 | 0.17 | <5 | 8.05 |
| Treated Water | 02-Dec-19 | 0.0037 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |

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| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| Greensand BWW | 02-Dec-19 | | | | | 1.50 | | |
| **WTP - Raw Water** | **09-Dec-19** | **0.0054** | **0.0012** | **0.00004** | **0.004** | **0.16** | **<5** | **8.11** |
| Treated Water | **09-Dec-19** | 0.0037 | 0.0007 | <0.00001 | <0.004 | <0.001 | <5 | 8.19 |
| **WTP - Raw Water** | **17-Dec-19** | **0.0067** | **<0.0005** | **0.00002** | **<0.004** | **0.12** | **<5** | **7.98** |
| Treated Water | **17-Dec-19** | 0.0035 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| **WTP - Raw Water** | **23-Dec-19** | **0.0070** | **0.0055** | **0.00005** | **<0.004** | **0.11** | **<5** | **8.11** |
| Treated Water | **23-Dec-19** | 0.0038 | <0.0005 | <0.00001 | 0.012 | <0.001 | <5 | 8.13 |
| **WTP - Raw Water** | 30-Dec-19 | **0.0067** | **<0.0005** | **<0.00001** | **0.005** | **0.11** | **<5** | **8.03** |
| Treated Water | 30-Dec-19 | 0.0038 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.06 |
| | | | | | | | | |
| **Nominal Detection Limit** | | **0.0001** | **0.0005** | **0.00001** | **0.004** | **0.001** | **5** | **0.01** |
| **Guideline Limit** | | **0.010** | **2.0** | **0.005** | **0.3** | **0.12** | | **7.0-10.5** |

* E700-E730 samples are taken from each filter unit during testing. The flow from the 4 units is combined before being forwarded to the reservoirs at Oxford and Merklin

** Raw Water is the untreated water that has been combined from the wells throughout the city. It has been identified in bold.

*** BWW is the backwash water that is discharged to the sewer. Per Metro Vancouver, the guideline limit for manganese is 5.0 mg/L

****Sep 9, Sep 16 and Sep 25 Arsenic results are corrected form original incorrectly entered results.

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# Metal Results - 2019

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L |
|---|---|---|---|---|---|---|
| Monthly Arsenic - Well 6 | 30-Jan-19 | 0.0088 | | | | |
| Monthly Arsenic - Well 7 | 30-Jan-19 | 0.0083 | | | | |
| Customer Concern - 1 | 13-Feb-19 | 0.0055 | 0.0091 | 0.00005 | 0.006 | 0.072 |
| Monthly Arsenic - Well 6 | 27-Feb-19 | 0.0087 | | | | |
| Monthly Arsenic - Well 7 | 27-Feb-19 | 0.0083 | | | | |
| Customer Concern - 2 | 19-Mar-19 | 0.0058 | 0.0113 | 0.00016 | 0.007 | 0.076 |
| Customer Concern - 3 | 20-Mar-19 | 0.0056 | 0.0074 | 0.00006 | <0.004 | 0.052 |
| Customer Concern - 4 | 26-Mar-19 | 0.0051 | 0.0181 | 0.00002 | <0.004 | 0.077 |
| Monthly Arsenic - Well 6 | 26-Mar-19 | 0.0079 | | | | |
| Monthly Arsenic - Well 7 | 28-Mar-19 | 0.0083 | | | | |
| Customer Concern - 5 | 2-Apr-19 | 0.0056 | 0.0042 | 0.00008 | <0.004 | 0.097 |
| Customer Concern - 6 | 25-Apr-19 | <0.0001 | 0.0060 | 0.00004 | <0.004 | 0.002 |
| Customer Concern - 7 | 25-Apr-19 | 0.0001 | 0.0078 | 0.00005 | <0.004 | 0.002 |
| Customer Concern - 8 | 25-Apr-19 | <0.0001 | 0.0025 | 0.00005 | <0.004 | 0.002 |
| Customer Concern - 9 | 26-Apr-19 | 0.0002 | 0.0054 | 0.00040 | <0.004 | 0.008 |
| Customer Concern - 10 | 26-Apr-19 | 0.0001 | 0.0034 | 0.00007 | 0.005 | 0.006 |
| Customer Concern - 11 | 7-May-19 | 0.0003 | 0.0140 | 0.00154 | <0.004 | 0.003 |
| Customer Concern - 12 | 7-May-19 | 0.0002 | 0.0071 | 0.00090 | <0.004 | 0.003 |
| Customer Concern - 13 | 9-May-19 | 0.0002 | 0.0061 | 0.00009 | <0.004 | 0.002 |
| Customer Concern - 14 | 10-May-19 | 0.0002 | 0.0157 | 0.00028 | <0.004 | 0.002 |
| Customer Concern - 15 | 10-May-19 | 0.0001 | 0.0125 | 0.00007 | <0.004 | 0.001 |
| Customer Concern - 16 | 10-May-19 | 0.0003 | 0.0077 | 0.00024 | <0.004 | 0.010 |
| Customer Concern - 17 | 15-May-19 | 0.0004 | 0.0062 | 0.00028 | <0.004 | 0.005 |
| Customer Concern - 18 | 15-May-19 | 0.0005 | 0.0058 | 0.00042 | 0.004 | 0.009 |
| Customer Concern - 19 | 15-May-19 | 0.0006 | 0.0053 | 0.00040 | 0.005 | 0.010 |
| Customer Concern - 20 | 15-May-19 | 0.0006 | 0.0105 | 0.00045 | <0.004 | 0.005 |
| Customer Concern - 21 | 16-May-19 | 0.0006 | 0.0165 | 0.00117 | <0.004 | 0.005 |
| Customer Concern - 22 *Pre | 6-Jun-19 | 0.0014 | 0.0200 | 0.00106 | <0.004 | 0.004 |
| Customer Concern - 22 *Post | 6-Jun-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 |
| Customer Concern - 23 | 4-Jul-19 | 0.0028 | 0.0061 | 0.00026 | <0.004 | 0.005 |
| Customer Concern - 24 | 4-Jul-19 | 0.0028 | 0.4708 | 0.02854 | 0.006 | 0.002 |
| Customer Concern - 24 - Retest | 11-Jul-19 | 0.0032 | 0.0039 | <0.00001 | <0.004 | <0.001 |
| Customer Concern - 25 | 11-Jul-19 | 0.0032 | 0.0169 | 0.00003 | <0.004 | <0.001 |
| Customer Concern - 26 | 31-Jul-19 | 0.0035 | 0.0121 | 0.00018 | <0.004 | 0.004 |
| Customer Concern - 27 | 31-Jul-19 | 0.0033 | 0.0160 | 0.00001 | <0.004 | 0.003 |
| Customer Concern - 28 | 28-Aug-19 | 0.0037 | 0.0059 | 0.00040 | 0.008 | 0.007 |
| Customer Concern - 29 | 28-Aug-19 | 0.0039 | 0.0078 | 0.00046 | <0.004 | <0.001 |
| Customer Concern - 30 | 10-Sep-19 | 0.0039 | 0.0095 | 0.00016 | <0.004 | 0.007 |
| Customer Concern - 31 | 12-Sep-19 | 0.0040 | 0.0082 | 0.00022 | <0.004 | <0.001 |
| Customer Concern - 32 | 19-Nov-19 | 0.0038 | 0.0022 | 0.00007 | <0.004 | <0.001 |
| Customer Concern - 33 | 20-Dec-19 | 0.0033 | 0.0185 | 0.00020 | <0.004 | 0.002 |
| | | | | | | |
| **Nominal Detection Limit** | | **0.0001** | **0.0005** | **0.00001** | **0.004** | **0.001** |
| | **Guideline Limit** | **0.010** | **2.0** | **0.005** | **0.3** | **0.12** |

\* Resident has a home filter system. Results are pre- and post-filter

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## Distribution System Metal Results 2019

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| Everall Sample Station | 29-Jan-19 | 0.0053 | 0.0009 | 0.00004 | <0.004 | 0.059 | <5 | 7.96 |
| Malabar Sample Station | 29-Jan-19 | 0.0052 | 0.0022 | 0.00021 | 0.005 | 0.056 | <5 | 8.07 |
| Chestnut Sample Station | 29-Jan-19 | 0.0054 | 0.0009 | 0.00006 | 0.008 | 0.061 | <5 | 8.11 |
| Russell Avenue Sample Station | 29-Jan-19 | 0.0052 | 0.0008 | 0.00007 | <0.004 | 0.055 | <5 | 8.11 |
| Roper Reservoir | 29-Jan-19 | 0.0069 | 0.0011 | 0.00003 | <0.004 | 0.092 | <5 | 8.17 |
| Roper PRV | 29-Jan-19 | 0.0079 | 0.0007 | 0.00004 | <0.004 | 0.11 | <5 | 8.08 |
| Roper Ave Station | 29-Jan-19 | 0.0082 | 0.0021 | 0.00021 | <0.004 | 0.12 | <5 | 8.17 |
| Finlay Station | 30-Jan-19 | 0.0061 | 0.0008 | 0.00005 | 0.006 | 0.087 | <5 | 7.92 |
| Stayte Road Station | 30-Jan-19 | 0.0083 | 0.0029 | 0.00022 | 0.005 | 0.12 | <5 | 8.11 |
| Balsam & Marine Station | 30-Jan-19 | 0.0078 | 0.0019 | 0.00011 | 0.006 | 0.11 | <5 | 8.15 |
| Oxford & Buena Vista Station | 30-Jan-19 | 0.0055 | 0.0011 | 0.00004 | <0.004 | 0.080 | <5 | 8.10 |
| Everall Sample Station | 16-Apr-19 | <0.0001 | 0.0011 | 0.00006 | <0.004 | <0.001 | <5 | 7.81 |
| Mann Park Station | 16-Apr-19 | 0.0002 | 0.0030 | 0.00013 | <0.004 | 0.007 | <5 | 8.06 |
| Marine Dr Station | 16-Apr-19 | 0.0008 | 0.0037 | 0.00016 | <0.004 | 0.017 | <5 | 8.09 |
| Russell Avenue Sample Station | 16-Apr-19 | <0.0001 | 0.0014 | 0.00012 | <0.004 | 0.002 | <5 | 8.13 |
| Roper Reservoir | 16-Apr-19 | 0.0007 | 0.0028 | 0.00009 | <0.004 | 0.014 | <5 | 8.13 |
| Roper PRV | 16-Apr-19 | <0.0001 | 0.0005 | 0.00020 | <0.004 | 0.003 | <5 | 8.10 |
| Stevens Station | 16-Apr-19 | <0.0001 | 0.0032 | 0.00017 | <0.004 | 0.003 | <5 | 8.12 |
| Finlay Station | 17-Apr-19 | 0.0001 | 0.0010 | 0.00004 | <0.004 | 0.005 | <5 | 7.83 |
| Stayte Road Station | 17-Apr-19 | 0.0001 | 0.0041 | 0.00036 | 0.004 | 0.008 | <5 | 8.07 |
| Balsam & Marine Station | 17-Apr-19 | 0.0005 | 0.0015 | 0.00015 | 0.014 | 0.014 | <5 | 7.86 |
| Oxford & Buena Vista Station | 17-Apr-19 | 0.0004 | 0.0145 | 0.00046 | <0.004 | 0.009 | <5 | 8.07 |
| Merklin Low Reservoir | 17-Apr-19 | <0.0001 | 0.0385 | 0.00019 | <0.004 | 0.004 | <5 | 8.02 |
| Merklin New Reservoir | 17-Apr-19 | <0.0001 | <0.0005 | 0.00002 | <0.004 | 0.001 | <5 | 8.09 |
| Oxford Reservoir | 17-Apr-19 | <0.0001 | 0.0154 | 0.00017 | <0.004 | <0.001 | <5 | 8.12 |
| Everall Sample Station | 24-Apr-19 | <0.0001 | 0.0012 | 0.00007 | <0.004 | <0.001 | <5 | 7.92 |
| Malabar Sample Station | 24-Apr-19 | 0.0003 | 0.0034 | 0.00032 | 0.013 | 0.007 | <5 | 8.02 |
| Chestnut Sample Station | 24-Apr-19 | 0.0005 | 0.0015 | 0.00007 | 0.008 | 0.012 | <5 | 8.06 |
| Russell Avenue Sample Station | 24-Apr-19 | <0.0001 | 0.0011 | 0.00009 | <0.004 | 0.002 | <5 | 8.08 |
| Roper Reservoir | 24-Apr-19 | 0.0004 | 0.0037 | 0.00009 | <0.004 | 0.008 | <5 | 8.10 |
| Roper PRV | 24-Apr-19 | <0.0001 | <0.0005 | 0.00020 | <0.004 | 0.002 | <5 | 8.09 |
| Roper Ave Station | 24-Apr-19 | <0.0001 | 0.0046 | 0.00052 | <0.004 | 0.005 | <5 | 8.08 |
| Finlay Station | 24-Apr-19 | <0.0001 | 0.0006 | 0.00002 | <0.004 | 0.004 | <5 | 8.10 |
| Stayte Road Station | 24-Apr-19 | 0.0001 | 0.0021 | 0.00023 | <0.004 | 0.006 | <5 | 8.11 |
| Balsam & Marine Station | 24-Apr-19 | 0.0004 | 0.0008 | 0.00010 | 0.005 | 0.010 | <5 | 8.10 |
| Oxford & Buena Vista Station | 24-Apr-19 | 0.0002 | 0.0130 | 0.00038 | <0.004 | 0.005 | <5 | 8.11 |
| Merklin Low Reservoir | 24-Apr-19 | 0.0005 | 0.0274 | 0.00022 | <0.004 | 0.029 | <5 | 8.17 |
| Merklin New Reservoir | 24-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.11 |
| Oxford Reservoir | 24-Apr-19 | <0.0001 | 0.0140 | 0.00023 | <0.004 | <0.001 | <5 | 7.98 |
| Everall Sample Station | 30-Apr-19 | <0.0001 | 0.0011 | 0.00006 | <0.004 | <0.001 | <5 | 7.76 |
| Mann Park Station | 30-Apr-19 | 0.0001 | 0.0029 | 0.00012 | <0.004 | 0.005 | <5 | 7.99 |
| Marine Dr Station | 30-Apr-19 | 0.0004 | 0.0033 | 0.00012 | 0.004 | 0.009 | <5 | 7.97 |
| Russell Avenue Sample Station | 30-Apr-19 | <0.0001 | 0.0013 | 0.00009 | <0.004 | 0.001 | <5 | 8.04 |
| Roper Reservoir | 30-Apr-19 | 0.0002 | 0.0018 | 0.00005 | <0.004 | 0.004 | <5 | 8.08 |
| Roper PRV | 30-Apr-19 | <0.0001 | 0.0008 | 0.00029 | <0.004 | 0.002 | <5 | 8.10 |
| Stevens Station | 30-Apr-19 | <0.0001 | 0.0036 | 0.00017 | <0.004 | 0.002 | <5 | 7.94 |
| Merklin Low Reservoir | 30-Apr-19 | <0.0001 | 0.0594 | 0.00024 | <0.004 | <0.001 | <5 | 8.07 |
| Merklin New Reservoir | 30-Apr-19 | <0.0001 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.09 |
| Oxford Reservoir | 30-Apr-19 | <0.0001 | 0.0244 | 0.00028 | 0.004 | <0.001 | <5 | 8.10 |

City of White Rock 2019 Annual Water Report

# Distribution Metal Results 2019

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| Finlay Station | 01-May-19 | 0.0001 | 0.0012 | 0.00005 | <0.004 | 0.003 | <5 | 7.87 |
| Stayte Road Station | 01-May-19 | 0.0001 | 0.0046 | 0.00043 | <0.004 | 0.006 | <5 | 8.00 |
| Balsam & Marine Station | 01-May-19 | 0.0003 | 0.0017 | 0.00019 | 0.011 | 0.006 | <5 | 8.09 |
| Oxford & Buena Vista Station | 01-May-19 | 0.0002 | 0.0013 | 0.00008 | <0.004 | 0.004 | <5 | 8.15 |
| Everall Sample Station | 07-May-19 | <0.0001 | 0.0014 | 0.00007 | <0.004 | <0.001 | <5 | 7.92 |
| Malabar Sample Station | 07-May-19 | 0.0002 | 0.0039 | 0.00049 | <0.004 | 0.007 | <5 | 8.04 |
| Chestnut Sample Station | 07-May-19 | 0.0004 | 0.0017 | 0.00010 | 0.006 | 0.010 | <5 | 7.94 |
| Russell Avenue Sample Station | 07-May-19 | 0.0002 | 0.0014 | 0.00012 | <0.004 | 0.002 | <5 | 8.03 |
| Roper Reservoir | 07-May-19 | 0.0002 | 0.0024 | 0.00007 | <0.004 | 0.004 | <5 | 8.08 |
| Roper PRV | 07-May-19 | 0.0002 | 0.0006 | 0.00021 | <0.004 | 0.001 | <5 | 8.07 |
| Roper Ave Station | 07-May-19 | 0.0002 | 0.0046 | 0.00056 | <0.004 | 0.004 | <5 | 7.91 |
| Finlay Station | 08-May-19 | 0.0002 | 0.0011 | 0.00004 | <0.004 | 0.003 | <5 | 7.86 |
| Stayte Road Station | 08-May-19 | 0.0002 | 0.0043 | 0.00046 | <0.004 | 0.005 | <5 | 8.07 |
| Balsam & Marine Station | 08-May-19 | 0.0003 | 0.0014 | 0.00016 | 0.004 | 0.005 | <5 | 7.85 |
| Oxford & Buena Vista Station | 08-May-19 | 0.0002 | 0.0017 | 0.00009 | <0.004 | 0.003 | <5 | 8.04 |
| Merklin Low Reservoir | 08-May-19 | 0.0002 | 0.0632 | 0.00015 | <0.004 | <0.001 | <5 | 7.97 |
| Merklin New Reservoir | 08-May-19 | 0.0002 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| Oxford Reservoir | 08-May-19 | <0.0001 | 0.0125 | 0.00019 | 0.006 | <0.001 | <5 | 8.09 |
| Everall Sample Station | 14-May-19 | 0.0002 | 0.0008 | 0.00005 | <0.004 | <0.001 | <5 | 8.05 |
| Mann Park Station | 14-May-19 | 0.0002 | 0.0019 | 0.00010 | <0.004 | 0.003 | <5 | 7.97 |
| Marine Dr Station | 14-May-19 | 0.0004 | 0.0030 | 0.00012 | <0.004 | 0.009 | <5 | 8.10 |
| Russell Avenue Sample Station | 14-May-19 | 0.0004 | 0.0012 | 0.00009 | <0.004 | 0.002 | <5 | 8.11 |
| Roper Reservoir | 14-May-19 | 0.0004 | 0.0016 | 0.00008 | <0.004 | 0.004 | <5 | 8.17 |
| Roper PRV | 14-May-19 | 0.0004 | <0.0005 | 0.00012 | <0.004 | 0.002 | <5 | 8.14 |
| Stevens Station | 14-May-19 | 0.0004 | 0.0032 | 0.00018 | <0.004 | 0.002 | <5 | 8.11 |
| Finlay Station | 15-May-19 | 0.0005 | 0.0008 | 0.00005 | <0.004 | 0.003 | <5 | 7.72 |
| Stayte Road Station | 15-May-19 | 0.0005 | 0.0042 | 0.00044 | <0.004 | 0.004 | <5 | 8.03 |
| Balsam & Marine Station | 15-May-19 | 0.0005 | 0.0016 | 0.00018 | <0.004 | 0.004 | <5 | 8.10 |
| Oxford & Buena Vista Station | 15-May-19 | 0.0004 | 0.0148 | 0.00059 | <0.004 | 0.003 | <5 | 8.12 |
| Merklin Low Reservoir | 15-May-19 | 0.0006 | 0.0397 | 0.00008 | <0.004 | 0.001 | <5 | 7.86 |
| Merklin New Reservoir | 15-May-19 | 0.0005 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.07 |
| Oxford Reservoir | 15-May-19 | 0.0004 | 0.0139 | 0.00023 | <0.004 | <0.001 | <5 | 7.77 |
| Everall Sample Station | 21-May-19 | 0.0005 | 0.0014 | 0.00009 | <0.004 | 0.002 | <5 | 7.88 |
| Malabar Sample Station | 21-May-19 | 0.0006 | 0.0031 | 0.00031 | <0.004 | 0.005 | <5 | 8.02 |
| Chestnut Sample Station | 21-May-19 | 0.0008 | 0.0017 | 0.00010 | 0.005 | 0.009 | <5 | 8.04 |
| Russell Avenue Sample Station | 21-May-19 | 0.0009 | 0.0015 | 0.00013 | <0.004 | 0.008 | <5 | 8.07 |
| Roper Reservoir | 21-May-19 | 0.0006 | 0.0022 | 0.00010 | <0.004 | 0.005 | <5 | 8.07 |
| Roper PRV | 21-May-19 | 0.0008 | 0.0005 | 0.00014 | <0.004 | 0.008 | <5 | 8.09 |
| Roper Ave Station | 21-May-19 | 0.0008 | 0.0033 | 0.00039 | 0.004 | 0.009 | <5 | 8.10 |
| Finlay Station | 22-May-19 | 0.0007 | 0.0011 | 0.00004 | <0.004 | 0.007 | <5 | 7.93 |
| Stayte Road Station | 22-May-19 | 0.0008 | 0.0040 | 0.00045 | <0.004 | 0.009 | <5 | 8.06 |
| Balsam & Marine Station | 22-May-19 | 0.0007 | 0.0017 | 0.00021 | <0.004 | 0.006 | <5 | 8.09 |
| Oxford & Buena Vista Station | 22-May-19 | 0.0007 | 0.0010 | 0.00006 | <0.004 | 0.006 | <5 | 8.10 |
| Merklin Low Reservoir | 22-May-19 | 0.0008 | 0.0384 | 0.00009 | <0.004 | 0.009 | <5 | 8.10 |
| Merklin New Reservoir | 22-May-19 | 0.0008 | <0.0005 | <0.00001 | <0.004 | 0.008 | <5 | 8.12 |
| Oxford Reservoir | 22-May-19 | 0.0005 | 0.0147 | 0.00019 | <0.004 | 0.004 | <5 | 8.13 |
| Everall Sample Station | 27-May-19 | 0.0007 | 0.0015 | 0.00007 | <0.004 | <0.001 | <5 | 7.93 |
| Mann Park Station | 27-May-19 | 0.0007 | 0.0034 | 0.00013 | <0.004 | 0.004 | <5 | 8.09 |
| Marine Dr Station | 27-May-19 | 0.0008 | 0.0053 | 0.00020 | <0.004 | 0.008 | <5 | 8.13 |
| Russell Avenue Sample Station | 27-May-19 | 0.0010 | 0.0014 | 0.00010 | <0.004 | 0.002 | <5 | 8.15 |
| Roper Reservoir | 27-May-19 | 0.0008 | 0.0021 | 0.00006 | 0.006 | 0.005 | <5 | 8.17 |
| Roper PRV | 27-May-19 | 0.0009 | 0.0005 | 0.00014 | <0.004 | 0.003 | <5 | 8.18 |
| Stevens Station | 27-May-19 | 0.0009 | 0.0036 | 0.00019 | <0.004 | 0.003 | <5 | 7.98 |

City of White Rock 2019 Annual Water Report

## Distribution Metal Results 2019

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| Finlay Station | 28-May-19 | 0.0010 | 0.0010 | 0.00005 | <0.004 | 0.004 | <5 | 7.88 |
| Stayte Road Station | 28-May-19 | 0.0010 | 0.0045 | 0.00045 | <0.004 | 0.005 | <5 | 8.04 |
| Balsam & Marine Station | 28-May-19 | 0.0009 | 0.0019 | 0.00020 | 0.005 | 0.005 | <5 | 7.94 |
| Oxford & Buena Vista Station | 28-May-19 | 0.0009 | 0.0146 | 0.00064 | <0.004 | 0.003 | <5 | 8.06 |
| Merklin Low Reservoir | 28-May-19 | 0.0010 | 0.0396 | 0.00009 | <0.004 | 0.002 | <5 | 8.07 |
| Merklin New Reservoir | 28-May-19 | 0.0010 | <0.0005 | <0.00001 | <0.004 | 0.002 | <5 | 8.08 |
| Oxford Reservoir | 28-May-19 | 0.0006 | 0.0106 | 0.00010 | <0.004 | <0.001 | <5 | 8.07 |
| Everall Sample Station | 03-Jun-19 | 0.0010 | 0.0014 | 0.00008 | <0.004 | 0.001 | <5 | 7.86 |
| Malabar Sample Station | 03-Jun-19 | 0.0010 | 0.0037 | 0.00032 | <0.004 | 0.005 | <5 | 8.01 |
| Chestnut Sample Station | 03-Jun-19 | 0.0010 | 0.0014 | 0.00008 | 0.005 | 0.009 | <5 | 8.04 |
| Russell Avenue Sample Station | 03-Jun-19 | 0.0013 | 0.0015 | 0.00009 | <0.004 | 0.002 | <5 | 8.17 |
| Roper Reservoir | 03-Jun-19 | 0.0011 | 0.0015 | 0.00005 | <0.004 | 0.004 | <5 | 8.30 |
| Roper PRV | 03-Jun-19 | 0.0013 | 0.0008 | 0.00018 | <0.004 | 0.001 | <5 | 8.18 |
| Roper Ave Station | 03-Jun-19 | 0.0013 | 0.0047 | 0.00041 | <0.004 | 0.004 | <5 | 8.07 |
| Finlay Station | 04-Jun-19 | 0.0013 | 0.0011 | 0.00005 | <0.004 | 0.002 | <5 | 7.87 |
| Stayte Road Station | 04-Jun-19 | 0.0014 | 0.0048 | 0.00051 | <0.004 | 0.004 | <5 | 8.03 |
| Balsam & Marine Station | 04-Jun-19 | 0.0013 | 0.0017 | 0.00016 | <0.004 | 0.004 | <5 | 8.08 |
| Oxford & Buena Vista Station | 04-Jun-19 | 0.0012 | 0.0149 | 0.00057 | <0.004 | 0.003 | <5 | 8.09 |
| Merklin Low Reservoir | 04-Jun-19 | 0.0013 | 0.0521 | 0.00012 | <0.004 | 0.003 | <5 | 8.08 |
| Merklin New Reservoir | 04-Jun-19 | 0.0014 | <0.0005 | <0.00001 | <0.004 | 0.001 | <5 | 8.10 |
| Oxford Reservoir | 04-Jun-19 | 0.0010 | 0.0150 | 0.00018 | <0.004 | <0.001 | <5 | 7.84 |
| Everall Sample Station | 10-Jun-19 | 0.0013 | 0.0016 | 0.00008 | <0.004 | 0.003 | <5 | 7.95 |
| Mann Park Station | 10-Jun-19 | 0.0013 | 0.0031 | 0.00014 | <0.004 | 0.004 | <5 | 8.00 |
| Marine Dr Station | 10-Jun-19 | 0.0014 | 0.0046 | 0.00020 | <0.004 | 0.007 | <5 | 8.11 |
| Russell Avenue Sample Station | 10-Jun-19 | 0.0018 | 0.0014 | 0.00010 | <0.004 | 0.003 | <5 | 8.14 |
| Roper Reservoir | 10-Jun-19 | 0.0014 | 0.0017 | 0.00005 | <0.004 | 0.003 | <5 | 8.18 |
| Roper PRV | 10-Jun-19 | 0.0018 | 0.0008 | 0.00017 | <0.004 | 0.003 | <5 | 8.16 |
| Stevens Station | 10-Jun-19 | 0.0018 | 0.0034 | 0.00018 | <0.004 | 0.003 | <5 | 8.17 |
| Everall Sample Station | 17-Jun-19 | 0.0023 | 0.0017 | 0.00008 | <0.004 | 0.022 | <5 | 7.85 |
| Malabar Sample Station | 17-Jun-19 | 0.0022 | 0.0030 | 0.00030 | 0.007 | 0.009 | <5 | 8.08 |
| Chestnut Sample Station | 17-Jun-19 | 0.0023 | 0.0014 | 0.00009 | 0.010 | 0.011 | <5 | 7.76 |
| Russell Avenue Sample Station | 17-Jun-19 | 0.0028 | 0.0013 | 0.00008 | <0.004 | 0.022 | <5 | 8.07 |
| Roper Reservoir | 17-Jun-19 | 0.0022 | 0.0019 | 0.00007 | <0.004 | 0.012 | <5 | 8.15 |
| Roper PRV | 17-Jun-19 | 0.0027 | 0.0009 | 0.00011 | <0.004 | 0.020 | <5 | 8.17 |
| Roper Ave Station | 17-Jun-19 | 0.0028 | 0.0040 | 0.00042 | <0.004 | 0.012 | <5 | 8.17 |
| Finlay Station | 18-Jun-19 | 0.0029 | 0.0009 | 0.00004 | 0.078 | 0.020 | <5 | 8.01 |
| Stayte Road Station | 18-Jun-19 | 0.0029 | 0.0042 | 0.00047 | <0.004 | 0.012 | <5 | 8.07 |
| Balsam & Marine Station | 18-Jun-19 | 0.0026 | 0.0016 | 0.00013 | <0.004 | 0.012 | <5 | 8.09 |
| Oxford & Buena Vista Station | 18-Jun-19 | 0.0026 | 0.0134 | 0.00063 | <0.004 | 0.011 | <5 | 8.09 |
| Merklin Low Reservoir | 18-Jun-19 | 0.0030 | 0.0294 | 0.00008 | <0.004 | 0.027 | <5 | 8.12 |
| Merklin New Reservoir | 18-Jun-19 | 0.0030 | <0.0005 | <0.00001 | <0.004 | 0.030 | <5 | 8.16 |
| Oxford Reservoir | 18-Jun-19 | 0.0025 | 0.0147 | 0.00015 | <0.004 | 0.025 | <5 | 8.15 |
| Everall Sample Station | 24-Jun-19 | 0.0026 | 0.0013 | 0.00007 | <0.004 | 0.031 | <5 | 7.65 |
| Mann Park Station | 24-Jun-19 | 0.0025 | 0.0035 | 0.00014 | 0.006 | 0.017 | <5 | 8.01 |
| Marine Dr Station | 24-Jun-19 | 0.0025 | 0.0047 | 0.00024 | <0.004 | 0.011 | <5 | 8.09 |
| Russell Avenue Sample Station | 24-Jun-19 | 0.0025 | 0.0014 | 0.00007 | <0.004 | 0.018 | <5 | 8.12 |
| Roper Reservoir | 24-Jun-19 | 0.0026 | 0.0018 | 0.00006 | <0.004 | 0.020 | <5 | 7.66 |
| Roper PRV | 24-Jun-19 | 0.0030 | 0.0010 | 0.00010 | <0.004 | 0.028 | <5 | 8.04 |
| Stevens Station | 24-Jun-19 | 0.0030 | 0.0036 | 0.00019 | <0.004 | 0.023 | <5 | 8.12 |

City of White Rock 2019 Annual Water Report

## Distribution Metal Results 2019

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| Finlay Station | 25-Jun-19 | 0.0029 | 0.0009 | 0.00004 | <0.004 | 0.014 | <5 | 7.81 |
| Stayte Road Station | 25-Jun-19 | 0.0030 | 0.0039 | 0.00043 | 0.005 | 0.011 | <5 | 8.05 |
| Balsam & Marine Station | 25-Jun-19 | 0.0027 | 0.0017 | 0.00012 | <0.004 | 0.011 | <5 | 8.09 |
| Oxford & Buena Vista Station | 25-Jun-19 | 0.0029 | 0.0129 | 0.00050 | <0.004 | 0.013 | <5 | 8.11 |
| Merklin Low Reservoir | 25-Jun-19 | 0.0028 | 0.0328 | 0.00005 | <0.004 | 0.020 | <5 | 8.11 |
| Merklin New Reservoir | 25-Jun-19 | 0.0029 | <0.0005 | <0.00001 | <0.004 | 0.024 | <5 | 8.12 |
| Oxford Reservoir | 25-Jun-19 | 0.0024 | 0.0180 | 0.00021 | 0.010 | 0.018 | <5 | 8.11 |
| Everall Sample Station | 02-Jul-19 | 0.0026 | 0.0017 | 0.00008 | <0.004 | 0.004 | <5 | 7.76 |
| Malabar Sample Station | 02-Jul-19 | 0.0025 | 0.0029 | 0.00028 | <0.004 | 0.002 | <5 | 8.12 |
| Chestnut Sample Station | 02-Jul-19 | 0.0026 | 0.0013 | 0.00009 | <0.004 | 0.006 | <5 | 8.14 |
| Russell Avenue Sample Station | 02-Jul-19 | 0.0025 | 0.0013 | 0.00007 | <0.004 | 0.003 | <5 | 8.14 |
| Roper Reservoir | 02-Jul-19 | 0.0026 | 0.0016 | 0.00005 | <0.004 | 0.009 | <5 | 7.52 |
| Roper PRV | 02-Jul-19 | 0.0026 | 0.0006 | 0.00013 | <0.004 | 0.002 | <5 | 8.00 |
| Roper Ave Station | 02-Jul-19 | 0.0029 | 0.0031 | 0.00033 | <0.004 | 0.005 | <5 | 8.09 |
| Finlay Station | 03-Jul-19 | 0.0029 | 0.0010 | 0.00004 | 0.005 | 0.004 | <5 | 7.74 |
| Stayte Road Station | 03-Jul-19 | 0.0030 | 0.0053 | 0.00064 | <0.004 | 0.004 | <5 | 8.00 |
| Balsam & Marine Station | 03-Jul-19 | 0.0028 | 0.0017 | 0.00017 | <0.004 | 0.007 | <5 | 8.04 |
| Oxford & Buena Vista Station | 03-Jul-19 | 0.0028 | 0.0020 | 0.00009 | <0.004 | 0.004 | <5 | 8.05 |
| Merklin Low Reservoir | 03-Jul-19 | 0.0029 | 0.0301 | 0.00006 | <0.004 | 0.003 | <5 | 8.06 |
| Merklin New Reservoir | 03-Jul-19 | 0.0029 | <0.005 | <0.00001 | <0.004 | 0.003 | <5 | 8.07 |
| Oxford Reservoir | 03-Jul-19 | 0.0028 | 0.0170 | 0.00014 | 0.005 | 0.002 | <5 | 8.07 |
| Everall Sample Station | 06-Aug-19 | 0.0031 | 0.0019 | 0.00009 | <0.004 | <0.001 | <5 | 7.74 |
| Mann Park Station | 06-Aug-19 | 0.0032 | 0.0026 | 0.00016 | <0.004 | 0.002 | <5 | 8.00 |
| Marine Dr Station | 06-Aug-19 | 0.0033 | 0.0047 | 0.00031 | 0.004 | 0.003 | <5 | 8.06 |
| Russell Avenue Sample Station | 06-Aug-19 | 0.0032 | 0.0012 | 0.00007 | <0.004 | <0.001 | <5 | 7.82 |
| Roper Reservoir | 06-Aug-19 | 0.0033 | 0.0017 | 0.00005 | 0.004 | 0.002 | <5 | 8.05 |
| Roper PRV | 06-Aug-19 | 0.0033 | 0.0005 | 0.00015 | <0.004 | <0.001 | <5 | 8.08 |
| Stevens Station | 06-Aug-19 | 0.0034 | 0.0031 | 0.00020 | <0.004 | <0.001 | <5 | 8.11 |
| Finlay Station | 07-Aug-19 | 0.0034 | 0.0007 | 0.00004 | <0.004 | <0.001 | <5 | 7.79 |
| Stayte Road Station | 07-Aug-19 | 0.0034 | 0.0044 | 0.00051 | <0.004 | 0.002 | <5 | 8.05 |
| Balsam & Marine Station | 07-Aug-19 | 0.0033 | 0.0014 | 0.00022 | <0.004 | 0.002 | <5 | 8.13 |
| Oxford & Buena Vista Station | 07-Aug-19 | 0.0034 | 0.0144 | 0.00048 | <0.004 | <0.001 | <5 | 8.14 |
| Merklin Low Reservoir | 07-Aug-19 | 0.0037 | 0.0374 | 0.00008 | <0.004 | <0.001 | <5 | 8.14 |
| Merklin New Reservoir | 07-Aug-19 | 0.0036 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |
| Oxford Reservoir | 07-Aug-19 | 0.0031 | 0.0164 | 0.00024 | 0.006 | <0.001 | <5 | 8.12 |
| Everall Sample Station | 03-Sep-19 | 0.0039 | 0.0012 | 0.00014 | <0.004 | 0.001 | <5 | 8.10 |
| Mann Park Station | 03-Sep-19 | 0.0060 | <0.0005 | <0.00001 | <0.004 | 0.003 | <5 | 8.11 |
| Marine Dr Station | 03-Sep-19 | 0.0037 | 0.0042 | 0.00025 | <0.004 | 0.003 | <5 | 8.12 |
| Russell Avenue Sample Station | 03-Sep-19 | 0.0037 | 0.0014 | 0.00009 | <0.004 | <0.001 | <5 | 8.14 |
| Roper Reservoir | 03-Sep-19 | 0.0037 | 0.0022 | 0.00008 | <0.004 | 0.002 | <5 | 8.16 |
| Roper PRV | 03-Sep-19 | 0.0038 | 0.0009 | 0.00020 | <0.004 | <0.001 | <5 | 8.16 |
| Stevens Station | 03-Sep-19 | 0.0039 | 0.0033 | 0.00020 | <0.004 | <0.001 | <5 | 8.13 |
| Finlay Station | 04-Sep-19 | 0.0037 | 0.0024 | 0.00005 | <0.004 | 0.001 | <5 | 7.70 |
| Stayte Road Station | 04-Sep-19 | 0.0039 | 0.0040 | 0.00047 | 0.004 | 0.016 | <5 | 8.02 |
| Balsam & Marine Station | 04-Sep-19 | 0.0037 | 0.0015 | 0.00022 | <0.004 | 0.002 | <5 | 8.10 |
| Oxford & Buena Vista Station | 04-Sep-19 | 0.0037 | 0.0156 | 0.00051 | <0.004 | 0.001 | <5 | 7.82 |
| Merklin Low Reservoir | 04-Sep-19 | 0.0040 | 0.0385 | 0.00008 | <0.004 | <0.001 | <5 | 8.03 |
| Merklin New Reservoir | 04-Sep-19 | 0.0039 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.08 |
| Oxford Reservoir | 04-Sep-19 | 0.0036 | 0.0122 | 0.00013 | 0.006 | <0.001 | <5 | 8.12 |
| Everall Sample Station | 01-Oct-19 | 0.0040 | 0.0011 | 0.00011 | <0.004 | 0.002 | <5 | 7.69 |
| Mann Park Station | 01-Oct-19 | 0.0040 | 0.0026 | 0.00017 | 0.006 | 0.004 | <5 | 7.96 |
| Marine Dr Station | 01-Oct-19 | 0.0039 | 0.0046 | 0.00026 | <0.004 | 0.002 | <5 | 8.01 |
| Russell Avenue Sample Station | 01-Oct-19 | 0.0043 | 0.0009 | 0.00012 | <0.004 | 0.002 | <5 | 8.09 |
| Roper Reservoir | 01-Oct-19 | 0.0041 | 0.0029 | 0.00013 | <0.004 | 0.002 | <5 | 8.10 |

City of White Rock 2019 Annual Water Report

## Distribution Metal Results 2019

| Sample Location | Date Sampled | Arsenic mg/L | Copper mg/L | Lead mg/L | Iron mg/L | Manganese mg/L | Colour Colour Units | pH |
|---|---|---|---|---|---|---|---|---|
| Roper PRV | 01-Oct-19 | 0.0041 | 0.0005 | 0.00020 | <0.004 | <0.001 | <5 | 8.12 |
| Stevens Station | 01-Oct-19 | 0.0042 | 0.0029 | 0.00019 | <0.004 | <0.001 | <5 | 8.13 |
| Finlay Station | 02-Oct-19 | 0.0042 | 0.0020 | <0.0001 | <0.01 | <0.005 | <5 | 7.67 |
| Stayte Road Station | 02-Oct-19 | 0.0043 | 0.0050 | 0.00050 | <0.01 | <0.005 | <5 | 7.89 |
| Balsam & Marine Station | 02-Oct-19 | 0.0041 | 0.0010 | 0.00020 | <0.01 | <0.005 | <5 | 7.92 |
| Oxford & Buena Vista Station | 02-Oct-19 | 0.0041 | 0.0140 | 0.00040 | <0.01 | <0.005 | <5 | 7.96 |
| Merklin Low Reservoir | 02-Oct-19 | 0.0044 | 0.0490 | <0.0001 | <0.01 | <0.005 | <5 | 7.96 |
| Merklin New Reservoir | 02-Oct-19 | 0.0045 | <0.001 | <0.0001 | <0.01 | <0.005 | <5 | 8.00 |
| Oxford Reservoir | 02-Oct-19 | 0.0041 | 0.0130 | 0.00010 | <0.01 | <0.005 | <5 | 8.00 |
| Everall Sample Station | 25-Nov-19 | 0.0035 | 0.0012 | 0.00007 | <0.004 | <0.001 | <5 | 8.01 |
| Mann Park Station | 25-Nov-19 | 0.0035 | 0.0031 | 0.00010 | <0.004 | 0.001 | <5 | 8.12 |
| Marine Dr Station | 25-Nov-19 | 0.0036 | 0.0038 | 0.00013 | <0.004 | 0.002 | <5 | 8.14 |
| Russell Avenue Sample Station | 25-Nov-19 | 0.0036 | 0.0010 | 0.00009 | <0.004 | <0.001 | <5 | 8.15 |
| Roper Reservoir* | 25-Nov-19 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Roper PRV | 25-Nov-19 | 0.0037 | 0.0014 | 0.00006 | <0.004 | <0.001 | <5 | 8.15 |
| Stevens Station | 25-Nov-19 | 0.0037 | 0.0031 | 0.00014 | <0.004 | <0.001 | <5 | 8.16 |
| Finlay Station | 26-Nov-19 | 0.0036 | 0.0012 | 0.00005 | 0.004 | <0.001 | <5 | 7.98 |
| Stayte Road Station | 26-Nov-19 | 0.0035 | 0.0036 | 0.00026 | <0.004 | 0.001 | <5 | 8.10 |
| Balsam & Marine Station | 26-Nov-19 | 0.0035 | 0.0018 | 0.00014 | 0.067 | 0.007 | <5 | 8.10 |
| Oxford & Buena Vista Station | 26-Nov-19 | 0.0035 | 0.0129 | 0.00035 | <0.004 | <0.001 | <5 | 8.14 |
| Merklin Low Reservoir | 26-Nov-19 | 0.0036 | 0.0371 | 0.00005 | 0.005 | <0.001 | <5 | 8.11 |
| Merklin New Reservoir | 26-Nov-19 | 0.0036 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.14 |
| Oxford Reservoir | 26-Nov-19 | 0.0034 | 0.0165 | 0.00014 | 0.006 | <0.001 | <5 | 8.13 |
| Everall Sample Station | 23-Dec-19 | 0.0037 | 0.0017 | 0.00008 | 0.005 | <0.001 | <5 | 8.09 |
| Mann Park Station | 23-Dec-19 | 0.0038 | 0.0037 | 0.00015 | <0.004 | 0.003 | <5 | 8.10 |
| Marine Dr Station | 23-Dec-19 | 0.0035 | 0.0046 | 0.00016 | 0.005 | 0.005 | <5 | 8.11 |
| Russell Avenue Sample Station | 23-Dec-19 | 0.0040 | 0.0017 | 0.00009 | <0.004 | <0.001 | <5 | 8.10 |
| Roper Reservoir* | 23-Dec-19 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Roper PRV | 23-Dec-19 | 0.0040 | 0.0009 | 0.00007 | <0.004 | 0.001 | <5 | 8.13 |
| Stevens Station | 23-Dec-19 | 0.0040 | 0.0032 | 0.00013 | <0.004 | <0.001 | <5 | 8.13 |
| Finlay Station | 23-Dec-19 | 0.0039 | 0.0006 | 0.00003 | <0.004 | <0.001 | <5 | 8.13 |
| Stayte Road Station | 23-Dec-19 | 0.0039 | 0.0061 | 0.00047 | 0.011 | <0.001 | <5 | 8.12 |
| Balsam & Marine Station | 23-Dec-19 | 0.0038 | 0.0027 | 0.00013 | <0.004 | 0.001 | <5 | 8.13 |
| Oxford & Buena Vista Station | 23-Dec-19 | 0.0039 | 0.0140 | 0.00028 | 0.059 | 0.002 | <5 | 8.11 |
| Merklin Low Reservoir | 23-Dec-19 | 0.0041 | 0.0323 | 0.00005 | <0.004 | <0.001 | <5 | 8.11 |
| Merklin New Reservoir | 23-Dec-19 | 0.0040 | <0.0005 | <0.00001 | <0.004 | <0.001 | <5 | 8.13 |
| Oxford Reservoir | 23-Dec-19 | 0.0038 | 0.0087 | 0.00008 | 0.008 | <0.001 | <5 | 8.15 |
| | | | | | | | | |
| **Nominal Detection Limit** | | **0.0001** | **0.0005** | **0.00001** | **0.004** | **0.001** | **5** | **0.01** |
| **Guideline Limit** | | **0.010** | **2.0** | **0.005** | **0.3** | **0.12** | | **7.0-10.5** |

*Out of service for reservoir improvement

City of White Rock 2019 Annual Water Report

## In House Water Testing - 2019

| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Everall St. Sampling Station | 2-Jan-19 | 9:45 | 270 | 8.26 | 0.08 | 0.63 | 0.03 | 9.2 | 16.1 |
| Malabar Sampling Station | 2-Jan-19 | 10:00 | 275 | 8.30 | 0.14 | 0.55 | 0.02 | 9.2 | 15.0 |
| Chestnut & N. Bluff Sample STN | 2-Jan-19 | 10:15 | 283 | 8.34 | 0.16 | 0.30 | 0.02 | 8.4 | 16.0 |
| Russell Ave. Sample Station | 2-Jan-19 | 10:30 | 304 | 8.40 | 0.06 | 0.61 | 0.02 | 9.0 | 15.5 |
| Roper Reservoir | 2-Jan-19 | 10:45 | | | | | | 8.0 | |
| Roper PRV | 2-Jan-19 | 11:00 | 306 | 8.45 | 0.09 | 0.63 | 0.02 | 9.2 | 14.8 |
| Roper Ave. Sample Station | 2-Jan-19 | 11:15 | 312 | 8.50 | 0.08 | 0.60 | 0.02 | 8.4 | 14.4 |
| Finlay St. Sampling Station | 2-Jan-19 | 11:30 | 304 | 8.43 | 0.10 | 0.57 | 0.01 | 8.8 | 14.2 |
| Stayte Sampling Station | 2-Jan-19 | 11:45 | 288 | 8.32 | 0.11 | 0.44 | 0.02 | 8.9 | 14.3 |
| Balsam & Marine | 2-Jan-19 | 12:00 | 280 | 8.34 | 0.10 | 0.55 | 0.01 | 8.9 | 14.2 |
| Oxford St. & Buena Vista STN | 2-Jan-19 | 12:15 | 285 | 8.31 | 0.11 | 0.47 | 0.02 | 9.0 | 14.2 |
| Merklin Low Reservoir | 2-Jan-19 | 12:30 | 313 | 8.50 | 0.15 | 0.57 | 0.02 | 8.2 | 14.3 |
| Merklin Reservoir (New) | 2-Jan-19 | 12:45 | | | 0.08 | 0.59 | 0.02 | 7.8 | |
| Oxford Reservoir | 2-Jan-19 | 13:00 | 265 | 8.33 | 0.08 | 0.59 | 0.03 | 8.1 | 13.0 |
| Everall St. Sampling Station | 8-Jan-19 | 9:00 | 273 | 8.22 | 0.08 | 0.60 | 0.02 | 9.5 | 18.1 |
| Mann Park Sample Station | 8-Jan-19 | 9:15 | 274 | 8.27 | 0.10 | 0.56 | 0.02 | 8.1 | 18.3 |
| Marine Dr Sample Station | 8-Jan-19 | 9:30 | 280 | 8.33 | 0.22 | 0.27 | 0.02 | 8.1 | 17.9 |
| Russell Ave. Sample Station | 8-Jan-19 | 9:45 | 310 | 8.34 | 0.17 | 0.61 | 0.02 | 9.1 | 18.3 |
| Roper Reservoir | 8-Jan-19 | 10:00 | 302 | | 0.16 | 0.48 | 0.01 | 9.0 | 18.0 |
| Roper PRV | 8-Jan-19 | 10:15 | 304 | 8.40 | 0.07 | 0.63 | 0.01 | 8.8 | 18.1 |
| Stevens Sample Station | 8-Jan-19 | 10:30 | 316 | 8.48 | 0.03 | 0.79 | 0.02 | 8.7 | 18.1 |
| Finlay St. Sampling Station | 8-Jan-19 | 10:45 | 304 | 8.44 | 0.05 | 0.65 | 0.03 | 8.4 | 17.9 |
| Stayte Sampling Station | 9-Jan-19 | 9:00 | 299 | 8.37 | 0.08 | 0.37 | 0.01 | 8.6 | 18.0 |
| Balsam & Marine | 9-Jan-19 | 9:15 | 285 | 8.30 | 0.12 | 0.54 | 0.01 | 8.7 | 18.4 |
| Oxford St. & Buena Vista STN | 9-Jan-19 | 9:30 | 284 | 8.32 | 0.05 | 0.49 | 0.02 | 8.9 | 18.2 |
| Merklin Low Reservoir | 9-Jan-19 | 9:45 | 316 | 8.47 | 0.07 | 0.61 | 0.03 | 7.9 | 18.0 |
| Merklin Reservoir (New) | 9-Jan-19 | 10:00 | 313 | 8.45 | 0.07 | 0.60 | 0.03 | 7.6 | 18.0 |
| Oxford Reservoir | 9-Jan-19 | 10:15 | 270 | 8.31 | | | | | |
| Everall St. Sampling Station | 15-Jan-19 | 9:25 | 278 | 8.16 | 0.17 | 0.65 | 0.04 | 9.4 | 15.7 |
| Malabar Sampling Station | 15-Jan-19 | 9:50 | 277 | 8.22 | 0.16 | 0.55 | 0.02 | 9.0 | 15.3 |
| Marine Dr Sample Station | 15-Jan-19 | 10:30 | 280 | 8.25 | 0.18 | 0.47 | 0.04 | 8.0 | 15.8 |
| Russell Ave. Sample Station | 15-Jan-19 | 10:50 | 282 | 8.25 | 0.12 | 0.64 | 0.03 | 9.1 | 15.9 |
| Roper Reservoir | 15-Jan-19 | 11:15 | 297 | 8.43 | 0.18 | 0.60 | 0.05 | 9.0 | 15.7 |
| Roper PRV | 15-Jan-19 | 11:05 | 305 | 8.45 | 0.14 | 0.49 | 0.04 | 9.2 | 16.0 |
| Roper Ave. Sample Station | 15-Jan-19 | 11:35 | 310 | 8.51 | 0.21 | 0.60 | 0.04 | 8.4 | 16.0 |
| Finlay St. Sampling Station | 16-Jan-19 | 9:10 | 294 | 8.26 | 0.20 | 0.60 | 0.03 | 9.0 | 23.0 |
| Stayte Sampling Station | 16-Jan-19 | 9:35 | 300 | 8.25 | 0.19 | 0.48 | 0.03 | 8.5 | 23.4 |
| Balsam & Marine | 16-Jan-19 | 10:00 | 294 | 8.22 | 0.15 | 0.60 | 0.03 | 8.8 | 24.6 |
| Oxford St. & Buena Vista STN | 16-Jan-19 | 11:20 | 297 | 8.26 | 0.13 | 0.53 | 0.02 | 9.0 | 21.7 |
| Merklin Low Reservoir | 16-Jan-19 | 10:40 | 316 | 8.35 | 0.18 | 0.62 | 0.02 | 9.3 | 24.1 |
| Merklin Reservoir (New) | 16-Jan-19 | 11:00 | 314 | 8.37 | 0.18 | 0.68 | 0.03 | 9.3 | 22.4 |
| Oxford Reservoir | 16-Jan-19 | 11:40 | 287 | 8.21 | 0.11 | 0.65 | 0.02 | 9.7 | 22.8 |
| Everall St. Sampling Station | 22-Jan-19 | 8:45 | 276 | 8.24 | 0.10 | 0.64 | 0.02 | 9.4 | 17.6 |
| Mann Park Sample Station | 22-Jan-19 | 9:05 | 274 | 8.18 | 0.33 | 0.55 | 0.02 | 8.0 | 16.1 |
| Marine Dr Sample Station | 22-Jan-19 | 9:20 | 274 | 8.25 | 0.21 | 0.39 | 0.03 | 7.7 | 15.0 |
| Russell Ave. Sample Station | 22-Jan-19 | 9:35 | 282 | 8.21 | 0.10 | 0.69 | 0.01 | 9.1 | 16.7 |
| Roper Reservoir | 22-Jan-19 | 10:40 | 293 | 8.37 | 0.17 | 0.68 | 0.03 | 8.7 | 16.7 |
| Roper PRV | 22-Jan-19 | 10:30 | 296 | 8.37 | 0.09 | 0.64 | 0.02 | 9.3 | 15.7 |
| Stevens Sample Station | 22-Jan-19 | 9:50 | 293 | 8.31 | 0.09 | 0.69 | 0.06 | 8.9 | 18.1 |
| Finlay St. Sampling Station | 23-Jan-19 | 8:55 | 283 | 8.28 | 0.12 | 0.58 | 0.02 | 8.9 | 18.0 |
| Stayte Sampling Station | 23-Jan-19 | 9:20 | 310 | 8.38 | 0.16 | 0.38 | 0.03 | 8.1 | 18.6 |
| Balsam & Marine | 23-Jan-19 | 9:45 | 286 | 8.28 | 0.11 | 0.57 | 0.00 | 8.8 | 19.6 |
| Oxford St. & Buena Vista STN | 23-Jan-19 | 10:40 | 273 | 8.32 | 0.12 | 0.49 | 0.03 | 9.2 | 18.7 |
| Merklin Low Reservoir | 23-Jan-19 | 11:00 | 307 | 8.44 | 0.06 | 0.60 | 0.02 | 9.2 | 18.8 |
| Merklin Reservoir (New) | 23-Jan-19 | 11:25 | 312 | 8.46 | 0.09 | 0.58 | 0.00 | 9.2 | 19.8 |
| Oxford Reservoir | 23-Jan-19 | 11:45 | 276 | 8.24 | 0.08 | 0.61 | 0.04 | 9.7 | 18.6 |
| Everall St. Sampling Station | 29-Jan-19 | 8:45 | 279 | 7.79 | 0.11 | 0.68 | 0.02 | 9.4 | 21.5 |
| Malabar Sampling Station | 29-Jan-19 | 9:05 | 276 | 8.22 | 0.14 | 0.57 | 0.01 | 8.8 | 21.9 |
| Chestnut & N. Bluff Sample STN | 29-Jan-19 | 9:25 | 274 | 8.28 | 0.16 | 0.70 | 0.00 | 7.7 | 21.7 |
| Russell Ave. Sample Station | 29-Jan-19 | 9:40 | 276 | 8.28 | 0.10 | 0.53 | 0.00 | 9.0 | 20.9 |
| Roper Reservoir | 29-Jan-19 | 10:30 | 279 | 8.40 | 0.15 | 0.80 | 0.00 | 8.1 | 18.6 |

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| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Roper PRV | 29-Jan-19 | 10:45 | 309 | 8.44 | 0.11 | 0.73 | 0.00 | 9.2 | 21.0 |
| Roper Ave. Sample Station | 29-Jan-19 | 11:00 | 304 | 8.44 | 0.10 | 0.54 | 0.02 | 8.2 | 20.1 |
| Finlay St. Sampling Station | 30-Jan-19 | 9:15 | 291 | 8.28 | 0.11 | 0.64 | 0.04 | 8.8 | 24.0 |
| Stayte Sampling Station | 30-Jan-19 | 9:35 | 313 | 8.41 | 0.11 | 0.57 | 0.01 | 8.3 | 22.5 |
| Balsam & Marine | 30-Jan-19 | 9:55 | 305 | 8.40 | 0.13 | 0.49 | 0.03 | 8.6 | 22.6 |
| Oxford St. & Buena Vista STN | 30-Jan-19 | 10:40 | 286 | 8.35 | 0.11 | 0.62 | 0.04 | 9.1 | 22.5 |
| Merklin Low Reservoir | 30-Jan-19 | 11:00 | 317 | 8.47 | 0.07 | 0.47 | 0.02 | 9.2 | 21.7 |
| Merklin Reservoir (New) | 30-Jan-19 | 11:20 | 317 | 8.49 | 0.09 | 0.66 | 0.01 | 9.2 | 24.6 |
| Oxford Reservoir | 30-Jan-19 | 11:55 | 281 | 8.34 | 0.10 | 0.66 | 0.00 | 9.7 | 22.7 |
| Everall St. Sampling Station | 5-Feb-19 | 9:05 | 268 | 8.33 | 0.10 | 0.69 | 0.01 | 9.0 | 14.4 |
| Mann Park Sample Station | 5-Feb-19 | 9:20 | 266 | 8.36 | 0.12 | 0.37 | 0.00 | 7.5 | 12.3 |
| Marine Dr Sample Station | 5-Feb-19 | 9:35 | 283 | 8.37 | 0.22 | 0.39 | 0.02 | 7.2 | 15.8 |
| Russell Ave. Sample Station | 5-Feb-19 | 9:55 | 284 | 8.37 | 0.10 | 0.83 | 0.00 | 8.5 | 14.7 |
| Roper Reservoir | 5-Feb-19 | 10:25 | 288 | 8.47 | 0.08 | 0.54 | 0.01 | 8.8 | 16.1 |
| Roper PRV | 5-Feb-19 | 10:35 | 306 | 8.50 | 0.17 | 0.51 | 0.02 | 7.6 | 16.5 |
| Stevens Sample Station | 5-Feb-19 | 10:50 | 307 | 8.53 | 0.12 | 0.55 | 0.00 | 8.7 | 15.5 |
| Finlay St. Sampling Station | 5-Feb-19 | 11:05 | 274 | 8.44 | 0.10 | 0.64 | 0.03 | 8.4 | 13.3 |
| Stayte Sampling Station | 5-Feb-19 | 11:20 | 304 | 8.56 | 0.08 | 0.21 | 0.01 | 8.0 | 13.3 |
| Balsam & Marine | 5-Feb-19 | 11:30 | 295 | 8.53 | 0.11 | 0.77 | 0.00 | 7.8 | 13.4 |
| Oxford St. & Buena Vista STN | 5-Feb-19 | 11:45 | 285 | 8.48 | 0.12 | 0.54 | 0.03 | 8.5 | 13.0 |
| Merklin Low Reservoir | 5-Feb-19 | 11:55 | 316 | 8.59 | 0.06 | 0.61 | 0.00 | 9.1 | 18.2 |
| Merklin Reservoir (New) | 5-Feb-19 | 12:05 | 312 | 8.63 | 0.06 | 0.71 | 0.00 | 9.0 | 16.9 |
| Oxford Reservoir | 5-Feb-19 | 12:20 | 270 | 8.49 | 0.09 | 0.65 | 0.03 | 9.6 | 13.6 |
| Everall St. Sampling Station | 13-Feb-19 | 8:18 | 263 | 8.25 | 0.11 | 0.68 | 0.03 | 9.0 | 19.5 |
| Malabar Sampling Station | 13-Feb-19 | 8:50 | 269 | 8.32 | 0.13 | 0.63 | 0.03 | 7.6 | 17.9 |
| Chestnut & N. Bluff Sample STN | 13-Feb-19 | 9:05 | 270 | 8.40 | 0.14 | 0.44 | 0.04 | 5.6 | 16.2 |
| Russell Ave. Sample Station | 13-Feb-19 | 9:20 | 308 | 8.48 | 0.07 | 0.68 | 0.00 | 8.5 | 17.8 |
| Roper Reservoir | 13-Feb-19 | 9:35 | 278 | 8.43 | 0.15 | 0.53 | 0.02 | 6.6 | 14.0 |
| Roper PRV | 13-Feb-19 | 9:30 | 304 | 8.50 | 0.08 | 0.48 | 0.03 | 8.5 | 14.4 |
| Roper Ave. Sample Station | 13-Feb-19 | 9:50 | 308 | 8.52 | 0.07 | 0.73 | 0.00 | 6.6 | 18.2 |
| Finlay St. Sampling Station | 13-Feb-19 | 10:35 | 282 | 8.48 | 0.10 | 0.75 | 0.00 | 7.3 | 17.4 |
| Stayte Sampling Station | 13-Feb-19 | 10:52 | 307 | 8.56 | 0.07 | 0.56 | 0.01 | 6.5 | 18.3 |
| Balsam & Marine | 13-Feb-19 | 11:07 | 306 | 8.56 | 0.10 | 0.50 | 0.02 | 6.2 | 21.1 |
| Oxford St. & Buena Vista STN | 13-Feb-19 | 12:00 | 279 | 8.47 | 0.11 | 0.60 | 0.05 | 8.2 | 15.0 |
| Merklin Low Reservoir | 13-Feb-19 | 11:22 | 307 | 8.60 | 0.07 | 0.72 | 0.00 | 9.0 | 19.9 |
| Merklin Reservoir (New) | 13-Feb-19 | 11:31 | 303 | 8.58 | 0.06 | 0.63 | 0.05 | 9.0 | 16.3 |
| Oxford Reservoir | 13-Feb-19 | 11:47 | 274 | 8.43 | 0.11 | 0.53 | 0.04 | 9.7 | 16.0 |
| Everall St. Sampling Station | 19-Feb-19 | 8:35 | 272 | 8.29 | 0.09 | 0.60 | 0.03 | 9.0 | 19.4 |
| Mann Park Sample Station | 19-Feb-19 | 8:45 | 261 | 8.31 | 0.14 | 0.66 | 0.03 | 5.8 | 13.8 |
| Marine Dr Sample Station | 19-Feb-19 | 9:00 | 273 | 8.40 | 0.22 | 0.58 | 0.01 | 5.3 | 17.8 |
| Russell Ave. Sample Station | 19-Feb-19 | 9:20 | 272 | 8.36 | 0.09 | 0.75 | 0.00 | 8.1 | 17.2 |
| Roper Reservoir | 19-Feb-19 | 11:15 | 278 | 8.42 | 0.15 | 0.65 | 0.05 | 6.9 | 16.5 |
| Roper PRV | 19-Feb-19 | 11:05 | 298 | 8.50 | 0.10 | 0.78 | 0.05 | 8.5 | 14.1 |
| Stevens Sample Station | 19-Feb-19 | 9:35 | 305 | 8.52 | 0.10 | 0.60 | 0.01 | 7.9 | 16.7 |
| Finlay St. Sampling Station | 19-Feb-19 | 9:50 | 273 | 8.44 | 0.10 | 0.56 | 0.02 | 7.0 | 18.9 |
| Stayte Sampling Station | 19-Feb-19 | 10:35 | 298 | 8.54 | 0.11 | 0.67 | 0.02 | 6.3 | 15.3 |
| Balsam & Marine | 19-Feb-19 | 10:50 | 292 | 8.52 | 0.13 | 0.73 | 0.01 | 6.0 | 14.4 |
| Oxford St. & Buena Vista STN | 19-Feb-19 | 10:00 | 278 | 8.46 | 0.11 | 0.61 | 0.04 | 7.8 | 15.1 |
| Merklin Low Reservoir | 19-Feb-19 | 11:25 | 312 | 8.55 | 0.07 | 0.61 | 0.05 | 9.0 | 19.0 |
| Merklin Reservoir (New) | 19-Feb-19 | 11:35 | 302 | 8.57 | 0.11 | 0.70 | 0.00 | 9.3 | 15.6 |
| Oxford Reservoir | 19-Feb-19 | 11:50 | 259 | 8.46 | 0.10 | 0.63 | 0.02 | 9.7 | 15.0 |
| Everall St. Sampling Station | 27-Feb-19 | 7:25 | 277 | 8.35 | 0.10 | 0.66 | 0.03 | 9.0 | 19.2 |
| Malabar Sampling Station | 27-Feb-19 | 7:40 | 269 | 8.43 | 0.13 | 0.61 | 0.02 | 6.6 | 16.8 |
| Chestnut & N. Bluff Sample STN | 27-Feb-19 | 7:55 | 278 | 8.53 | 0.15 | 0.58 | 0.00 | 5.9 | 17.5 |
| Russell Ave. Sample Station | 27-Feb-19 | 8:10 | 272 | 8.44 | 0.10 | 0.66 | 0.02 | 8.4 | 15.2 |
| Roper Reservoir | 27-Feb-19 | 8:35 | 270 | 8.51 | 0.16 | 0.53 | 0.06 | 6.9 | 14.5 |
| Roper PRV | 27-Feb-19 | 8:25 | 298 | 8.57 | 0.10 | 0.64 | 0.00 | 8.5 | 20.3 |
| Roper Ave. Sample Station | 27-Feb-19 | 11:00 | 298 | 8.65 | 0.10 | 0.62 | 0.02 | 6.5 | 15.2 |
| Finlay St. Sampling Station | 27-Feb-19 | 9:30 | 297 | 8.60 | 0.11 | 0.62 | 0.04 | 7.6 | 21.2 |
| Stayte Sampling Station | 27-Feb-19 | 9:45 | 297 | 8.67 | 0.10 | 0.54 | 0.02 | 6.7 | 20.3 |
| Balsam & Marine | 27-Feb-19 | 10:45 | 284 | 8.67 | 0.12 | 0.46 | 0.02 | 6.5 | 18.4 |
| Oxford St. & Buena Vista STN | 27-Feb-19 | 11:15 | 285 | 8.50 | 0.12 | 0.56 | 0.03 | 7.9 | 19.7 |
| Merklin Low Reservoir | 27-Feb-19 | 8:55 | 302 | 8.70 | 0.10 | 0.64 | 0.00 | 8.9 | 20.6 |

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| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Merklin Reservoir (New) | 27-Feb-19 | 9:05 | 303 | 8.70 | 0.07 | 0.65 | 0.05 | 9.1 | 16.2 |
| Oxford Reservoir | 27-Feb-19 | 11:35 | 272 | 8.53 | 0.09 | 0.63 | 0.02 | 9.6 | 17.1 |
| Everall St. Sampling Station | 5-Mar-19 | 9:00 | 272 | 8.30 | 0.10 | 0.66 | 0.03 | 9.0 | 15.7 |
| Mann Park Sample Station | 5-Mar-19 | 9:15 | 282 | 8.22 | 0.11 | 0.62 | 0.03 | 6.2 | 16.8 |
| Marine Dr Sample Station | 5-Mar-19 | 9:30 | 271 | 8.31 | 0.19 | 0.49 | 0.03 | 5.5 | 15.1 |
| Russell Ave. Sample Station | 5-Mar-19 | 9:45 | 308 | 8.43 | 0.09 | 0.63 | 0.02 | 8.4 | 15.2 |
| Roper Reservoir | 5-Mar-19 | 11:35 | 283 | 8.35 | 0.15 | 0.55 | 0.02 | 7.4 | 16.4 |
| Roper PRV | 5-Mar-19 | 11:25 | 304 | 8.43 | 0.11 | 0.64 | 0.03 | 8.8 | 15.8 |
| Stevens Sample Station | 5-Mar-19 | 10:30 | 301 | 8.47 | 0.09 | 0.63 | 0.04 | 8.4 | 13.5 |
| Finlay St. Sampling Station | 5-Mar-19 | 10:45 | 289 | 8.36 | 0.12 | 0.64 | 0.03 | 7.9 | 16.1 |
| Stayte Sampling Station | 5-Mar-19 | 11:00 | 301 | 8.50 | 0.10 | 0.58 | 0.03 | 6.9 | 14.1 |
| Balsam & Marine | 5-Mar-19 | 11:45 | 287 | 8.47 | 0.13 | 0.42 | 0.03 | 7.0 | 13.0 |
| Oxford St. & Buena Vista STN | 5-Mar-19 | 11:55 | 284 | 8.41 | 0.13 | 0.60 | 0.03 | 8.2 | 13.4 |
| Merklin Low Reservoir | 5-Mar-19 | 8:15 | 317 | 8.42 | 0.10 | 0.59 | 0.03 | 9.0 | 17.1 |
| Merklin Reservoir (New) | 5-Mar-19 | 8:00 | 315 | 8.53 | 0.09 | 0.65 | 0.03 | 9.3 | 19.1 |
| Oxford Reservoir | 5-Mar-19 | 12:05 | 270 | 8.41 | 0.11 | 0.63 | 0.03 | 9.6 | 15.8 |
| Everall St. Sampling Station | 13-Mar-19 | 8:25 | 270 | 8.38 | 0.13 | 0.65 | 0.03 | 9.3 | 15.9 |
| Malabar Sampling Station | 13-Mar-19 | 8:35 | 272 | 8.30 | 0.12 | 0.61 | 0.02 | 7.0 | 15.1 |
| Marine Dr Sample Station | 13-Mar-19 | 8:50 | 284 | 8.40 | 0.13 | 0.53 | 0.03 | 7.1 | 17.2 |
| Russell Ave. Sample Station | 13-Mar-19 | 9:05 | 291 | 8.31 | 0.11 | 0.62 | 0.04 | 8.5 | 18.2 |
| Roper Reservoir | 13-Mar-19 | 10:40 | 288 | 8.44 | 0.18 | 0.47 | 0.00 | 7.6 | 19.1 |
| Roper PRV | 13-Mar-19 | 10:30 | 310 | 8.45 | 0.15 | 0.56 | 0.04 | 8.9 | 19.2 |
| Roper Ave. Sample Station | 13-Mar-19 | 9:15 | 303 | 8.51 | 0.10 | 0.60 | 0.03 | 7.1 | 17.7 |
| Finlay St. Sampling Station | 13-Mar-19 | 9:25 | 287 | 8.44 | 0.10 | 0.61 | 0.02 | 8.1 | 16.9 |
| Stayte Sampling Station | 13-Mar-19 | 9:40 | 312 | 8.51 | 0.11 | 0.62 | 0.03 | 7.2 | 18.5 |
| Balsam & Marine | 13-Mar-19 | 9:50 | 303 | 8.41 | 0.16 | 0.36 | 0.01 | 7.4 | 21.3 |
| Oxford St. & Buena Vista STN | 13-Mar-19 | 11:15 | 278 | 8.39 | 0.13 | 0.57 | 0.05 | 8.6 | 20.5 |
| Merklin Low Reservoir | 13-Mar-19 | 10:50 | 310 | 8.49 | 0.08 | 0.60 | 0.02 | 9.0 | 21.0 |
| Merklin Reservoir (New) | 13-Mar-19 | 11:00 | 296 | 8.57 | 0.09 | 0.63 | 0.04 | 9.4 | 22.0 |
| Oxford Reservoir | 13-Mar-19 | 11:30 | 263 | 8.36 | 0.09 | 0.62 | 0.03 | 9.9 | 19.0 |
| Everall St. Sampling Station | 19-Mar-19 | 8:30 | 279 | 8.39 | 0.12 | 0.70 | 0.03 | 9.6 | 20.2 |
| Mann Park Sample Station | 19-Mar-19 | 8:45 | 283 | 8.38 | 0.12 | 0.61 | 0.05 | 7.5 | 22.3 |
| Marine Dr Sample Station | 19-Mar-19 | 8:55 | 281 | 8.35 | 0.19 | 0.52 | 0.02 | 7.0 | 22.7 |
| Russell Ave. Sample Station | 19-Mar-19 | 9:10 | 289 | 8.46 | 0.12 | 0.65 | 0.03 | 9.2 | 21.9 |
| Roper Reservoir | 19-Mar-19 | 9:30 | 272 | 8.57 | 0.18 | 0.51 | 0.04 | 8.7 | 20.1 |
| Roper PRV | 19-Mar-19 | 9:20 | 298 | 8.53 | 0.09 | 0.61 | 0.05 | 9.5 | 18.4 |
| Stevens Sample Station | 19-Mar-19 | 10:20 | 296 | 8.59 | 0.08 | 0.65 | 0.05 | 9.6 | 17.2 |
| Finlay St. Sampling Station | 19-Mar-19 | 10:05 | 295 | 8.50 | 0.14 | 0.65 | 0.03 | 9.4 | 20.1 |
| Stayte Sampling Station | 19-Mar-19 | 10:30 | 315 | 8.58 | 0.10 | 0.57 | 0.03 | 8.6 | 21.8 |
| Balsam & Marine | 19-Mar-19 | 10:40 | 291 | 8.66 | 0.12 | 0.45 | 0.05 | 9.3 | 21.6 |
| Oxford St. & Buena Vista STN | 19-Mar-19 | 11:20 | 277 | 8.52 | 0.24 | 0.59 | 0.19 | 9.7 | 19.5 |
| Merklin Low Reservoir | 19-Mar-19 | 10:55 | 303 | 8.65 | 0.12 | 0.62 | 0.01 | 9.2 | 17.5 |
| Merklin Reservoir (New) | 19-Mar-19 | 11:05 | 304 | 8.67 | 0.08 | 0.68 | 0.01 | 9.7 | 17.3 |
| Oxford Reservoir | 19-Mar-19 | 11:40 | 276 | 8.55 | 0.10 | 0.63 | 0.00 | 9.9 | 17.2 |
| Everall St. Sampling Station | 26-Mar-19 | 8:40 | 287 | 8.12 | 0.10 | 0.66 | 0.03 | 9.6 | 16.9 |
| Malabar Sampling Station | 26-Mar-19 | 8:50 | 282 | 8.35 | 0.13 | 0.60 | 0.03 | 9.4 | 18.9 |
| Marine Dr Sample Station | 26-Mar-19 | 9:00 | 285 | 8.32 | 0.13 | 0.61 | 0.00 | 11.0 | 20.9 |
| Russell Ave. Sample Station | 26-Mar-19 | 9:10 | 283 | 8.38 | 0.10 | 0.67 | 0.03 | 9.7 | 21.9 |
| Roper Reservoir | 26-Mar-19 | 9:25 | 275 | 8.50 | 0.17 | 0.52 | 0.06 | 9.6 | 20.5 |
| Roper PRV | 26-Mar-19 | 9:20 | 276 | 8.41 | 0.11 | 0.58 | 0.05 | 9.9 | 18.7 |
| Roper Ave. Sample Station | 26-Mar-19 | 9:40 | 302 | 8.54 | 0.23 | 0.55 | 0.04 | 10.0 | 17.3 |
| Finlay St. Sampling Station | 26-Mar-19 | 10:25 | 271 | 8.43 | 0.11 | 0.62 | 0.05 | 10.6 | 17.8 |
| Stayte Sampling Station | 26-Mar-19 | 10:40 | 295 | 8.59 | 0.21 | 0.54 | 0.04 | 10.2 | 18.9 |
| Balsam & Marine | 26-Mar-19 | 10:50 | 285 | 8.45 | 0.17 | **51.00** | 0.03 | 11.0 | 20.4 |
| Oxford St. & Buena Vista STN | 26-Mar-19 | 10:15 | 279 | 8.51 | 0.09 | 0.60 | 0.03 | 10.8 | 20.0 |
| Merklin Low Reservoir | 26-Mar-19 | 11:10 | 301 | 8.61 | 0.18 | 0.52 | 0.06 | 9.2 | 18.8 |
| Merklin Reservoir (New) | 26-Mar-19 | 11:20 | 303 | 8.63 | 0.19 | 0.53 | 0.05 | 9.8 | 17.9 |
| Oxford Reservoir | 26-Mar-19 | 11:45 | 271 | 8.52 | 0.10 | 0.62 | 0.00 | 9.8 | 17.3 |
| Everall St. Sampling Station | 2-Apr-19 | 7:45 | 276 | 8.30 | 0.11 | 0.70 | 0.03 | 9.7 | 24.6 |
| Mann Park Sample Station | 2-Apr-19 | 8:00 | 283 | 8.37 | 0.11 | 0.52 | 0.05 | 10.3 | 24.7 |
| Marine Dr Sample Station | 2-Apr-19 | 8:15 | 290 | 8.55 | 0.16 | 0.49 | 0.03 | 9.7 | 27.8 |
| Russell Ave. Sample Station | 2-Apr-19 | 8:30 | 301 | 8.61 | 0.10 | 0.61 | 0.02 | 10.1 | 27.7 |
| Roper Reservoir | 2-Apr-19 | 9:05 | 274 | 8.58 | 0.18 | 0.75 | 0.00 | 10.3 | 25.4 |

City of White Rock 2019 Annual Water Report

| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Roper PRV | 2-Apr-19 | 8:55 | 292 | 8.66 | 0.08 | 0.67 | 0.03 | 10.3 | 21.8 |
| Stevens Sample Station | 2-Apr-19 | 9:25 | 296 | 8.63 | 0.09 | 0.62 | 0.03 | 10.8 | 21.5 |
| Finlay St. Sampling Station | 2-Apr-19 | 9:45 | 293 | 8.65 | 0.10 | 0.60 | 0.04 | 11.3 | 23.2 |
| Stayte Sampling Station | 2-Apr-19 | 10:30 | 311 | 8.62 | 0.10 | 0.52 | 0.03 | 11.2 | 24.2 |
| Balsam & Marine | 2-Apr-19 | 10:50 | 293 | 8.60 | 0.17 | 0.51 | 0.04 | 12.2 | 25.4 |
| Oxford St. & Buena Vista STN | 2-Apr-19 | 11:15 | 292 | 8.51 | 0.13 | 0.55 | 0.04 | 11.5 | 23.8 |
| Merklin Low Reservoir | 2-Apr-19 | 8:26 | 295 | 8.62 | 0.23 | 0.36 | 0.00 | 9.2 | 22.8 |
| Merklin Reservoir (New) | 2-Apr-19 | 8:46 | 301 | 8.56 | 0.20 | 0.54 | 0.07 | 9.8 | 21.5 |
| Oxford Reservoir | 2-Apr-19 | 11:40 | 277 | 8.70 | 0.10 | 0.63 | 0.05 | 10.3 | 20.9 |
| Everall St. Sampling Station | 9-Apr-19 | 8:55 | 310 | 8.40 | 0.08 | 0.63 | 0.04 | 9.7 | 25.9 |
| Malabar Sampling Station | 9-Apr-19 | 9:10 | 301 | 8.46 | 0.09 | 0.60 | 0.02 | 11.2 | 21.7 |
| Chestnut & N. Bluff Sample STN | 9-Apr-19 | 9:25 | 306 | 8.47 | 0.12 | 0.51 | 0.00 | 12.6 | 24.3 |
| Russell Ave. Sample Station | 9-Apr-19 | 9:48 | 311 | 8.49 | 0.10 | 0.58 | 0.02 | 10.1 | 25.3 |
| Roper Reservoir | 9-Apr-19 | 11:10 | 302 | 8.51 | 0.12 | 0.53 | 0.03 | 10.4 | 23.0 |
| Roper PRV | 9-Apr-19 | 11:00 | 311 | 8.55 | 0.07 | 0.60 | 0.03 | 10.2 | 25.3 |
| Roper Ave. Sample Station | 9-Apr-19 | 10:35 | 311 | 8.57 | 0.10 | 0.56 | 0.04 | 11.1 | 24.3 |
| Finlay St. Sampling Station | 9-Apr-19 | 11:25 | 312 | 8.58 | 0.09 | 0.60 | 0.04 | 11.3 | 25.1 |
| Stayte Sampling Station | 9-Apr-19 | 11:40 | 306 | 8.62 | 0.08 | 0.56 | 0.02 | 11.6 | 24.0 |
| Balsam & Marine | 9-Apr-19 | 11:55 | 310 | 8.60 | 0.12 | 0.60 | 0.02 | 12.2 | 21.2 |
| Oxford St. & Buena Vista STN | 9-Apr-19 | 13:15 | 304 | 8.62 | 0.10 | 0.53 | 0.03 | 11.4 | 20.7 |
| Merklin Low Reservoir | 9-Apr-19 | 12:10 | 310 | 8.67 | 0.07 | 0.53 | 0.02 | 9.4 | 25.3 |
| Merklin Reservoir (New) | 9-Apr-19 | 12:25 | 307 | 8.68 | 0.06 | 0.60 | 0.03 | 10.1 | 22.9 |
| Oxford Reservoir | 9-Apr-19 | 12:40 | 292 | 8.60 | 0.11 | 0.57 | 0.03 | 10.3 | 20.0 |
| Everall St. Sampling Station | 16-Apr-19 | 8:25 | 303 | 8.29 | 0.07 | 0.67 | 0.02 | 9.8 | 19.7 |
| Mann Park Sample Station | 16-Apr-19 | 8:45 | 298 | 8.33 | 0.10 | 0.62 | 0.04 | 10.2 | 19.8 |
| Marine Dr Sample Station | 16-Apr-19 | 9:05 | 300 | 8.35 | 0.12 | 0.45 | 0.02 | 10.4 | 19.3 |
| Russell Ave. Sample Station | 16-Apr-19 | 9:40 | 299 | 8.38 | 0.08 | 0.63 | 0.02 | 10.0 | 18.7 |
| Roper Reservoir | 16-Apr-19 | 11:20 | 303 | 8.39 | 0.11 | 0.53 | 0.02 | 10.0 | 20.7 |
| Roper PRV | 16-Apr-19 | 11:10 | 304 | 8.43 | 0.10 | 0.64 | 0.01 | 10.1 | 20.0 |
| Stevens Sample Station | 16-Apr-19 | 11:45 | 305 | 8.45 | 0.09 | 0.64 | 0.02 | 10.6 | 20.3 |
| Finlay St. Sampling Station | 17-Apr-19 | 9:15 | 307 | 8.37 | 0.06 | 0.64 | 0.03 | 11.2 | 24.8 |
| Stayte Sampling Station | 17-Apr-19 | 9:35 | 307 | 8.37 | 0.10 | 0.54 | 0.00 | 11.5 | 26.6 |
| Balsam & Marine | 17-Apr-19 | 9:55 | 308 | 8.26 | 0.10 | 0.43 | 0.02 | 12.2 | 26.6 |
| Oxford St. & Buena Vista STN | 17-Apr-19 | 10:30 | 307 | 8.40 | 0.11 | 0.59 | 0.02 | 11.3 | 27.8 |
| Merklin Low Reservoir | 17-Apr-19 | 11:05 | 308 | 8.43 | 0.08 | 0.55 | 0.02 | 9.5 | 28.0 |
| Merklin Reservoir (New) | 17-Apr-19 | 11:20 | 309 | 8.44 | 0.08 | 0.61 | 0.02 | 10.0 | 27.1 |
| Oxford Reservoir | 17-Apr-19 | 12:00 | 301 | 8.42 | 0.09 | 0.66 | 0.03 | 10.0 | 24.5 |
| Everall St. Sampling Station | 24-Apr-19 | 8:10 | 274 | 8.33 | 0.08 | 0.65 | 0.02 | 9.9 | 18.9 |
| Malabar Sampling Station | 24-Apr-19 | 8:30 | 278 | 8.33 | 0.10 | 0.59 | 0.01 | 11.7 | 19.9 |
| Chestnut & N. Bluff Sample STN | 24-Apr-19 | 8:45 | 279 | 8.35 | 0.09 | 0.48 | 0.03 | 12.8 | 19.3 |
| Russell Ave. Sample Station | 24-Apr-19 | 9:05 | 276 | 8.39 | 0.08 | 0.63 | 0.02 | 10.3 | 19.6 |
| Roper Reservoir | 24-Apr-19 | 9:30 | 298 | 8.45 | 0.11 | 0.48 | 0.02 | 10.5 | 20.1 |
| Roper PRV | 24-Apr-19 | 9:20 | 275 | 8.41 | 0.08 | 0.62 | 0.01 | 10.4 | 19.6 |
| Roper Ave. Sample Station | 24-Apr-19 | 9:55 | 279 | 8.41 | 0.07 | 0.58 | 0.02 | 11.9 | 20.1 |
| Finlay St. Sampling Station | 24-Apr-19 | 9:06 | 272 | 8.45 | 0.07 | 0.54 | 0.04 | 11.8 | 18.6 |
| Stayte Sampling Station | 24-Apr-19 | 9:27 | 277 | 8.44 | 0.09 | 0.55 | 0.02 | 13.0 | 18.8 |
| Balsam & Marine | 24-Apr-19 | 10:43 | 276 | 8.43 | 0.13 | 0.43 | 0.00 | 13.2 | 18.5 |
| Oxford St. & Buena Vista STN | 24-Apr-19 | 9:50 | 280 | 8.45 | 0.12 | 0.54 | 0.02 | 12.0 | 18.9 |
| Merklin Low Reservoir | 24-Apr-19 | 8:30 | 308 | 8.61 | 0.17 | 0.57 | 0.00 | 11.0 | 19.7 |
| Merklin Reservoir (New) | 24-Apr-19 | 8:19 | 277 | 8.46 | 0.07 | 0.60 | 0.00 | 11.5 | 20.2 |
| Oxford Reservoir | 24-Apr-19 | 11:02 | 271 | 8.46 | 0.15 | 0.61 | 0.00 | 11.2 | 18.3 |
| Everall St. Sampling Station | 30-Apr-19 | 7:25 | 304 | 8.44 | 0.09 | 0.63 | 0.03 | 10.1 | **30.1** |
| Mann Park Sample Station | 30-Apr-19 | 7:40 | 305 | 8.39 | 0.07 | 0.62 | 0.04 | 11.5 | **35.6** |
| Marine Dr Sample Station | 30-Apr-19 | 8:05 | 295 | 8.45 | 0.10 | 0.56 | 0.02 | 12.4 | **37.0** |
| Russell Ave. Sample Station | 30-Apr-19 | 8:25 | 295 | 8.46 | 0.08 | 0.67 | 0.01 | 10.5 | **32.7** |
| Roper Reservoir | 30-Apr-19 | 8:55 | 276 | 8.53 | 0.10 | 0.51 | 0.03 | 10.7 | 27.0 |
| Roper PRV | 30-Apr-19 | 8:45 | 305 | 8.15 | 0.07 | 0.64 | 0.05 | 10.6 | 29.3 |
| Stevens Sample Station | 30-Apr-19 | 9:15 | 296 | 8.56 | 0.08 | 0.65 | 0.03 | 11.4 | 27.1 |
| Merklin Low Reservoir | 30-Apr-19 | 10:25 | 297 | 8.58 | 0.09 | 0.61 | 0.03 | 9.9 | 26.2 |
| Merklin Reservoir (New) | 30-Apr-19 | 10:35 | 306 | 8.60 | 0.06 | 0.70 | 0.04 | 10.1 | 28.2 |
| Oxford Reservoir | 30-Apr-19 | 11:00 | 287 | 8.59 | 0.15 | 0.63 | 0.04 | 10.4 | 23.1 |
| Finlay St. Sampling Station | 1-May-19 | 8:50 | 308 | 8.60 | 0.09 | 0.66 | 0.02 | 12.3 | 28.6 |
| Stayte Sampling Station | 1-May-19 | 9:15 | 296 | 8.64 | 0.09 | 0.62 | 0.03 | 12.9 | 24.7 |

City of White Rock 2019 Annual Water Report

| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Balsam & Marine | 1-May-19 | 9:40 | 299 | 8.66 | 0.13 | 0.50 | 0.03 | 13.7 | 25.8 |
| Oxford St. & Buena Vista STN | 1-May-19 | 9:55 | 300 | 8.67 | 0.10 | 0.58 | 0.02 | 12.2 | 27.6 |
| Everall St. Sampling Station | 7-May-19 | 8:50 | 298 | 8.32 | 0.09 | 0.64 | 0.03 | 10.3 | 19.2 |
| Malabar Sampling Station | 7-May-19 | 9:10 | 292 | 8.35 | 0.09 | 0.58 | 0.03 | 13.1 | 19.3 |
| Chestnut & N. Bluff Sample STN | 7-May-19 | 9:25 | 295 | 8.36 | 0.10 | 0.49 | 0.01 | 15.6 | 19.3 |
| Russell Ave. Sample Station | 7-May-19 | 9:45 | 293 | 8.39 | 0.08 | 0.63 | 0.03 | 10.7 | 19.2 |
| Roper Reservoir | 7-May-19 | 10:50 | 296 | 8.48 | 0.09 | 0.49 | 0.04 | 11.5 | 19.4 |
| Roper PRV | 7-May-19 | 10:30 | 295 | 8.44 | 0.07 | 0.65 | 0.03 | 10.8 | 19.2 |
| Roper Ave. Sample Station | 7-May-19 | 11:15 | 292 | 8.46 | 0.10 | 0.59 | 0.03 | 13.3 | 19.6 |
| Finlay St. Sampling Station | 8-May-19 | 9:00 | 298 | 8.31 | 0.09 | 0.60 | 0.05 | 12.9 | 28.8 |
| Stayte Sampling Station | 8-May-19 | 9:20 | 293 | 8.34 | 0.10 | 0.58 | 0.05 | 13.9 | 26.8 |
| Balsam & Marine | 8-May-19 | 9:40 | 299 | 8.35 | 0.14 | 0.53 | 0.04 | 14.4 | 28.7 |
| Oxford St. & Buena Vista STN | 8-May-19 | 9:55 | 298 | 8.38 | 0.09 | 0.55 | 0.02 | 12.7 | 26.1 |
| Merklin Low Reservoir | 8-May-19 | 10:50 | 296 | 8.42 | 0.09 | 0.57 | 0.03 | 10.1 | 26.0 |
| Merklin Reservoir (New) | 8-May-19 | 10:30 | 297 | 8.44 | 0.09 | 0.63 | 0.05 | 10.3 | 26.2 |
| Oxford Reservoir | 8-May-19 | 11:35 | 297 | 8.45 | 0.10 | 0.59 | 0.03 | 10.2 | 24.5 |
| Everall St. Sampling Station | 14-May-19 | 8:00 | 264 | 8.27 | 0.11 | 0.61 | 0.07 | 10.4 | 20.0 |
| Mann Park Sample Station | 14-May-19 | 7:45 | 285 | 8.27 | 0.06 | 0.44 | 0.05 | 13.5 | 21.0 |
| Marine Dr Sample Station | 14-May-19 | 7:30 | 300 | 8.25 | 0.09 | 0.36 | 0.03 | 15.7 | 22.3 |
| Russell Ave. Sample Station | 14-May-19 | 9:35 | 278 | 8.26 | 0.06 | 0.59 | 0.04 | 10.8 | 21.7 |
| Roper Reservoir | 14-May-19 | 8:25 | 300 | 8.33 | 0.10 | 0.44 | 0.07 | 13.1 | 20.6 |
| Roper PRV | 14-May-19 | 8:15 | 281 | 8.29 | 0.09 | 0.61 | 0.06 | 11.1 | 22.2 |
| Stevens Sample Station | 14-May-19 | 10:00 | 282 | 8.29 | 0.07 | 0.60 | 0.04 | 12.4 | 21.8 |
| Finlay St. Sampling Station | 15-May-19 | 8:40 | 263 | 8.21 | 0.09 | 0.56 | 0.04 | 13.7 | 26.3 |
| Stayte Sampling Station | 15-May-19 | 9:00 | 267 | 8.28 | 0.10 | 0.49 | 0.06 | 15.3 | 23.8 |
| Balsam & Marine | 15-May-19 | 9:40 | 275 | 8.27 | 0.09 | 0.51 | 0.02 | 15.3 | 25.5 |
| Oxford St. & Buena Vista STN | 15-May-19 | 9:20 | 280 | 8.32 | 0.09 | 0.52 | 0.03 | 13.3 | 25.4 |
| Merklin Low Reservoir | 15-May-19 | 9:10 | 267 | 8.34 | 0.13 | 0.53 | 0.01 | 11.5 | 25.3 |
| Merklin Reservoir (New) | 15-May-19 | 9:20 | 268 | 8.34 | 0.11 | 0.55 | 0.04 | 11.3 | 24.5 |
| Oxford Reservoir | 15-May-19 | 10:35 | 264 | 8.34 | 0.08 | 0.63 | 0.03 | 10.2 | 23.6 |
| Everall St. Sampling Station | 21-May-19 | 8:50 | 271 | 8.15 | 0.14 | 0.59 | 0.06 | 10.1 | 24.3 |
| Malabar Sampling Station | 21-May-19 | 9:10 | 272 | 8.25 | 0.10 | 0.59 | 0.07 | 13.1 | 25.4 |
| Marine Dr Sample Station | 21-May-19 | 9:25 | 271 | 8.25 | 0.14 | 0.43 | 0.02 | 16.8 | 25.5 |
| Russell Ave. Sample Station | 21-May-19 | 11:10 | 273 | 8.24 | 0.20 | 0.56 | 0.07 | 10.9 | 27.3 |
| Roper Reservoir | 21-May-19 | 9:55 | 271 | 8.26 | 0.12 | 0.52 | 0.04 | 10.8 | 26.0 |
| Roper PRV | 21-May-19 | 9:45 | 257 | 8.30 | 0.17 | 0.59 | 0.04 | 10.9 | 22.8 |
| Roper Ave. Sample Station | 21-May-19 | 11:30 | 272 | 8.28 | 0.25 | 0.42 | 0.00 | 14.5 | 26.4 |
| Finlay St. Sampling Station | 22-May-19 | 9:10 | 276 | 8.33 | 0.20 | 0.53 | 0.05 | 13.4 | 24.9 |
| Stayte Sampling Station | 22-May-19 | 9:25 | 274 | 8.29 | 0.23 | 0.54 | 0.03 | 15.4 | **30.1** |
| Balsam & Marine | 22-May-19 | 9:45 | 270 | 8.38 | 0.15 | 0.53 | 0.05 | 14.8 | 28.5 |
| Oxford St. & Buena Vista STN | 22-May-19 | 10:35 | 275 | 8.37 | 0.17 | 0.47 | 0.05 | 13.0 | 27.9 |
| Merklin Low Reservoir | 22-May-19 | 10:55 | 265 | 8.43 | 0.13 | 0.46 | 0.06 | 10.6 | 26.8 |
| Merklin Reservoir (New) | 22-May-19 | 11:10 | 275 | 8.44 | 0.15 | 0.53 | 0.07 | 10.0 | 29.8 |
| Oxford Reservoir | 22-May-19 | 11:30 | 263 | 8.43 | 0.10 | 0.59 | 0.05 | 10.3 | 23.3 |
| Everall St. Sampling Station | 27-May-19 | 9:05 | 278 | 8.29 | 0.06 | 0.51 | 0.03 | 10.2 | 17.3 |
| Mann Park Sample Station | 27-May-19 | 9:35 | 281 | 8.33 | 0.07 | 0.52 | 0.03 | 12.9 | 17.5 |
| Marine Dr Sample Station | 27-May-19 | 10:15 | 280 | 8.38 | 0.15 | 0.39 | 0.05 | 16.2 | 18.1 |
| Russell Ave. Sample Station | 27-May-19 | 10:35 | 279 | 8.36 | 0.07 | 0.58 | 0.03 | 10.8 | 17.2 |
| Roper Reservoir | 27-May-19 | 10:50 | 277 | 8.45 | 0.14 | 0.46 | 0.04 | 12.0 | 17.3 |
| Roper PRV | 27-May-19 | 11:00 | 281 | 8.40 | 0.06 | 0.57 | 0.04 | 11.0 | 17.6 |
| Stevens Sample Station | 27-May-19 | 11:20 | 281 | 8.41 | 0.07 | 0.58 | 0.03 | 12.2 | 17.2 |
| Finlay St. Sampling Station | 28-May-19 | 9:15 | 288 | 8.25 | 0.14 | 0.56 | 0.03 | 13.3 | 25.0 |
| Stayte Sampling Station | 28-May-19 | 9:35 | 289 | 8.28 | 0.14 | 0.50 | 0.02 | 15.3 | 27.5 |
| Balsam & Marine | 28-May-19 | 9:55 | 291 | 8.31 | 0.15 | 0.46 | 0.02 | 15.3 | 27.5 |
| Oxford St. & Buena Vista STN | 28-May-19 | 10:35 | 280 | 8.36 | 0.15 | 0.51 | 0.02 | 13.1 | 24.0 |
| Merklin Low Reservoir | 28-May-19 | 11:00 | 286 | 8.33 | 0.08 | 0.52 | 0.01 | 10.4 | 26.2 |
| Merklin Reservoir (New) | 28-May-19 | 11:20 | 285 | 8.35 | 0.10 | 0.56 | 0.02 | 10.2 | 25.1 |
| Oxford Reservoir | 28-May-19 | 11:55 | 281 | 8.35 | 0.09 | 0.57 | 0.01 | 10.0 | 23.3 |
| Everall St. Sampling Station | 3-Jun-19 | 8:50 | 292 | 8.23 | 0.08 | 0.53 | 0.01 | 10.1 | 28.5 |
| Malabar Sampling Station | 3-Jun-19 | 9:10 | 292 | 8.18 | 0.09 | 0.51 | 0.06 | 14.7 | **32.7** |
| Chestnut & N. Bluff Sample STN | 3-Jun-19 | 9:25 | 289 | 8.27 | 0.08 | 0.42 | 0.04 | 17.4 | **31.4** |
| Russell Ave. Sample Station | 3-Jun-19 | 9:45 | 278 | 8.28 | 0.07 | 0.57 | 0.02 | 10.8 | 26.7 |
| Roper Reservoir | 3-Jun-19 | 10:30 | 278 | 8.36 | 0.11 | 0.47 | 0.03 | 12.0 | 26.0 |

City of White Rock 2019 Annual Water Report

| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Roper PRV | 3-Jun-19 | 10:40 | 285 | 8.29 | 0.10 | 0.56 | 0.03 | 11.0 | 26.9 |
| Roper Ave. Sample Station | 3-Jun-19 | 11:00 | 281 | 8.32 | 0.10 | 0.59 | 0.03 | 14.9 | 24.5 |
| Finlay St. Sampling Station | 4-Jun-19 | 8:00 | 290 | 8.21 | 0.11 | 0.56 | 0.04 | 13.7 | 25.7 |
| Stayte Sampling Station | 4-Jun-19 | 8:20 | 287 | 8.26 | 0.09 | 0.48 | 0.02 | 16.4 | 22.5 |
| Balsam & Marine | 4-Jun-19 | 8:40 | 291 | 8.25 | 0.11 | 0.49 | 0.02 | 15.4 | 26.9 |
| Oxford St. & Buena Vista STN | 4-Jun-19 | 9:05 | 287 | 8.29 | 0.09 | 0.50 | 0.02 | 13.5 | 23.6 |
| Merklin Low Reservoir | 4-Jun-19 | 9:30 | 289 | 8.28 | 0.13 | 0.54 | 0.02 | 10.4 | 27.1 |
| Merklin Reservoir (New) | 4-Jun-19 | 9:50 | 285 | 8.31 | 0.10 | 0.60 | 0.02 | 10.3 | 24.4 |
| Oxford Reservoir | 4-Jun-19 | 11:00 | 284 | 8.32 | 0.09 | 0.57 | 0.03 | 10.2 | 22.6 |
| Everall St. Sampling Station | 10-Jun-19 | 8:45 | 288 | 8.36 | 0.07 | 0.68 | 0.03 | 10.1 | 23.3 |
| Mann Park Sample Station | 10-Jun-19 | 9:05 | 291 | 8.26 | 0.08 | 0.64 | 0.02 | 12.1 | 28.3 |
| Marine Dr Sample STN | 10-Jun-19 | 9:25 | 284 | 8.26 | 0.07 | 0.39 | 0.03 | 17.1 | 24.4 |
| Russell Ave. Sample Station | 10-Jun-19 | 9:50 | 291 | 8.31 | 0.10 | 0.60 | 0.06 | 11.0 | 25.4 |
| Roper Reservoir | 10-Jun-19 | 10:35 | 290 | 8.41 | 0.09 | 0.47 | 0.06 | 12.1 | 26.1 |
| Roper PRV | 10-Jun-19 | 10:45 | 272 | 8.43 | 0.08 | 0.61 | 0.05 | 11.1 | 24.2 |
| Stevens Sample Station | 10-Jun-19 | 11:05 | 296 | 8.43 | 0.15 | 0.59 | 0.06 | 12.4 | 26.7 |
| Finlay St. Sampling Station | 11-Jun-19 | 9:00 | 297 | 8.42 | 0.18 | 0.61 | 0.05 | 13.5 | 26.9 |
| Stayte Sampling Station | 11-Jun-19 | 9:20 | 288 | 8.42 | 0.19 | 0.51 | 0.05 | 16.3 | 26.9 |
| Balsam & Marine | 11-Jun-19 | 9:40 | 276 | 8.47 | 0.18 | 0.52 | 0.03 | 15.8 | 25.5 |
| Oxford St. & Buena Vista STN | 11-Jun-19 | 10:00 | 289 | 8.42 | 0.16 | 0.48 | 0.02 | 13.6 | 29.2 |
| Merklin Low Reservoir | 11-Jun-19 | 10:45 | 280 | 8.47 | 0.14 | 0.61 | 0.06 | 10.7 | 28.2 |
| Merklin Reservoir (New) | 11-Jun-19 | 11:00 | 275 | 8.47 | 0.13 | 0.61 | 0.05 | 10.3 | 26.7 |
| Oxford Reservoir | 11-Jun-19 | 11:20 | 270 | 8.45 | 0.07 | 0.60 | 0.03 | 10.4 | 24.6 |
| Everall St. Sampling Station | 17-Jun-19 | 8:55 | 297 | 8.49 | 0.18 | 0.64 | 0.07 | 10.4 | 23.9 |
| Malabar Sampling Station | 17-Jun-19 | 9:15 | 299 | 8.33 | 0.24 | 0.57 | 0.03 | 15.5 | 27.4 |
| Chestnut & N. Bluff Sample STN | 17-Jun-19 | 9:35 | 288 | 8.40 | 0.27 | 0.47 | 0.02 | 17.9 | 27.2 |
| Russell Ave. Sample Station | 17-Jun-19 | 9:55 | 290 | 8.40 | 0.19 | 0.69 | 0.06 | 11.1 | 25.2 |
| Roper Reservoir | 17-Jun-19 | 10:45 | 293 | 8.42 | 0.25 | 0.49 | 0.07 | 12.5 | 27.7 |
| Roper PRV | 17-Jun-19 | 10:55 | 293 | 8.50 | 0.20 | 0.67 | 0.11 | 11.1 | 26.6 |
| Roper Ave. Sample Station | 17-Jun-19 | 11:15 | 286 | 8.45 | 0.27 | 0.65 | 0.06 | 15.5 | 24.7 |
| Finlay St. Sampling Station | 18-Jun-19 | 9:00 | 297 | 8.43 | 0.24 | 0.65 | 0.05 | 13.9 | 25.1 |
| Stayte Sampling Station | 18-Jun-19 | 9:20 | 296 | 8.53 | 0.32 | 0.62 | 0.07 | 17.0 | 28.7 |
| Balsam & Marine | 18-Jun-19 | 9:35 | 284 | 8.41 | 0.31 | 0.56 | 0.07 | 16.0 | 26.0 |
| Oxford St. & Buena Vista STN | 18-Jun-19 | 9:55 | 292 | 8.54 | 0.22 | 0.55 | 0.07 | 14.1 | 26.5 |
| Merklin Low Reservoir | 18-Jun-19 | 10:45 | 295 | 8.65 | 0.15 | 0.65 | 0.11 | 10.7 | 27.1 |
| Merklin Reservoir (New) | 18-Jun-19 | 11:00 | 284 | 8.62 | 0.17 | 0.72 | 0.10 | 10.2 | 24.8 |
| Oxford Reservoir | 18-Jun-19 | 11:25 | 286 | 8.67 | 0.15 | 0.64 | 0.08 | 10.2 | 23.7 |
| Everall St. Sampling Station | 24-Jun-19 | 9:00 | 296 | 8.39 | 0.16 | 0.71 | 0.09 | 10.0 | 21.0 |
| Mann Park Sample Station | 24-Jun-19 | 9:25 | 293 | 8.31 | 0.18 | 0.64 | 0.10 | 12.4 | 21.5 |
| Marine Dr Sample STN | 24-Jun-19 | 9:45 | 291 | 7.87 | 0.32 | 0.48 | 0.03 | 18.2 | 20.8 |
| Russell Ave. Sample Station | 24-Jun-19 | 10:40 | 295 | 8.43 | 0.17 | 0.68 | 0.07 | 11.4 | 22.2 |
| Roper Reservoir | 24-Jun-19 | 11:00 | 283 | 8.39 | 0.35 | 0.56 | 0.07 | 12.5 | 21.9 |
| Roper PRV | 24-Jun-19 | 11:15 | 290 | 8.33 | 0.21 | 0.66 | 0.08 | 11.2 | 22.3 |
| Stevens Sample Station | 24-Jun-19 | 11:30 | 295 | 8.34 | 0.24 | 0.67 | 0.08 | 12.8 | 23.4 |
| Finlay St. Sampling Station | 25-Jun-19 | 9:20 | 294 | 8.50 | 0.24 | 0.61 | 0.06 | 13.7 | 26.9 |
| Stayte Sampling Station | 25-Jun-19 | 9:40 | 288 | 8.40 | 0.35 | 0.56 | 0.04 | 18.0 | 25.3 |
| Balsam & Marine | 25-Jun-19 | 9:55 | 287 | 8.59 | 0.27 | 0.53 | 0.08 | 15.7 | 25.9 |
| Oxford St. & Buena Vista STN | 25-Jun-19 | 10:35 | 290 | 8.49 | 0.24 | 0.54 | 0.07 | 13.8 | 25.1 |
| Merklin Low Reservoir | 25-Jun-19 | 10:55 | 282 | 8.54 | 0.15 | 0.58 | 0.08 | 10.7 | 25.8 |
| Merklin Reservoir (New) | 25-Jun-19 | 11:10 | 290 | 8.58 | 0.18 | 0.61 | 0.07 | 10.3 | 26.6 |
| Oxford Reservoir | 25-Jun-19 | 11:30 | 280 | 8.52 | 0.18 | 0.65 | 0.07 | 10.4 | 24.1 |
| Everall St. Sampling Station | 2-Jul-19 | 9:45 | 280 | 8.30 | 0.09 | 0.65 | 0.02 | 10.4 | 16.2 |
| Malabar Sampling Station | 2-Jul-19 | 10:30 | 282 | 8.33 | 0.09 | 0.62 | 0.03 | 13.0 | 16.6 |
| Chestnut & N. Bluff Station | 2-Jul-19 | 10:45 | 282 | 8.38 | 0.14 | 0.44 | 0.04 | 19.5 | 16.7 |
| Russell Ave. Sample Station | 2-Jul-19 | 11:05 | 279 | 8.37 | 0.08 | 0.64 | 0.02 | 10.8 | 16.1 |
| Roper Reservoir | 2-Jul-19 | 11:45 | 284 | 8.46 | 0.25 | 0.49 | 0.04 | 12.8 | 16.3 |
| Roper PRV | 2-Jul-19 | 11:55 | 280 | 8.44 | 0.08 | 0.61 | 0.04 | 11.6 | 16.0 |
| Roper Ave. Sample Station | 2-Jul-19 | 12:15 | 282 | 8.46 | 0.17 | 0.52 | 0.04 | 16.4 | 16.8 |
| Finlay St. Sampling Station | 3-Jul-19 | 8:45 | 284 | 8.30 | 0.14 | 0.54 | 0.02 | 15.0 | 23.1 |
| Stayte Sampling Station | 3-Jul-19 | 9:20 | 284 | 8.37 | 0.17 | 0.48 | 0.03 | 18.0 | 23.6 |
| Balsam & Marine | 3-Jul-19 | 9:40 | 286 | 8.39 | 0.23 | 0.49 | 0.04 | 16.4 | 24.3 |
| Oxford St. & Buena Vista STN | 3-Jul-19 | 10:00 | 286 | 8.41 | 0.17 | 0.53 | 0.04 | 14.1 | 24.1 |
| Merklin Low Reservoir | 3-Jul-19 | 10:55 | 283 | 8.45 | 0.11 | 0.50 | 0.01 | 10.8 | 23.0 |

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| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Merklin Reservoir (New) | 3-Jul-19 | 11:30 | 279 | 8.48 | 0.13 | 0.50 | 0.04 | 10.2 | 21.9 |
| Oxford Reservoir | 3-Jul-19 | 12:05 | 274 | 8.49 | 0.10 | 0.63 | 0.06 | 10.3 | 19.7 |
| Everall St. Sampling Station | 2-Jul-19 | 9:45 | 280 | 8.30 | 0.09 | 0.65 | 0.02 | 10.4 | 16.2 |
| Malabar Sampling Station | 2-Jul-19 | 10:30 | 282 | 8.33 | 0.09 | 0.62 | 0.03 | 13.0 | 16.6 |
| Chestnut & N. Bluff Station | 2-Jul-19 | 10:45 | 282 | 8.38 | 0.14 | 0.44 | 0.04 | 19.5 | 16.7 |
| Russell Ave. Sample Station | 2-Jul-19 | 11:05 | 279 | 8.37 | 0.08 | 0.64 | 0.02 | 10.8 | 16.1 |
| Roper Reservoir | 2-Jul-19 | 11:45 | 284 | 8.46 | 0.25 | 0.49 | 0.04 | 12.8 | 16.3 |
| Roper PRV | 2-Jul-19 | 11:55 | 280 | 8.44 | 0.08 | 0.61 | 0.04 | 11.6 | 16.0 |
| Roper Ave. Sample Station | 2-Jul-19 | 12:15 | 282 | 8.46 | 0.17 | 0.52 | 0.04 | 16.4 | 16.8 |
| Finlay St. Sampling Station | 3-Jul-19 | 8:45 | 284 | 8.30 | 0.14 | 0.54 | 0.02 | 15.0 | 23.1 |
| Stayte Sampling Station | 3-Jul-19 | 9:20 | 284 | 8.37 | 0.17 | 0.48 | 0.03 | 18.0 | 23.6 |
| Balsam & Marine | 3-Jul-19 | 9:40 | 286 | 8.39 | 0.23 | 0.49 | 0.04 | 16.4 | 24.3 |
| Oxford St. & Buena Vista STN | 3-Jul-19 | 10:00 | 286 | 8.41 | 0.17 | 0.53 | 0.04 | 14.1 | 24.1 |
| Merklin Low Reservoir | 3-Jul-19 | 10:55 | 283 | 8.45 | 0.11 | 0.50 | 0.01 | 10.8 | 23.0 |
| Merklin Reservoir (New) | 3-Jul-19 | 11:30 | 279 | 8.48 | 0.13 | 0.50 | 0.04 | 10.2 | 21.9 |
| Oxford Reservoir | 3-Jul-19 | 12:05 | 274 | 8.49 | 0.10 | 0.63 | 0.06 | 10.3 | 19.7 |
| Everall St. Sampling Station | 8-Jul-19 | 9:30 | 299 | 8.29 | 0.08 | 0.50 | 0.04 | 10.3 | 17.5 |
| Mann Park Sample Station | 8-Jul-19 | 9:45 | 302 | 8.34 | 0.10 | 0.59 | 0.04 | 13.4 | 17.5 |
| Marine Dr Sample Station | 8-Jul-19 | 10:45 | 298 | 8.38 | 0.12 | 0.43 | 0.04 | 18.5 | 17.3 |
| Russell Ave. Sample Station | 8-Jul-19 | 11:05 | 300 | 8.36 | 0.09 | 0.63 | 0.05 | 11.2 | 17.2 |
| Roper Reservoir | 8-Jul-19 | 11:20 | 289 | 8.43 | 0.16 | 0.49 | 0.01 | 12.4 | 16.9 |
| Roper PRV | 8-Jul-19 | 11:30 | 297 | 8.43 | 0.11 | 0.64 | 0.04 | 11.5 | 16.7 |
| Stevens Sample Station | 8-Jul-19 | 11:50 | 297 | 8.43 | 0.09 | 0.58 | 0.04 | 12.9 | 16.9 |
| Finlay St. Sampling Station | 9-Jul-19 | 11:35 | 297 | 8.32 | 0.07 | 0.59 | 0.07 | 13.9 | 17.6 |
| Stayte Sampling Station | 9-Jul-19 | 11:15 | 297 | 8.36 | 0.08 | 0.55 | 0.03 | 16.9 | 17.9 |
| Balsam & Marine | 9-Jul-19 | 10:55 | 296 | 8.37 | 0.10 | 0.55 | 0.06 | 15.4 | 17.6 |
| Oxford St. & Buena Vista STN | 9-Jul-19 | 10:30 | 296 | 8.40 | 0.08 | 0.54 | 0.02 | 13.7 | 17.5 |
| Merklin Low Reservoir | 9-Jul-19 | 9:55 | 296 | 8.42 | 0.09 | 0.55 | 0.05 | 10.9 | 17.5 |
| Merklin Reservoir (New) | 9-Jul-19 | 9:40 | 296 | 8.45 | 0.07 | 0.59 | 0.04 | 10.4 | 17.4 |
| Oxford Reservoir | 9-Jul-19 | 8:50 | 299 | 8.44 | 0.07 | 0.61 | 0.05 | 10.2 | 17.5 |
| Everall St. Sampling Station | 16-Jul-19 | 9:30 | 297 | 8.28 | 0.09 | 0.64 | 0.04 | 10.4 | 18.7 |
| Malabar Sampling Station | 16-Jul-19 | 9:50 | 303 | 8.33 | 0.09 | 0.60 | 0.05 | 13.5 | 18.7 |
| Chestnut & N. Bluff Station | 16-Jul-19 | 10:45 | 297 | 8.35 | 0.16 | 0.45 | 0.04 | 19.3 | 18.5 |
| Russell Ave. Sample Station | 16-Jul-19 | 11:05 | 297 | 8.37 | 0.09 | 0.61 | 0.05 | 11.1 | 18.4 |
| Roper Reservoir | 16-Jul-19 | 11:25 | 294 | 8.43 | 0.17 | 0.50 | 0.04 | 12.9 | 18.2 |
| Roper PRV | 16-Jul-19 | 11:35 | 297 | 8.41 | 0.08 | 0.59 | 0.04 | 11.9 | 18.2 |
| Roper Ave. Sample Station | 16-Jul-19 | 12:05 | 299 | 8.45 | 0.06 | 0.58 | 0.05 | 16.2 | 19.0 |
| Finlay St. Sampling Station | 17-Jul-19 | 8:55 | 304 | 8.40 | 0.07 | 0.58 | 0.02 | 15.1 | 24.9 |
| Stayte Sampling Station | 17-Jul-19 | 9:15 | 305 | 8.37 | 0.06 | 0.52 | 0.03 | 18.3 | 25.7 |
| Balsam & Marine | 17-Jul-19 | 11:20 | 304 | 8.40 | 0.07 | 0.52 | 0.03 | 16.4 | 24.9 |
| Oxford St. & Buena Vista STN | 17-Jul-19 | 11:40 | 305 | 8.44 | 0.10 | 0.59 | 0.02 | 14.2 | 23.9 |
| Merklin Low Reservoir | 17-Jul-19 | 10:35 | 304 | 8.44 | 0.07 | 0.54 | 0.03 | 11.1 | 24.8 |
| Merklin Reservoir (New) | 17-Jul-19 | 10:55 | 304 | 8.45 | 0.08 | 0.61 | 0.04 | 10.5 | 24.2 |
| Oxford Reservoir | 17-Jul-19 | 12:00 | 300 | 8.49 | 0.10 | 0.58 | 0.03 | 10.3 | 22.3 |
| Everall St. Sampling Station | 22-Jul-19 | 9:00 | 307 | 8.35 | 0.09 | 0.60 | 0.05 | 10.2 | 27.2 |
| Mann Park Sample Station | 22-Jul-19 | 9:15 | 297 | 8.42 | 0.07 | 0.53 | 0.06 | 13.9 | 27.1 |
| Marine Dr Sample Station | 22-Jul-19 | 9:35 | 303 | 8.46 | 0.09 | 0.51 | 0.04 | 18.9 | 27.0 |
| Russell Ave. Sample Station | 22-Jul-19 | 9:55 | 299 | **8.51** | 0.07 | 0.63 | 0.03 | 11.3 | 26.8 |
| Roper Reservoir | 22-Jul-19 | 10:35 | 293 | **8.58** | 0.09 | 0.49 | 0.04 | 12.7 | 26.5 |
| Roper PRV | 22-Jul-19 | 10:40 | 289 | 8.53 | 0.07 | 0.58 | 0.08 | 11.9 | 23.8 |
| Stevens Sample Station | 22-Jul-19 | 11:05 | 293 | 8.55 | 0.12 | 0.61 | 0.06 | 12.8 | 22.8 |
| Finlay St. Sampling Station | 23-Jul-19 | 8:45 | 299 | 8.45 | 0.08 | 0.61 | 0.04 | 14.2 | 28.5 |
| Stayte Sampling Station | 22-Jul-19 | 11:25 | 302 | 8.58 | 0.11 | 0.54 | 0.04 | 17.7 | 26.9 |
| Balsam & Marine | 23-Jul-19 | 9:00 | 306 | 8.47 | 0.08 | 0.54 | 0.03 | 16.6 | 27.0 |
| Oxford St. & Buena Vista STN | 23-Jul-19 | 10:20 | 298 | 8.50 | 0.07 | 0.50 | 0.08 | 14.6 | 25.9 |
| Merklin Low Reservoir | 23-Jul-19 | 9:30 | 297 | 8.51 | 0.06 | 0.56 | 0.04 | 11.1 | 26.5 |
| Merklin Reservoir (New) | 23-Jul-19 | 9:45 | 306 | 8.50 | 0.09 | 0.57 | 0.07 | 10.6 | 27.5 |
| Oxford Reservoir | 23-Jul-19 | 10:45 | 293 | 8.51 | 0.07 | 0.56 | 0.02 | 10.3 | 23.9 |
| Everall St. Sampling Station | 29-Jul-19 | 9:15 | 289 | 8.59 | 0.12 | 0.56 | 0.03 | 10.4 | 18.7 |
| Malabar Sampling Station | 29-Jul-19 | 9:35 | 291 | 8.56 | 0.09 | 0.53 | 0.04 | 13.8 | 18.7 |
| Chestnut & N. Bluff Sample STN | 29-Jul-19 | 9:55 | 291 | 8.60 | 0.10 | 0.42 | 0.02 | 19.8 | 18.6 |
| Russell Ave. Sample Station | 29-Jul-19 | 10:40 | 287 | 8.54 | 0.11 | 0.51 | 0.02 | 11.2 | 18.1 |
| Roper Reservoir | 29-Jul-19 | 10:55 | 290 | 8.61 | 0.10 | 0.45 | 0.04 | 13.1 | 17.9 |

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| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Roper PRV | 29-Jul-19 | 11:10 | 290 | 8.55 | 0.07 | 0.55 | 0.04 | 12.0 | 17.8 |
| Roper Ave. Sample Station | 29-Jul-19 | 11:30 | 296 | 8.63 | 0.10 | 0.53 | 0.04 | 16.8 | 19.0 |
| Finlay St. Sampling Station | 30-Jul-19 | 8:40 | 295 | 8.67 | 0.07 | 0.50 | 0.03 | 14.6 | 23.9 |
| Stayte Sampling Station | 30-Jul-19 | 8:55 | 299 | 8.72 | 0.08 | 0.51 | 0.03 | 18.9 | 25.4 |
| Balsam & Marine | 30-Jul-19 | 9:15 | 295 | 8.71 | 0.13 | 0.49 | 0.06 | 16.7 | 25.4 |
| Oxford St. & Buena Vista STN | 30-Jul-19 | 8:20 | 287 | 8.73 | 0.08 | 0.46 | 0.04 | 14.6 | 24.9 |
| Merklin Low Reservoir | 30-Jul-19 | 9:35 | 289 | 8.72 | 0.10 | 0.49 | 0.06 | 11.7 | 24.4 |
| Merklin Reservoir (New) | 30-Jul-19 | 9:45 | 293 | 8.73 | 0.07 | 0.50 | 0.06 | 10.5 | 25.5 |
| Oxford Reservoir | 30-Jul-19 | 10:40 | 284 | 8.76 | 0.10 | 0.53 | 0.04 | 10.4 | 20.4 |
| Everall St. Sampling Station | 6-Aug-19 | 8:45 | 284 | 8.45 | 0.13 | 0.48 | 0.04 | 10.3 | 17.5 |
| Mann Park Sample Station | 6-Aug-19 | 9:05 | 284 | 8.45 | 0.10 | 0.50 | 0.05 | 14.9 | 17.3 |
| Marine Dr Sample Station | 6-Aug-19 | 9:30 | 287 | 8.59 | 0.07 | 0.41 | 0.04 | 19.4 | 17.5 |
| Russell Ave. Sample Station | 6-Aug-19 | 9:50 | 283 | 8.56 | 0.10 | 0.50 | 0.00 | 11.5 | 17.3 |
| Roper Reservoir | 6-Aug-19 | 10:35 | 289 | 8.56 | 0.09 | 0.39 | 0.03 | 13.5 | 17.4 |
| Roper PRV | 6-Aug-19 | 10:45 | 285 | 8.54 | 0.07 | 0.50 | 0.00 | 12.0 | 17.0 |
| Stevens Sample Station | 6-Aug-19 | 11:05 | 287 | 8.55 | 0.08 | 0.49 | 0.03 | 13.2 | 17.2 |
| Finlay St. Sampling Station | 7-Aug-19 | 8:45 | 285 | 8.45 | 0.08 | 0.45 | 0.03 | 14.5 | 17.9 |
| Stayte Sampling Station | 7-Aug-19 | 9:10 | 289 | 8.42 | 0.07 | 0.41 | 0.03 | 19.4 | 18.1 |
| Balsam & Marine | 7-Aug-19 | 9:30 | 286 | 8.44 | 0.07 | 0.40 | 0.04 | 16.5 | 17.7 |
| Oxford St. & Buena Vista STN | 7-Aug-19 | 9:55 | 287 | 8.51 | 0.09 | 0.40 | 0.03 | 14.6 | 17.7 |
| Merklin Low Reservoir | 7-Aug-19 | 10:40 | 286 | 8.53 | 0.06 | 0.34 | 0.03 | 11.5 | 17.1 |
| Merklin Reservoir (New) | 7-Aug-19 | 11:00 | 286 | 8.48 | 0.12 | 0.38 | 0.03 | 10.5 | 16.9 |
| Oxford Reservoir | 7-Aug-19 | 11:20 | 285 | 8.52 | 0.07 | 0.49 | 0.00 | 10.6 | 16.8 |
| Everall St. Sampling Station | 12-Aug-19 | 8:50 | 276 | 8.38 | 0.10 | 0.58 | 0.02 | 10.4 | 19.0 |
| Malabar Sampling Station | 12-Aug-19 | 9:05 | 278 | 8.31 | 0.12 | 0.52 | 0.04 | 16.7 | 18.9 |
| Chestnut & N. Bluff Station | 12-Aug-19 | 9:25 | 283 | 8.29 | 0.12 | 0.35 | 0.02 | 20.7 | 18.8 |
| Russell Ave. Sample Station | 12-Aug-19 | 9:50 | 276 | 8.33 | 0.11 | 0.58 | 0.00 | 11.2 | 18.7 |
| Roper Reservoir | 12-Aug-19 | 10:05 | 284 | 8.41 | 0.11 | 0.41 | 0.03 | 13.3 | 18.4 |
| Roper PRV | 12-Aug-19 | 10:15 | 277 | 8.38 | 0.10 | 0.55 | 0.00 | 11.9 | 17.7 |
| Roper Ave. Sample Station | 12-Aug-19 | 12:10 | 287 | 8.36 | 0.10 | 0.48 | 0.05 | 17.5 | 18.5 |
| Finlay St. Sampling Station | 13-Aug-19 | 8:25 | 286 | 8.39 | 0.08 | 0.59 | 0.06 | 14.5 | 25.3 |
| Stayte Sampling Station | 13-Aug-19 | 8:50 | 290 | 8.40 | 0.10 | 0.52 | 0.03 | 18.6 | 25.8 |
| Balsam & Marine | 13-Aug-19 | 9:10 | 284 | 8.33 | 0.10 | 0.49 | 0.04 | 16.0 | 25.8 |
| Oxford St. & Buena Vista STN | 13-Aug-19 | 10:30 | 285 | 8.38 | 0.06 | 0.55 | 0.04 | 14.3 | 26.3 |
| Merklin Low Reservoir | 13-Aug-19 | 9:35 | 277 | 8.39 | 0.06 | 0.59 | 0.04 | 11.7 | 24.5 |
| Merklin Reservoir (New) | 13-Aug-19 | 9:50 | 282 | 8.44 | 0.07 | 0.65 | 0.04 | 10.6 | 25.1 |
| Oxford Reservoir | 13-Aug-19 | 11:15 | 274 | 8.44 | 0.11 | 0.54 | 0.03 | 10.3 | 21.4 |
| Everall St. Sampling Station | 19-Aug-19 | 8:45 | 269 | 8.38 | 0.08 | 0.57 | 0.03 | 10.3 | 17.2 |
| Mann Park Sample Station | 19-Aug-19 | 9:05 | 279 | 8.37 | 0.09 | 0.50 | 0.05 | 14.9 | 17.7 |
| Marine Dr Sample Station | 19-Aug-19 | 9:25 | 279 | 8.35 | 0.07 | 0.40 | 0.04 | 19.2 | 17.9 |
| Russell Ave. Sample Station | 19-Aug-19 | 9:50 | 270 | 8.41 | 0.09 | 0.56 | 0.03 | 11.3 | 16.8 |
| Roper Reservoir | 19-Aug-19 | 10:30 | 281 | 8.45 | 0.07 | 0.38 | 0.00 | 13.0 | 17.2 |
| Roper PRV | 19-Aug-19 | 10:50 | 276 | 8.44 | 0.09 | 0.50 | 0.03 | 11.9 | 16.6 |
| Stevens Sample Station | 19-Aug-19 | 11:10 | 280 | 8.44 | 0.08 | 0.51 | 0.05 | 13.1 | 16.9 |
| Finlay St. Sampling Station | 20-Aug-19 | 8:55 | 278 | 8.28 | 0.09 | 0.54 | 0.06 | 14.4 | 18.1 |
| Stayte Sampling Station | 20-Aug-19 | 9:15 | 280 | 8.24 | 0.08 | 0.47 | 0.06 | 18.2 | 18.4 |
| Balsam & Marine | 20-Aug-19 | 9:35 | 278 | 8.31 | 0.11 | 0.47 | 0.04 | 16.0 | 19.0 |
| Oxford St. & Buena Vista STN | 20-Aug-19 | 10:00 | 276 | 8.35 | 0.13 | 0.48 | 0.04 | 14.7 | 18.4 |
| Merklin Low Reservoir | 20-Aug-19 | 10:45 | 272 | 8.35 | 0.31 | 0.57 | 0.05 | 11.3 | 16.9 |
| Merklin Reservoir (New) | 20-Aug-19 | 11:15 | 274 | 8.38 | 0.07 | 0.58 | 0.04 | 10.5 | 16.3 |
| Oxford Reservoir | 20-Aug-19 | 11:45 | 275 | 8.37 | 0.08 | 0.53 | 0.05 | 10.4 | 16.0 |
| Everall St. Sampling Station | 26-Aug-19 | 8:45 | 282 | 8.37 | 0.10 | 0.62 | 0.04 | 10.0 | 18.0 |
| Malabar Sampling Station | 26-Aug-19 | 9:05 | 288 | 8.35 | 0.09 | 0.60 | 0.06 | 16.1 | 18.1 |
| Chestnut & N. Bluff Station | 26-Aug-19 | 9:20 | 289 | 8.40 | 0.07 | 0.42 | 0.03 | 19.7 | 18.6 |
| Russell Ave. Sample Station | 26-Aug-19 | 9:45 | 283 | 8.43 | 0.07 | 0.61 | 0.04 | 10.9 | 17.6 |
| Roper Reservoir | 26-Aug-19 | 10:35 | 283 | 8.43 | 0.05 | 0.42 | 0.04 | 12.8 | 17.9 |
| Roper PRV | 26-Aug-19 | 10:45 | 284 | 8.41 | 0.06 | 0.57 | 0.06 | 11.5 | 18.0 |
| Roper Ave. Sample Station | 26-Aug-19 | 11:05 | 291 | 8.43 | 0.06 | 0.59 | 0.05 | 16.5 | 17.9 |
| Finlay St. Sampling Station | 27-Aug-19 | 8:50 | 288 | 8.35 | 0.09 | 0.57 | 0.03 | 14.1 | 18.0 |
| Stayte Sampling Station | 27-Aug-19 | 9:10 | 289 | 8.39 | 0.07 | 0.50 | 0.05 | 18.1 | 17.6 |
| Balsam & Marine | 27-Aug-19 | 9:30 | 289 | 8.34 | 0.08 | 0.52 | 0.03 | 15.4 | 17.8 |
| Oxford St. & Buena Vista STN | 27-Aug-19 | 9:50 | 289 | 8.40 | 0.14 | 0.55 | 0.01 | 13.9 | 17.8 |
| Merklin Low Reservoir | 27-Aug-19 | 10:55 | 287 | 8.38 | 0.11 | 0.50 | 0.01 | 11.9 | 17.2 |

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| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Merklin Reservoir (New) | 27-Aug-19 | 11:10 | 289 | 8.43 | 0.08 | 0.57 | 0.00 | 10.3 | 17.2 |
| Oxford Reservoir | 27-Aug-19 | 11:30 | 286 | 8.44 | 0.08 | 0.59 | 0.02 | 10.4 | 16.3 |
| Everall St. Sampling Station | 3-Sep-19 | 8:50 | 271 | 8.30 | 0.13 | 0.61 | 0.03 | 10.1 | 17.1 |
| Mann Park Sample Station | 3-Sep-19 | 9:05 | 274 | 8.30 | 0.10 | 0.60 | 0.05 | 14.5 | 17.2 |
| Marine Dr Sample Station | 3-Sep-19 | 9:30 | 275 | 8.33 | 0.09 | 0.55 | 0.04 | 17.4 | 17.3 |
| Russell Ave. Sample Station | 3-Sep-19 | 9:50 | 273 | 8.34 | 0.08 | 0.58 | 0.05 | 11.0 | 17.0 |
| Roper Reservoir | 3-Sep-19 | 10:35 | 275 | 8.37 | 0.07 | 0.45 | 0.04 | 13.0 | 17.0 |
| Roper PRV | 3-Sep-19 | 10:45 | 273 | 8.38 | 0.09 | 0.66 | 0.01 | 11.7 | 17.0 |
| Stevens Sample Station | 3-Sep-19 | 11:10 | 275 | 8.39 | 0.09 | 0.64 | 0.05 | 13.1 | 16.9 |
| Finlay St. Sampling Station | 4-Sep-19 | 8:15 | 278 | 8.21 | 0.10 | 0.66 | 0.06 | 14.2 | 22.4 |
| Stayte Sampling Station | 4-Sep-19 | 8:35 | 285 | 8.25 | 0.10 | 0.52 | 0.04 | 19.5 | 23.6 |
| Balsam & Marine | 4-Sep-19 | 9:00 | 283 | 8.26 | 0.08 | 0.52 | 0.04 | 15.9 | 24.2 |
| Oxford St. & Buena Vista STN | 4-Sep-19 | 10:35 | 285 | 8.30 | 0.10 | 0.59 | 0.05 | 14.7 | 24.7 |
| Merklin Low Reservoir | 4-Sep-19 | 9:25 | 281 | 8.33 | 0.08 | 0.68 | 0.06 | 11.6 | 23.6 |
| Merklin Reservoir (New) | 4-Sep-19 | 9:45 | 282 | 8.34 | 0.08 | 0.69 | 0.05 | 10.4 | 23.6 |
| Oxford Reservoir | 4-Sep-19 | 10:55 | 276 | 8.36 | 0.09 | 0.60 | 0.08 | 10.3 | 21.4 |
| Everall St. Sampling Station | 9-Sep-19 | 8:50 | 272 | 8.50 | 0.10 | 0.59 | 0.03 | 10.2 | 17.1 |
| Malabar Sampling Station | 9-Sep-19 | 9:05 | 275 | 8.41 | 0.07 | 0.50 | 0.04 | 13.5 | 16.8 |
| Chestnut & N. Bluff Sample STN | 9-Sep-19 | 9:20 | 278 | 8.42 | 0.09 | 0.36 | 0.03 | 20.5 | 17.4 |
| Russell Ave. Sample Station | 9-Sep-19 | 9:40 | 273 | 8.45 | 0.12 | 0.60 | 0.02 | 11.3 | 16.7 |
| Roper Reservoir | 9-Sep-19 | 11:05 | 275 | 8.50 | 0.09 | 0.44 | 0.00 | 12.8 | 16.4 |
| Roper PRV | 9-Sep-19 | 11:20 | 272 | 8.47 | 0.09 | 0.61 | 0.02 | 11.7 | 15.9 |
| Roper Ave. Sample Station | 9-Sep-19 | 10:50 | 280 | 8.54 | 0.09 | 0.60 | 0.04 | 17.3 | 17.2 |
| Finlay St. Sampling Station | 10-Sep-19 | 8:40 | 283 | 8.39 | 0.11 | 0.53 | 0.02 | 15.3 | 23.5 |
| Stayte Sampling Station | 10-Sep-19 | 8:55 | 278 | 8.39 | 0.07 | 0.58 | 0.03 | 19.1 | 24.3 |
| Balsam & Marine | 10-Sep-19 | 9:15 | 284 | 8.55 | 0.10 | 0.61 | 0.02 | 15.7 | 25.2 |
| Oxford St. & Buena Vista STN | 10-Sep-19 | 10:35 | 270 | 8.42 | 0.08 | 0.43 | 0.06 | 14.3 | 23.0 |
| Merklin Low Reservoir | 10-Sep-19 | 9:40 | 268 | 8.48 | 0.09 | 0.62 | 0.00 | 11.7 | 20.9 |
| Merklin Reservoir (New) | 10-Sep-19 | 9:50 | 282 | 8.55 | 0.08 | 0.68 | 0.00 | 10.5 | 22.9 |
| Oxford Reservoir | 10-Sep-19 | 10:55 | 279 | 8.45 | 0.08 | 0.56 | 0.02 | 10.1 | 22.4 |
| Everall St. Sampling Station | 16-Sep-19 | 9:15 | 275 | 8.38 | 0.06 | 0.64 | 0.07 | 10.1 | 16.9 |
| Mann Park Sample Station | 16-Sep-19 | 9:30 | 277 | 8.37 | 0.05 | 0.56 | 0.05 | 15.6 | 16.9 |
| Marine Dr Sample Station | 16-Sep-19 | 9:55 | 278 | 8.40 | 0.06 | 0.40 | 0.04 | 18.1 | 17.0 |
| Russell Ave. Sample Station | 16-Sep-19 | 10:35 | 277 | 8.39 | 0.07 | 0.63 | 0.04 | 10.7 | 16.3 |
| Roper Reservoir | 16-Sep-19 | 10:50 | 276 | 8.52 | 0.05 | 0.37 | 0.03 | 12.5 | 16.4 |
| Roper PRV | 16-Sep-19 | 11:00 | 277 | 8.47 | 0.05 | 0.59 | 0.05 | 11.3 | 16.2 |
| Stevens Sample Station | 16-Sep-19 | 11:25 | 277 | 8.51 | 0.05 | 0.59 | 0.02 | 13.0 | 16.5 |
| Finlay St. Sampling Station | 17-Sep-19 | 9:30 | 303 | 8.35 | 0.05 | 0.48 | 0.05 | 14.8 | 24.8 |
| Stayte Sampling Station | 17-Sep-19 | 9:45 | 276 | 8.36 | 0.06 | 0.61 | 0.04 | 18.2 | 21.0 |
| Balsam & Marine | 17-Sep-19 | 9:55 | 300 | 8.39 | 0.06 | 0.58 | 0.03 | 14.9 | 23.3 |
| Oxford St. & Buena Vista STN | 17-Sep-19 | 10:30 | 300 | 8.47 | 0.05 | 0.58 | 0.00 | 14.1 | 23.7 |
| Merklin Low Reservoir | 17-Sep-19 | 10:45 | 300 | 8.39 | 0.05 | 0.57 | 0.03 | 11.7 | 22.4 |
| Merklin Reservoir (New) | 17-Sep-19 | 11:00 | 293 | 8.44 | 0.05 | 0.65 | 0.00 | 10.3 | 21.1 |
| Oxford Reservoir | 17-Sep-19 | 11:20 | 302 | 8.42 | 0.04 | 0.55 | 0.00 | 10.3 | 20.0 |
| Everall St. Sampling Station | 23-Sep-19 | 8:35 | 312 | 8.33 | 0.07 | 0.61 | 0.01 | 10.2 | 20.1 |
| Malabar Sampling Station | 23-Sep-19 | 8:50 | 311 | 8.28 | 0.08 | 0.56 | 0.02 | 13.5 | 18.8 |
| Chestnut & N. Bluff Sample STN | 23-Sep-19 | 9:15 | 316 | 8.30 | 0.07 | 0.16 | 0.00 | 18.2 | 20.2 |
| Russell Ave. Sample Station | 23-Sep-19 | 10:45 | 315 | 8.36 | 0.06 | 0.53 | 0.04 | 11.4 | 20.5 |
| Roper Reservoir | 23-Sep-19 | 10:55 | 304 | 8.45 | 0.11 | 0.36 | 0.04 | 12.4 | 20.7 |
| Roper PRV | 23-Sep-19 | 11:05 | 310 | 8.43 | 0.08 | 0.53 | 0.00 | 11.2 | 19.4 |
| Roper Ave. Sample Station | 23-Sep-19 | 10:30 | 317 | 8.43 | 0.06 | 0.66 | 0.03 | 16.0 | 21.2 |
| Finlay St. Sampling Station | 24-Sep-19 | 9:05 | 314 | 8.43 | 0.05 | 0.57 | 0.05 | 14.6 | 24.1 |
| Stayte Sampling Station | 24-Sep-19 | 9:25 | 317 | 8.43 | 0.09 | 0.40 | 0.05 | 17.7 | 24.2 |
| Balsam & Marine | 24-Sep-19 | 9:40 | 300 | 8.52 | 0.09 | 0.50 | 0.04 | 14.6 | 21.7 |
| Oxford St. & Buena Vista STN | 24-Sep-19 | 9:55 | 313 | 8.50 | 0.09 | 0.52 | 0.02 | 13.8 | 23.1 |
| Merklin Low Reservoir | 24-Sep-19 | 10:40 | 308 | 8.52 | 0.07 | 0.44 | 0.08 | 11.7 | 23.0 |
| Merklin Reservoir (New) | 24-Sep-19 | 10:55 | 300 | 8.56 | 0.08 | 0.43 | 0.05 | 10.2 | 20.9 |
| Oxford Reservoir | 24-Sep-19 | 11:20 | 304 | 8.54 | 0.07 | 0.58 | 0.08 | 10.4 | 18.3 |
| Everall St. Sampling Station | 21-Oct-19 | 8:50 | 306 | 8.15 | 0.06 | 0.66 | 0.03 | 9.9 | 13.2 |
| Malabar Sampling Station | 21-Oct-19 | 9:00 | 310 | 8.18 | 0.06 | 0.56 | 0.03 | 11.7 | 13.1 |
| Chestnut & N. Bluff Sample STN | 21-Oct-19 | 9:55 | 311 | 8.18 | 0.33 | 0.42 | 0.04 | 13.5 | 13.2 |
| Russell Ave. Sample Station | 21-Oct-19 | 9:20 | 310 | 8.18 | 0.08 | 0.60 | 0.00 | 10.5 | 12.9 |
| Roper Reservoir | 21-Oct-19 | 10:35 | 308 | 8.23 | 0.06 | 0.39 | 0.00 | 10.5 | 12.6 |

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| Sampling Location | Date Sampled | Time | Conductivity µS/cm | pH | Turbidity NTU | Total CL mg/L | Free Cl mg/L | Temp. Colltd | Temp. Tested |
|---|---|---|---|---|---|---|---|---|---|
| Roper PRV | 21-Oct-19 | 10:45 | 310 | 8.23 | 0.07 | 0.64 | 0.01 | 10.5 | 12.6 |
| Roper Ave. Sample Station | 21-Oct-19 | 9:35 | 311 | 8.26 | 0.06 | 0.53 | 0.00 | 12.6 | 13.0 |
| Finlay St. Sampling Station | 22-Oct-19 | 8:45 | 315 | 8.10 | 0.07 | 0.57 | 0.02 | 12.4 | 22.8 |
| Stayte Sampling Station | 22-Oct-19 | 9:05 | 310 | 8.16 | 0.06 | 0.55 | 0.02 | 13.4 | 17.3 |
| Balsam & Marine | 22-Oct-19 | 9:20 | 315 | 8.14 | 0.08 | 0.51 | 0.03 | 12.2 | 17.0 |
| Oxford St. & Buena Vista STN | 22-Oct-19 | 9:45 | 315 | 8.13 | 0.07 | 0.54 | 0.00 | 11.7 | 26.1 |
| Merklin Low Reservoir | 22-Oct-19 | 10:35 | 315 | 8.15 | 0.06 | 0.63 | 0.01 | 11.2 | 27.0 |
| Merklin Reservoir (New) | 22-Oct-19 | 10:50 | 300 | 8.20 | 0.06 | 0.67 | 0.03 | 10.1 | 15.7 |
| Oxford Reservoir | 22-Oct-19 | 11:15 | 314 | 8.18 | 0.07 | 0.62 | 0.07 | 9.9 | 16.7 |
|  |  |  |  |  |  |  |  |  |  |

## Bromate Analysis, Water Treatment Plant Effluent

| Date Sampled | Units | Detection Limit | Result | Guideline |
|---|---|---|---|---|
| August 30 | mg/L | 0.003 | <0.003 | 0.01 |
| September 4 | mg/L | 0.003 | <0.003 | 0.01 |
| October 22 | Mg/L | 0.003 | <0.003 | 0.01 |

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## THMs & HAAs RESULTS 2019

| Sample | Unit of Measure | Nominal Detection Limit | Sample Location | | | | Sampled Date |
|---|---|---|---|---|---|---|---|
| | | | Marine Dr Station | Roper PRV | Stevens Station | Stayte Station | |
| Chloroform | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 25-Apr-19 |
| Bromodichloromethane | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 25-Apr-19 |
| Dibromochloromethane | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 25-Apr-19 |
| Bromoform | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 25-Apr-19 |
| Total THMs | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 25-Apr-19 |
| Dibromofluoromethane | % | 50-140 | 120 | 126 | 126 | 121 | 25-Apr-19 |
| Toluene-d8 | % | 50-140 | 103 | 103 | 102 | 102 | 25-Apr-19 |
| Bromofluorobenzene | % | 50-140 | 101 | 94 | 96 | 96 | 25-Apr-19 |
| Monochloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 25-Apr-19 |
| Monobromoacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 25-Apr-19 |
| Dichloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 25-Apr-19 |
| Bromochloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 25-Apr-19 |
| Dibromoacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 25-Apr-19 |
| Trichloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 25-Apr-19 |
| Total HAA6 | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 25-Apr-19 |
| Chloroform | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 22-Jul-19 |
| Bromodichloromethane | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 22-Jul-19 |
| Dibromochloromethane | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 22-Jul-19 |
| Bromoform | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 22-Jul-19 |
| Total THMs | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 22-Jul-19 |
| Dibromofluoromethane | % | 50-140 | 128 | 126 | 129 | 129 | 22-Jul-19 |
| Toluene-d8 | % | 50-140 | 99 | 99 | 99 | 99 | 22-Jul-19 |
| Bromofluorobenzene | % | 50-140 | 97 | 96 | 98 | 95 | 22-Jul-19 |
| Monochloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22-Jul-19 |
| Monobromoacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22-Jul-19 |
| Dichloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22-Jul-19 |
| Bromochloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22-Jul-19 |
| Dibromoacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22-Jul-19 |
| Trichloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22-Jul-19 |
| Total HAA6 | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 22-Jul-19 |
| Chloroform | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 7-Oct-19 |
| Bromodichloromethane | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 7-Oct-19 |
| Dibromochloromethane | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 7-Oct-19 |
| Bromoform | mg/L | 0.001 | <0.001 | 0.001 | 0.001 | 0.002 | 7-Oct-19 |
| Total THMs | mg/L | 0.001 | <0.001 | 0.001 | 0.001 | 0.002 | 7-Oct-19 |
| Dibromofluoromethane | % | 50-140 | 102 | 103 | 103 | 101 | 7-Oct-19 |
| Toluene-d8 | % | 50-140 | 96 | 97 | 97 | 99 | 7-Oct-19 |
| Bromofluorobenzene | % | 50-140 | 96 | 99 | 96 | 101 | 7-Oct-19 |
| Monochloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 7-Oct-19 |
| Monobromoacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 7-Oct-19 |
| Dichloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 7-Oct-19 |
| Bromochloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 7-Oct-19 |
| Dibromoacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 7-Oct-19 |
| Trichloroacetic Acid | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 7-Oct-19 |
| Total HAA6 | ug/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 7-Oct-19 |

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## Non Routine Water Quality Results for Source and Distribution Water 2019

| Sampling Point Name | Date Sampled | TC MPN / 100 ml | E-coli MPN / 100 ml | Comments |
|---|---|---|---|---|
| Balsam and Marine Stn | 16-Feb-19 | <1.0 | <1.0 | Below MAC |
| 14200 Blk Park | 18-Feb-19 | <1.0 | <1.0 | Below MAC |
| Museum Station - NIS | 22-Feb-19 | <1.0 | <1.0 | Below MAC |
| Finlay Sampling Station | 18-May-19 | <1.0 | <1.0 | Below MAC |
| Roper Sampling Station | 20-Jun-19 | <1.0 | <1.0 | Below MAC |
| 1138 Stevens | 10-Oct-19 | <1.0 | <1.0 | Below MAC |
| **Amount of Times 1.0 or Higher:** | | 0 | 0 | |

City of White Rock 2019 Annual Water Report

# Pre-Water Treatment Plant Water Quality

**Sample Location**

| Sample | Unit of Measure | Well #1 Feb 7, 2019 | Well #2 Feb 7, 2019 | Well #3 Feb 7, 2019 | Well #6 Feb 7, 2019 | Well #7 Feb 7, 2019 | Well #8 Feb 7, 2019 | Chestnut Stn Feb 7, 2019 | Marine Dr Stn Feb 7, 2019 |
|---|---|---|---|---|---|---|---|---|---|
| **Inorganic Nonmetallic Parameters** | | | | | | | | | |
| **Organic Carbon** | mg/L | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 |
| **Ammonia - N** | mg/L | 0.05 | <0.01 | 0.05 | 0.14 | 0.09 | 0.06 | 0.06 | 0.06 |
| **Metals Extractable** | | | | | | | | | |
| **Aluminum** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Antimony** | mg/L | 0.00007 | 0.00008 | 0.00006 | 0.00005 | 0.00005 | 0.00005 | 0.00007 | 0.00008 |
| Arsenic | mg/L | 0.0075 | 0.0043 | 0.0059 | 0.0082 | 0.0076 | 0.0061 | 0.0049 | 0.0049 |
| Barium | mg/L | 0.0100 | 0.0145 | 0.0161 | 0.0222 | 0.0176 | 0.0169 | 0.0144 | 0.0137 |
| Boron | mg/L | 0.014 | 0.015 | 0.013 | 0.037 | 0.023 | 0.013 | 0.015 | 0.015 |
| Cadmium | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 |
| Chromium | mg/L | <0.00005 | 0.00025 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 |
| Copper | mg/L | 0.0014 | 0.0023 | 0.00070 | 0.0019 | <0.0005 | 0.0011 | 0.0010 | 0.0040 |
| Lead | mg/L | 0.00009 | 0.00003 | 0.00010 | 0.00004 | 0.00048 | 0.00004 | 0.00006 | 0.00018 |
| Selenium | mg/L | <0.0002 | 0.0050 | 0.0003 | <0.0002 | <0.0002 | <0.0002 | 0.0028 | 0.0029 |
| Uranium | mg/L | 0.00008 | 0.00019 | 0.00010 | 0.00015 | 0.00013 | 0.00011 | 0.00016 | 0.00016 |
| Vanadium | mg/L | 0.00282 | 0.00322 | 0.00267 | 0.00224 | 0.00205 | 0.00205 | 0.00282 | 0.00290 |
| Zinc | mg/L | 0.0032 | 0.0020 | 0.0010 | 0.0025 | <0.0005 | 0.0015 | 0.0018 | 0.0037 |
| **Metals Total** | | | | | | | | | |
| Mercury | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 |
| **Physical and Aggregate Properties** | | | | | | | | | |
| Colour | Colour Units | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Turbidity | NTU | 0.12 | 0.05 | 0.06 | <0.05 | <0.05 | 0.06 | 0.14 | 0.16 |
| **Routine Water** | | | | | | | | | |
| pH | | 7.86 | 7.83 | 7.88 | 7.96 | 7.95 | 7.93 | 7.81 | 7.76 |
| **Electrical Conductivity** | | 215 | 279 | 249 | 330 | 277 | 249 | 269 | 266 |
| Calcium | mg/L | 16 | 24 | 22 | 24 | 23 | 23 | 24 | 24 |
| Iron | mg/L | 0.014 | <0.004 | <0.004 | 0.005 | <0.004 | 0.016 | 0.016 | 0.011 |
| **Magnesium** | mg/L | 6.6 | 10 | 8.6 | 9.9 | 9.4 | 8.9 | 9.8 | 9.8 |
| **Manganese** | mg/L | 0.086 | 0.004 | 0.18 | 0.15 | 0.12 | 0.18 | 0.064 | 0.063 |
| **Potassium** | mg/L | 2.7 | 3.0 | 2.9 | 3.9 | 3.6 | 3.1 | 3.1 | 3.0 |
| Silicon | mg/L | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Sodium | mg/L | 15 | 13 | 13 | 25 | 16 | 12 | 13 | 14 |
| **T-Alkalinity** | mg/L | 80 | 93 | 89 | 119 | 107 | 95 | 86 | 86 |
| Chloride | mg/L | 10.6 | 15.6 | 13.7 | 18.0 | 9.98 | 8.60 | 15.7 | 15.8 |
| Fluoride | mg/L | 0.10 | 0.09 | 0.10 | 0.18 | 0.14 | 0.11 | 0.09 | 0.09 |
| **Nitrate - N** | mg/L | <0.01 | 0.51 | <0.01 | <0.01 | <0.01 | <0.01 | 0.32 | 0.32 |
| **Nitrite - N** | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | 0.01 |
| **Sulfate (SO4)** | mg/L | 9.2 | 16.7 | 11.2 | 19.7 | 14.6 | 13.0 | 15.3 | 15.2 |
| Hardness | mg/L | 67 | 104 | 90 | 102 | 97 | 93 | 99 | 99 |
| Total Dissolved Solids | mg/L | 136 | 170 | 154 | 202 | 171 | 155 | 163 | 164 |
| **THM & HAAs** | | | | | | | | | |
| **Chloroform** | mg/L | | | | | | | <0.001 | <0.001 |
| **Bromodichloromethane** | mg/L | | | | | | | <0.001 | <0.001 |
| Dibromochloromethane | mg/L | | | | | | | <0.001 | <0.001 |
| **Bromoform mg/L** | mg/L | | | | | | | <0.001 | <0.001 |
| **Total THMs mg/L** | mg/L | | | | | | | <0.001 | <0.001 |
| **Dibromofluoromethane** | % | | | | | | | 109 | 110 |
| **Toluene-d8** | % | | | | | | | 94 | 94 |
| Bromofluorobenzene | % | | | | | | | 101 | 101 |
| **Monochloroacetic Acid** | ug/L | | | | | | | <2.0 | <2.0 |
| **Monobromoacetic Acid** | ug/L | | | | | | | <2.0 | <2.0 |
| Dichloroacetic Acid | ug/L | | | | | | | <2.0 | <2.0 |
| **Bromochloroacetic Acid** | ug/L | | | | | | | <2.0 | <2.0 |
| Dibromoacetic Acid | ug/L | | | | | | | <2.0 | <2.0 |
| Trichloroacetic Acid | ug/L | | | | | | | <2.0 | <2.0 |
| **Total HAA6** | ug/L | | | | | | | <2.0 | <2.0 |

City of White Rock 2019 Annual Water Report

# Pre-Water Treatment Plant Water Quality

**Sample Location**

| Sample | Unit of Measure | Malabar Stn Feb 7, 2019 | Mann Park Stn Feb 7, 2019 | Balsam Stn Feb 7, 2019 | Oxford Stn Feb 7, 2019 | Oxford Reservoir Feb 7, 2019 | Everall Stn Feb 7, 2019 | Russell Stn Feb 7, 2019 | Stevens Stn Feb 7, 2019 | Finlay Stn Feb 7, 2019 | Stayte Stn Feb 7, 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganic Nonmetallic Parameters** | | | | | | | | | | | |
| Organic Carbon | mg/L | 0.8 | 0.6 | 0.7 | 0.7 | 0.6 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 |
| Ammonia - N | mg/L | 0.07 | 0.07 | 0.06 | 0.07 | 0.07 | 0.09 | 0.07 | 0.07 | 0.07 | 0.07 |
| **Metals Extractable** | | | | | | | | | | | |
| Aluminum | mg/L | 0.001 | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Antimony | mg/L | 0.00009 | 0.00009 | 0.00007 | 0.00006 | 0.00008 | 0.00011 | 0.00007 | 0.00007 | 0.00007 | 0.00007 |
| Arsenic | mg/L | 0.0050 | 0.0050 | 0.0071 | 0.0067 | 0.0051 | 0.0052 | 0.0050 | 0.0077 | 0.0055 | 0.0074 |
| Barium | mg/L | 0.0153 | 0.0151 | 0.0172 | 0.0176 | 0.0152 | 0.0156 | 0.0153 | 0.0197 | 0.0165 | 0.0189 |
| Boron | mg/L | 0.015 | 0.017 | 0.028 | 0.025 | 0.016 | 0.015 | 0.013 | 0.031 | 0.019 | 0.028 |
| Cadmium | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | 0.00002 | <0.00001 | <0.00001 |
| Chromium | mg/L | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 |
| Copper | mg/L | 0.0038 | 0.0047 | 0.0018 | 0.0023 | 0.0104 | 0.0022 | 0.0016 | 0.0028 | 0.0016 | 0.0032 |
| Lead | mg/L | 0.00037 | 0.00053 | 0.00010 | 0.00006 | 0.00012 | 0.00007 | 0.00011 | 0.00020 | 0.00005 | 0.00038 |
| Selenium | mg/L | 0.0029 | 0.0029 | 0.0006 | 0.0010 | 0.0028 | 0.0026 | 0.0029 | <0.0002 | 0.0025 | 0.0005 |
| Uranium | mg/L | 0.00016 | 0.00016 | 0.00014 | 0.00016 | 0.00015 | 0.00015 | 0.00016 | 0.00016 | 0.00016 | 0.00015 |
| Vanadium | mg/L | 0.00292 | 0.00293 | 0.00226 | 0.00251 | 0.00296 | 0.00291 | 0.00296 | 0.00213 | 0.00271 | 0.00228 |
| Zinc | mg/L | 0.0041 | 0.0012 | 0.0008 | 0.0008 | 0.0016 | 0.0018 | 0.0043 | 0.0018 | 0.0007 | 0.0029 |
| **Metals Total** | | | | | | | | | | | |
| Mercury | mg/L | <0.00001 | <0.00001 | <0.0001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 |
| **Physical and Aggregate Properties** | | | | | | | | | | | |
| Colour | Colour Units | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Turbidity | NTU | 0.20 | 0.09 | 0.13 | 0.18 | 0.13 | 0.16 | 0.13 | 0.08 | 0.12 | 0.12 |
| **Routine Water** | | | | | | | | | | | |
| pH | | 7.82 | 7.79 | 7.93 | 7.95 | 7.86 | 7.85 | 7.89 | 7.93 | 7.86 | 7.92 |
| Electrical Conductivity | | 267 | 267 | 296 | 291 | 269 | 267 | 276 | 303 | 277 | 298 |
| Calcium | mg/L | 24 | 23 | 24 | 24 | 23 | 23 | 24 | 24 | 24 | 24 |
| Iron | mg/L | 0.011 | 0.006 | 0.012 | 0.004 | 0.006 | 0.005 | <0.004 | 0.006 | <0.004 | <0.004 |
| Magnesium | mg/L | 9.8 | 9.8 | 9.7 | 9.7 | 9.7 | 9.7 | 9.8 | 9.8 | 9.9 | 9.8 |
| Manganese | mg/L | 0.062 | 0.061 | 0.11 | 0.10 | 0.076 | 0.079 | 0.065 | 0.13 | 0.086 | 0.12 |
| Potassium | mg/L | 3.0 | 3.0 | 3.6 | 3.4 | 3.0 | 3.0 | 3.0 | 3.8 | 3.2 | 3.6 |
| Silicon | mg/L | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Sodium | mg/L | 13 | 13 | 20 | 18 | 13 | 14 | 13 | 21 | 15 | 20 |
| T-Alkalinity | mg/L | 95 | 94 | 110 | 106 | 91 | 92 | 93 | 111 | 94 | 107 |
| Chloride | mg/L | 15.6 | 15.6 | 14.8 | 14.9 | 15.4 | 15.4 | 15.6 | 14.4 | 15.4 | 14.6 |
| Fluoride | mg/L | 0.09 | 0.10 | 0.14 | 0.13 | 0.09 | 0.09 | 0.10 | 0.15 | 0.10 | 0.14 |
| Nitrate - N | mg/L | 0.31 | 0.31 | 0.07 | 0.11 | 0.29 | 0.28 | 0.31 | <0.01 | 0.25 | 0.05 |
| Nitrite - N | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 |
| Sulfate (SO4) | mg/L | 15.2 | 15.2 | 16.7 | 16.5 | 14.9 | 14.7 | 15.2 | 17.1 | 15.7 | 16.8 |
| Hardness | mg/L | 99 | 99 | 99 | 99 | 97 | 98 | 99 | 100 | 100 | 100 |
| Total Dissolved Solids | mg/L | 168 | 168 | 183 | 180 | 165 | 166 | 168 | 186 | 170 | 183 |
| **THM & HAAs** | | | | | | | | | | | |
| Chloroform | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromodichloromethane | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Dibromochloromethane | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromoform mg/L | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total THMs mg/L | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Dibromofluoromethane | % | 110 | 108 | 109 | 107 | 105 | 105 | 108 | 106 | 107 | 111 |
| Toluene-d8 | % | 93 | 93 | 96 | 95 | 94 | 92 | 93 | 93 | 94 | 96 |
| Bromofluorobenzene | % | 105 | 99 | 107 | 102 | 104 | 106 | 100 | 106 | 106 | 101 |
| Monochloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Monobromoacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Dichloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Bromochloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Dibromoacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Trichloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total HAA6 | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |

City of White Rock 2019 Annual Water Report

# Pre-Water Treatment Plant Water Quality

| Sample | Unit of Measure | Roper Stn Feb 7, 2019 | Roper PRV Feb 7, 2019 | Merklin Reservoir Feb 7, 2019 | Merklin Low Reservoir Feb 7, 2019 | Roper Reservoir Feb 7, 2019 | | Average | Nominal Detection Limit | Guideline Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Location** | | | | | | | | | | |
| **Inorganic Nonmetallic Parameters** | | | | | | | | | | |
| Organic Carbon | mg/L | 0.7 | 0.7 | 0.8 | 0.7 | 0.7 | | 0.7 | 0.5 | |
| Ammonia - N | mg/L | 0.07 | 0.07 | 0.06 | 0.08 | 0.06 | | 0.07 | 0.01 | |
| **Metals Extractable** | | | | | | | | | | |
| Aluminum | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | 0.001 | 0.001 | 0.1 |
| Antimony | mg/L | 0.00006 | 0.00007 | 0.00006 | 0.00006 | 0.00007 | | 0.00007 | 0.00002 | 0.006 |
| Arsenic | mg/L | 0.0075 | 0.0074 | 0.0079 | 0.0078 | 0.0061 | | 0.0063 | 0.0001 | 0.010 |
| Barium | mg/L | 0.0191 | 0.0189 | 0.0196 | 0.0193 | 0.0167 | | 0.0168 | 0.0001 | 1 |
| Boron | mg/L | 0.029 | 0.027 | 0.029 | 0.029 | 0.017 | | 0.021 | 0.002 | 5 |
| Cadmium | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | 0.00002 | 0.00001 | 0.005 |
| Chromium | mg/L | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | | 0.00025 | 0.00005 | 0.05 |
| Copper | mg/L | 0.0026 | 0.0013 | <0.0005 | 0.0188 | 0.0013 | | 0.0034 | 0.0005 | 1.0 |
| Lead | mg/L | 0.00028 | 0.00039 | <0.00001 | 0.00010 | 0.00004 | | 0.00017364 | 0.00001 | 0.01 |
| Selenium | mg/L | 0.0003 | 0.0005 | <0.0002 | <0.0002 | 0.0019 | | 0.0020 | 0.0002 | 0.05 |
| Uranium | mg/L | 0.00014 | 0.00015 | 0.00014 | 0.00015 | 0.00015 | | 0.00014609 | 0.00001 | 0.02 |
| Vanadium | mg/L | 0.00220 | 0.00229 | 0.00213 | 0.00211 | 0.00262 | | 0.00255174 | 0.00005 | |
| Zinc | mg/L | 0.0006 | 0.0075 | <0.0005 | 0.0016 | 0.0028 | | 0.00229524 | 0.0005 | 5.0 |
| **Metals Total** | | | | | | | | | | |
| Mercury | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | | 0.00001 | 0.001 |
| **Physical and Aggregate Properties** | | | | | | | | | | |
| Colour | Colour Units | <5 | <5 | <5 | <5 | <5 | | | 5 | |
| Turbidity | NTU | 0.12 | 0.11 | 0.08 | 0.17 | 0.14 | | 0.12 | 0.02 | |
| **Routine Water** | | | | | | | | | | |
| pH | | 7.95 | 7.88 | 7.96 | 7.95 | 7.87 | | 7.89 | | 7.0-10.5 |
| Electrical Conductivity | | 299 | 298 | 305 | 306 | 284 | | 280 | 1 | |
| Calcium | mg/L | 24 | 24 | 23 | 24 | 24 | | 23 | 0.01 | |
| Iron | mg/L | 0.005 | 0.004 | <0.004 | 0.010 | <0.004 | | 0.009 | 0.004 | 0.3 |
| Magnesium | mg/L | 9.8 | 9.7 | 9.6 | 9.7 | 9.8 | | 9.5 | 0.02 | |
| Manganese | mg/L | 0.13 | 0.12 | 0.13 | 0.13 | 0.090 | | 0.102 | 0.001 | 0.05 |
| Potassium | mg/L | 3.7 | 3.5 | 3.7 | 3.7 | 3.3 | | 3.3 | 0.04 | |
| Silicon | mg/L | 11 | 11 | 11 | 11 | 11 | | 11 | 0.005 | |
| Sodium | mg/L | 20 | 20 | 21 | 21 | 16 | | 16 | 0.1 | 200 |
| T-Alkalinity | mg/L | 105 | 108 | 111 | 109 | 101 | | 99 | 5 | |
| Chloride | mg/L | 14.5 | 14.6 | 14.4 | 14.5 | 15.2 | | 14.5 | 0.05 | 250 |
| Fluoride | mg/L | 0.15 | 0.15 | 0.15 | 0.15 | 0.11 | | 0.12 | 0.01 | 1.5 |
| Nitrate - N | mg/L | 0.03 | 0.05 | <0.01 | <0.01 | 0.20 | | 0.23 | 0.01 | 10 |
| Nitrite - N | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | 0.01 | 0.01 | 1 |
| Sulfate (SO4) | mg/L | 16.9 | 16.7 | 17.1 | 17.1 | 15.8 | | 15.5 | 0.5 | 500 |
| Hardness | mg/L | 100 | 99 | 98 | 99 | 100 | | 97 | 1 | |
| Total Dissolved Solids | mg/L | 182 | 182 | 185 | 185 | 175 | | 172 | 1 | |
| **THM & HAAs** | | | | | | | | | | |
| Chloroform | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| Bromodichloromethane | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| Dibromochloromethane | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| Bromoform mg/L | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| Total THMs mg/L | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | 0.1 |
| Dibromofluoromethane | % | 106 | 109 | 119 | 104 | 108 | | 108 | 50-140 | |
| Toluene-d8 | % | 94 | 94 | 94 | 96 | 94 | | 94 | 50-140 | |
| Bromofluorobenzene | % | 102 | 103 | 107 | 103 | 99 | | 103 | 50-140 | |
| Monochloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Monobromoacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Dichloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Bromochloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Dibromoacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Trichloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Total HAA6 | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |

City of White Rock 2019 Annual Water Report

# Post-Water Treatment Plant Water Quality

**Sample Location**

| Sample | Unit of Measure | Well #1 May 30, 2019 | Well #2 May 30, 2019 | | Well #3 May 30, 2019 | Well #4 May 30, 2019 | Well #6 May 30, 2019 | Well #7 May 30, 2019 | Well #8 May 30, 2019 | Chestnut Stn May 30, 2019 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganic Nonmetallic Parameters** | | | | | | | | | | |
| Organic Carbon | mg/L | <0.5 | <0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ammonia - N | mg/L | 0.07 | 0.06 | | 0.21 | 0.60 | 0.64 | 0.57 | 0.34 | 0.06 |
| **Metals Extractable** | | | | | | | | | | |
| Aluminum | mg/L | 0.001 | 0.001 | | 0.001 | 0.002 | 0.001 | <0.001 | <0.001 | 0.001 |
| Antimony | mg/L | 0.00008 | 0.00008 | | 0.00006 | 0.00006 | 0.00003 | 0.00007 | 0.00006 | 0.00008 |
| Arsenic | mg/L | 0.0064 | 0.0042 | | 0.0066 | 0.0033 | 0.0098 | 0.0081 | 0.0064 | 0.0009 |
| Barium | mg/L | 0.0143 | 0.0168 | | 0.0166 | 0.0136 | 0.0252 | 0.0185 | 0.0177 | 0.0136 |
| Boron | mg/L | 0.014 | 0.013 | | 0.013 | 0.010 | 0.042 | 0.020 | 0.012 | 0.016 |
| Cadmium | mg/L | <0.00001 | <0.00001 | | <0.00001 | <0.00001 | 0.00001 | <0.00001 | 0.00001 | <0.00001 |
| Chromium | mg/L | 0.00022 | 0.00055 | | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | 0.00014 |
| Copper | mg/L | 0.00080 | 0.0031 | | <0.0005 | 0.00590 | 0.0016 | <0.0005 | 0.002 | 0.0023 |
| Lead | mg/L | 0.0001 | 0.00004 | | 0.00006 | 0.00092 | 0.00004 | 0.00032 | 0.00003 | 0.00015 |
| Selenium | mg/L | 0.00120 | 0.0092 | | <0.0002 | <0.0002 | <0.0002 | <0.0002 | 0.0003 | 0.0020 |
| Uranium | mg/L | 0.00012 | 0.00023 | | 0.00008 | 0.00011 | 0.00021 | 0.00013 | 0.00012 | 0.00013 |
| Vanadium | mg/L | 0.00248 | 0.00312 | | 0.00281 | 0.00240 | 0.00130 | 0.00206 | 0.00223 | 0.00008 |
| Zinc | mg/L | 0.0077 | 0.0019 | | 0.0046 | 0.0069 | 0.0039 | 0.0023 | 0.0020 | 0.0033 |
| **Metals Total** | | | | | | | | | | |
| Mercury | mg/L | <0.00001 | <0.00001 | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 |
| **Physical and Aggregate Properties** | | | | | | | | | | |
| Colour | Colour Units | <5 | <5 | | <5 | <5 | <5 | <5 | <5 | <5 |
| Turbidity | NTU | 0.26 | 0.15 | | 0.14 | 0.34 | 0.20 | 0.21 | 0.24 | 0.10 |
| **Routine Water** | | | | | | | | | | |
| pH | | 7.72 | 7.78 | | 7.77 | 7.80 | 7.89 | 7.86 | 7.83 | 7.89 |
| Electrical Conductivity | | 254 | 292 | | 241 | 204 | 341 | 266 | 238 | 272 |
| Calcium | mg/L | 21 | 27 | | 20 | 19 | 26 | 23 | 23 | 23 |
| Iron | mg/L | 0.010 | <0.004 | | 0.007 | 0.007 | 0.020 | 0.004 | <0.004 | 0.013 |
| Magnesium | mg/L | 8.7 | 12 | | 8.0 | 8.3 | 10 | 9.4 | 8.7 | 9.5 |
| Manganese | mg/L | 0.052 | <0.001 | | 0.18 | 0.16 | 0.16 | 0.12 | 0.18 | 0.009 |
| Potassium | mg/L | 2.9 | 3.1 | | 2.9 | 2.4 | 4.0 | 3.5 | 2.9 | 3.2 |
| Silicon | mg/L | 11 | 11 | | 11 | 11 | 11 | 11 | 11 | 11 |
| Sodium | mg/L | 15 | 13 | | 15 | 8.1 | 28 | 17 | 10 | 15 |
| T-Alkalinity | mg/L | 87 | 102 | | 85 | 88 | 126 | 108 | 97 | 97 |
| Chloride | mg/L | 18.6 | 18.1 | | 17.7 | 5.95 | 15.7 | 10.1 | 8.75 | 13.6 |
| Fluoride | mg/L | 0.07 | 0.06 | | 0.07 | 0.07 | 0.14 | 0.10 | 0.07 | 0.08 |
| Nitrate - N | mg/L | 0.20 | 0.78 | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.19 |
| Nitrite - N | mg/L | <0.01 | <0.01 | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Sulfate (SO4) | mg/L | 13.4 | 19.1 | | 10.1 | 11.4 | 26.9 | 14.9 | 12.6 | 15.2 |
| Hardness | mg/L | 89 | 115 | | 83 | 82 | 108 | 97 | 92 | 98 |
| Total Dissolved Solids | mg/L | 162 | 185 | | 155 | 138 | 216 | 173 | 154 | 168 |
| **THM & HAAs** | | | | | | | | | | |
| Chloroform | mg/L | | | | | | | | | <0.001 |
| Bromodichloromethane | mg/L | | | | | | | | | <0.001 |
| Dibromochloromethane | mg/L | | | | | | | | | <0.001 |
| Bromoform mg/L | mg/L | | | | | | | | | <0.001 |
| Total THMs mg/L | mg/L | | | | | | | | | <0.001 |
| Dibromofluoromethane | % | | | | | | | | | 99 |
| Toluene-d8 | % | | | | | | | | | 99 |
| Bromofluorobenzene | % | | | | | | | | | 96 |
| Monochloroacetic Acid | ug/L | | | | | | | | | <2.0 |
| Monobromoacetic Acid | ug/L | | | | | | | | | <2.0 |
| Dichloroacetic Acid | ug/L | | | | | | | | | <2.0 |
| Bromochloroacetic Acid | ug/L | | | | | | | | | <2.0 |
| Dibromoacetic Acid | ug/L | | | | | | | | | <2.0 |
| Trichloroacetic Acid | ug/L | | | | | | | | | <2.0 |
| Total HAA6 | ug/L | | | | | | | | | <2.0 |

City of White Rock 2019 Annual Water Report

## Post-Treatment Plant Water Quality

### Sample Location

| Sample | Unit of Measure | Marine Dr Stn May 30, 2019 | Malabar Stn May 30, 2019 | Mann Park Stn May 30, 2019 | Balsam Stn May 30, 2019 | Oxford Stn May 30, 2019 | Oxford Reservoir May 30, 2019 | Everall Stn May 30, 2019 | Russell Stn May 30, 2019 | Stevens Stn May 30, 2019 | Finlay Stn May 30, 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganic Nonmetallic Parameters** | | | | | | | | | | | |
| **Organic Carbon** | mg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Ammonia - N** | mg/L | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.07 | 0.07 | 0.07 | 0.07 |
| **Metals Extractable** | | | | | | | | | | | |
| **Aluminum** | mg/L | 0.001 | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.001 | <0.001 | <0.001 | <0.001 |
| **Antimony** | mg/L | 0.00007 | 0.00007 | 0.00008 | 0.00007 | 0.00008 | 0.00007 | 0.00007 | 0.00006 | 0.00006 | 0.00007 |
| **Arsenic** | mg/L | 0.0008 | 0.0007 | 0.0008 | 0.0010 | 0.0010 | 0.0009 | 0.0007 | 0.0011 | 0.0011 | 0.0011 |
| **Barium** | mg/L | 0.0133 | 0.0130 | 0.0131 | 0.0129 | 0.0128 | 0.0135 | 0.0130 | 0.0131 | 0.0131 | 0.0133 |
| **Boron** | mg/L | 0.015 | 0.014 | 0.015 | 0.017 | 0.015 | 0.014 | 0.015 | 0.015 | 0.016 | 0.016 |
| **Cadmium** | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 |
| **Chromium** | mg/L | 0.00140 | 0.00016 | 0.00012 | 0.0001 | 0.0015 | 0.00015 | 0.00014 | 0.00020 | 0.00016 | 0.00018 |
| **Copper** | mg/L | 0.0052 | 0.0045 | 0.0041 | 0.0019 | 0.0181 | 0.0073 | 0.0018 | 0.0014 | 0.0041 | 0.0013 |
| **Lead** | mg/L | 0.00027 | 0.0005 | 0.00016 | 0.0002 | 0.00068 | 0.00011 | 0.00010 | 0.00011 | 0.00023 | 0.00005 |
| **Selenium** | mg/L | 0.0016 | 0.0021 | 0.0019 | 0.0019 | 0.0018 | 0.0021 | 0.0015 | 0.0019 | 0.0020 | 0.0020 |
| **Uranium** | mg/L | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00013 |
| **Vanadium** | mg/L | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 |
| **Zinc** | mg/L | 0.0038 | 0.0052 | 0.0052 | 0.0023 | 0.0035 | 0.0029 | 0.0017 | 0.0043 | 0.0039 | 0.0024 |
| **Metals Total** | | | | | | | | | | | |
| **Mercury** | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 |
| **Physical and Aggregate Properties** | | | | | | | | | | | |
| **Colour** | Colour Units | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| **Turbidity** | NTU | 0.18 | 0.10 | <0.10 | 0.26 | 0.52 | 0.36 | <0.10 | <0.10 | 0.20 | 0.42 |
| **Routine Water** | | | | | | | | | | | |
| **pH** | | 7.88 | 7.85 | 7.88 | 7.74 | 7.75 | 7.60 | 7.88 | 7.89 | 7.87 | 7.93 |
| **Electrical Conductivity** | | 272 | 272 | 271 | 260 | 263 | 260 | 269 | 273 | 273 | 273 |
| **Calcium** | mg/L | 23 | 23 | 23 | 23 | 23 | 24 | 24 | 23 | 23 | 23 |
| **Iron** | mg/L | <0.004 | 0.007 | 0.004 | 0.004 | 0.006 | 0.005 | <0.004 | <0.004 | 0.004 | <0.004 |
| **Magnesium** | mg/L | 9.2 | 9.5 | 9.5 | 9.5 | 9.4 | 9.6 | 9.8 | 9.6 | 9.4 | 9.4 |
| **Manganese** | mg/L | 0.006 | 0.005 | 0.005 | 0.006 | 0.004 | 0.001 | 0.002 | 0.002 | 0.002 | 0.004 |
| **Potassium** | mg/L | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.2 | 3.2 | 3.1 | 3.1 | 3.1 |
| **Silicon** | mg/L | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| **Sodium** | mg/L | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 14 | 14 | 14 |
| **T-Alkalinity** | mg/L | 100 | 100 | 98 | 98 | 98 | 94 | 97 | 97 | 98 | 98 |
| **Chloride** | mg/L | 13.5 | 13.8 | 13.7 | 13.6 | 13.5 | 13.6 | 13.3 | 13.6 | 13.8 | 14.2 |
| **Fluoride** | mg/L | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| **Nitrate - N** | mg/L | 0.17 | 0.20 | 0.20 | 0.19 | 0.18 | 0.21 | 0.16 | 0.18 | 0.19 | 0.20 |
| **Nitrite - N** | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| **Sulfate (SO4)** | mg/L | 15.0 | 15.4 | 15.3 | 15.2 | 15.1 | 15.4 | 15.1 | 15.4 | 15.4 | 15.7 |
| **Hardness** | mg/L | 95 | 98 | 97 | 97 | 97 | 98 | 100 | 98 | 97 | 96 |
| **Total Dissolved Solids** | mg/L | 168 | 170 | 168 | 169 | 168 | 167 | 169 | 168 | 169 | 169 |
| **THM & HAAs** | | | | | | | | | | | |
| **Chloroform** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Bromodichloromethane** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Dibromochloromethane** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Bromoform mg/L** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Total THMs mg/L** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Dibromofluoromethane** | % | 105 | 107 | 105 | 109 | 113 | 111 | 99 | 107 | 107 | 106 |
| **Toluene-d8** | % | 99 | 100 | 97 | 103 | 101 | 100 | 99 | 97 | 96 | 100 |
| **Bromofluorobenzene** | % | 108 | 97 | 100 | 98 | 97 | 97 | 102 | 101 | 97 | 100 |
| **Monochloroacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Monobromoacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Dichloroacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Bromochloroacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Dibromoacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Trichloroacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Total HAA6** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |

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## Post-Treatment Plant Water Quality

| Sample | Unit of Measure | Stayte Stn May 30, 2019 | Roper Stn May 30, 2019 | Roper PRV May 30, 2019 | Merklin Reservoir May 30, 2019 | Merklin Low Reservoir May 30, 2019 | Roper Reservoir May 30, 2019 | | Average | Nominal Detection Limit | Guideline Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganic Nonmetallic Parameters** | | | | | | | | | | | |
| **Organic Carbon** | mg/L | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | #DIV/0! | 0.5 | |
| **Ammonia - N** | mg/L | 0.07 | 0.08 | 0.08 | 0.42 | 0.07 | 0.07 | | 0.17 | 0.01 | |
| **Metals Extractable** | | | | | | | | | | | |
| **Aluminum** | mg/L | 0.001 | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | 0.00109091 | 0.001 | 0.1 |
| **Antimony** | mg/L | 0.00007 | 0.00007 | 0.00007 | 0.00007 | 0.00007 | 0.00005 | | 0.0000675 | 0.00002 | 0.006 |
| Arsenic | mg/L | 0.0011 | 0.0011 | 0.0011 | 0.0011 | 0.0012 | 0.0008 | | 0.0026 | 0.0001 | 0.010 |
| Barium | mg/L | 0.0131 | 0.0133 | 0.0132 | 0.0128 | 0.0133 | 0.0127 | | 0.0144 | 0.0001 | 1 |
| Boron | mg/L | 0.014 | 0.015 | 0.015 | 0.014 | 0.018 | 0.017 | | 0.01604167 | 0.002 | 5 |
| Cadmium | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | 0.00001 | 0.00001 | 0.005 |
| **Chromium** | mg/L | 0.00015 | 0.00015 | 0.00015 | 0.00014 | 0.00014 | 0.00013 | | 0.00031158 | 0.00005 | 0.05 |
| Copper | mg/L | 0.0062 | 0.0041 | 0.0009 | <0.0005 | 0.0429 | 0.0013 | | 0.0058 | 0.0005 | 1.0 |
| Lead | mg/L | 0.00066 | 0.00048 | 0.00019 | <0.00001 | 0.00008 | 0.00005 | | 0.00024087 | 0.00001 | 0.01 |
| Selenium | mg/L | 0.0020 | 0.0020 | 0.0017 | 0.0017 | 0.0019 | 0.0014 | | 0.0021 | 0.0002 | 0.05 |
| Uranium | mg/L | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00013 | 0.00012 | | 0.00013333 | 0.00001 | 0.02 |
| **Vanadium** | mg/L | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | | 0.00206 | 0.00005 | |
| Zinc | mg/L | 0.0086 | 0.0041 | 0.0018 | 0.0010 | 0.0019 | 0.0031 | | 0.00367917 | 0.0005 | 5.0 |
| **Metals Total** | | | | | | | | | | | |
| Mercury | mg/L | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | | 0.00001 | 0.001 |
| **Physical and Aggregate Properties** | | | | | | | | | | | |
| Colour | Colour Units | <5 | <5 | <5 | <5 | <5 | <5 | | | 5 | |
| Turbidity | NTU | 0.34 | 0.35 | 0.11 | 0.13 | 0.27 | 0.10 | | 0.24 | 0.02 | |
| **Routine Water** | | | | | | | | | | | |
| pH | | 7.70 | 7.91 | 7.92 | 7.77 | 7.64 | 7.92 | | 7.82 | | 7.0-10.5 |
| **Electrical Conductivity** | | 258 | 273 | 272 | 259 | 257 | 270 | | 266 | 1 | |
| Calcium | mg/L | 24 | 24 | 24 | 23 | 22 | 23 | | 23 | 0.01 | |
| Iron | mg/L | 0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | | 0.007 | 0.004 | 0.3 |
| **Magnesium** | mg/L | 9.6 | 9.6 | 9.6 | 9.3 | 9.1 | 9.3 | | 9.4 | 0.02 | |
| **Manganese** | mg/L | 0.005 | 0.004 | 0.002 | 0.002 | 0.002 | 0.004 | | 0.040 | 0.001 | 0.05 |
| **Potassium** | mg/L | 3.2 | 3.1 | 3.2 | 3.1 | 3.0 | 3.1 | | 3.1 | 0.04 | |
| Silicon | mg/L | 11 | 11 | 11 | 11 | 11 | 11 | | 11 | 0.005 | |
| Sodium | mg/L | 15 | 14 | 15 | 14 | 14 | 14 | | 15 | 0.1 | 200 |
| **T-Alkalinity** | mg/L | 96 | 98 | 98 | 98 | 97 | 97 | | 98 | 5 | |
| Chloride | mg/L | 13.8 | 13.9 | 13.6 | 13.3 | 13.7 | 13.1 | | 13.6 | 0.05 | 250 |
| Fluoride | mg/L | 0.08 | 0.07 | 0.08 | 0.08 | 0.08 | 0.08 | | 0.08 | 0.01 | 1.5 |
| **Nitrate - N** | mg/L | 0.20 | 0.20 | 0.18 | 0.16 | 0.19 | 0.15 | | 0.22 | 0.01 | 10 |
| **Nitrite - N** | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | #DIV/0! | 0.01 | 1 |
| **Sulfate (SO4)** | mg/L | 15.3 | 15.5 | 15.3 | 15.1 | 15.4 | 14.8 | | 15.3333333 | 0.5 | 500 |
| Hardness | mg/L | 99 | 98 | 98 | 96 | 93 | 96 | | 97 | 1 | |
| **Total Dissolved Solids** | mg/L | 169 | 169 | 169 | 167 | 166 | 166 | | 168 | 1 | |
| **THM & HAAs** | | | | | | | | | | | |
| **Chloroform** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| Bromodichloromethane | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| Dibromochloromethane | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| **Bromoform mg/L** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | |
| **Total THMs mg/L** | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | | | 0.001 | 0.1 |
| Dibromofluoromethane | % | 110 | 109 | 104 | 112 | 114 | 108 | | 107 | 50-140 | |
| **Toluene-d8** | % | 99 | 96 | 98 | 100 | 99 | 97 | | 99 | 50-140 | |
| Bromofluorobenzene | % | 102 | 98 | 99 | 100 | 98 | 101 | | 99 | 50-140 | |
| Monochloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Monobromoacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| **Dichloroacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| Bromochloroacetic Acid | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| **Dibromoacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| **Trichloroacetic Acid** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |
| **Total HAA6** | ug/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | 2.0 | |

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