City of White Rock
2017 Annual Water Report

Contents

Introduction

The City of White Rock 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.

Under conditions of the Operating Permit from Fraser Health Authority (now Fraser Health), the City is required to:

1. Provide drinking water that must be treated with an acceptable secondary disinfectant to the whole system that meets the requirements of the Guidelines for Canadian Drinking Water Quality and is acceptable to Fraser Health Authority. Reports on the levels of disinfectant in the system are to be provided to Fraser Health on a weekly basis.
2. Should arsenic levels exceed the Guidelines for Canadian Drinking Water Quality, the City must start operating a treatment system on or before December 31, 2018 to lower the arsenic level below the Guideline limit; and, to as low as reasonably achievable. Treatment requirements will be based on the "Sampling and Reporting Protocol for the City of White Rock Water System", October 29, 2015.
3. Should the Guidelines for Canadian Drinking Water Quality deem manganese a health criteria, a treatment system must be operational one year after the date of the changes to the Guideline Limits.
4. Provide a written update on the status of the City's plan to meet these conditions to Fraser Health Authority by March 31 of each calendar year.

The City is required to provide an annual report to provide information such as explanation of water source, water test results, maintenance programs and improvements to the water system. The following document summarizes these requirements.

Overview: Water Quality Milestones

2017 was the City of White Rock's second full year of operating the water utility. Since acquiring the water utility, less than three years ago, 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.

Image 1: Water Quality Milestones

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.

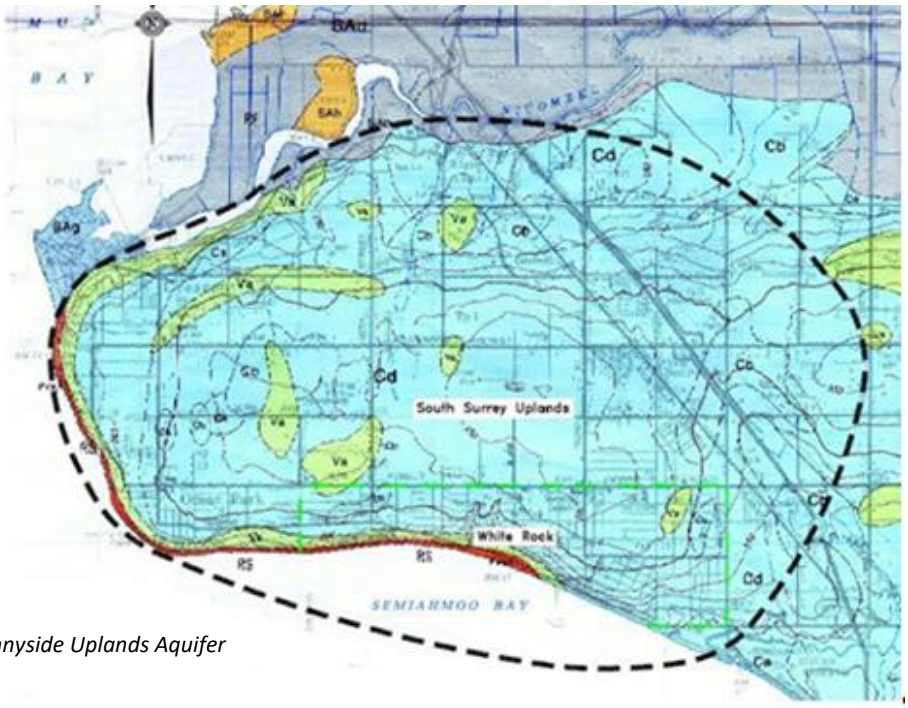

Image 2: Sunnyside Uplands Aquifer

Well Locations in White Rock

The wells range in depth from 60 meters to 150 meters and can provide a combined supply of approximately 15 ML per day. These wells provide an adequate water supply for the 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 is a seasonal well utilized during the months of June, July and August and is located at High Street, Wells 6 and 7 are located at the Merklin Site. Well 5 was taken out of service on February 16th

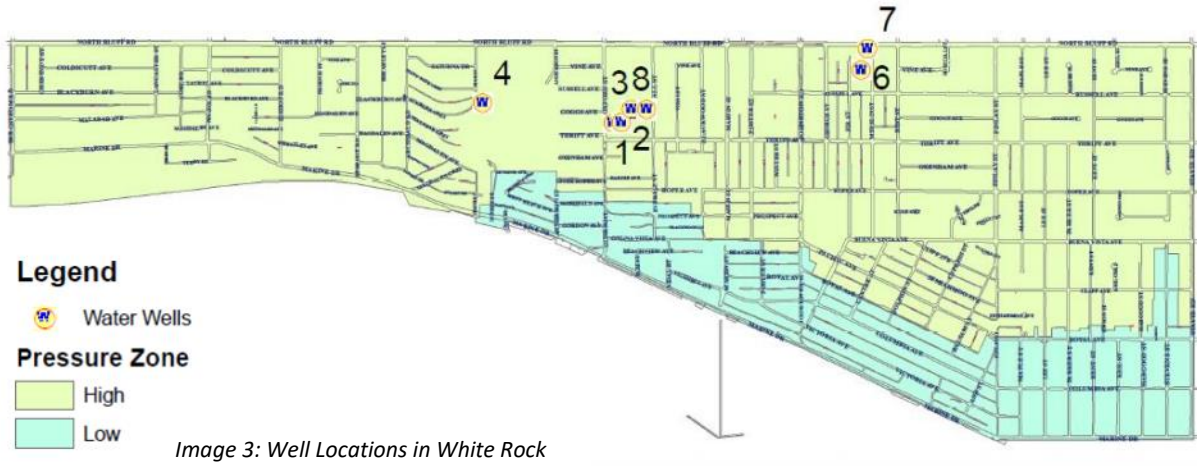

Image 3: Well Locations in White Rock

New Well (Well #8):

The City of White Rock contracted Piteau Associates to conduct a hydrogeological assessment of aquifer conditions and well performance to identify a location for a new well. This study evaluated potential well sites and concluded that the eastern portion of the City's property at 1444 Oxford Street was a suitable site for a new production well.

The new well, Well 8, is located near the intersection of Everall Street and Goggs Avenue. Wells 1, 2, and 3 are located on this same property, respectively 165, 140, and 95 m to the west of Well 8. Wells 2 and 3 are operated intermittently at instantaneous flow rates of about 25 and 29 L/s. Well 1 is operated at about 24 L/s, only when required to meet demand with wells 2 and 3 operating at capacity. Using hydraulic parameters estimated from pumping test data for Well 7 (which draws water from the same aquifer), Piteau's 2016 assessment estimated interference drawdowns that could occur when a new well at the Well 8 location is pumped at a rate of 31 L/s. Drawdowns of 0.8, 0.8, and 1.2 m were estimated for Wells 1, 2, and 3, respectively. Well #8 was set to provide flow of 25.3 L/s.
Well 8, and other production wells operated by the City, extract groundwater from the White Rock/Sunnyside Uplands Aquifer.

The potential for groundwater from Well 8 to be at risk of containing pathogens has been assessed using the BC Ministry of Health's "Guidance Document for Determining Ground Water at Risk of Containing Pathogens (GARP)" (BC Ministry of Health, 2015). These guidelines specify that water supply system wells should be considered potentially at risk of containing pathogens if they have:

a) An intake depth less than 15 m-below ground level that is located within the natural boundary of surface water or a flood prone area;
b) An intake depth between the high water mark and surface water bottom;
c) If information is not available on surface water depth, 15m below the normal water level, and located within; and
d) Less than 150 m outside the natural boundary of any surface water.

Since none of the conditions are met, in accordance with these criteria, the potential for groundwater from well #8 to yield groundwater that is at risk of containing pathogens is low.

Field measurements of pH, turbidity and temperature recorded during the constant-rate test are listed in *Table* II (See Appendix B). The chemistry trends were generally stable during the 24-hour test.

With the exception of manganese, concentrations of all constituents tested were below Maximum Allowable Concentrations (MACs) and Aesthetic Objectives (AOs) in the Guidelines for Canadian Drinking Water Quality (GCDWQ; Health Canada, 2014). Total and dissolved manganese concentrations were 0.173 and 0.174 mg/L, respectively. Both concentrations exceed the AO of 0.05 mg/L. The total arsenic concentration of 0.0071 mg/L is below the GCDWQ MAC of 0.01 mg/L.

These water quality results are generally consistent with the results of previous water quality testing with Well 3 (2016 Water Annual Report), Well 6 (Piteau, 2010) and Well 7 (Piteau, 2012).

Total Water Quality Management Project (TWQMP)

The Total Water Quality Management Project (TWQMP) is necessary to treat the water supply and upgrade critical infrastructure in the White Rock water system so that customers consistently and reliably receive high quality drinking water that meets both the Fraser Health's water quality requirements and Health Canada's guidelines for Canadian Drinking Water Quality.

The scope of the TWQMP entails water system upgrades including:

- disinfection
- infrastructure renewal
- storage capacity upgrades
- a modest level of system expansion for future growth

The project was split into two phases:

- Phase 1: Oxford Street site, which was completed in February of 2016, included upgraded facilities, the addition of a reservoir which previously did not exist, and installation of remote monitoring and control of the water system. The upgrade allows the City to comply with Fraser Health's mandate to treat the City's water supply through secondary disinfection.

- Phase 2: Merklin Pumping Station Facility was completed in April 2017. The City has removed the high tower and added a new reservoir to increase the water storage capacity for the city by 1.04 million liters. The increased capacity and seismic upgrades completed at this site provides an increased factor of safety for our water infrastructure.

Image 4: Council members stand with the two new commemorative plaques.

Water Quality and Quality Assurance

The Guidelines for Canadian Drinking Water Quality (GCDWQ) set the maximum acceptable concentrations of microbial, radiological and chemical contaminants in drinking water. They also address the aesthetic water quality considerations regarding colour and taste. These guidelines are the basis for the work the City does to ensure the best quality drinking water for the community. City staff conducts ongoing water quality sampling and testing to ensure the high quality of the water.

Different water quality parameters are tested throughout the City. These include:

- In-house testing for conductivity, pH, turbidity, free chlorine, total chlorine and temperature
- Microbiological testing for Total Coliforms and Escherichia Coli
- Since the October 2016 application of Secondary Disinfectant to the Oxford Site, the City tests for levels of arsenic, copper, lead, iron, manganese, turbidity, total chlorine, free chlorine and ammonia around the Oxford and Merklin sites

- Monthly laboratory testing
  - Metal testing for naturally occurring arsenic and manganese at the Merklin Site only (Wells 6 and 7)
- Quarterly laboratory testing
  - Metal testing for arsenic, copper, lead, iron and manganese
  - Testing for Trihalomethane (THM) and Haloacetic Acids (HAA)
- Yearly laboratory testing
  - Inorganics including: antimony, arsenic, barium, boron, bromate, cadmium, chromium, cyanide, fluoride, lead, mercury, nitrate, nitrite, selenium, uranium, aluminum, ammonia, calcium, chloride, copper, hardness, iron, magnesium, silver, sodium, sulphate, sulphide, organic carbon, zinc.

All outside laboratory testing is carried out by accredited B.C. Laboratories (EXOVA and BCCDC lab). The laboratory results are provided weekly to the City. Once the laboratory results are received by the City, they are reviewed and all of the test results uploaded to the City of White Rock website for public viewing. If there are unacceptable results, the City will notify Fraser Health; depending on the significance of the parameter of concern there are several actions the City may take from flushing the water mains to possibly issuing a “boil water” advisory or “do not use water” advisory. Public notices would be communicated through various media outlets and the City’s website.

The water quality sampling and testing provides a good depiction of water quality within the City’s mains. However, the sampling and testing does not provide a definitive picture of the drinking water quality within buildings, where water quality can change significantly due to pipe materials, standing times, temperature, and lack of required maintenance by STRATA and residents.

Other steps that are critical in maintaining water quality include:

- Cross Connection Control
  Cross connection control addresses real or potential connections between the drinking water supply and any source of contaminant. For instance, improper plumbing or irrigation systems on private property can contaminate the public drinking water supply. The City has teamed

up with BSI Online to implement an online registration, tracking and notification of out of compliance back flow devices (Bylaw 2117-Water Services Bylaw Consolidated December 2017).

- Backflow Prevention and Testing Program
  The City has contracted BSI Online to maintain all backflow testing submissions and newly installed or previously unregistered backflow prevention devices. Testing will have to be completed by an individual who is certified by the British Columbia Water and Waste Association (BCWWA) and following the requirements in the City's Bylaw 2117 (Bylaw 2117-Water Services Bylaw Consolidated December 2017).

Water Quality Testing

The City has been consolidating all the testing data from January to December 2017. This data is included in Appendix A: City of White Rock Water Quality Testing for 2017 – Raw Data. In addition, testing data is updated regularly on the City of White Rock's website: www.whiterockcity.ca/EN/main/city/my-water/water-quality.html

The City performed 134 sampling collections for total coliform and e-coli tests and 50 non-routine tests, all results were under the maximum allowable concentration (MAC) for the year of 2017.

The City conducted 3204 individual tests for arsenic, copper, iron, lead and manganese throughout 2017 for routine sampling and Oxford and Merklin chlorination sampling.

The City conducted 240 individual tests 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 2017.

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 things such as watering their plants.

Water Distribution System

The utility serves a population of approximately 20,000 people. White Rock also supplies water to approximately 84 neighbouring properties in the Surrey and Semiahmoo First Nation. City staff performed two full sets of uni-directional flushing in 2017 (May-June and November-December), and two partial sets (January-February and March). Uni-directional flushing involves closing valves to increase the velocity of the water through the mains and flushing any sediment through an open fire hydrant.

The City completed work on the Water Master Plan in 2017. The last Water Master Plan was completed in 2013 for EPCOR White Rock, which was the previous private utility company operating the water system. The City purchased the utility on October 30, 2015. At the time, EPCOR was in the process of implementing the Total Water Quality Project (TWQP), which included constructing new reservoirs, wells, secondary disinfection, and treatment facilities. The new Merklin reservoir was completed in April 2017 which added to the systems storage capacity. The water distribution system was required to be disinfected by February 1, 2017, as per Fraser Health requirements for a secondary disinfectant throughout the entire system.

Image 5: Water Distribution System

Secondary Disinfection of the Distribution System

The maintenance of a disinfectant residual in the distribution system (secondary disinfection) is intended to maintain (or introduce and maintain) a persistent disinfectant residual to protect the water from microbiological re-contamination, reduce bacterial re-growth, control biofilm formation, and serve as an indicator of distribution system integrity (loss of disinfectant residual indicating that the system integrity has been compromised).

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. 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.
In August 2010, E. coli contamination was confirmed at the Merklin reservoir and a boil water advisory was issued for the entire City. Following this event, the Fraser Health Authority ordered EPCOR to provide secondary disinfection of the entire water distribution system by June 30, 2016. There were two (2) choices available for the secondary disinfection: chlorination or chloramination. Based on recommendations by their technical experts, engineers, and bench-scale testing, EPCOR chose chloramination as a secondary disinfectant.

Since 2010, EPCOR had been adding a small amount of chlorine to the system, which reacts with the naturally occurring ammonia in the water to form monochloramine, at the Merklin pumping station.
In December 2015, following the City of White Rock's acquisition of the Water System, City staff provided an information council report regarding secondary disinfectant options. Both chloramine and chlorine are effective secondary disinfection options and are the only two (2) options that would be effective in the water system, and approved by Fraser Health as nearly 100 million North Americans

have been drinking water treated with chloramine since 1930.

Due to public feedback, White Rock City Council chose to implement chlorination (free chlorine) instead of chloramination for secondary disinfection of water. Following this decision, chlorination was started at the Oxford pumping station on October 4, 2016 to provide the distribution system with chlorine residual as required by the "Permit to Operate" by Fraser Health Authority.

Chlorination started at the Oxford Reservoir on October 4,2016The preliminary dosage for chlorination started with 0.5 mg/L. The amount was increased at a very slow pace in order to reduce the impact on the distribution system and minimize any aesthetic changes to the water i.e. odour, colour, taste and turbidity. Samples downstream from the Oxford Pumping Station were collected and delivered to a certified lab for metals analysis to evaluate the impact of chlorination on metals release from the distribution system pipes.

Chlorination at the Merklin pumping station for Wells 6 and 7 existed since 2010 at a dosage of approximately 1.00 mg/L. The chlorine dosage was increased through December 2016 and January 2017 to 1.2 mg/L

The City was working with two (2) different water characteristics, which resulted in two (2) secondary disinfectant outcomes:

- Oxford pumping station: Chlorination provided a free chlorine residual in the sections of the distribution system supplied from Oxford
- Merklin pumping station: Due to higher levels of naturally occurring ammonia, the addition of chlorine to this section of the distribution system, the reaction created chloramine. This secondary disinfectant residual has been in effect since 2010, under EPCOR.

Most jurisdictions have a uniform secondary disinfection process. The White Rock system has some challenges because the water at the Merklin Pumping Station (Wells 6 & 7) has a natural ammonia concentration of up to 0.17 mg/L compared to 0.06 mg/L at the Oxford pumping station (Wells 1, 2 & 3). This was confirmed by a previous EPCOR study in 2015 (Bench-Scale Chlorination and Chloramination of White Rock Well Water, 2015) and confirmed by tests by the City of White Rock operators in 2016.

There were also higher manganese concentrations coming from the Merklin Site, which is not oxidized as much as the manganese at the area supplied by the Oxford Pumping Station. When the demand was reduced at the area supplied by Merklin pumping station, water supplied by the Oxford pumping station moved into that area, the free chlorine residual caused oxidation of the higher concentration of manganese in the water . In addition, the decades of deposits of manganese in the pipes which were not previously exposed to chlorine This resulted in discolouration of the water.

Staff received a variety of discoloured water concerns and complaints since the implementation of secondary disinfection at Oxford, in October of 2016. After the initial application, the majority of the complaints were found to be located around the transitional area where the Merklin and Oxford water mixed. Staff continued to flush water mains in the area affected to minimize the impact to residents. Additional complaints were originated by works on private property that affected the water quality for residents. Lack of notification from the management of some of the strata buildings to the

residents regarding maintenance work (e.g. back flow and sprinkler systems flushing) resulted in having disturbed water.

The evaluation to these issues was that it can be resolved by using chloramine as the secondary disinfection at Oxford to mirror the secondary disinfection process that had been in place at the Merklin pumping station since 2010.
There was minimal budget implication due to the fact that the City of White Rock has kept the pumps that were originally installed for the ammonia application and these pumps can be reinstalled. The cost of the addition of approximately 0.1 mg/L would be a very small addition to the operation cost.

A significant amount of resources were allocated to flushing the water mains in areas of complaints, and sampling and testing provided by a certified laboratory. Flushing of the entire system has also been increased from once a year to twice a year, which has increased costs of operations. To resolve the issue of discoloured water in the distribution system, the secondary disinfection at the Oxford pumping station was adjusted by adding ammonia at a low concentration (approximately 0.1 mg/L).

Due to the number of concerns and complaints and the extent of water discoloration, staff recommended to add ammonia at the Oxford pumping station to mirror the water quality of the Merklin pumping station. By adding ammonia to the Oxford pumping station, both the Merklin and Oxford sites will be using chloramine as a secondary disinfectant in the distribution system. White Rock City Council agreed with this approach on April 24, 2017. This change made a significant improvement to the aesthetics of the water in the entire distribution system, and provided a uniform secondary disinfection in the distribution system and eliminated the impact on esthetical impacts on water, while meeting Fraser Heath's mandate for secondary disinfection of the distribution system.

Fraser Health has indicated that the City of White Rock is fulfilling its requirements under the Drinking Water Protection Act and Regulation.

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 discussed below.

Annual Water Consumption

Total Annual Water Consumption		
Year	2017	2016
(ML)*	2171.0	2338.0
Average Daily Consumption	5.95	6.6

* Million Liters

Table 1: Total Annual Water Consumption

Monthly Water Consumption

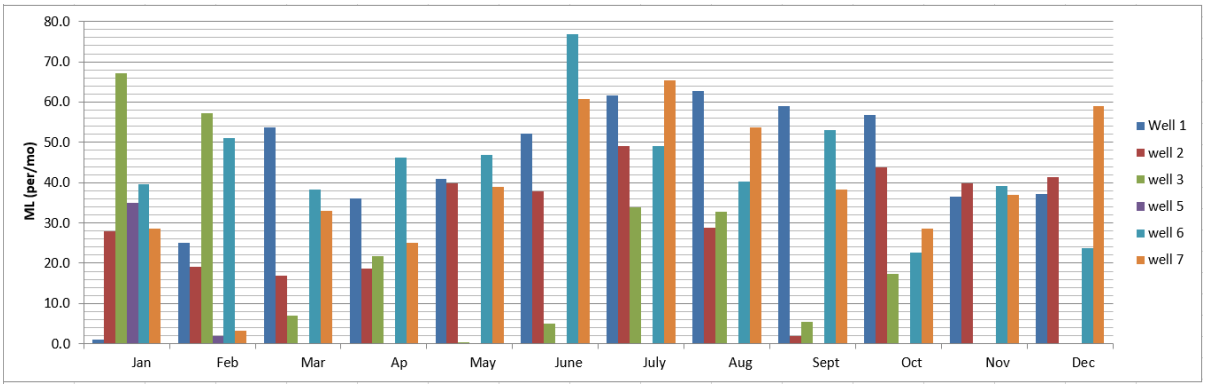

Figure 1: 2017 Monthly Water Consumption/Well

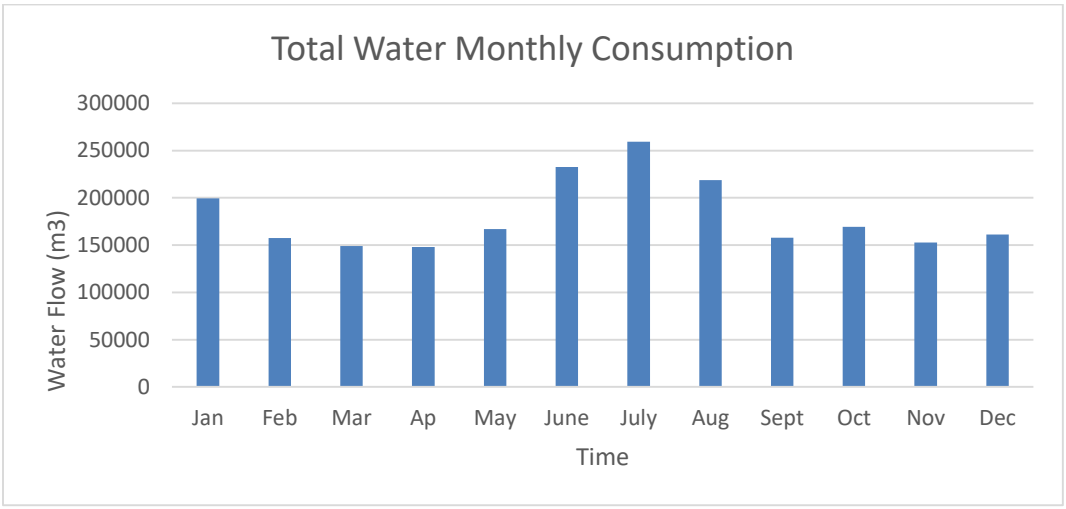

Figure 2: Total Water Monthly Consumption

Peak Day Consumption

The record of peak demand enables us to design water system resources to meet all customer needs, including firefighting and high use periods.

Peak Day Water Consumption

The peak day in 2017 was on September 4

Peak Day Water Consumption		
Year	2017	2016
Day	September 4	May 15*
(ML)	9.35	11.70

*May 15, 2016 was the day of the fire incident on Pacific Avenue

Table 2: Peak Day Water Consumption

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 (KWL, 2010).

The available storage capacity is based on tank volumes provided by Stantec (Stantec, 2017).

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

Based on the assessment, adequate balancing storage is provided by the current system for the forecast future demands.

Maintenance Programs

Maintenance and day-to-day water operations for the 77 km of pipes, 7 wells and 340 hydrants are performed by City staff in the Engineering and Municipal Operations Department. The water distribution operators are licensed with the Environmental Operators Certification Program (EOCP). Other services include:

The City has an ongoing preventative maintenance program that includes:

Valve exercising

- Hydrant inspection and servicing
- Flushing of water mains

Other services include:

- Operation and maintenance of the pumping station
- Installation of water services

- Water infrastructure repairs and maintenance
- Water quality sampling and testing

In 2017 there were a total of 7 water main breaks throughout the City; the majority of the broken pipes were cast iron. This is down from 2016 where the City experienced a total of 11 water main breaks, all of which were cast iron pipes. Most of the breaks occurred in Cast Iron pipes, causes of breaks was mainly corrosion, and shear break.

Water Main Replacement

Four (4) water main segments were approved within the 2017 asset improvement budget to be upgraded during the year. Three (3) of these water main segments were scheduled for replacement in the 2017 capital construction program and the construction of the 4th water main was deferred to 2018, pending approval of the 2018 to 2022 Financial Plan.

The four (4) water main upgrades included in the 2017 budget are as follows:

- Marine Drive – Vidal to Martin (deferred pending completion of the Memorial Park Project)
- Marine Drive – Bergstrom to Nichol (Completed)
- Saturna Drive – Archibald to High (to start in 2018)
- Magdalen – Marine to Sunset (Completed)

These projects were grouped together to achieve economic advantage compared to tendering each project individually. This will best utilize staff and contract resources and reduce the cost to complete the works.

The work included replacement of cast iron pipe with PVC pipe and installation of cathodic protection for the fittings, which has not been included in previous Water Utility works. PVC pipe will not be impacted by corrosion, and the implementation of cathodic protection will reduce corrosion of the metal valves and fittings. The combination of these two will extend the life of the infrastructure by reducing corrosion.
The Saturna Drive project was deferred to 2018 due to scheduling issues. Work along Marine Drive—Vidal to Martin— will be coordinated with the Memorial Park reconstruction project.

Image 6 - Water Main Replacement

Fencing

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.

Image 7: Fencing

The Oxford Pumping Station, Merklin Pumping Station, Roper Reservoir, and Well #4 at High Street are facilities that needed to have additional security measures implemented to mitigate the potential for damage.

As part of the City's commitment to water security, the City's Water Department started fencing of the reservoir and pumping stations. At the present time, the Merklin Pumping Station and Reservoir, Roper Reservoir and the High Street Well #4 have been fenced.

The Oxford Pumping Station and the new Water Treatment Plant which will be constructed next to the Oxford Pumping Station will be fenced by the completion of the Design Build project for the Water Treatment Plant.

Leak Detection

The water distribution system is comprised of a network of underground pipelines constructed of ductile iron and cast iron materials. These materials are susceptible to corrosion and damage that may result in fractures along the pipeline from which water can escape. Left unchecked, these leaks continue to grow over time any have the potential create a number of issues including:

- Saturation of the ground causing potential sinkholes, which create a public safety concern.
- Loss of pressure in the distribution system which impacts the supply of water to end users.
- Depletion of precious water resources.
- Loss of revenue for the City.
- Main breaks which require expensive emergency repairs and may cause flooding.
- Customer complaints due to water seepage into basements of properties.

The City of White Rock ("City") contracted Hetek Solutions Inc. ("Hetek") to perform a water leak detection survey for the entire water distribution system in the City of White Rock.

Acoustic Leak Detection

An acoustic leak detection survey is a non-intrusive method using highly sensitive microphones to detect the frequency of the vibration (i.e. – sound) when water escapes the pipeline through small fractures. This method involves the installation of acoustic loggers. Acoustic loggers are acoustic listening devices which are installed throughout the water distribution system, typically in valve boxes, on hydrants, or in manholes. The loggers are programmed to turn on early each morning when traffic noise and water use are at their lowest levels and collect acoustic data that can then be consolidated and analyzed to determine the probability of leaks.

The ability to detect leaks using acoustic loggers is contingent on the following factors:

- Ability to hear leaks due to pipe material, depth of pipe, filler material and access point to the pipe
- Proximity of the access point to the leak
- Distance between access points greater than range of the loggers/correlators
- Ambient noise in the area making it difficult to distinguish leak noise
- Ability and experience of the surveyor

Results and Recommendation

The water leak survey for the city of White Rock yielded six possible suspected leaks. The following possible leak noises were determined based on the data from the correlation and ground listening. They were marked on the ground surface with blue paint, and their locations are as follows:

Leak #	Location
1	Suspected leak noise on Oxford Street, 10.9m north of valve #165 on property #1444
2	Suspected leak detected around valve #203 on Anderson St & Gordon Ave
3	Suspected Leak located 7.5m west of valve #318
4	Suspected Leak Noise found 3.2m west of Valve # 307 on Marine Ln near Johnston Rd
5	Correlation yielded no definitive result. Point of interest around valve #298 by 15367 Buena Vista Ave.
6	Point of Interest at Hydrant #66 between 15450 and 15460 Oxenham Ave

Table 4: Suspected Leak Locations

The Operators of the Water Department of the City of White Rock carried out the investigation for the sites mentioned by Hetek;

1 -1444 Oxford St - 10.9-meter north of valve # 165
Excavation down to main line exposed pipe was conducted. Trench and pipe was completely dry no leak was discovered. Location is close to a sewer manhole which could be the cause of the noise.

2 -Anderson and Gordon -near valve # 203

The staff excavated down and exposed valve # 203 and water main pipeline. No leak was detected. The location is close to high flow sanitary manhole which could be the cause of the noise.

3-Johnston Road and Royal Ave
Excavated down to water main and exposed pipe 7.5 m west of valve # 318. No leak detected.

4-Marine Lane and Johnston Road
Excavated down and exposed near valve # 307. Area around valve was dry although the valve packing did leak when the valve was being operated. The staff repacked the valve with new packing; and, when the valve was operated again, leakage occurred.

5-15367 Buena Vista
Excavated down and around valve # 298. The Trench and area around valve # 298 was dry no leak was detected.

6-15450/60 Oxenham Ave
The operators disassembled the Mueller compression hydrant and replaced the damaged gate rubber on internal valve. Therefore, the leak was repaired.

Unidirectional Flushing Program

Flushing is one of the most powerful tools available to water utilities for addressing distribution system deficiencies and maintenance. Unidirectional flushing (UDF) is designed to bring water through the system in a controlled fashion at velocities sufficient to provide a scouring action within the distribution piping. UDF is being utilized by a growing number of utilities as a cost-effective way of improving and preserving water quality in the distribution system.

Image 8: Water Main Flushing in progress

The City of White established a Unidirectional Flushing Program twice a year to reduce the impact of layers of manganese deposited for decades in the distribution system. In 2017, the distribution system was flushed twice.

Residents were notified during water main flushing and informed that they may experience a temporary discolouration of water while the water main was being flushed. They were also informed that any disruption experienced, would be short-lived.

Advance notification of flushing work to affected areas were provided a week prior to the flushing taking place via letters delivered to local businesses and residents, along with signs being placed on the road side. Also, hospitals/clinics were notified to inform their home-based hemo-dialysis patients.

During flushing programs residents and businesses have water, however, they are advised not to open their tabs to avoid drawing sediments into their pipes.

In 2017, there was a significant improvement in the discharged water during the flushing program as the amount of sedimentation was less, shorter periods of flushing was required, and there was a decrease in the amount of water used compared to the previous flushing events.

Staffing Additions and How They Contribute to Water Quality Management

In April of 2017 the City hired a Clerk for the Water Works Department who reports to Dr. Saad Jasim, P.Eng. The department works on:

- Assisting residents with questions regarding the water
- Reporting test results online to the public
- Reporting to the Provincial and Federal governments regarding funding for the Clear Wastewater Fund
- Submitting items for Tender and RFP
- Receiving, coding, and submitting various invoices from contractors
- Reconciling the costs of new service connections
- Issuing requests for water on/off, special meter reads, disconnections or reconnections, and serviceability reports
- Other administrative duties that assist with the operation of the Water Works Department

Training for Operators

Planning for future implementation of water treatment at the City of White Rock, and to make sure that the best utilization of existing human resources, the 4 Water Distribution Operators of the City of White Rock started to attend water treatment courses. Two operators attended the Water Treatment 1 course which is delivered by BCWWA and received the course certificate. The other operators will attend the course in 2018.

The course provides operators with the basic knowledge of water treatment plant components and treatment methods used with varying degrees of complexity. After completing the Water Treatment 1 class the operator be able to:

- Describe procedures associated with monitoring, evaluating and adjusting treatment processes
- Perform basic laboratory analysis procedures
- Describe the drinking water regulations and their impact to water treatment
- Describe the practical aspects of plant operations and perform basic operational and maintenance procedures on equipment
- Perform safety, security and administrative procedures
- Certifications and exams are administered by the Environmental Operators Certification Program (EOCP).

Specialized training programs will be provided in 2018 and beyond, such as (Ozone for Drinking Water Treatment), which is delivered by Engineers and Geoscientists British Columbia (formerly Association

of Professional Engineers and Geoscientists of British Columbia). The course is delivered by Dr. Saad Jasim P.Eng.,, Manager, Utilities, City of White Rock, and President Elect International Ozone Association.

Unprecedented Communication and Public Engagement

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. This information is readily available on the City's website under the My 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:

- City Water Projects – Where the public can find information on capital projects related to water as part of the City's Total Water Quality Management Project.
- Event Materials – Contains the material from the number of Water Quality Open Houses, community forums and public information meetings.
- Historic Funding Announcement – the City received nearly $12 million dollars in government grant funds to help improve the City's water quality through the construction of treatment processes, set to be completed by March 2019.
- Water Quality – Where public can find monthly water quality test results from the time the City acquired the water utility from EPCOR, who did not provide such information.
- Water Research - to ensure the City implements the right technology to reach its water quality goals, it partnered with RES'EAU-WaterNET. This is where the public can learn about the partnership and the research being done.
- Flushing Program – informs the public of the flushing program, when City Staff would be flushing, and what to do and not to do when flushing is taking place in their area. Our staff also hand deliver notices to residents in the area a few days prior to the flushing starting in their area.

The City also developed FAQ pages related to water and secondary disinfection that further ensures the public is aware of the steps the City is taking to address water quality matters.

The City also provides updates to Council and the public on the statues of the City's water quality and infrastructure through Corporate Reports that are published on the City's website. The Regular Council Meetings are also live streamed so any member of the public who is not able to attend a meeting can either watch the meeting live or the recording at a later date.

This is all in addition to other methods we use to communicate with the public about the City's water related projects and initiatives.

Conferences, Seminars

Dr. Jasim delivered a series of presentations about the progressive steps taken to improve the water system in the City of White Rock:

- DWO Training Day-Vancouver Costal Health and Fraser Health, North Vancouver, February 24, 2017
- Presentation to the White Rock Rotary Club, May 23, 2017
- BCWWA Conference, Victoria, BC, May 29, 2017
- 23 World Congress and Exhibition, International Ozone Association, August 14, 2017, Washington DC, USA. Dr. Saad Jasim was elected as "President Elect" of the International Ozone Association, the first Canadian to be elected to this position.

Image 9: Dr. Jasim presents at DWO Training Day

Aquifer Protection Plan

Advisian, WorleyParson Group was retained by the City of White Rock to complete an Aquifer Protection Plan. The main objective of the Project is to ensure future water quality and quantity needs will be met for the City. The Project will provide important information and meet regulatory requirements to manage drinking water sources as well as groundwater governance and protection.

The scope of work includes development of a Stakeholder Communication Strategy and Plan for sharing information and soliciting feedback with stakeholders to support successful completion of the Project. The project provides an overview of the objectives of stakeholder engagement, summarizing the level of engagement planning, outlining the method of engagement, and defining the roles and responsibilities of participants. The 1st Webinar with the stakeholders was held on November 29, 2017.

The Aquifer Protection Plan is in progress, working with stakeholders and it will be finalized in 2018.

RES'EAU-WaterNET

The City of White Rock partnered with RES'AU-WaterNET, a research program funded by NSERC's Strategic Partnership Grants for Networks and hosted by the University of British Columbia, to assess a number of water treatment processes and determine the extent to which they can reduce the

arsenic and manganese from the City's water supply. This is to ensure the City implements the right technology to reach its water quality goals.

RES'EAU-WaterNET is a five year, $8 million program, 30% funded from partnerships with 26 public and private organizations and 70% funding from the Natural Sciences and Engineering Research Council (NSERC).

With the Mobile Pilot Project, the objectives include the evaluation of several treatment technologies, including technologies already available commercially such as Greensand Plus, biological filtration, and ozonation. Pilot testing included the most promising technologies to evaluate their viabilities, both in terms of performance and economics. The pilot work was conducted in close collaboration with the City engineers and involved RES'EAU's industry partners who have extensive experience with groundwater treatment and quality.

Image 10: RES'EAU-WaterNET Pilot Plant

The network's Mobile Water Treatment Pilot Plant was in White Rock to deliver testing of various combinations of technologies that will result in a sustainable and affordable system capable of removing natural contaminants from our groundwater sources. The mobile facilities allowed for faster, more accurate and more cost-effective assessment of potential technologies than traditional methods.

The study was conducted from December 2016 to June 2017 using the pilot plant facility, and consisted of two treatment trains that involved oxidation, filtration and adsorption stages. The source water was taken from well 6 and 7 with manganese levels of around 130-140µg/L and arsenic levels of around 10µg/L.

The final report was submitted and a copy of the report was provided for the selected Contractors/ Consultants short listed for the RFP. A copy of the full report is available on the City of White Rock website www.whiterockcity.ca.

The research evaluated the efficacy of different filter media for the removal of arsenic and manganese and the impact of ozone as pre-oxidant on the oxidation of arsenic.

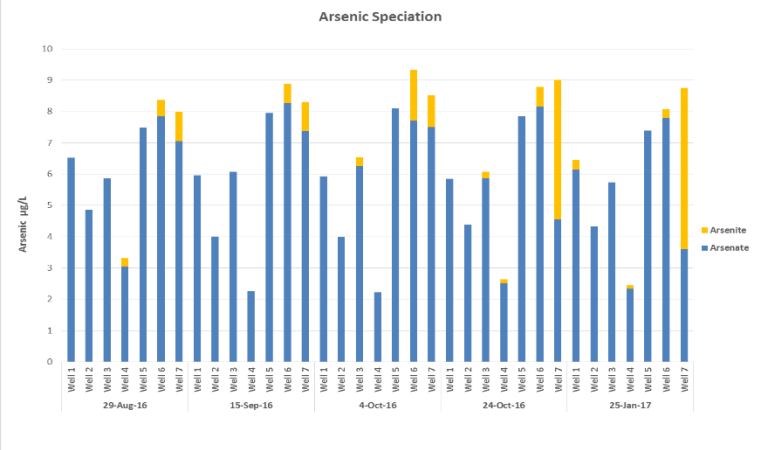

Figure 3: Arsenic speciation results for different wells.

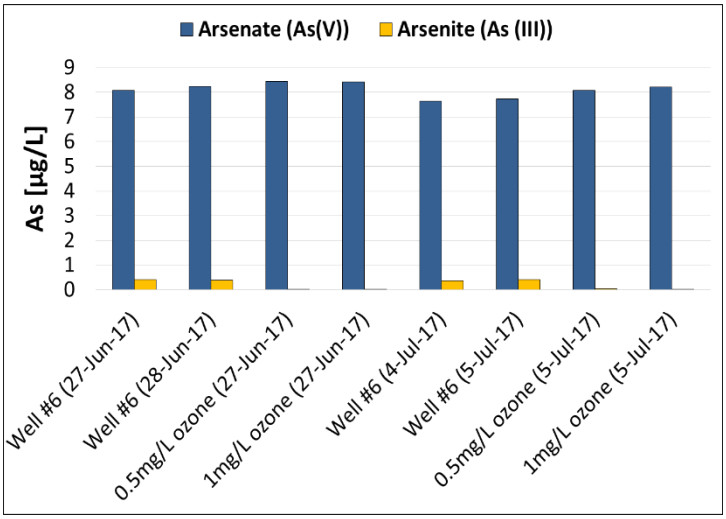

Figure 4: Arsenic speciation before and after ozonation (Well #6).

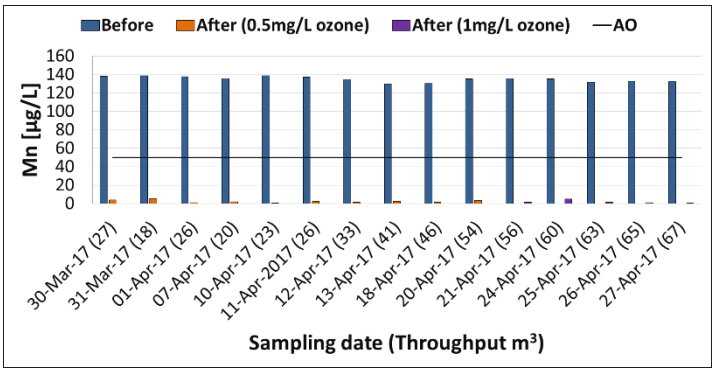

Figure 5: Manganese concentrations before and after GreensandPlus at different sampling dates; values in the brackets represent the cumulative throughput volume of the water.

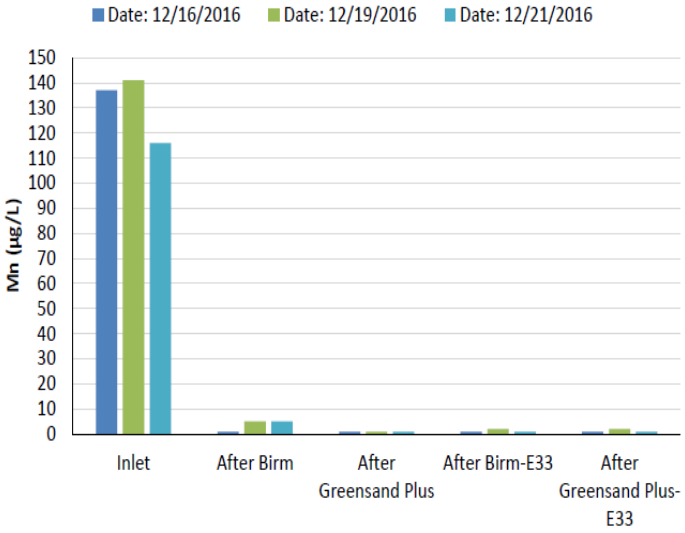

Figure 6: Concentration of manganese at different sampling locations

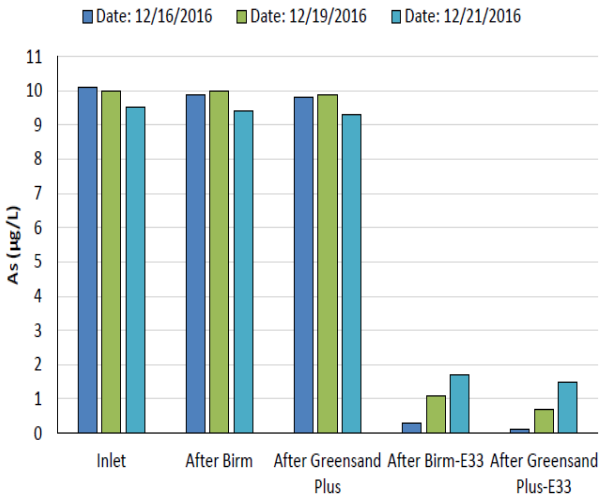

Figure 7: Concentration of arsenic at different sampling locations

The findings of the report provided an important support for the consultants to design the water treatment plant.

Arsenic and Manganese Treatment Facility

The Fraser Health Authority (FHA) advised the private company operating the White Rock Water System that should arsenic and manganese levels move above Health Canada's Guideline for Drinking Water Quality (GCDWQ), or should the GCDWQ deem manganese a health criteria, a treatment system must be operational on or before December 31, 2018.

Shortly after taking over the water utility, the City confirmed that levels of arsenic in two out of seven wells, is occasionally higher than Health Canada's maximum allowable level. The City took immediate steps to communicate water quality issues and plan for arsenic and manganese treatment.

In September 2016, the Mayor of White Rock and City Staff met with the Minister responsible for Small Communities Fund (SCF), and Clean Water Wastewater Fund (CWWF) to advocate for grant funding for arsenic and manganese treatment plant. The City submitted grant applications towards arsenic and manganese treatment processes, under Canada's and the Province's Clean Waste Water Fund (CWWF).

In March 2017, the Mayor of White Rock joined the Minister of Infrastructure and Communities, the Minister of Community, Sport, and Cultural Development, several MP's and MLA's, and several City Councilors to announce that the City of White Rock would receive a historic first-nearly $12 million in grant funding from the Government of Canada and Government of British Columbia. The money would go towards the City's $14.2 million arsenic and manganese treatment process to address the City's water quality and ensure a healthier community.

Image 11: The City receives Provincial and Federal Funding

Image 12: Signage displays joint funding

The Design of the Water Treatment Plant

The City was conducting a pilot scale study to evaluate the efficacy of the best technologies to provide useful information for the design and construction of a water treatment system for treating the water drawn from wells 1, 2, 3, 6, 7 and 8. Kerr Wood Leidal Associates (KWL) was retained to provide cost evaluations for three options for design and construction of water treatment plant(s).
The options are as follows:

- Option 1 is based on one water treatment plant at the Oxford site;
- Option 2 is based on two water treatment plants, one at Merklin site and another at Oxford site; and
- Option 3 is one water treatment plant covering all the above referenced wells in addition to connecting existing well # 4 to the plant located at the Oxford site.

Water Treatment Capacity and Process

The seven (7) wells have different levels of Ammonia, Iron, Manganese and Arsenic in the water. The goal is to have a water treatment system that is capable of addressing all these chemicals and metals. Currently wells 1, 2, 3 and 8 supply water to the Oxford reservoir and wells 6 and 7 supply water to the Merklin reservoir. The existing secondary disinfection systems at both pumping stations will be used for the water treatment plant effluent secondary disinfection.

Water Treatment Processes
The treatment process considered the method of oxidation followed by filtration for the removal of manganese and arsenic. To identify the best technologies that will provide a significant reduction of arsenic and manganese and deliver water that is safe, of high quality and clarity, a partnership was approved by the City Council with the RES'EAU-WaterNet, based at the University of British Columbia. This collaboration included investigating the efficacy of different technologies to provide a successful and sustainable solution to address the water quality parameters of concern. The project started in December 2016, the RES'EAU-WaterNet delivered a Mobile Pilot Plant to the Merklin Pumping Station to conduct the experiments.

After completion of the pilot plant study and analysis of the collected data, a report was prepared that included all the treatment processes considered in the experimental project. The report was provided to the contractors/consultants selected for the RFP following the signing of a Non-Disclosure Agreement. The report data provided useful information to the design team. The report is available on the website www.whiterockcity.ca.

Design and Selection of Water Treatment

In order to accommodate the water treatment units, an insulated steel frame building (s) were considered for 1 or 2 water treatment plants. The building would include the area for the filter units and accessories and modest areas for office, chemical storage, building ventilation, electrical control room and lab.

Pipe Network
Under each option, additional pipe work is required for moving the water from the well pump discharge lines to the treatment plant and back to the treated water reservoirs located at Merklin and Oxford sites. The pipe work was included, as required for all the options in the budget for connecting the well discharge headers to the treatment plants and from the treatment plants to the reservoirs at Oxford and Merklin sites.

Available Space
The available space for a potential water plant at both the Merklin and Oxford Pumping Stations are:

- Merklin Pumping Station: 331.2 m^2; and
- Oxford Pumping Station: 1,251.26 m.

Cost Opinion
The cost opinion is based upon the following:

- No water distribution system improvements are required to boost distribution system pressures;
- Existing equipment for secondary disinfection will be re-used; and
- New power service costs by BC Hydro will be negligible but will need to be verified once a preliminary design has been completed for the facility.

Recommendation
It was recommended to have only "One Water Treatment Plant" located at the Oxford Pumping Station Site for the following reasons:

1. The difference in water quality between the two sites (Merklin and Oxford) would require a different treatment operation setup on each site to deal with the different water quality parameters (Ammonia, Iron, Manganese, and Arsenic) if two water treatment plants are considered. Blending the water from the 7 wells and provide the treatment processes required and have the same water quality pumped from the two pumping stations would be a better engineering, operational and cost effective approach.
2. The available space at the Merklin pumping station is very small, and less than 30% of the available space at the Oxford pumping station.
3. The estimated Capital cost difference associated with building one plant at Oxford, and connecting Well 4 to Oxford, which is necessary in any case, is estimated to be $964,000 less than building two plants (one at Oxford and another at Merklin).
4. The Operation and Maintenance Cost for one plant at the Oxford (including connection to Well 4 - Option 3) is estimated to be $422,000 less than for two plants.

The Development of Request for Qualification (RFQ) and Request for Proposals (RFP)

The City issued a Request for Qualifications (RFQ) on BC BID for a Design-Build (DB) of the Oxford Water Treatment Plant Project.
The intent of the RFQ was to seek statements of qualifications (responses) from suitably qualified candidates interested in a DB opportunity for a water treatment plant for arsenic and manganese removal. The proposed work was fully described in the Request for Proposal Documents (RFP) that followed the RFQ process.
The City received nine (9) submissions and worked on the evaluation of the proponent's submittal and shortlisted three (3) proponents to receive the RFP. The purpose of the request for proposals

(RFP) was to invite eligible proponents to prepare and submit competitive proposals to design, construct, commission and provide one (1) year operational support and a two (2) year warranty for the Oxford Water Treatment Plant.

The City worked with KWL (developed the RFP and managed the progress and evaluation of the submissions) and Colliers Project Leaders (Colliers Project Leaders assumed the responsibility of the project management until project completion) developed a detailed technical evaluation to each proposal, and submitted questions to each group to clarify design issues. The response to questions from the technical evaluation from both groups was evaluated by the City staff of White Rock, KWL and Colliers Project Leaders.

A unanimous decision to select NAC Constructors Ltd./Associated Engineering based on the technical evaluation was taken by the technical evaluation committee (City of White Rock, KWL & Colliers Project Leaders).
The financial proposals were reviewed independently after the technical review was completed. The NAC Constructors Ltd. and Associated Engineering Ltd team were selected based on both the technical and financial proposal submissions.

Based upon the outcome of the review teams' analysis, it was recommended that the City select the NAC Constructors Ltd. and Associated Engineering Ltd team as the successful Proponent, subject only to final negotiations for a completed contract.
The NAC financial submission is for a Total Guaranteed Maximum Price $12,611,000 (excluding GST). It is noted that the estimate for the annual operations cost will be approximately $655,000.

The recommendation was presented to the City Council at its meeting on November 6, 2017. The City Council awarded NAC Constructors Ltd. the contract for the Design Build of the Water Treatment Plant for the amount of $12,611,000 (excluding GST).

NAC started work right away and, under the guidance of the City, began clearing the site of trees and brush in December 2017.

Detailed Design Reports
At the 30%, 50%, 90% and 100% design milestones, the NAC/ Associated team will submit Design Reports that reflect the status of the technical design of the Oxford WTP. The reports will be complementary to the drawing and specification packages also issued at these milestones.

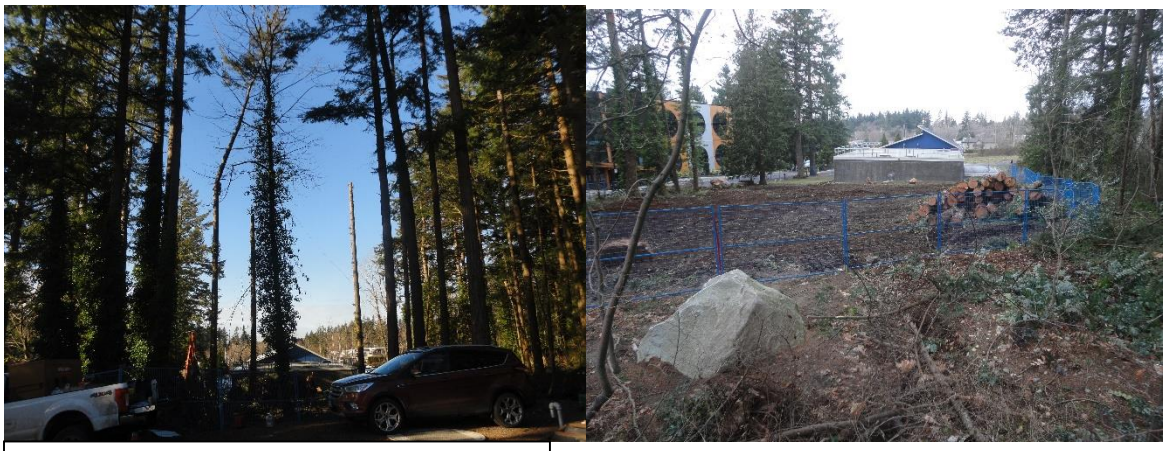

Image 13: Oxford Site during and after tree removal

Water Treatment Processes and Technologies Design

Manganese removal in groundwater supplies has been practiced for many decades. Technology approaches are mature and improvements in treatment efficiency have been only incremental. Attention to arsenic removal has been comparatively recent and has been driven by broad emerging concerns over long-term human exposure risks of arsenic and the subsequent tightening of drinking water arsenic regulations. Available technologies and processes to remove arsenic are several. There has been significant research into arsenic treatment technologies over the last 20 years. Often the selection of the right (or best) technology must consider what other constituents are in the water that would also have to be removed or may otherwise interfere with the arsenic removal process. Like many southwest BC groundwaters, White Rock's groundwater is of high quality with manganese (and sometimes iron) being the issues of concern along with arsenic levels just at or above the Health Canada MAC. Therefore, the use of advanced and capital cost-intensive treatment technologies are not generally warranted. Whereas biofiltration or membrane technologies must often be considered in groundwaters where there is concurrent high TDS, ammonia, organics, iron, manganese and/or arsenic, the use of conventional greensand and arsenic polishing technologies is more appropriate for groundwater sources like White Rock's. It is from this perspective that the NAC | Associated Team has chosen filtration using GreenSand Plus media for manganese reduction and the 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 filtration and adsorption process will be implement;

- Many arsenic removal technologies are most effective at removing the pentavalent form of arsenic "Arsenate", As(V).
- Therefore, many treatment systems include an oxidation step to convert Arsenite As(III) to arsenate 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

Image 14: Ozone Oxidation of Arsenic

The use of steel pressure vessels for the key unit processes is not only appropriate for long-term durability but also allows for future changes in filter and/or adsorption media design should improvements become available. The new water treatment plant will have a Supervisory Control and Data Acquisition (SCADA) for operation, control and data acquisition for the water treatment processes. The existing SCADA will be integrated into the water treatment plant system to have a central operation and control at the water treatment plant Control Room.

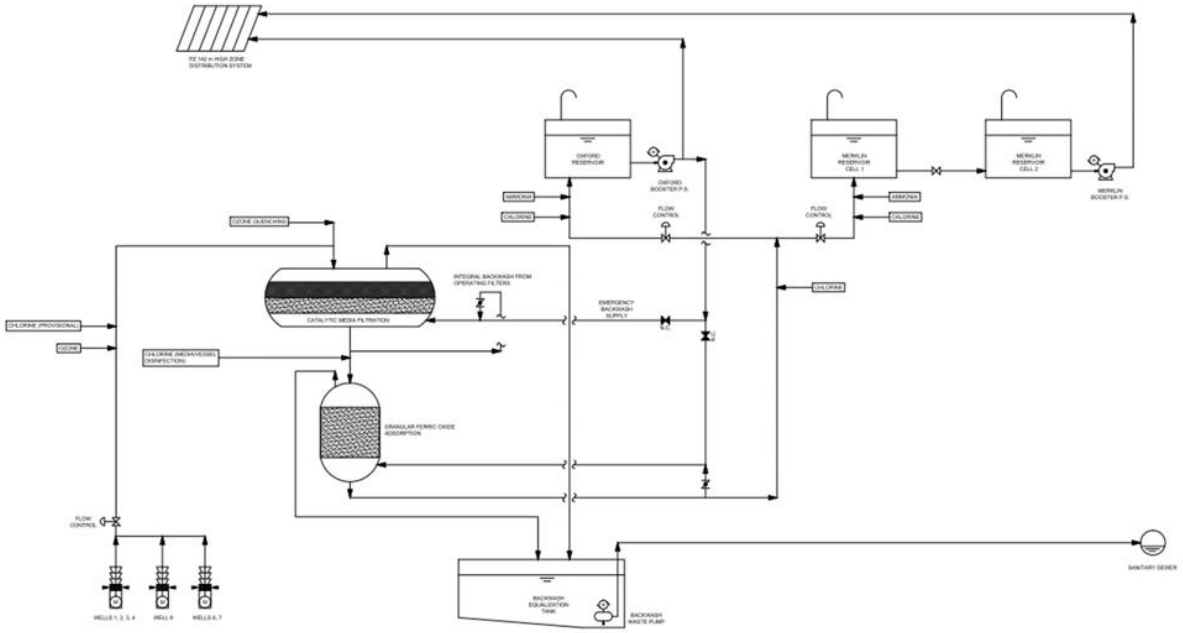

Image 15: Water Treatment processes

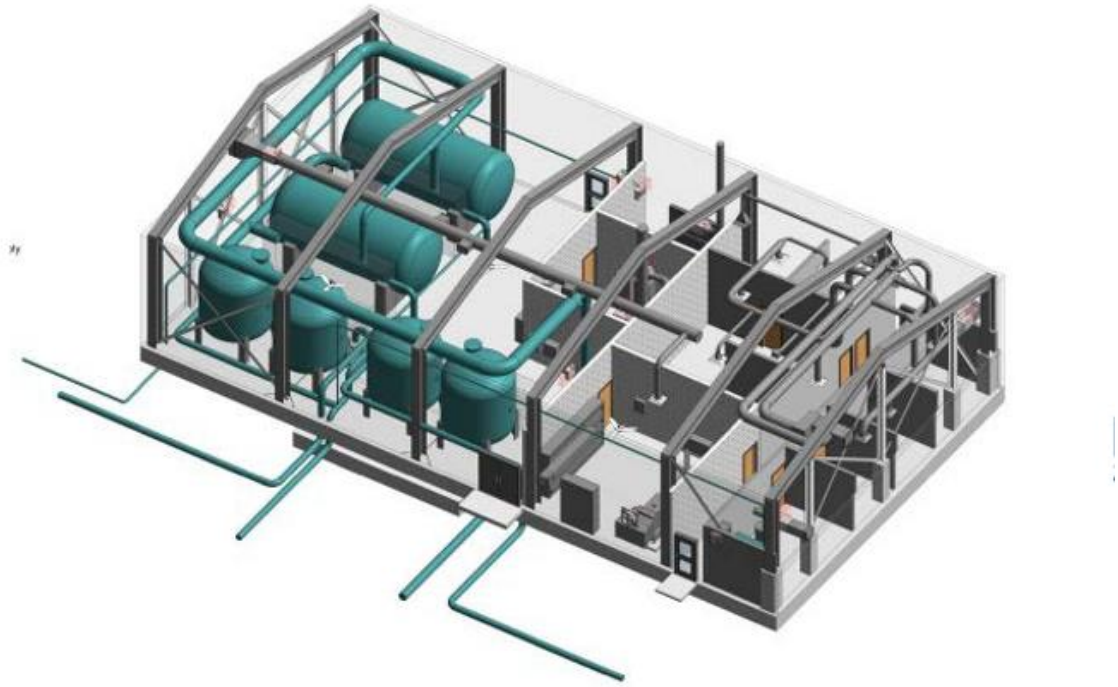

Image 16: 3D Layout of Treatment Processes

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 crews 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.

The Emergency Response Plan was added in 2018 to the City of White Rock website

Next Steps for 2018

- Continue monitoring the secondary disinfection at the two pumping stations and the disinfectant residuals in the distribution system.
- Continue to monitor and report the levels of arsenic & manganese in the distribution system.

- Report any exceedance of the MAC Guideline Drinking Water Quality
- Review potential federal/provincial funding opportunities.
- Ensure that the Design Build Project for the Water Treatment Plant proceeds successfully to meet the requirements set und the CWWF Grant agreement.

Summary

The City of White Rock has now owned the water utility for two full years. During 2017 City staff worked on engaging the community and explained steps taken to improve the City's water quality with the addition of a water treatment plant for the arsenic and manganese removal.

During the year of 2017, staff collected and sent 3628 samples for water quality testing.

The City completed the full implementation of secondary disinfection to the distribution system, 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 in 2018 on the solutions to reduce the level of arsenic and manganese from the data provided by the joint study between the City of White Rock and RES'EAU-WaterNET.

Attachments

References
Tables – Table II – Summary of Water Quality Analyses Results
Appendix A – City of White Rock Water Quality Testing for 2017 – Raw Data

References

Kerr Wood Leidal Associates Ltd., Water System Master Plan Update, Final Report, December 2010.

Piteau Associates Engineering Ltd., 2010. Hydrogeologic Assessment for White Rock Groundwater Supply. Report to Kerr Wood Leidal Associates Ltd. And Epcor White Rock Water, December.

Piteau Associates Engineering Ltd., 2012. Production Well 7 Completion Report. Report to Kerr Wood Leidal Associates, June.

Stantec, *White Rock – Reservoir Volumes Memo,* August 2017

2016 Water Annual Report, www.whiterockcity.ca

Consolidated Bylaws\Bylaw 2117 - Water Services Bylaw Consolidated December 2017.

Tables

TABLE II
SUMMARY OF WATER QUALITY ANALYSES RESULTS
WELL 8, WHITE ROCK

Date Sample Collected →	Units	Well 8 25-Jan-17	Canadian Drinking Water Quality Guideline[1] MAC	AO/OG
Physical Tests				
Hardness (as CaCO3)	mg/L	92.5	-	-
Colour, True	CU	<5.0	-	15
pH	pH Units	8.05	-	6.5-8.5
Total Dissolved Solids	mg/L	144	-	500
Electrical Conductivity	µS/cm	224	-	-
Turbidity	NTU	0.15	1	5
UV Transmittance (254mm)	%T	98.9	-	-
Dissolved Anions and Nutrients				
Alkalinity - Bicarbonate (as CaCO3)	mg/L	103		
Alkalinity - Carbonate (as CaCO3)	mg/L	<1.0		
Alkalinity - Hydrozide (as CaCO3)	mg/L	<1.0		
Alkalinity-Total (as$CaCO_3$)	mg/L	103	-	-
Chloride (Cl)	mg/L	8.04	-	250
Fluoride (F)	mg/L	0.135	1.5	-
Sulphate (SO_4)	mg/L	12.9	-	500
Nitrate (as N)	mg/L	<0.0050	10	-
Nitrite (as N)	mg/L	<0.0010	1.0	-
Ammonia, Total (as N)	mg/L	0.0907	-	-
Organic Parameters				
Total Organic Carbon (C)	mg/L	0.55	-	-
Bacteriological Tests				
Coliform Bacteria - Total	MPN/100mL	<1	<1	-
E. coli	MPN/100mL	<1	<1	-
Radiological Parameters				
Gross Alpha	Bq/L	<0.11	0.5	-
Gross Beta	Bq/L	<0.15	1.0	-
Total Metals				
Aluminum (Al)-Total	mg/L	<0.010	-	0.1
Antimony (Sb)-Total	mg/L	<0.00050	0.006	-
Arsenic (As)-Total	mg/L	0.0071	0.01	-
Barium (Ba)-Total	mg/L	<0.020	1	-
Beryllium (Be)-Total	mg/L	<0.0050	-	-
Boron (B)-Total	mg/L	<0.10	5	-
Cadmium (Cd)-Total	mg/L	<0.000050	0.005	-
Calcium (Ca)-Total	mg/L	21.7	-	-
Chromium (Cr)-Total	mg/L	<0.00050	0.05	-
Cobalt (Co)-Total	mg/L	<0.00050	-	-
Copper (Cu)-Total	mg/L	<0.0010	-	1
Iron (Fe)-Total	mg/L	<0.030	-	0.3
Lead (Pb)-Total	mg/L	<0.0010	0.01	-
Lithium (Li)-Total	mg/L	<0.050	-	-
Magnesium (Mg)-Total	mg/L	8.85	-	-
Manganese (Mn)-Total	mg/L	**0.173**	-	0.05
Mercury (Hg)-Total	mg/L	<0.00020	0.001	-
Molybdenum (Mo)-Total	mg/L	0.0014	-	-
Nickel (Ni)-Total	mg/L	<0.0050	-	-

PITEAU ASSOCIATES ENGINEERING LTD.

Page 1 of 2

TABLE II
SUMMARY OF WATER QUALITY ANALYSES RESULTS
WELL 8, WHITE ROCK

Date Sample Collected →	Units	Well 8	Canadian Drinking Water Quality Guideline[1]	
		25-Jan-17	MAC	AO/OG
Potassium (K)-Total	mg/L	3	-	-
Selenium (Se)-Total	mg/L	<0.0010	0.05	-
Silver (Ag)-Total	mg/L	<0.000050	-	-
Sodium (Na)-Total	mg/L	11.7	-	200
Thallium (Tl)-Total	mg/L	<0.00020	-	-
Titanium (Ti)-Total	mg/L	<0.050	-	-
Uranium (U)-Total	mg/L	<0.00020	0.02	-
Vanadium (V)-Total	mg/L	<0.030	-	-
Zinc (Zn)-Total	mg/L	<0.0050	-	5
Dissolved Metals				
Aluminum (Al)-Dissolved	mg/L	<0.010	-	0.1
Antimony (Sb)-Dissolved	mg/L	<0.00050	0.006	-
Arsenic (As)-Dissolved	mg/L	0.0072	0.01	-
Barium (Ba)-Dissolved	mg/L	<0.020	1	-
Beryllium (Be)-Dissolved	mg/L	<0.0050	-	-
Boron (B)-Dissolved	mg/L	<0.10	5	-
Cadmium (Cd)-Dissolved	mg/L	<0.000050	0.005	-
Calcium (Ca)-Dissolved	mg/L	22.1	-	-
Chromium (Cr)-Dissolved	mg/L	<0.00050	0.05	-
Cobalt (Co)-Dissolved	mg/L	<0.00050	-	-
Copper (Cu)-Dissolved	mg/L	<0.0010	-	1
Iron (Fe)-Dissolved	mg/L	<0.030	-	0.3
Lead (Pb)-Dissolved	mg/L	<0.0010	0.01	-
Lithium (Li)-Dissolved	mg/L	<0.050	-	-
Magnesium (Mg)-Dissolved	mg/L	9.05	-	-
Manganese (Mn)-Dissolved	mg/L	**0.174**	-	0.05
Mercury (Hg)-Dissolved	mg/L	<0.00020	0.001	-
Molybdenum (Mo)-Dissolved	mg/L	0.0013	-	-
Nickel (Ni)-Dissolved	mg/L	<0.0050	-	-
Potassium (K)-Dissolved	mg/L	3.2	-	-
Selenium (Se)-Dissolved	mg/L	<0.0010	0.05	-
Silver (Ag)-Dissolved	mg/L	<0.000050	-	-
Sodium (Na)-Dissolved	mg/L	12	-	200
Thallium (Tl)-Dissolved	mg/L	<0.00020	-	-
Titanium (Ti)-Dissolved	mg/L	<0.050	-	-
Uranium (U)-Dissolved	mg/L	<0.00020	0.02	-
Vanadium (V)-Dissolved	mg/L	<0.030	-	-
Zinc (Zn)-Dissolved	mg/L	<0.0050	-	5

\\hera\project\Project\3431\Well 8 Construction\Water Quality\[Tab II WQ Summary.xls]Water Quality

Notes:

1. Guidelines for Canadian Drinking Water Quality (GCDWQ), Health Canada, 2014.
   Abbreviations: MAC = Maximum Allowable Concentration
   AO = Aesthetic Objective
   OG = Operating Guideline
2. **Bold font** indicates AO exceedance.

Appendix A

City of White Rock Water Quality Testing for 2017 – Raw Data

January to December 2017

Microbiological Results 2017

Date	Microbiological Analysis MPN / 100mL	Guideline Limit	# of Samples	Pass	Fail	Guideline Comments
Jan 05	Total Coliforms	0 per 100 mL	12	12	0	Below MAC
	Escherichia Coli	0 per 100 mL	12	12	0	Below MAC
Jan 10 & Jan 11	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Jan 21 & Jan 24	Total Coliforms	0 per 100 mL	16	16	0	Below MAC
	Escherichia Coli	0 per 100 mL	16	16	0	Below MAC
Jan 31	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Feb 7	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Feb 14	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Feb 21 & Feb 22	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Feb 28	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Mar 7	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Mar 17	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Mar 24	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Mar 29	Total Coliforms	0 per 100 mL	7	7	0	Below MAC

	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Apr 5	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Apr 11	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Apr 18	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Apr 25	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
May 2	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
May 9	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
May 16	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
May 23	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
May 30	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Jun 7	Total Coliforms	0 per 100 mL	11	11	0	Below MAC
	Escherichia Coli	0 per 100 mL	11	11	0	Below MAC
Jun 13	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Jun 14	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Jun 21	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Jun 27	Total Coliforms	0 per 100 mL	12	12	0	Below MAC

	Escherichia Coli	0 per 100 mL	12	12	0	Below MAC
Jul 5	Total Coliforms	0 per 100 mL	12	12	0	Below MAC
	Escherichia Coli	0 per 100 mL	12	12	0	Below MAC
Jul 11	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Jul 12	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Jul 18	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Jul 19	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Jul 25	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Aug 1	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Aug 2	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
*Aug 8	Total Coliforms	0 per 100 mL	7	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Aug 9	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Aug 15	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Aug 22	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Aug 29	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Aug 30	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC

Sep 5	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Sep 6	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Sep 12	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Sep 19	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Sep 20	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Sep 26	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Oct 3	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Oct 4	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Oct 10	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Oct 14	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Oct 18	Total Coliforms	0 per 100 mL	11	11	0	Below MAC
	Escherichia Coli	0 per 100 mL	11	11	0	Below MAC
Oct 24	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Oct 31	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Nov 7	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC

Nov 14	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Nov 21	Total Coliforms	0 per 100 mL	4	4	0	Below MAC
	Escherichia Coli	0 per 100 mL	4	4	0	Below MAC
Nov 22	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Nov 28	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Nov 29	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Dec 5	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Dec 6	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
*Dec 12	Total Coliforms	0 per 100 mL	7	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	6	0	Below MAC
Dec 13	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Dec 19	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Dec 20	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Dec 27	Total Coliforms	0 per 100 mL	6	6	0	Below MAC
	Escherichia Coli	0 per 100 mL	6	6	0	Below MAC
Dec 28	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC

*Aug 8 - 1 sample retested on Aug 11

*Dec 12 - 1 sample not tested, too long in transit

Metal Results 2017

Sample Location	Date Sampled	Arsenic	Copper	Lead	Iron	Manganese
		mg/L	mg/L	mg/L	mg/L	mg/L
Nominal Detection Limit		**0.0002**	**0.001**	**0.0001**	**0.005**	**0.001**
Guideline Limit		**0.0100**	**1**	**0.01**	**0.3**	**0.05**
15600 Blk. Marine Drive	20-Jan-17	0.0075	0.0190	0.000116	0.006	0.029
15200 Blk. Marine Drive	23-Jan-17	0.0057	0.0026	0.000022	<0.004	0.031
Oxford Well #1	25-Jan-17	0.0067	0.0005	0.000276	0.005	0.058
Oxford Well #2	25-Jan-17	0.0046	0.0049	0.000129	<0.004	0.002
Oxford Well #3	25-Jan-17	0.0062	0.0012	0.000065	0.004	0.181
High St Well #4	25-Jan-17	0.0027	0.0012	0.001030	0.054	0.187
Buena Vista Well #5	25-Jan-17	0.0079	0.0023	0.000096	0.022	0.012
Merklin Well #6	25-Jan-17	0.0086	<0.0005	0.000099	0.005	0.142
Merklin Well #7	25-Jan-17	0.0080	0.0010	0.000178	0.007	0.111
15000 Blk. Russell Ave	31-Jan-17	0.0056	0.125	0.001470	0.020	0.086
1400 Blk. Martin St	06-Feb-17	0.0057	0.0070	0.000014	<0.004	0.057
1400 Blk. Vidal St	09-Feb-17	0.0059	0.0083	0.000180	<0.004	0.061
15100 Blk. Prospect Ave	21-Feb-17	0.0066	0.0042	0.000036	<0.004	0.028
1300 Blk. Foster St	02-Mar-17	<0.0001	0.0010	0.000185	<0.004	0.029
15100 Blk. B-Vista	13-Mar-17	0.0068	0.0115	0.000057	<0.004	0.128
Well #6	14-Mar-17	0.0088	Monthly Merklin Arsenic Sampling			
Well #7	14-Mar-17	0.0081				
15000 Blk. Victoria Ave	28-Mar-17	0.0062	0.0083	0.000227	0.010	0.020
1200 Blk. Foster St	30-Mar-17	0.0061	0.0098	0.000069	<0.004	0.017
Merklin Well #6	11-Apr-17	0.0089	<0.0005	0.000027	<0.004	0.135
Merklin Well #7	11-Apr-17	0.0094	0.0136	0.000517	0.149	0.109
High St Well #4	11-Apr-17	0.0040	0.0047	0.000847	0.330	0.156
Oxford Well #1	13-Apr-17	0.0060	0.0039	0.000514	<0.004	0.050
Oxford Well #2	13-Apr-17	0.0045	0.0069	0.000138	0.173	0.002
Oxford Well #3	13-Apr-17	0.0064	0.0015	0.0000992	<0.004	0.179
14800 Blk. North Bluff	27-Apr-17	0.0058	0.0379	0.000487	0.004	0.043
15000 Blk. Roper	03-May-17	0.0055	0.0285	0.000170	<0.004	0.012
1200 Blk. Martin	19-May-17	0.0079	0.0072	0.000364	0.006	0.11
1400 Blk. Nichol	24-May-17	0.0058	0.0162	0.000092	0.006	0.490
Well #6	25-May-17	0.0092	Monthly Merklin Arsenic Sampling			
Well #7	25-May-17	0.0086				
13800 Blk. Marine Drive	29-May-17	0.0058	0.0293	0.000239	<0.004	0.005
13900 Blk. Marine Drive	29-May-17	0.0059	0.0074	0.000219	<0.004	0.006
1100 Blk. Lee St	30-May-17	0.0089	0.0077	0.000027	0.007	0.11

14200 Blk. Vine Ave	02-Jun-17	0.0060	0.0151	0.00034	<0.004	0.007
Customer Concern 01	13-Jun-17	0.0059	0.1008	0.00150	0.007	0.028
Well #6	28-Jun-17	0.0089	Monthly Merklin Arsenic Sampling			
Well #7	28-Jun-17	0.0085				
Customer Concern 02	28-Jun-17	0.0085	0.0070	0.00009	<0.004	0.11
Customer Concern 03	13-Jul-17	0.0085	0.0136	0.00004	0.005	0.13
Customer Concern 04	18-Jul-17	0.0059	0.0263	0.00010	<0.004	0.053
Well #1	28-Jul-17	0.0067	0.0041	0.00025	<0.004	0.052
Well #2	28-Jul-17	0.0046	0.0040	0.00005	<0.004	0.004
Well #3	28-Jul-17	0.0063	0.0008	0.00005	<0.004	0.18
Well #6	28-Jul-17	0.0090	0.0006	0.00008	<0.004	0.13
Well #7	28-Jul-17	0.0085	0.0039	0.00141	<0.004	0.10
Customer Concern 05	03-Aug-17	0.0075	0.0125	0.00018	0.011	0.10
Peace Arch Hospital	10-Aug-17	0.0089	0.0011	0.00007	0.004	0.13
Customer Concern 06	19-Sep-17	0.0079	0.0028	0.00016	0.005	0.12
Well #6	29-Sep-17	0.0092	Monthly Merklin Arsenic Sampling			
Well #7	29-Sep-17	0.0084				
Customer Concern 07	04-Oct-17	0.0071	0.0290	0.00011	0.006	0.086
Well #1	25-Oct-17	0.0066	0.0057	0.00019	<0.004	0.048
Well #2	25-Oct-17	0.0045	0.0049	0.00004	0.005	0.001
Well #3	25-Oct-17	0.0064	0.0007	0.00002	0.006	0.19
Well #6	25-Oct-17	0.0106	0.0009	0.00014	0.012	0.14
Well #7	25-Oct-17	0.0106	0.0009	0.00013	<0.004	0.11
Well #8	25-Oct-17	0.0071	0.0008	0.00006	0.032	0.17
Well #6	07-Nov-17	0.0088	Monthly Merklin Arsenic Sampling			
Well #7	07-Nov-17	0.0083				
Well #6	28-Nov-17	0.0090	Monthly Merklin Arsenic Sampling			
Well #7	28-Nov-17	0.0084				
Well #6	28-Dec-17	0.0088	Monthly Merklin Arsenic Sampling			
Well #7	28-Dec-17	0.0084				

THMs & HAAs RESULTS 2017

Sample	Unit of Measure	Nominal Detection Limit	Sample Location						Sampled Date
			Stevens Station	Stayte Station	Roper PRV - High	Marine Station	Everall Station	Mann Park Sation	
Chloroform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	Jan 31 2017
Bromodichloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	Jan 31 2017
Dibromochloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	Jan 31 2017
Bromoform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	0.001	-	-	Jan 31 2017
Total THMs	**mg/L**	**0.001**	<0.001	<0.001	<0.001	0.001	-	-	Jan 31 2017
Dibromofluoromethane	**%**	**86-118**	94	98	96	91	-	-	Jan 31 2017
Toluene-d8	**%**	**85-115**	99	100	100	99	-	-	Jan 31 2017
Bromofluorobenzene	**%**	**86-115**	96	95	97	96	-	-	Jan 31 2017
Monochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Jan 31 2017
Monobromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Jan 31 2017
Dichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Jan 31 2017
Bromochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Jan 31 2017
Dibromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Jan 31 2017
Trichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Jan 31 2017
Total HAA6	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Jan 31 2017
Chloroform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	Apr 26 2017
Bromodichloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	Apr 26 2017
Dibromochloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	0.002	-	-	Apr 26 2017
Bromoform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	0.004	-	-	Apr 26 2017
Total THMs	**mg/L**	**0.001**	<0.001	<0.001	<0.001	0.006	-	-	Apr 26 2017
Dibromofluoromethane	**%**	**86-118**	93	91	95	98	-	-	Apr 26 2017
Toluene-d8	**%**	**85-115**	100	99	98	100	-	-	Apr 26 2017

Bromofluorobenzene	**%**	**86-115**	97	98	96	97	-	-	Apr 26 2017
Monochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Apr 26 2017
Monobromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Apr 26 2017
Dichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Apr 26 2017
Bromochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Apr 26 2017
Dibromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Apr 26 2017
Trichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Apr 26 2017
Total HAA6	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	Apr 26 2017

Chloroform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Jul-17
Bromodichloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Jul-17
Dibromochloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Jul-17
Bromoform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Jul-17
Total THMs	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Jul-17
Dibromofluoromethane	**%**	**86-118**	103	97	100	98	-	-	25-Jul-17
Toluene-d8	**%**	**85-115**	<85	97	99	98	-	-	25-Jul-17
Bromofluorobenzene	**%**	**86-115**	99	98	98	100	-	-	25-Jul-17
Monochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Jul-17
Monobromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Jul-17
Dichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Jul-17
Bromochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Jul-17
Dibromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Jul-17
Trichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Jul-17
Total HAA6	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Jul-17
Chloroform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Oct-17
Bromodichloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Oct-17
Dibromochloromethane	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Oct-17
Bromoform	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Oct-17
Total THMs	**mg/L**	**0.001**	<0.001	<0.001	<0.001	<0.001	-	-	25-Oct-17
Dibromofluoromethane	**%**	**86-118**	92	99	96	91	-	-	25-Oct-17
Toluene-d8	**%**	**85-115**	89	88	85	90	-	-	25-Oct-17

Bromofluorobenzene	**%**	**86-115**	102	99	100	100	-	-	25-Oct-17
Monochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Oct-17
Monobromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Oct-17
Dichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Oct-17
Bromochloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Oct-17
Dibromoacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Oct-17
Trichloroacetic Acid	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Oct-17
Total HAA6	**ug/L**	**2**	<2.0	<2.0	<2.0	<2.0	-	-	25-Oct-17

Non Routine Water Quality Results for Source and Distribution Water 2017

Sampling Point Name	Date Sampled	TC	E-coli	Comments
		MPN / 100 ml	MPN / 100 ml	
Well #6	13-Jan-17	<1.0	<1.0	Below Mac
Finlay Station	13-Jan-17	<1.0	<1.0	Below Mac
Merklin New Reservoir	13-Jan-17	<1.0	<1.0	Below Mac
Merklin New Reservoir	14-Jan-17	<1.0	<1.0	Below Mac
1500 Blk. Vidal Street	18-Jan-17	<1.0	<1.0	Below Mac
Merklin New Reservoir	30-Jan-17	<1.0	<1.0	Below Mac
Roper PRV	2-Feb-17	<1.0	<1.0	Below Mac
Merklin New Reservoir	3-Feb-17	<1.0	<1.0	Below Mac
Merklin New Reservoir	14-Feb-17	<1.0	<1.0	Below Mac
Merklin New Reservoir	17-Feb-17	<1.0	<1.0	Below Mac
Merklin New Reservoir	22-Feb-17	<1.0	<1.0	Below Mac
Merklin Bypass – NIS	14-Mar-17	<1.0	<1.0	Below Mac
Merklin Old Reservoir	24-Mar-17	<1.0	<1.0	Below Mac
Merklin Old Reservoir	29-Mar-17	<1.0	<1.0	Below Mac
Well #1	6-Apr-17	<1.0	<1.0	Below Mac
Kent Activity Center	24-Apr-17	<1.0	<1.0	Below Mac
1100 Blk. Lee St	30-May-17	<1.0	<1.0	Below Mac
800 Blk. Habgood St	5-Jun-17	<1.0	<1.0	Below Mac
Oxford Reservoir	27-Jun-17	<1.0	<1.0	Below Mac
Customer Concern 05	3-Aug-17	<1.0	<1.0	Below Mac
Oxford & Buena Vista	25-Sep-17	<1.0	<1.0	Below Mac
Beachview Project	27-Oct-17	<1.0	<1.0	Below Mac
Beachview Project	28-Oct-17	<1.0	<1.0	Below Mac
Beachview Project	1-Nov-17	<1.0	<1.0	Below Mac
Beachview Project	2-Nov-17	<1.0	<1.0	Below Mac

In-House Water Testing Results 2017

Sampling Location	Date Sampled	Time	Conductivity	pH	Turbidity	Free Cl	Total Cl	Temp. Colltd	Temp. Tested
			µS/cm		NTU	mg/L	mg/L		
January Week 1									
Merklin Low Reservoir - 25%	5-Jan-17	11:10	278	8.46	0.34	0.01	0.68	9.2	15.1
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - Low Zone	5-Jan-17	11:00	262	8.42	0.24	0.04	0.21	8.1	15.0
Main Shop (Buena Vista)	5-Jan-17	8:30	531	8.04	0.17	0.03	0.01	13.5	14.1
Stayte Sampling Station	5-Jan-17	13:54	502	8.18	0.23	0.01	0.01	7.9	16.2
City Washroom	5-Jan-17	14:10	533	8.13	0.21	0.01	0.01	6.3	15.0
Malabar Sample Station	5-Jan-17	10:30	262	8.42	0.23	0.01	0.05	7.9	16.3
Stevens Sample Station	5-Jan-17	13:35	274	8.60	0.31	0.01	0.26	8.5	15.1
Marine Dr Sample Station	5-Jan-17	14:26	260	8.52	0.26	0.02	0.08	6.9	15.3
January Week 2									
Merklin Low Reservoir - 25%	11-Jan-17	11:00	294	8.08	0.10	0.02	0.57	8.8	19.2
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	10-Jan-17	11:45	306	8.24	0.20	0.02	0.28	7.7	15.80
Main Shop (Buena Vista)	11-Jan-17	10:00	554	7.74	0.19	0.00	0.00	12.5	16.1
Stayte Sampling Station	10-Jan-17	10:30	491	7.75	0.22	0.00	0.00	6.9	12.3
City Washroom	11-Jan-17	13:15	531	8.05	0.12	0.03	0.02	5.4	15.5
Mann Park Sample Station	10-Jan-17	10:45	271	8.33	0.19	0.02	0.11	6.5	15.3
Stevens Sample Station	10-Jan-17	12:00	318	8.39	0.18	0.03	0.36	6.3	15.3
Marine Dr Sample Station									
January Week 3									
Merklin Low Reservoir - 25%	18-Jan-17	9:10	333	8.33	0.42	0.02	0.47	10.1	20.6
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - Low Zone	18-Jan-17	8:50	279	8.30	0.35	0.04	0.21	8.6	21.7
Main Shop (Buena Vista)	18-Jan-17	11:30	530	7.95	0.26	0.03	0.00	12.9	21.1
Stayte Sampling Station	18-Jan-17	10:55	488	8.03	0.25	0.01	0.01	6.7	21.0
City Washroom	18-Jan-17	11:10	472	8.05	0.28	0.03	0.04	9.3	19.9

Malabar Sample Station	18-Jan-17	9:40	265	8.35	0.34	0.01	0.09	7.0	21.1
Stevens Sample Station	18-Jan-17	10:40	308	8.45	0.39	0.02	0.41	7.9	21.2
Marine Dr Sample Station	18-Jan-17	10:00	263	8.40	0.38	0.05	0.04	6.4	20.7
January Week 4									
Merklin Low Reservoir - 25%	24-Jan-17	11:00	335	8.44	0.39	0.03	0.71	12.1	18.3
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	24-Jan-17	10:40	308	8.44	0.21	0.00	0.46	11.0	17.9
Main Shop (Buena Vista)	24-Jan-17	11:55	526	8.03	0.07	0.02	0.01	12.3	18.0
Stayte Sampling Station	24-Jan-17	9:20	420	8.31	0.25	0.01	0.15	8.0	19.1
City Washroom	24-Jan-17	11:35	340	8.39	0.21	0.02	0.04	9.7	18.1
Mann Park Sample Station	24-Jan-17	10:10	264	8.46	0.18	0.05	0.05	8.3	18.7
Stevens Sample Station	24-Jan-17	9:05	327	8.61	0.33	0.03	0.64	9.2	19.2
Marine Dr Sample Station	24-Jan-17	9:50	258	8.56	0.19	0.03	0.03	8.1	19.1
January Week 5									
Merklin Low Reservoir - 25%	31-Jan-17	13:45	318	8.43	0.23	0.00	0.88	9.7	16.0
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - Low Zone	31-Jan-17	9:40	275	8.34	0.21	0.15	0.22	9.5	15.8
Main Shop (Buena Vista)	31-Jan-17	12:30	519	7.98	0.06	0.01	0.01	11.9	16.1
Stayte Sampling Station	31-Jan-17	10:45	372	8.28	0.21	0.03	0.14	7.6	15.4
City Washroom	31-Jan-17	12:10	509	8.11	0.14	0.02	0.02	8.5	15.8
Malabar Sample Station	31-Jan-17	11:30	259	8.41	0.17	0.20	0.23	9.7	14.9
Stevens Sample Station	31-Jan-17	10:20	312	**8.52**	0.30	0.03	0.62	9.1	15.3
Marine Dr Sample Station	31-Jan-17	11:10	259	8.46	0.17	0.06	0.06	7.6	15.2
February Week 1									
Merklin Low Reservoir - 25%	7-Feb-17	9:10	331	8.27	0.35	0.05	0.75	9.9	16.6
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	7-Feb-17	8:55	309	8.27	0.24	0.07	0.57	9.6	16.2
Main Shop (Buena Vista)	7-Feb-17	12:10	276	8.22	0.27	0.02	0.04	8.1	16.5
Stayte Sampling Station	7-Feb-17	10:55	304	8.24	0.29	0.02	0.24	7.0	16.2
City Washroom	7-Feb-17	9:40	312	8.23	0.38	0.03	0.18	8.6	16.2
Mann Park Sample Station	7-Feb-17	11:55	262	8.23	0.15	0.17	0.17	8.5	15.8
Stevens Sample Station	7-Feb-17	10:30	288	8.25	0.28	0.05	0.08	7.9	16.5
Marine Dr Sample Station	7-Feb-17	11:30	262	8.26	0.14	0.10	0.12	6.7	16.0
February Week 2									

Merklin Low Reservoir - 25%	14-Feb-17	10:15	331	8.35	0.28	0.05	0.74	10.1	18.1
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - Low Zone	14-Feb-17	10:40	290	8.31	0.50	0.16	0.50	10.9	18.5
Main Shop (Buena Vista)	14-Feb-17	11:40	272	8.32	0.19	0.05	0.06	8.6	18.1
Stayte Sampling Station	14-Feb-17	11:00	291	8.37	0.25	0.03	0.12	7.6	18.3
City Washroom	14-Feb-17	11:20	270	8.35	0.17	0.08	0.10	8.5	18.4
Malabar Sample Station	14-Feb-17	9:20	266	8.36	0.13	0.26	0.27	7.3	18.4
Stevens Sample Station	14-Feb-17	9:40	310	8.44	0.30	0.05	0.56	8.8	18.2
Marine Dr Sample Station	14-Feb-17	9:00	265	8.40	0.15	0.09	0.13	6.9	18.4
February Week 3									
Merklin Low Reservoir - 25%	22-Feb-17	12:05	304	8.43	0.27	0.06	0.40	10.5	25.5
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	21-Feb-17	12:55	276	8.28	0.16	0.13	0.39	9.6	11.4
Main Shop (Buena Vista)	22-Feb-17	12:50	282	8.40	0.35	0.05	0.06	9.8	27.3
Stayte Sampling Station	22-Feb-17	11:25	289	8.46	0.27	0.04	0.17	7.9	26.5
City Washroom	22-Feb-17	8:55	288	8.48	0.38	0.03	0.05	12.9	26.0
Mann Park Sample Station	21-Feb-17	9:40	256	8.30	0.15	0.16	0.16	8.5	11.1
Stevens Sample Station	21-Feb-17	13:15	302	8.41	0.26	0.06	0.54	9.3	11.3
Marine Dr Sample Station	21-Feb-17	9:20	255	8.37	0.17	0.12	0.09	7.3	11.2
February Week 4									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	28-Feb-17	12:15	313	8.30	0.20	0.03	0.59	9.0	14.6
Main Shop (Buena Vista)	28-Feb-17	10:00	292	8.28	0.21	0.00	0.07	8.0	15.5
Stayte Sampling Station	28-Feb-17	12:00	305	8.32	0.18	0.04	0.26	7.1	15.8
City Washroom	28-Feb-17	10:15	307	8.34	0.25	0.05	0.13	8.0	15.2
Mann Park Sample Station	28-Feb-17	9:25	271	8.30	0.14	0.21	0.24	7.4	15.3
Stevens Sample Station	28-Feb-17	11:05	313	8.40	0.20	0.04	0.55	8.4	15.4
Marine Dr Sample Station	28-Feb-17	9:45	272	8.37	0.15	0.11	0.14	6.6	15.4
March Week 1									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-

Roper Reservoir - Low Zone	7-Mar-17	12:10	321	8.37	0.21	0.03	0.65	8.9	20.9
Main Shop (Buena Vista)	7-Mar-17	9:00	307	8.36	0.30	0.02	0.13	8.1	18.8
Stayte Sampling Station	7-Mar-17	12:35	308	8.41	0.38	0.07	0.27	6.6	18.0
City Washroom	7-Mar-17	12:45	294	8.39	0.49	0.00	0.14	9.3	19.9
Malabar Sample Station	7-Mar-17	9:35	282	8.37	0.11	0.24	0.26	7.5	19.5
Stevens Sample Station	7-Mar-17	11:35	315	8.49	0.28	0.03	0.44	8.3	16.9
Marine Dr Sample Station	7-Mar-17	9:55	276	8.43	0.13	0.11	0.13	6.5	19.8
March Week 2									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	14-Mar-17	13:15	314	8.33	0.25	0.04	0.63	9.3	18.7
Main Shop (Buena Vista)	14-Mar-17	13:35	297	8.28	0.24	0.04	0.11	8.7	17.8
Stayte Sampling Station	14-Mar-17	11:35	306	8.34	0.41	0.00	0.24	7.6	19.7
City Washroom	14-Mar-17	11:45	300	8.32	0.44	0.14	0.05	9.0	21.7
Mann Park Sample Station	14-Mar-17	12:45	288	8.28	0.14	0.34	0.35	7.9	20.9
Stevens Sample Station	14-Mar-17	11:05	312	8.46	0.37	0.04	0.57	9.0	20.2
Marine Dr Sample Station	14-Mar-17	12:55	287	8.36	0.17	0.22	0.23	6.9	19.8
March Week 3									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	21-Mar-17	10:35	314	8.33	0.25	0.28	0.48	9.6	22.8
Main Shop (Buena Vista)	21-Mar-17	11:53	297	8.32	0.28	0.02	0.08	9.7	21.3
Stayte Sampling Station	21-Mar-17	11:23	310	8.39	0.26	0.06	0.27	8.7	23.6
City Washroom	21-Mar-17	11:36	306	8.46	0.40	0.00	0.18	10.9	19.9
Malabar Sample Station	21-Mar-17	9:18	293	8.34	0.12	0.40	0.41	8.7	21.9
Stevens Sample Station	21-Mar-17	11:03	313	8.53	0.30	0.00	0.75	9.5	23.8
Marine Dr Sample Station	21-Mar-17	9:06	287	8.44	0.15	0.27	0.32	8.1	21.3
March Week 4									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - Low Zone	29-Mar-17	11:50	314	8.27	0.27	0.08	0.65	10.1	22.8
Main Shop (Buena Vista)	29-Mar-17	12:25	293	8.25	0.23	0.01	0.03	10.9	20.8
Stayte Sampling Station	29-Mar-17	11:15	298	8.28	0.31	0.02	0.05	9.5	23.5

City Washroom	29-Mar-17	11:25	299	8.31	0.69	0.05	0.02	12.3	24.9
Mann Park Sample Station	29-Mar-17	9:45	281	8.25	0.15	0.40	0.42	9.1	23.0
Stevens Sample Station	29-Mar-17	10:40	313	8.43	0.28	0.00	0.48	10.2	23.9
Marine Dr Sample Station	29-Mar-17	9:33	286	8.31	0.13	0.22	0.25	9.8	23.8
April Week 1									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	5-Apr-17	11:15	-	-	0.20	0.05	0.54	9.6	-
Main Shop (Buena Vista)	5-Apr-17	12:45	-	-	0.14	0.02	0.17	10.9	-
Stayte Sampling Station	5-Apr-17	10:45	-	-	0.30	0.02	0.24	9.7	-
City Washroom	5-Apr-17	12:10	-	-	0.21	0.05	0.36	11.4	-
Malabar Sample Station	5-Apr-17	11:45	-	-	0.17	0.23	0.27	9.7	-
Stevens Sample Station	5-Apr-17	11:05	-	-	0.26	0.03	0.59	9.9	-
Marine Dr Sample Station	5-Apr-17	12:00	-	-	0.21	0.17	0.19	8.9	-
April Week 2									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	11-Apr-17	11:40	310	8.31	0.26	0.05	0.60	9.7	21.1
Main Shop (Buena Vista)	11-Apr-17	13:00	290	8.39	0.23	0.03	0.15	11.4	18.2
Stayte Sampling Station	11-Apr-17	11:05	296	8.40	0.24	0.02	0.25	9.8	22.8
City Washroom	11-Apr-17	12:25	307	8.42	0.18	0.04	0.45	11.0	20.2
Mann Park Sample Station	11-Apr-17	9:45	273	8.34	0.15	0.27	0.29	9.2	22.7
Stevens Sample Station	11-Apr-17	10:45	324	8.47	0.18	0.06	0.67	10.1	22.4
Marine Dr Sample Station	11-Apr-17	12:05	263	8.39	0.20	0.09	0.11	9.3	21.0
April Week 3									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - Low Zone	18-Apr-17	10:35	314	8.42	0.22	0.04	0.65	10.3	24.8
Main Shop (Buena Vista)	18-Apr-17	11:30	282	8.35	0.22	0.00	0.04	12.3	21.5
Stayte Sampling Station	18-Apr-17	9:40	309	8.43	0.21	0.03	0.34	11.3	24.9
City Washroom	18-Apr-17	11:05	294	8.44	0.18	0.01	0.29	13.9	27.5
Malabar Sample Station	18-Apr-17	9:00	272	8.35	0.14	0.32	0.32	10.7	24.8
Stevens Sample Station	18-Apr-17	9:55	309	8.53	0.21	0.05	0.68	11.1	24.8

Marine Dr Sample Station	18-Apr-17	9:15	277	8.49	0.13	0.21	0.22	10.2	24.9
April Week 4									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - High Zone	25-Apr-17	11:52	308	8.35	0.20	0.07	0.63	10.7	19.5
Main Shop (Buena Vista)	25-Apr-17	12:12	296	8.32	0.17	0.02	0.08	13.2	19.2
Stayte Sampling Station	25-Apr-17	11:28	305	8.39	0.25	0.04	0.35	12.1	19.7
City Washroom	25-Apr-17	11:15	294	8.35	0.21	0.03	0.21	13.6	19.3
Mann Park Sample Station	25-Apr-17	10:35	283	8.31	0.13	0.36	0.36	12.0	19.3
Stevens Sample Station	25-Apr-17	10:48	308	8.48	0.21	0.04	0.65	11.5	18.8
Marine Dr Sample Station	25-Apr-17	10:20	285	8.35	0.14	0.21	0.22	11.9	19.8
May Week 1									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - High Zone	2-May-17	9:45	314	8.55	0.20	0.04	0.64	10.1	24.0
Main Shop (Buena Vista)	2-May-17	11:56	300	8.51	0.26	0.02	0.14	13.3	24.6
Stayte Sampling Station	2-May-17	11:25	308	8.61	0.25	0.00	0.43	12.5	25.8
City Washroom	2-May-17	11:10	295	8.61	0.34	0.03	0.25	14.5	25.3
Malabar Sample Station	2-May-17	8:57	284	8.55	0.11	0.26	0.30	11.3	25.9
Stevens Sample Station	2-May-17	10:30	302	8.64	0.30	0.03	0.62	11.5	23.8
Marine Dr Sample Station	2-May-17	9:20	284	8.58	0.14	0.09	0.18	11.7	24.9
May Week 2									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - Low Zone	9-May-17	11:30	304	8.30	0.44	0.03	0.63	10.9	21.7
Main Shop (Buena Vista)	9-May-17	12:00	298	8.26	0.34	0.03	0.43	14.3	21.8
Stayte Sampling Station	9-May-17	10:55	306	8.26	0.36	0.02	0.37	13.6	22.7
City Washroom	9-May-17	11:10	303	8.29	0.47	0.03	0.44	15.4	22.1
Mann Park Sample Station	9-May-17	9:30	283	8.18	0.30	0.23	0.30	12.0	22.3
Stevens Sample Station	9-May-17	10:20	311	8.32	0.38	0.03	0.63	12.1	22.3
Marine Dr Sample Station	9-May-17	9:15	282	8.20	0.29	0.15	0.18	13.3	21.9
May Week 3									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-

Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - High Zone	16-May-17	11:35	311	8.33	0.30	0.05	0.64	10.7	19.7
Main Shop (Buena Vista)	16-May-17	12:15	293	8.26	0.18	0.00	0.21	14.5	19.0
Stayte Sampling Station	16-May-17	9:20	306	8.30	0.18	0.02	0.39	14.1	19.1
City Washroom	16-May-17	11:55	288	8.33	0.22	0.10	0.23	14.4	18.8
Malabar Sample Station	16-May-17	11:05	274	8.20	0.11	0.02	0.30	12.1	18.4
Stevens Sample Station	16-May-17	10:20	305	7.40	0.22	0.08	0.71	12.1	17.7
Marine Dr Sample Station	16-May-17	10:50	279	8.31	0.15	0.02	0.06	13.5	18.2
May Week 4									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - Low Zone	23-May-17	11:30	304	8.32	0.20	0.03	0.64	14.8	22.4
Main Shop (Buena Vista)	23-May-17	11:50	298	8.32	0.18	0.04	0.14	15.5	20.9
Stayte Sampling Station	23-May-17	11:00	302	8.35	0.26	0.10	0.49	15.2	22.1
City Washroom	23-May-17	11:15	30	8.36	0.30	0.06	0.56	16.3	23.4
Mann Park Sample Station	23-May-17	9:20	282	8.26	0.08	0.05	0.48	12.6	24.0
Stevens Sample Station	23-May-17	10:23	304	8.47	0.28	0.07	0.68	12.6	22.4
Marine Dr Sample Station	23-May-17	9:10	283	8.31	0.11	0.10	0.41	15.1	23.8
May Week 5									
Merklin Low Reservoir - 25%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 50%	-	-	-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - High Zone	30-May-17	10:30	302	7.89	0.25	0.06	0.64	11.1	18.5
Main Shop (Buena Vista)	30-May-17	12:55	302	8.23	0.37	0.07	0.36	16.7	17.4
Stayte Sampling Station	30-May-17	12:08	305	8.35	0.31	0.06	0.43	16.8	20.2
City Washroom	30-May-17	11:00	296	8.41	0.57	0.05	0.30	19.1	19.1
Malabar Sample Station	30-May-17	9:27	283	8.23	0.07	0.00	0.53	14.2	20.7
Stevens Sample Station	30-May-17	11:40	299	8.42	0.35	0.04	0.35	13.2	20.2
Marine Dr Sample Station	30-May-17	9:17	273	8.26	0.07	0.04	0.51	15.9	18.3
June Week 1									
Merklin Low Reservoir	7-Jun-17	9:35	310	8.27	0.29	0.04	0.60	11.2	19.8
Merklin Reservoir (New)	7-Jun-17	9:45	306	8.31	0.25	0.03	0.55	10.9	19.6
Oxford Reservoir	7-Jun-17	10:00	270	8.11	0.04	0.02	0.59	10.1	19.1
Roper Reservoir	7-Jun-17	12:25	299	8.36	0.30	0.04	0.48	10.8	19.2
Oxford St. & Buena Vista STN	7-Jun-17	13:55	307	8.32	0.25	0.05	0.29	15.1	19.2

Mann Park Sampling Station	7-Jun-17	11:20	271	8.16	0.09	0.02	0.60	12.1	19.1
Stayte Rd. Sample Station	7-Jun-17	13:25	296	8.20	0.30	0.06	0.29	16.6	19.4
Balsam & Marine	7-Jun-17	-	-	-	-	-	-	-	-
Finlay St. Sample Station	7-Jun-17	13:10	308	8.24	0.30	0.04	0.51	15.5	19.4
Everall St. Sample Station	7-Jun-17	10:15	268	8.16	0.10	0.02	0.65	10.3	19.2
Russell Ave. Sample Station	7-Jun-17	10:30	306	8.30	0.27	0.03	0.58	10.6	19.2
Stevens Sample Station	7-Jun-17	12:45	304	8.28	0.48	0.05	0.58	12.1	19.2
Marine Dr Sample Station	7-Jun-17	11:45	272	8.25	0.13	0.02	0.56	16.0	19.1
June Week 2									
Merklin Low Reservoir	14-Jun-17	10:35	305	**8.70**	0.06	0.04	0.59	10.1	18.0
Merklin Reservoir (New)	14-Jun-17	10:40	304	**8.74**	0.06	0.02	0.62	10.4	18.2
Oxford Reservoir	14-Jun-17	10:07	280	**8.64**	0.03	0.02	0.61	10.4	18.0
Roper Reservoir	14-Jun-17	11:10	304	8.45	0.28	0.03	0.55	10.6	20.4
Oxford St. & Buena Vista STN	14-Jun-17	9:47	302	8.47	0.26	0.02	0.27	16.0	20.3
Malabar Sample Station	14-Jun-17	9:56	277	8.47	0.07	0.03	0.59	13.5	20.2
Stayte Rd. Sample Station	14-Jun-17	9:25	301	8.55	0.33	0.03	0.32	16.5	20.2
Balsam & Marine	14-Jun-17	11:38	305	8.56	0.23	0.02	0.50	17.5	20.0
Finlay St. Sample Station	14-Jun-17	9:08	301	8.62	0.34	0.04	0.52	14.8	20.1
Everall St. Sample Station	14-Jun-17	8:30	278	8.54	0.10	0.04	0.61	12.9	20.3
Russell Ave. Sample Station	14-Jun-17	10:28	305	8.66	0.35	0.05	0.57	10.6	20.2
Roper Ave. Sample Station	14-Jun-17	8:52	303	8.68	0.34	0.05	0.51	15.7	20.3
Chestnut & N. Bluff Sample STN	14-Jun-17	10:08	289	8.48	0.11	0.00	0.53	16.5	20.1
June Week 3									
Merklin Low Reservoir	21-Jun-17	12:00	305	8.38	0.18	0.56	0.03	10.2	19.7
Merklin Reservoir (New)	21-Jun-17	11:45	305	8.37	0.16	0.58	0.03	10.3	19.7
Oxford Reservoir	21-Jun-17	8:10	279	-	0.04	0.60	0.02	10.2	-
Roper Reservoir	21-Jun-17	9:45	303	8.37	0.25	0.42	0.04	10.4	19.8
Oxford St. & Buena Vista STN	21-Jun-17	12:15	304	8.39	0.25	0.28	0.02	15.8	19.8
Mann Park Sampling Station	21-Jun-17	8:45	278	8.12	0.08	0.61	0.02	12.0	19.7
Stayte Rd. Sample Station	21-Jun-17	11:00	301	8.36	0.29	0.37	0.03	16.1	19.7
Balsam & Marine	21-Jun-17	11:15	304	8.38	0.29	0.50	0.03	15.0	19.8
Finlay St. Sample Station	21-Jun-17	10:45	301	8.32	0.30	0.53	0.05	14.6	19.8
Everall St. Sample Station	21-Jun-17	8:20	279	8.10	0.10	0.58	0.02	10.1	19.7
Russell Ave. Sample Station	21-Jun-17	10:00	306	8.28	0.30	0.67	0.04	10.3	19.6
Stevens Sample Station	21-Jun-17	10:30	305	8.35	0.29	0.57	0.04	12.0	19.8
Marine Dr Sample Station	21-Jun-17	9:10	278	8.16	0.09	0.55	0.02	15.6	19.6

June Week 4									
Merklin Low Reservoir	27-Jun-17	11:35	313	8.29	0.23	0.41	0.07	10.4	20.5
Merklin Reservoir (New)	27-Jun-17	11:30	309	8.31	0.18	0.56	0.09	10.3	20.1
Oxford Reservoir	27-Jun-17	8:20	269	8.22	0.10	0.63	0.02	10.2	19.6
Roper Reservoir	27-Jun-17	10:55	303	8.32	0.48	0.38	0.04	15.3	20.7
Oxford St. & Buena Vista STN	27-Jun-17	12:40	303	8.26	0.22	0.35	0.04	17.6	20.7
Malabar Sample Station	27-Jun-17	8:55	274	8.13	0.11	0.62	0.03	14.7	20.7
Stayte Rd. Sample Station	27-Jun-17	11:30	290	8.24	0.40	0.37	0.04	17.3	20.8
Balsam & Marine	27-Jun-17	11:50	302	8.28	0.24	0.52	0.05	17.8	20.7
Finlay St. Sample Station	27-Jun-17	11:10	292	8.26	0.21	0.58	0.04	15.1	20.7
Everall St. Sample Station	27-Jun-17	8:40	273	8.10	0.10	0.65	0.04	10.8	20.6
Russell Ave. Sample Station	27-Jun-17	9:25	306	8.25	0.25	0.59	0.04	11.4	20.8
Roper Ave. Sample Station	27-Jun-17	11:20	302	8.26	0.34	0.55	0.05	16.5	20.7
Chestnut & N. Bluff Sample STN	27-Jun-17	9:10	273	8.12	0.11	0.54	0.02	17.8	20.8
July Week 1									
Merklin Low Reservoir	4-Jul-17	12:00	304	8.37	0.22	0.53	0.03	11.2	21.9
Merklin Reservoir (New)	4-Jul-17	12:15	304	8.37	0.22	0.62	0.05	9.2	21.2
Oxford Reservoir	4-Jul-17	12:30	276	8.11	0.06	0.61	0.02	10.3	20.7
Everall St. Sample Station	4-Jul-17	9:30	275	8.12	0.09	0.64	0.02	11.0	22.1
Mann Park Sample Station	4-Jul-17	9:45	277	8.10	0.09	0.62	0.03	13.2	21.6
Marine Dr Sample Station	4-Jul-17	10:00	275	8.14	0.08	0.59	0.02	17.4	21.8
Russell Ave. Sample Station	4-Jul-17	10:15	307	8.31	0.26	0.59	0.03	11.9	21.1
Roper Reservoir	4-Jul-17	10:30	303	8.35	0.30	0.42	0.04	14.5	22.1
Stevens Sample Station	4-Jul-17	10:45	306	8.36	0.29	0.59	0.04	15.7	20.9
Finlay St. Sample Station	4-Jul-17	11:00	306	8.36	0.27	0.62	0.04	13.5	21.8
Stayte Rd. Sample Station	4-Jul-17	11:15	302	8.38	0.28	0.44	0.02	18.3	21.6
Balsam & Marine	4-Jul-17	-	-	-	-	-	-	-	-
Oxford St. & Buena Vista STN	4-Jul-17	11:45	304	8.35	0.24	0.44	0.03	16.3	20.7
July Week 2									
Everall St. Sample Station	11-Jul-17	11:40	266	8.15	0.09	0.63	0.03	10.2	19.1
Malabar Sample Station	11-Jul-17	11:25	270	8.15	0.09	0.65	0.06	15.8	19.1
Chestnut & N.Bluff Sample STN	11-Jul-17	11:10	271	8.18	0.09	0.55	0.02	19.7	19.8
Russell Ave. Sample Station	12-Jul-17	7:45	307	8.32	0.32	0.63	0.04	10.7	18.8
Roper Reservoir	12-Jul-17	8:00	300	8.45	0.32	0.38	0.04	14.0	18.8
Roper Ave. Sample Station	12-Jul-17	8:30	307	8.36	0.34	0.57	0.04	16.9	18.7
Finlay St. Sample Station	12-Jul-17	9:20	303	8.34	0.29	0.61	0.04	16.1	18.8

Stayte Rd. Sample Station	12-Jul-17	10:50	295	8.33	0.25	0.49	0.04	18.7	19.3
Balsam & Marine	12-Jul-17	11:10	305	8.37	0.24	0.54	0.05	20.4	19.4
Oxford St. & Buena Vista STN	11-Jul-17	12:45	303	8.28	0.29	0.44	0.07	16.3	19.3
Merklin Low Reservoir	11-Jul-17	11:55	305	8.32	0.29	0.51	0.06	11.7	18.9
Merklin Reservoir (New)	12-Jul-17	9:00	305	8.35	0.29	0.61	0.03	12.3	18.6
Roper PRV - High Zone	12-Jul-17	8:00			0.35	0.63	0.04	10.7	
Oxford Reservoir	12-Jul-17	9:45	268	8.27	0.11	0.67	0.03	9.8	18.7
July Week 3									
Everall St. Sample Station	18-Jul-17	9:10	267	8.11	0.11	0.69	0.02	10.0	17.8
Mann Park Sample Station	18-Jul-17	9:25	269	8.12	0.10	0.66	0.03	12.3	18.0
Marine Dr Sample Station	18-Jul-17	9:45	271	8.20	0.09	0.58	0.04	18.0	18.4
Russell Ave. Sample Station	18-Jul-17	10:00	302	8.27	0.29	0.62	0.03	11.1	17.9
Roper Reservoir	18-Jul-17	11:30	296	8.39	0.30	0.41	0.04	16.0	19.1
Stevens Sample Station	18-Jul-17	11:55	303	8.33	0.26	0.62	0.07	13.4	18.4
Finlay St. Sample Station	19-Jul-17	9:05	305	8.23	0.31	0.59	0.03	15.6	19.1
Stayte Rd. Sample Station	19-Jul-17	9:25	295	8.24	0.31	0.37	0.04	19.1	19.5
Balsam & Marine	19-Jul-17	9:45	303	8.33	0.39	0.51	0.04	20.2	18.5
Oxford St. & Buena Vista STN	19-Jul-17	11:40	307	8.35	0.31	0.47	0.03	16.7	18.8
Merklin Low Reservoir	19-Jul-17	10:50	303	8.35	0.31	0.52	0.03	11.7	17.6
Merklin Reservoir (New)	19-Jul-17	10:35	308	8.35	0.33	0.65	0.05	10.0	17.5
Oxford Reservoir	19-Jul-17	11:15	268	8.28	0.09	0.63	0.03	9.9	17.0
July Week 4									
Everall St. Sample Station	25-Jul-17	8:57	269	8.43	0.17	0.64	0.02	10.4	20.4
Malabar Sample Station	25-Jul-17	9:27	275	8.26	0.12	0.65	0.02	15.6	21.0
Chestnut & N.Bluff Sample STN	25-Jul-17	9:10	268	8.29	0.11	0.54	0.05	18.6	20.6
Russell Ave. Sample Station	25-Jul-17	9:38	304	8.50	0.29	0.65	0.04	11.3	20.0
Roper Reservoir	25-Jul-17	9:50	301	8.46	0.27	0.45	0.07	15.6	20.4
Roper Ave. Sample Station	25-Jul-17	10:55	305	8.42	0.35	0.60	0.03	17.1	19.3
Finlay St. Sample Station	25-Jul-17	10:40	303	8.47	0.30	0.65	0.03	15.6	20.6
Stayte Rd. Sample Station	25-Jul-17	11:10	291	8.39	0.26	0.45	0.02	19.2	21.0
Balsam & Marine	25-Jul-17	11:25	298	**8.53**	0.25	0.59	0.03	15.8	19.8
Oxford St. & Buena Vista STN	25-Jul-17	12:55	297	8.43	0.31	0.52	0.05	16.0	18.8
Merklin Low Reservoir	25-Jul-17	11:45	305	8.48	0.29	0.56	0.05	11.6	18.3
Merklin Reservoir (New)	25-Jul-17	11:55	302	8.44	0.31	0.76	0.07	10.2	17.4
Oxford Reservoir	25-Jul-17	12:08	266	8.39	0.08	0.65	0.05	9.9	16.7
August Week 1									
Merklin Low Reservoir	1-Aug-17	11:00	298	8.29	0.37	0.04	0.54	11.7	18.5

Merklin Low Reservoir (New)	1-Aug-17	11:15	298	8.28	0.26	0.05	0.64	10.1	18.7
Oxford Reservoir	1-Aug-17	8:55	266	8.19	0.09	0.00	0.65	10.1	19.1
Roper Reservoir	1-Aug-17	10:40	296	8.33	0.21	0.05	0.41	15.7	19.5
Oxford St. & Buena Vista STN	1-Aug-17	11:50	302	8.25	0.21	0.04	0.40	17.7	19.7
Mann Park Sample Station	1-Aug-17	9:35	266	8.20	0.08	0.03	0.63	13.1	19.2
Stayte Sampling Station	2-Aug-17	11:05	282	8.15	0.17	0.05	0.40	20.2	20.7
Balsam & Marine	2-Aug-17	11:30	302	8.20	0.19	0.06	0.54	18.6	20.2
Finlay St. Sampling Station	2-Aug-17	10:50	298	8.22	0.25	0.07	0.57	16.5	19.8
Everall St. Sampling Station	2-Aug-17	9:15	268	8.14	0.08	0.04	0.67	10.7	19.7
Russell Ave. Sample Station	2-Aug-17	9:30	304	8.24	0.25	0.06	0.61	11.6	19.8
Stevens Sample Station	2-Aug-17	10:35	303	8.26	0.24	0.08	0.62	13.5	19.6
Marine Dr Sample Station	1-Aug-17	9:50	267	8.21	0.08	0.04	0.56	19.0	19.7
Roper PRV	2-Aug-17	9:45	-	-	0.21	0.06	0.63	11.4	-
August Week 2									
Merklin Low Reservoir	8-Aug-17	10:40	310	8.25	0.24	0.06	0.58	11.7	18.7
Merklin Low Reservoir (New)	8-Aug-17	11:00	308	8.27	0.22	0.04	0.65	10.5	18.1
Oxford Reservoir	8-Aug-17	10:00	271	8.20	0.10	0.04	0.73	10.2	18.9
Roper Reservoir	8-Aug-17	9:25	300	8.34	0.24	0.03	0.30	17.1	19.2
Oxford St. & Buena Vista STN	8-Aug-17	11:25	302	8.25	0.25	0.04	0.38	17.4	19.7
Malabar Sample Station	8-Aug-17	9:05	269	8.18	0.08	0.02	0.65	12.8	18.7
Stayte Sampling Station	9-Aug-17	10:30	292	8.21	0.20	0.05	0.43	19.7	19.8
Balsam & Marine	9-Aug-17	11:00	310	8.19	0.25	0.06	0.52	19.8	20.1
Finlay St. Sampling Station	9-Aug-17	9:30	305	8.26	0.28	0.06	0.60	18.0	19.5
Everall St. Sampling Station	9-Aug-17	8:55	269	8.19	0.11	0.04	0.65	10.5	19.2
Russell Ave. Sample Station	9-Aug-17	9:10	309	8.29	0.26	0.03	0.63	11.7	19.2
Roper Ave. Sample Station	9-Aug-17	9:50	304	8.31	0.29	0.06	0.56	18.6	19.5
Chestnut & N. Bluff Sample STN	8-Aug-17	8:50	270	8.20	0.09	0.04	0.56	19.9	19.4
Roper PRV	8-Aug-17	9:35	-	-	0.28	0.07	0.63	11.5	-
August Week 3									
Merklin Low Reservoir	15-Aug-17	11:27	305	**9.08**	0.21	0.05	0.59	12.1	15.9
Merklin Low Reservoir (New)	15-Aug-17	11:37	310	**8.63**	0.23	0.05	0.68	10.3	15.4
Oxford Reservoir	15-Aug-17	11:50	268	8.50	0.11	0.03	0.66	10.3	14.8
Roper Reservoir	15-Aug-17	9:50	305	**8.69**	0.23	0.05	0.45	14.7	16.6
Oxford St. & Buena Vista STN	15-Aug-17	12:45	309	**8.60**	0.18	0.02	0.40	16.6	17.0
Mann Park Sample Station	15-Aug-17	9:05	268	**8.54**	0.07	0.03	0.61	13.1	16.5
Stayte Sampling Station	15-Aug-17	10:58	289	**8.60**	0.16	0.09	0.43	20.2	17.8
Balsam & Marine	15-Aug-17	11:12	310	**8.67**	0.19	0.06	0.58	19.9	17.7

Finlay St. Sampling Station	15-Aug-17	10:47	299	**8.67**	0.22	0.07	0.62	17.0	17.6
Everall St. Sampling Station	15-Aug-17	9:30	268	**8.57**	0.07	0.04	0.65	10.6	16.5
Russell Ave. Sample Station	15-Aug-17	9:40	288	**8.61**	0.13	0.06	0.61	11.8	16.7
Stevens Sample Station	15-Aug-17	10:35	310	**8.64**	0.20	0.07	0.69	13.7	17.0
Marine Dr Sample Station	15-Aug-17	9:19	271	**8.60**	0.09	0.06	0.52	20.9	17.1
Roper PRV	15-Aug-17	9:56	-	-	0.17	0.07	0.55	11.3	-
August Week 4									
Merklin Low Reservoir	22-Aug-17	11:45	308	8.32	0.25	0.03	0.58	11.7	17.0
Merklin Low Reservoir (New)	22-Aug-17	11:55	305	8.35	0.19	0.06	0.67	10.3	15.6
Oxford Reservoir	22-Aug-17	12:05	268	8.27	0.05	0.05	0.63	10.2	15.3
Roper Reservoir	22-Aug-17	11:25	303	8.38	0.31	0.07	0.25	15.4	17.4
Oxford St. & Buena Vista STN	22-Aug-17	12:55	307	8.34	0.17	0.07	0.47	16.1	17.4
Malabar Sample Station	22-Aug-17	9:25	272	8.25	0.07	0.05	0.62	13.8	17.6
Stayte Sampling Station	22-Aug-17	10:50	290	8.33	0.20	0.07	0.40	20.8	18.6
Balsam & Marine	22-Aug-17	11:05	310	8.36	0.24	0.12	0.56	19.8	19.1
Finlay St. Sampling Station	22-Aug-17	10:20	299	8.35	0.21	0.03	0.66	15.9	18.3
Everall St. Sampling Station	22-Aug-17	9:40	268	8.27	0.09	0.02	0.65	10.5	18.0
Russell Ave. Sample Station	22-Aug-17	9:50	308	8.38	0.20	0.03	0.64	11.6	17.8
Roper Ave. Sample Station	22-Aug-17	10:35	306	8.35	0.28	0.10	0.64	18.6	18.0
Chestnut & N. Bluff Sample STN	22-Aug-17	9:15	270	8.26	0.09	0.08	0.52	20.2	18.2
Roper PRV	22-Aug-17	11:30	-	-	0.16	0.04	0.64	11.3	-
August Week 5									
Everall St. Sampling Station	29-Aug-17	9:50	283	8.25	0.07	0.65	0.07	10.3	**30.9**
Mann Park Sample Station	29-Aug-17	9:30	265	8.21	0.15	0.63	0.06	12.9	32.3
Marine Dr Sample Station	29-Aug-17	9:15	260	8.24	0.10	0.58	0.09	19.0	30.7
Russell Ave. Sample Station	29-Aug-17	10:55	311	8.31	0.29	0.65	0.07	11.5	30.2
Roper Reservoir	29-Aug-17	11:15	298	8.35	0.30	0.27	0.06	18.9	30.2
Roper PRV	29-Aug-17	11:25	-	-	0.23	0.65	0.03	11.5	-
Stevens Sample Station	29-Aug-17	10:28	308	8.31	0.39	0.68	0.08	13.0	28.5
Finlay St. Sampling Station	30-Aug-17	9:45	308	8.32	0.28	0.65	0.09	15.3	19.3
Stayte Sampling Station	30-Aug-17	9:17	285	8.29	0.20	0.40	0.03	20.0	19.3
Balsam & Marine	30-Aug-17	9:00	284	8.34	0.30	0.32	0.06	21.6	19.3
Oxford St. & Buena Vista STN	30-Aug-17	11:20	293	8.38	0.23	0.49	0.05	16.7	18.9
Merklin Low Reservoir	30-Aug-17	10:30	310	8.38	0.23	0.56	0.07	12.1	18.4
Merklin Reservoir (New)	30-Aug-17	10:40	308	8.36	0.21	0.64	0.05	10.2	17.8
Oxford Reservoir	30-Aug-17	11:00	259	8.35	0.13	0.65	0.03	10.1	17.8

September Week 1									
Everall St. Sampling Station	5-Sep-17	9:15	258	8.26	0.08	0.65	0.02	10.5	20.8
Malabar Sampling Station	5-Sep-17	9:30	256	8.29	0.07	0.32	0.03	13.3	20.6
Chestnut & N. Bluff Sample STN	5-Sep-17	9:50	259	8.31	0.09	0.56	0.04	19.8	20.7
Russell Ave. Sample Station	5-Sep-17	11:25	281	8.33	0.19	0.63	0.05	11.8	20.0
Roper Reservoir	5-Sep-17	10:55	286	8.44	0.20	0.36	0.04	14.0	20.5
Roper PRV	5-Sep-17	11:05	-	-	0.20	0.66	0.06	11.4	-
Roper Ave. Sample Station	5-Sep-17	10:30	305	8.38	0.20	0.58	0.06	19.9	20.9
Finlay St. Sampling Station	6-Sep-17	8:35	302	8.29	0.25	0.62	0.05	16.3	19.2
Stayte Sampling Station	6-Sep-17	9:05	284	8.28	0.20	0.39	0.03	20.1	19.6
Balsam & Marine	6-Sep-17	9:25	289	8.32	0.30	0.44	0.05	22.0	19.2
Oxford St. & Buena Vista STN	6-Sep-17	9:45	295	8.32	0.22	0.45	0.03	16.4	19.3
Merklin Low Reservoir	6-Sep-17	10:30	307	8.39	0.20	0.59	0.04	11.9	18.7
Merklin Reservoir (New)	6-Sep-17	10:50	310	8.38	0.21	0.66	0.02	10.2	18.8
Oxford Reservoir	6-Sep-17	11:05	258	8.37	0.06	0.65	0.03	10.2	18.7
September Week 2									
Everall St. Sampling Station	12-Sep-17	8:50	261	8.37	0.13	0.64	0.04	10.5	16.8
Mann Park Sample Station	12-Sep-17	9:05	261	8.38	0.11	0.62	0.03	12.9	16.9
Marine Dr Sample Station	12-Sep-17	9:20	260	8.42	0.08	0.46	0.05	18.9	16.6
Russell Ave. Sample Station	12-Sep-17	9:35	263	8.50	0.23	0.61	0.03	11.9	16.6
Roper Reservoir	12-Sep-17	9:45	284	**8.60**	0.20	0.41	0.02	13.8	16.9
Roper PRV	12-Sep-17	9:50	-	-	0.13	0.67	0.03	11.3	-
Stevens Sample Station	12-Sep-17	10:55	315	8.49	0.19	0.67	0.08	13.4	16.5
Finlay St. Sampling Station	12-Sep-17	10:40	313	8.50	0.17	0.72	0.03	15.9	16.3
Stayte Sampling Station	12-Sep-17	11:05	276	8.43	0.13	0.41	0.05	19.3	17.2
Balsam & Marine	12-Sep-17	11:20	303	**8.55**	0.15	0.50	0.09	19.3	17.9
Oxford St. & Buena Vista STN	12-Sep-17	11:35	294	8.49	0.14	0.35	0.10	17.0	17.1
Merklin Low Reservoir	12-Sep-17	11:55	308	**8.54**	0.20	0.64	0.08	11.4	15.4
Merklin Reservoir (New)	12-Sep-17	12:05	315	**8.56**	0.20	0.67	0.04	10.2	15.2
Oxford Reservoir	12-Sep-17	12:20	259	**8.52**	0.09	0.64	0.05	10.0	14.6
September Week 3									
Everall St. Sampling Station	20-Sep-17	7:45	260	8.32	0.08	0.60	0.04	10.1	16.0
Malabar Sampling Station	20-Sep-17	8:05	261	8.35	0.08	0.58	0.04	13.5	16.0
Chestnut & N. Bluff Sample STN	20-Sep-17	8:25	263	8.35	0.08	0.39	0.05	19.6	16.3
Russell Ave. Sample Station	20-Sep-17	8:50	260	8.41	0.09	0.58	0.03	11.4	15.7
Roper Reservoir	19-Sep-17	9:05	284	8.42	0.16	0.37	0.04	13.6	17.0

Roper PRV	19-Sep-17	9:10	-	-	0.12	0.60	0.08	11.3	-
Roper Ave. Sample Station	19-Sep-17	10:53	316	8.38	0.16	0.50	0.05	17.5	19.1
Finlay St. Sampling Station	19-Sep-17	11:05	295	8.39	0.13	0.60	0.08	15.9	19.5
Stayte Sampling Station	19-Sep-17	11:23	270	8.34	0.11	0.64	0.02	18.6	18.9
Balsam & Marine	19-Sep-17	11:37	297	8.42	0.12	0.53	0.09	18.4	20.8
Oxford St. & Buena Vista STN	20-Sep-17	9:15	267	8.41	0.10	0.42	0.04	15.6	16.1
Merklin Low Reservoir	19-Sep-17	10:25	318	8.45	0.18	0.57	0.08	11.3	18.3
Merklin Reservoir (New)	19-Sep-17	10:38	314	8.45	0.15	0.65	0.05	10.1	16.4
Oxford Reservoir	19-Sep-17	11:55	263	8.44	0.08	0.36	0.09	9.9	17.4
September Week 4									
Everall St. Sampling Station	26-Sep-17	11:50	256	8.38	0.09	0.64	0.04	10.5	14.9
Mann Park Sample Station	26-Sep-17	11:40	259	8.43	0.09	0.62	0.05	13.0	15.1
Marine Dr Sample Station	26-Sep-17	11:25	262	8.41	0.10	0.40	0.08	17.8	15.4
Russell Ave. Sample Station	26-Sep-17	12:00	259	8.40	0.09	0.61	0.08	11.5	14.4
Roper Reservoir	26-Sep-17	12:25	283	8.49	0.26	0.41	0.06	13.0	14.7
Roper PRV	26-Sep-17	12:30	-	-	0.23	0.63	0.03	11.5	-
Stevens Sample Station	26-Sep-17	12:10	300	8.47	0.22	0.59	0.05	13.3	15.1
Finlay St. Sampling Station	26-Sep-17	9:00	271	**8.51**	0.12	0.59	0.06	15.8	16.0
Stayte Sampling Station	26-Sep-17	9:20	278	8.44	0.18	0.36	0.04	18.0	16.3
Balsam & Marine	26-Sep-17	9:35	284	8.48	0.13	0.49	0.04	18.1	15.8
Oxford St. & Buena Vista STN	26-Sep-17	9:50	266	8.46	0.11	0.39	0.03	15.5	16.0
Merklin Low Reservoir	26-Sep-17	10:20	295	**8.54**	0.22	0.50	0.07	12.2	15.3
Merklin Reservoir (New)	26-Sep-17	10:40	295	**8.58**	0.21	0.61	0.08	10.4	15.1
Oxford Reservoir	26-Sep-17	10:55	263	**8.53**	0.08	0.65	0.06	10.0	15.5
October Week 3									
Everall St. Sampling Station	17-Oct-17	9:30	274	8.47	0.11	0.61	0.03	9.6	13.5
Mann Park Sample Station	17-Oct-17	9:45	271	8.36	0.11	0.55	0.00	11.5	13.2
Marine Dr Sample Station	17-Oct-17	10:00	274	8.50	0.19	0.48	0.00	13.9	13.6
Russell Ave. Sample Station	17-Oct-17	10:15	273	8.44	0.15	0.56	0.00	10.0	13.2
Roper Reservoir	17-Oct-17	10:45	283	**8.53**	0.35	0.26	0.03	10.6	13.3
Roper PRV	17-Oct-17	10:45	-	-	0.21	0.53	0.00	10.2	-
Stevens Sample Station	18-Oct-17	11:00	282	8.45	0.23	0.54	0.09	12.3	13.4
Finlay St. Sampling Station	18-Oct-17	11:25	274	8.35	0.13	0.51	0.08	13.7	13.6
Stayte Sampling Station	18-Oct-17	11:40	277	8.31	0.13	0.61	0.00	15.0	14.1
Balsam & Marine	18-Oct-17	12:00	275	8.35	0.11	0.55	0.03	14.5	14.2
Oxford St. & Buena Vista STN	18-Oct-17	12:20	274	8.21	0.09	0.77	0.00	13.2	13.7
Merklin Low Reservoir	17-Oct-17	11:30	283	**8.57**	0.40	0.61	0.00	11.5	13.6

Merklin Reservoir (New)	17-Oct-17	11:20	282	**8.62**	0.41	0.47	0.03	9.4	13.5
Oxford Reservoir	18-Oct-17	10:45	277	8.06	0.11	0.61	0.10	10.0	15.5
October Week 4									
Everall St. Sampling Station	24-Oct-17	9:05	267	8.50	0.09	0.62	0.06	10.5	14.4
Malabar Sampling Station	24-Oct-17	9:15	269	8.44	0.10	0.62	0.05	11.6	13.9
Marine Dr Sample Station	24-Oct-17	9:30	271	8.36	0.14	0.58	0.02	14.5	14.1
Russell Ave. Sample Station	24-Oct-17	9:45	272	8.36	0.07	0.60	0.05	10.3	13.5
Roper Reservoir	24-Oct-17	9:55	286	**8.58**	0.39	0.12	0.04	10.7	13.7
Roper PRV	24-Oct-17	10:05	-	-	0.08	0.62	0.05	10.5	-
Roper Ave. Sample Station	24-Oct-17	10:45	309	**8.52**	0.11	0.60	0.00	13.5	14.1
Finlay St. Sampling Station	24-Oct-17	11:00	284	8.45	0.10	0.53	0.07	13.3	14.4
Stayte Sampling Station	24-Oct-17	11:15	281	8.46	0.14	0.36	0.02	14.6	14.4
Balsam & Marine	24-Oct-17	11:25	277	8.40	0.11	0.56	0.05	13.1	14.3
Oxford St. & Buena Vista STN	24-Oct-17	12:25	278	8.42	0.11	0.44	0.02	12.8	15.0
Merklin Low Reservoir	24-Oct-17	11:45	316	**8.58**	0.09	0.39	0.05	11.5	13.8
Merklin Reservoir (New)	24-Oct-17	12:00	311	**8.57**	0.11	0.50	0.04	10.3	13.8
Oxford Reservoir	24-Oct-17	12:10	272	8.46	0.08	0.63	0.03	10.2	13.7
October Week 5									
Everall St. Sampling Station	31-Oct-17	9:17	280	8.38	0.10	0.61	0.05	10.8	21.0
Mann Park Sample Station	31-Oct-17	9:30	271	8.18	0.11	0.63	0.00	11.7	17.0
Marine Dr Sample Station	31-Oct-17	9:45	274	**8.51**	0.18	0.70	0.00	13.5	18.1
Russell Ave. Sample Station	31-Oct-17	10:20	277	**8.56**	0.11	0.63	0.05	10.2	18.8
Roper Reservoir	31-Oct-17	10:35	279	**8.52**	0.22	0.17	0.00	10.7	16.9
Roper PRV	31-Oct-17	10:45	-	-	0.22	0.56	0.02	10.5	-
Stevens Sample Station	31-Oct-17	10:55	275	8.47	0.14	0.58	0.06	11.9	17.0
Finlay St. Sampling Station	31-Oct-17	11:07	276	8.46	0.15	0.55	0.07	13.0	16.8
Stayte Sampling Station	31-Oct-17	11:20	285	**8.56**	0.20	0.35	0.03	13.8	18.5
Balsam & Marine	31-Oct-17	11:35	273	8.46	0.10	0.50	0.05	12.8	17.3
Oxford St. & Buena Vista STN	31-Oct-17	8:40	283	**8.63**	0.16	0.36	0.02	12.7	20.0
Merklin Low Reservoir	31-Oct-17	11:55	302	**8.58**	0.34	0.59	0.00	10.9	18.7
Merklin Reservoir (New)	31-Oct-17	12:05	297	**8.61**	0.36	0.45	0.06	10.0	18.0
Oxford Reservoir	31-Oct-17	9:05	267	**8.68**	0.16	0.59	0.05	11.0	16.8
November Week 1									
Everall St. Sampling Station	7-Nov-17	7:25	282	8.25	0.10	0.59	0.04	10.1	16.2
Malabar Sampling Station	7-Nov-17	7:40	281	8.32	0.11	0.48	0.09	10.7	17.1
Chestnut & N. Bluff Sample STN	7-Nov-17	7:55	275	8.31	0.16	0.32	0.07	12.1	16.5

Russell Ave. Sample Station	7-Nov-17	8:30	310	**8.51**	0.39	0.42	0.00	9.7	19.0
Roper Reservoir	7-Nov-17	8:45	299	**8.55**	0.28	0.28	0.09	8.9	19.8
Roper PRV	7-Nov-17	8:55	-	-	0.31	0.28	0.05	9.9	-
Roper Ave. Sample Station	7-Nov-17	9:07	297	**8.55**	0.40	0.39	0.06	11.5	16.7
Finlay St. Sampling Station	7-Nov-17	9:20	298	8.50	0.35	0.43	0.07	12.9	16.8
Stayte Sampling Station	7-Nov-17	9:35	301	8.49	0.26	0.30	0.03	12.1	18.5
Balsam & Marine	7-Nov-17	9:45	278	8.49	0.17	0.38	0.05	9.7	16.8
Oxford St. & Buena Vista STN	7-Nov-17	11:25	288	**8.54**	0.20	0.40	0.03	11.0	18.5
Merklin Low Reservoir	7-Nov-17	10:40	311	**8.67**	0.39	0.38	0.19	11.1	18.9
Merklin Reservoir (New)	7-Nov-17	11:00	304	**8.57**	0.40	0.90	0.00	9.6	17.8
Oxford Reservoir	7-Nov-17	8:13	269	8.49	0.50	0.00	0.00	10.1	13.3
November Week 2									
Everall St. Sampling Station	14-Nov-17	7:55	278	8.31	0.10	0.57	0.03	9.7	19.0
Mann Park Sample Station	14-Nov-17	8:10	281	8.23	0.10	0.59	0.06	10.2	22.8
Marine Dr Sample Station	14-Nov-17	8:25	269	8.34	0.19	0.42	0.03	11.3	18.9
Russell Ave. Sample Station	14-Nov-17	8:40	310	**8.57**	0.39	0.51	0.07	11.8	20.6
Roper Reservoir	14-Nov-17	8:55	292	**8.54**	0.38	0.36	0.00	9.6	19.3
Roper PRV	14-Nov-17	9:00	-	-	0.34	0.52	0.09	10.5	-
Stevens Sample Station	14-Nov-17	9:25	306	8.49	0.41	0.49	0.05	10.7	19.2
Finlay St. Sampling Station	14-Nov-17	9:15	295	8.46	0.37	0.43	0.06	11.5	18.7
Stayte Sampling Station	14-Nov-17	9:40	308	**8.54**	0.31	0.30	0.06	11.5	21.4
Balsam & Marine	14-Nov-17	9:55	291	8.44	0.20	0.41	0.02	10.5	22.3
Oxford St. & Buena Vista STN	14-Nov-17	11:20	279	8.43	0.20	0.38	0.03	10.9	20.9
Merklin Low Reservoir	14-Nov-17	10:30	307	**8.53**	0.35	0.66	0.00	10.8	19.8
Merklin Reservoir (New)	14-Nov-17	10:45	314	**8.52**	0.45	0.50	0.09	9.8	21.9
Oxford Reservoir	14-Nov-17	11:05	269	8.44	0.20	0.38	0.02	11.1	17.3
November Week 3									
Everall St. Sampling Station	21-Nov-17	9:10	280	8.29	0.11	0.57	0.03	9.5	-
Malabar Sampling Station	21-Nov-17	9:15	279	8.26	0.10	0.49	0.03	11.2	-
Marine Dr Sample Station	21-Nov-17	9:30	274	8.30	0.20	0.36	0.02	10.7	-
Russell Ave. Sample Station	21-Nov-17	9:45	306	8.41	0.36	0.57	0.03	9.2	-
Roper Reservoir	21-Nov-17	10:00	299	8.39	0.36	0.35	0.01	10.5	-
Roper PRV	21-Nov-17	10:00	301	8.42	0.31	0.57	0.03	10.3	-
Roper Ave. Sample Station	22-Nov-17	8:30	300	8.46	0.30	0.52	0.02	9.9	-
Finlay St. Sampling Station	22-Nov-17	9:00	296	8.38	0.29	0.48	0.02	11.1	-
Stayte Sampling Station	22-Nov-17	9:15	305	8.44	0.29	0.31	0.04	11.3	-
Balsam & Marine	22-Nov-17	9:30	298	8.31	0.22	0.50	0.03	10.9	-

Oxford St. & Buena Vista STN	22-Nov-17	9:45	287	8.41	0.31	0.36	0.00	10.8	-
Merklin Low Reservoir	21-Nov-17	10:30	303	8.48	0.34	0.56	0.04	10.6	-
Merklin Reservoir (New)	22-Nov-17	10:45	311	8.48	0.34	0.59	0.04	10.0	-
Oxford Reservoir	22-Nov-17	10:00	271	8.46	0.21	0.59	0.02	10.8	-
December Week 3									
Everall St. Sampling Station	19-Dec-17	10:00	-	-	0.23	0.62	0.00	8.4	-
Malabar Sampling Station	19-Dec-17	10:15	-	-	0.28	0.53	0.03	9.2	-
Marine Dr Sample Station	19-Dec-17	10:30	-	-	0.25	0.44	0.02	8.1	-
Russell Ave. Sample Station	19-Dec-17	10:45	-	-	0.44	0.61	0.02	9.0	-
Roper Reservoir	19-Dec-17	11:00	-	-	0.85	0.27	0.02	6.6	-
Roper PRV	19-Dec-17	11:00	-	-	0.35	0.62	0.03	8.1	-
Roper Ave. Sample Station	20-Dec-17	10:15	294	8.41	0.28	0.53	0.02	8.8	13.4
Finlay St. Sampling Station	20-Dec-17	10:30	284	8.34	0.20	0.55	0.02	9.3	14.1
Stayte Sampling Station	20-Dec-17	10:45	288	8.40	0.23	0.38	0.02	8.9	14.2
Balsam & Marine	20-Dec-17	11:00	294	8.43	0.17	0.57	0.03	9.4	13.5
Oxford St. & Buena Vista STN	20-Dec-17	11:15	275	8.37	0.11	0.57	0.02	9.3	13.6
Merklin Low Reservoir	-	-	-	-	-	-	-	-	-
Merklin Reservoir (New)	-	-	-	-	-	-	-	-	-
Oxford Reservoir	20-Dec-17		282	8.45	0.17	0.56	0.03	9.9	14.2
December Week 4									
Everall St. Sampling Station	27-Dec-17	10:35	271	8.19	0.10	0.58	0.02	9.0	9.7
Mann Park Sample Station	27-Dec-17	10:55	272	8.23	0.09	0.57	0.03	8.1	9.2
Marine Dr Sample Station	27-Dec-17	11:15	274	8.29	0.12	0.47	0.03	7.6	9.3
Russell Ave. Sample Station	27-Dec-17	11:35	299	8.45	0.14	0.64	0.03	8.9	9.5
Roper Reservoir	27-Dec-17	12:00	289	8.47	0.29	0.40	0.03	6.9	9.4
Roper PRV	27-Dec-17	11:50	-	-	0.37	0.64	0.05	9.2	-
Stevens Sample Station	27-Dec-17	13:05	302	8.48	0.17	0.63	0.01	8.7	10.0
Finlay St. Sampling Station	28-Dec-17	9:40	289	8.28	0.12	0.58	0.02	8.1	9.8
Stayte Sampling Station	28-Dec-17	10:25	288	8.32	0.17	0.42	0.04	7.8	9.6
Balsam & Marine	28-Dec-17	10:45	283	8.32	0.12	0.59	0.02	8.4	9.7
Oxford St. & Buena Vista STN	28-Dec-17	13:05	280	8.31	0.14	0.49	0.04	8.9	9.8
Merklin Low Reservoir	28-Dec-17	11:45	298	8.50	0.16	0.54	0.05	9.8	10.1
Merklin Reservoir (New)	28-Dec-17	11:35	299	8.50	0.16	0.66	0.04	10.1	10.3
Oxford Reservoir	28-Dec-17	12:20	283	8.31	0.10	0.57	0.05	9.9	12.8

Oxford & Merklin Chlorination Metal Results 2017

Sample Location	Date Sampled	Arsenic	Copper	Lead	Iron	Manganese	Colour	pH
		mg/L	mg/L	mg/L	mg/L	mg/L	Colour Units	
Nominal Detection Limit		**0.0002**	**0.001**	**0.0001**	**0.005**	**0.001**	**5**	
Guideline Limit		**0.0100**	**1**	**0.01**	**0.3**	**0.05**		**6.5 - 8.5**
Everall Sample Station	10-Jan-17	0.0063	0.0020	0.000093	<0.004	0.122	<5	7.78
Mann Park Sample Station	10-Jan-17	0.0066	0.0073	0.000363	<0.004	0.080	<5	7.87
Malabar Sample Station	10-Jan-17	0.0062	0.0035	0.000471	<0.004	0.053	<5	7.89
Marine Drive Sample Station	10-Jan-17	0.0064	0.0052	0.000404	<0.004	0.04	<5	7.93
Russell Avenue Sample Station	10-Jan-17	0.0066	0.0026	0.000166	<0.004	0.116	<5	7.92
Finlay Sampling Station	13-Jan-17	0.0059	0.0027	0.000130	0.208	0.083	<5	7.64
Roper PRV - High Zone	13-Jan-17	0.0064	0.001	0.000023	<0.004	0.114	<5	7.77
Kent St Activity Centre	13-Jan-17	0.0067	0.0049	0.000028	<0.004	0.092	<5	7.80
Stevens Sampling Station	13-Jan-17	0.0065	0.0020	0.000127	<0.004	0.090	<5	7.83
Roper Sampling Station	13-Jan-17	0.0077	0.0019	0.000274	<0.004	0.103	<5	7.88
Everall Sample Station	18-Jan-17	0.0059	0.0011	0.000063	<0.004	0.108	<5	7.78
Mann Park Sample Station	18-Jan-17	0.0056	0.0050	0.000315	<0.004	0.054	<5	7.81
Malabar Sample Station	18-Jan-17	0.0056	0.0021	0.000195	<0.004	0.041	<5	7.81
Marine Drive Sample Station	18-Jan-17	0.0056	0.0026	0.000222	<0.004	0.027	<5	7.81
Russell Avenue Sample Station	18-Jan-17	0.0057	0.0029	0.000188	<0.004	0.078	<5	7.84
Stevens Sampling Station	23-Jan-17	0.0086	0.0019	0.000159	0.009	0.121	<5	7.69
Roper Sampling Station	23-Jan-17	0.0086	0.0023	0.000324	0.008	0.116	<5	7.82
Roper PRV - High Zone	23-Jan-17	0.0067	0.0009	0.000029	<0.004	0.085	<5	7.81
Finlay Sampling Station	23-Jan-17	0.0071	0.0041	0.000124	0.005	0.085	<5	7.81
Kent St Activity Centre	23-Jan-17	0.0085	0.0061	0.000048	0.007	0.144	<5	7.85
Everall Sample Station	24-Jan-17	0.0057	0.0013	0.000376	<0.004	0.096	<5	7.65
Mann Park Sample Station	24-Jan-17	0.0057	0.0052	0.000333	<0.004	0.043	<5	7.73
Malabar Sample Station	24-Jan-17	0.0057	0.001	0.000228	0.005	0.033	<5	7.75
Marine Drive Sample Station	24-Jan-17	0.0058	0.0018	0.000283	0.005	0.029	<5	7.78
Russell Avenue Sample Station	24-Jan-17	0.0058	0.0006	0.000142	<0.004	0.068	<5	7.78
Stevens Sampling Station	26-Jan-17	0.0085	0.0035	0.000127	0.006	0.142	<5	7.63
Roper Sampling Station	26-Jan-17	0.0084	0.0024	0.000249	0.009	0.122	<5	7.79
Roper PRV - High Zone	26-Jan-17	0.0078	0.0018	0.000092	0.006	0.104	<5	7.79
Finlay Sampling Station	26-Jan-17	0.0071	0.0011	0.000094	0.007	0.103	<5	7.81

Kent St Activity Centre	26-Jan-17	0.0085	0.0049	0.000028	0.010	0.150	<5	7.87
Everall Sample Station	31-Jan-17	0.0058	0.0008	<0.00001	<0.004	0.095	<5	7.63
Mann Park Sample Station	31-Jan-17	0.0060	0.0041	0.000192	<0.004	0.054	<5	7.76
Malabar Sample Station	31-Jan-17	0.0057	0.0021	0.000162	<0.004	0.036	<5	7.78
Marine Drive Sample Station	31-Jan-17	0.0058	0.0031	0.000185	<0.004	0.024	<5	7.82
Russell Avenue Sample Station	31-Jan-17	0.0057	0.0015	0.000115	<0.004	0.064	<5	7.80
Stevens Sampling Station	31-Jan-17	0.0084	0.0042	0.002370	0.065	0.126	<5	7.73
Roper Sampling Station	31-Jan-17	0.0092	0.0024	0.000190	0.004	0.128	<5	7.85
Roper PRV - High Zone	31-Jan-17	0.0064	0.0120	0.000071	<0.004	0.066	<5	7.80
Finlay Sampling Station	31-Jan-17	0.0087	0.0010	0.000044	0.005	0.116	<5	7.87
Kent St Activity Centre	31-Jan-17	0.0086	0.0096	0.000070	0.007	0.126	<5	7.89
Everall Sample Station	07-Feb-17	0.0057	0.0009	0.000058	<0.004	0.090	<5	7.56
Mann Park Sample Station	07-Feb-17	0.0056	0.0062	0.000753	0.008	0.047	<5	7.71
Malabar Sample Station	07-Feb-17	0.0055	0.0036	0.000354	0.005	0.023	<5	7.75
Marine Drive Sample Station	07-Feb-17	0.0055	0.0020	0.000307	0.004	0.018	<5	7.77
Russell Avenue Sample Station	07-Feb-17	0.0056	0.0105	0.000492	0.013	0.106	<5	7.76
Stevens Sampling Station	08-Feb-17	0.0062	0.0017	0.000070	0.007	0.058	<5	7.77
Roper Sampling Station	08-Feb-17	0.0091	0.0023	0.000210	0.009	0.119	<5	7.87
Roper PRV - High Zone	08-Feb-17	0.0079	0.0017	<0.00001	0.005	0.105	<5	7.86
Finlay Sampling Station	08-Feb-17	0.0071	0.0009	0.000044	<0.004	0.075	<5	7.84
Kent St Activity Centre	08-Feb-17	0.0069	0.0059	<0.00001	0.008	0.070	<5	7.84
Everall Sample Station	15-Feb-17	0.0067	0.0012	0.000137	<0.004	0.086	<5	7.72
Mann Park Sample Station	15-Feb-17	0.0060	0.0118	0.000556	0.004	0.036	<5	7.76
Malabar Sample Station	15-Feb-17	0.0058	0.0030	0.000294	0.004	0.026	<5	7.76
Marine Drive Sample Station	15-Feb-17	0.0057	0.0023	0.000241	<0.004	0.017	<5	7.76
Russell Avenue Sample Station	15-Feb-17	0.0067	0.0016	0.000187	<0.004	0.052	<5	7.77
Stevens Sampling Station	15-Feb-17	0.0073	0.0025	0.000090	0.004	0.087	<5	7.80
Roper Sampling Station	15-Feb-17	0.0089	0.0026	0.000209	0.008	0.130	<5	7.87
Roper PRV - High Zone	15-Feb-17	0.0071	0.0022	0.000057	<0.004	0.076	<5	7.77
Finlay Sampling Station	15-Feb-17	0.0067	0.0008	0.000036	0.004	0.060	<5	7.78
Kent St Activity Centre	15-Feb-17	0.0080	0.0050	<0.00001	0.005	0.110	<5	7.81
Stevens Sampling Station	21-Feb-17	0.0088	0.0021	0.000108	0.004	0.111	<5	7.90
Malabar Sample Station	21-Feb-17	0.0066	0.0030	0.000224	0.005	0.021	<5	7.81
Marine Drive Sample Station	21-Feb-17	0.0067	0.0023	0.000192	<0.004	0.021	<5	7.77
Roper PRV - High Zone	21-Feb-17	0.0074	0.0015	0.000044	<0.004	0.058	<5	7.79
Finlay Sampling Station	22-Feb-17	0.0069	0.0009	0.000074	0.006	0.043	<5	7.84

Everall Sample Station	22-Feb-17	0.0066	0.0010	0.00012	0.005	0.114	12	7.84
Roper Sampling Station	22-Feb-17	0.0090	0.0024	0.000233	0.010	0.122	<5	7.92
Stayte Station	22-Feb-17	0.0074	0.0023	0.00151	0.009	0.042	<5	7.85
Oxford Station	22-Feb-17	0.0079	0.0014	0.00225	0.062	0.062	<5	7.88
Chestnut Street	22-Feb-17	0.0066	0.0013	0.000551	0.009	0.016	<5	7.86
Russell Avenue Sample Station	22-Feb-17	0.0090	0.0012	0.000222	0.007	0.116	<5	7.93
Everall Sample Station	28-Feb-17	0.0064	0.0011	0.000031	0.005	0.058	<5	7.72
Mann Park Sample Station	28-Feb-17	0.0065	0.0054	0.000256	<0.004	0.027	<5	7.75
Chestnut Street	28-Feb-17	0.0064	0.0019	0.000260	0.008	0.013	<5	7.80
Marine Drive Sample Station	28-Feb-17	0.0062	0.0043	0.000244	0.005	0.015	<5	7.77
Russell Avenue Sample Station	28-Feb-17	0.0089	0.0016	0.000194	0.006	0.118	<5	7.85
Stevens Sampling Station	28-Feb-17	0.0086	0.0024	0.000104	0.006	0.121	<5	7.84
Roper Sampling Station	28-Feb-17	0.0090	0.0033	0.000284	0.009	0.125	<5	7.87
Roper PRV - High Zone	28-Feb-17	0.0086	0.0012	<0.00001	0.004	0.106	<5	7.85
Finlay Sampling Station	28-Feb-17	0.0072	0.0010	0.000040	0.008	0.058	<5	7.81
Stayte Station	28-Feb-17	0.0080	0.0041	0.000383	0.017	0.053	<5	7.82
Oxford Station	28-Feb-17	0.0076	0.0013	0.00143	0.0048	0.078	<5	7.82
Balsam	28-Feb-17	0.0081	0.0601	0.000666	0.020	0.043	<5	7.82
Everall Sample Station	07-Mar-17	0.0063	0.0010	0.000066	<0.004	0.049	<5	7.76
Mann Park Sample Station	07-Mar-17	0.0064	0.0062	0.000253	<0.004	0.020	<5	7.78
Marine Drive Sample Station	07-Mar-17	0.0064	0.0041	0.000292	<0.004	0.014	<5	7.80
Russell Avenue Sample Station	07-Mar-17	0.0087	0.0013	0.000203	0.006	0.114	<5	7.88
Chestnut Street	07-Mar-17	0.0062	0.0012	0.000233	0.01	0.009	<5	7.79
Stevens Sampling Station	07-Mar-17	0.0091	0.0022	0.000127	0.006	0.124	<5	7.88
Roper Sampling Station	07-Mar-17	0.0088	0.0027	0.000317	0.009	0.118	<5	7.90
Roper PRV - High Zone	07-Mar-17	0.0086	0.0013	0.000045	0.006	0.107	<5	7.89
Finlay Sampling Station	07-Mar-17	0.0088	0.0009	0.000073	0.008	0.103	<5	7.90
Stayte Station	07-Mar-17	0.0082	0.0020	0.000382	0.011	0.061	<5	7.87
Oxford Station	07-Mar-17	0.0079	0.0008	0.000204	0.044	0.096	<5	7.86
Balsam	07-Mar-17	0.0076	0.0567	0.000950	0.041	0.074	<5	7.84
Everall Sample Station	14-Mar-17	0.0058	0.0011	0.000068	<0.004	0.030	<5	7.76
Malabar Sample Station	14-Mar-17	0.0055	0.0037	0.000320	0.004	0.010	<5	7.79
Marine Drive Sample Station	14-Mar-17	0.0056	0.0490	0.000348	0.004	0.008	<5	7.82
Russell Avenue Sample Station	14-Mar-17	0.0086	0.0011	0.000194	0.006	0.117	<5	7.93
Chestnut Street	14-Mar-17	0.0057	0.0014	0.000286	0.006	0.007	<5	7.82
Stevens Sampling Station	14-Mar-17	0.0085	0.0018	0.000119	0.006	0.124	<5	7.90
Roper Sampling Station	14-Mar-17	0.0084	0.0038	0.000435	0.007	0.117	<5	7.95

Roper PRV - High Zone	14-Mar-17	0.0085	0.0015	0.000038	<0.004	0.096	<5	7.95
Finlay Sampling Station	14-Mar-17	0.0073	0.0011	0.000081	0.005	0.081	<5	7.92
Stayte Station	14-Mar-17	0.0076	0.0019	0.000297	0.016	0.063	<5	7.95
Oxford Station	14-Mar-17	0.0070	0.0008	0.000255	0.025	0.099	<5	7.90
Balsam	14-Mar-17	0.0066	0.0318	0.000453	0.012	0.046	<5	7.89
Everall Sample Station	21-Mar-17	0.0059	0.0013	0.000076	<0.004	0.052	<5	7.73
Malabar Sample Station	21-Mar-17	0.0052	0.0051	0.000340	0.004	0.005	<5	7.77
Marine Drive Sample Station	21-Mar-17	0.0058	0.0044	0.000316	<0.004	0.008	<5	7.81
Russell Avenue Sample Station	21-Mar-17	0.0057	0.0021	0.000205	<0.004	0.015	<5	7.81
Chestnut Street	21-Mar-17	0.0052	0.0021	0.000202	0.004	0.006	<5	7.8
Stevens Sampling Station	21-Mar-17	0.0088	0.0021	0.000139	0.006	0.126	<5	7.93
Roper Sampling Station	21-Mar-17	0.0088	0.0028	0.000310	0.009	0.126	<5	7.94
Roper PRV - High Zone	21-Mar-17	0.0084	0.0014	0.000029	<0.004	0.089	<5	7.91
Finlay Sampling Station	21-Mar-17	0.0075	0.0009	0.000081	0.006	0.079	<5	7.89
Stayte Station	21-Mar-17	0.0076	0.0024	0.000327	0.012	0.052	<5	7.89
Oxford Station	21-Mar-17	0.0066	0.0008	0.000232	0.035	0.108	<5	7.87
Balsam	21-Mar-17	0.0081	0.0513	0.000620	0.024	0.059	<5	7.91
Everall Sample Station	29-Mar-17	0.0059	0.0013	0.000075	0.004	0.028	<5	7.79
Mann Park Sample Station	29-Mar-17	0.0057	0.0090	0.000219	<0.004	0.016	<5	7.76
Marine Drive Sample Station	29-Mar-17	0.0057	0.0051	0.000321	<0.004	0.007	<5	7.74
Russell Avenue Sample Station	29-Mar-17	0.0090	0.0012	0.000172	0.004	0.115	<5	7.86
Chestnut Street	29-Mar-17	0.0059	0.0019	0.000182	0.008	0.007	<5	7.76
Stevens Sampling Station	29-Mar-17	0.0088	0.0028	0.000142	0.007	0.122	<5	7.88
Roper Sampling Station	29-Mar-17	0.0088	0.0030	0.000306	0.008	0.114	<5	7.86
Roper PRV - High Zone	29-Mar-17	0.0086	0.0016	0.000029	0.005	0.100	<5	7.86
Finlay Sampling Station	29-Mar-17	0.0076	0.0010	0.000074	0.005	0.005	6	7.83
Stayte Station	29-Mar-17	0.0069	0.0024	0.000312	0.009	0.034	<5	7.79
Oxford Station	29-Mar-17	0.0069	0.0048	0.000263	0.022	0.096	<5	7.78
Balsam	29-Mar-17	0.0071	0.0765	0.000441	0.016	0.111	<5	7.82
Everall Sample Station	04-Apr-17	0.0062	0.0020	0.000088	<0.004	0.029	<5	7.66
Mann Park Sample Station	04-Apr-17	0.0062	0.0071	0.000342	<0.004	0.015	<5	7.68
Marine Drive Sample Station	04-Apr-17	0.0061	0.0045	0.000301	<0.004	0.008	<5	7.69
Russell Avenue Sample Station	04-Apr-17	0.0092	0.0011	0.000285	0.007	0.110	<5	7.81
Chestnut Street	04-Apr-17	0.0062	0.0014	0.000215	0.005	0.007	<5	7.71
Stevens Sampling Station	05-Apr-17	0.0091	0.0021	0.000153	0.006	0.122	<5	7.82
Roper PRV - High Zone	05-Apr-17	0.0087	0.0015	0.000049	0.005	0.108	<5	7.82
Finlay Sampling Station	05-Apr-17	0.0079	0.0015	0.0000955	0.006	0.093	<5	7.79

Stayte Station	05-Apr-17	0.0077	0.0025	0.000312	0.012	0.045	<5	7.70
Buena Vista Station	05-Apr-17	0.0078	0.0207	0.000377	0.014	0.084	<5	7.78
Balsam	05-Apr-17	0.0081	0.0257	0.000273	0.007	0.068	<5	7.74
Everall Sample Station	11-Apr-17	0.0059	0.0008	0.000067	<0.004	0.101	<5	7.69
Malabar Sample Station	11-Apr-17	0.0057	0.0041	0.000249	<0.004	0.049	<5	7.76
Marine Drive Sample Station	11-Apr-17	0.0061	0.0052	0.000362	<0.004	0.036	<5	7.80
Chestnut Street	11-Apr-17	0.0060	0.0013	0.000159	<0.004	0.028	<5	7.79
Stevens Sampling Station	11-Apr-17	0.0090	0.0024	0.000116	<0.004	0.143	<5	7.88
Roper Sampling Station	11-Apr-17	0.0089	0.0034	0.000343	<0.004	0.137	<5	7.88
Roper PRV - High Zone	11-Apr-17	0.0086	0.0012	0.000033	<0.004	0.125	<5	7.87
Finlay Sampling Station	11-Apr-17	0.0074	0.0010	0.000076	<0.004	0.0996	<5	7.87
Stayte Station	11-Apr-17	0.0074	0.0021	0.000285	0.011	0.078	<5	7.90
Buena Vista Station	11-Apr-17	0.0077	0.0091	0.000268	0.014	0.122	<5	7.83
Balsam	11-Apr-17	0.0082	0.0267	0.000523	0.006	0.089	<5	7.87
Everall Sample Station	24-Apr-17	0.0060	0.0017	0.000078	<0.004	0.030	<5	7.79
Malabar Sample Station	24-Apr-17	0.0060	0.0049	0.000305	<0.004	0.011	<5	7.83
Marine Drive Sample Station	24-Apr-17	0.0061	0.0043	0.000324	<0.004	0.009	<5	7.86
Russell Avenue Sample Station	24-Apr-17	0.0091	0.0011	0.000194	0.005	0.12	<5	7.96
Chestnut Street	24-Apr-17	0.0059	0.0021	0.000228	0.007	0.007	<5	7.86
Stevens Sampling Station	25-Apr-17	0.0089	0.0018	0.000148	0.005	0.13	<5	7.97
Roper Sampling Station	25-Apr-17	0.0089	0.0024	0.000324	0.006	0.13	<5	7.99
Roper PRV - High Zone	25-Apr-17	0.0088	0.0014	0.000075	<0.004	0.11	<5	7.96
Finlay Sampling Station	25-Apr-17	0.0076	0.0023	0.000110	0.005	0.077	<5	7.93
Stayte Station	25-Apr-17	0.0082	0.0042	0.000873	0.0099	0.069	<5	7.95
Oxford Station	25-Apr-17	0.0071	0.0059	0.000308	0.013	0.11	<5	7.79
Balsam	25-Apr-17	0.0071	0.0305	0.000363	0.008	0.060	<5	7.86
Everall Sample Station	28-Apr-17	0.0057	0.0016	0.000084	<0.004	0.021	<5	7.67
Malabar Sample Station	28-Apr-17	0.0057	0.0049	0.000425	<0.004	0.009	<5	7.74
Marine Drive Sample Station	28-Apr-17	0.0060	0.0048	0.000374	<0.004	0.012	<5	7.79
Russell Avenue Sample Station	28-Apr-17	0.0091	0.0011	0.000236	<0.004	0.12	<5	7.94
Chestnut Street	28-Apr-17	0.0059	0.0018	0.00028	<0.004	0.009	<5	7.81
Stevens Sampling Station	28-Apr-17	0.0092	0.0024	0.000161	<0.004	0.130	<5	7.93
Roper Sampling Station	28-Apr-17	0.0091	0.0040	0.000465	0.005	0.130	<5	7.94
Roper PRV - High Zone	28-Apr-17	0.0087	0.0013	0.000031	<0.004	0.11	<5	7.91
Finlay Sampling Station	28-Apr-17	0.0080	0.0016	0.000125	<0.004	0.091	<5	7.91
Stayte Station	28-Apr-17	0.0079	0.0028	0.000371	0.009	0.075	<5	7.90
Oxford Station	28-Apr-17	0.0082	0.0060	0.000343	0.012	0.14	<5	7.89

Balsam	28-Apr-17	0.0084	0.0286	0.000356	<0.004	0.081	<5	7.91
Everall Sample Station	02-May-17	0.0057	0.0014	0.000140	0.004	0.020	<5	7.77
Malabar Sample Station	02-May-17	0.0056	0.0044	0.000381	<0.004	0.0096	<5	7.82
Marine Drive Sample Station	02-May-17	0.0055	0.0044	0.000378	0.005	0.006	<5	7.81
Russell Avenue Sample Station	02-May-17	0.0089	0.0012	0.00029	0.005	0.11	<5	7.95
Chestnut Street	02-May-17	0.0056	0.0018	0.000192	0.006	0.006	<5	7.81
Stevens Sampling Station	02-May-17	0.0088	0.0016	0.000222	0.006	0.12	<5	7.96
Roper Sampling Station	02-May-17	0.0088	0.0032	0.000732	0.006	0.12	<5	7.96
Roper PRV - High Zone	02-May-17	0.0086	0.0014	0.000047	0.005	0.098	<5	7.83
Finlay Sampling Station	02-May-17	0.0078	0.0013	0.0000974	0.005	0.085	<5	7.92
Stayte Station	02-May-17	0.0081	0.0024	0.000329	0.010	0.070	<5	7.92
Oxford Station	02-May-17	0.0071	0.0063	0.000328	0.019	0.13	<5	7.90
Balsam	02-May-17	0.0072	0.0297	0.000383	0.005	0.060	<5	7.89
Everall Sample Station	04-May-17	0.0056	0.0041	0.000521	<0.004	0.041	<5	7.74
Mann Park Sample Station	04-May-17	0.0056	0.0070	0.000363	<0.004	0.011	<5	7.77
Marine Drive Sample Station	04-May-17	0.0057	0.0044	0.000329	<0.004	0.007	<5	7.80
Russell Avenue Sample Station	04-May-17	0.0088	0.0007	0.000159	<0.004	0.11	<5	7.91
Chestnut Street	04-May-17	0.0057	0.0017	0.000156	<0.004	0.006	<5	7.78
Stevens Sampling Station	04-May-17	0.0088	0.0019	0.000170	0.004	0.14	<5	7.93
Roper Sampling Station	04-May-17	0.0088	0.0019	0.000263	<0.004	0.12	<5	7.95
Roper PRV - High Zone	04-May-17	0.0087	0.0013	0.000040	<0.004	0.095	<5	7.89
Finlay Sampling Station	04-May-17	0.0079	0.0008	0.000060	<0.004	0.079	<5	7.87
Stayte Station	04-May-17	0.0080	0.0024	0.000357	<0.004	0.070	<5	7.89
Buena Vista Station	04-May-17	0.0071	0.0069	0.000326	0.008	0.11	<5	7.88
Balsam	04-May-17	0.0080	0.0215	0.000226	<0.004	0.078	<5	7.90
Everall Sample Station	09-May-17	0.0055	0.0021	0.000084	<0.004	0.032	<5	7.83
Mann Park Sample Station	09-May-17	0.0055	0.0101	0.000323	<0.004	0.012	<5	7.86
Marine Drive Sample Station	09-May-17	0.0055	0.0048	0.000394	<0.004	0.008	<5	7.88
Russell Avenue Sample Station	09-May-17	0.0086	0.0009	0.000178	0.006	0.12	<5	7.99
Chestnut Street	09-May-17	0.0055	0.0021	0.000198	0.0096	0.006	<5	7.80
Stevens Sampling Station	09-May-17	0.0087	0.0027	0.000177	0.005	0.13	<5	7.99
Roper Sampling Station	09-May-17	0.0086	0.0035	0.000438	0.007	0.13	<5	7.98
Roper PRV - High Zone	09-May-17	0.0085	0.0012	0.000078	0.006	0.11	<5	7.99
Finlay Sampling Station	09-May-17	0.0074	0.0036	0.000102	0.006	0.086	<5	7.94
Stayte Station	09-May-17	0.0078	0.0030	0.000437	0.008	0.072	<5	7.97
Buena Vista Station	09-May-17	0.0071	0.0059	0.000325	0.012	0.11	<5	7.95
Balsam	09-May-17	0.0078	0.0189	0.000281	0.009	0.096	<5	7.97

Everall Sample Station	11-May-17	0.0059	0.0018	0.000059	<0.004	0.015	<5	7.76
Malabar Sample Station	11-May-17	0.0056	0.0062	0.000421	<0.004	0.004	<5	7.83
Marine Drive Sample Station	11-May-17	0.0061	0.0051	0.000395	<0.004	0.008	<5	7.78
Russell Avenue Sample Station	11-May-17	0.0089	0.0010	0.000149	<0.004	0.12	<5	8.02
Chestnut Street	11-May-17	0.007	<0.005	<0.00010	0.006	0.007	<5	7.89
Stevens Sampling Station	11-May-17	0.0095	0.0029	0.000160	0.005	0.13	<5	8.00
Roper Sampling Station	11-May-17	0.0093	0.0033	0.000432	0.007	0.13	<5	8.02
Roper PRV - High Zone	11-May-17	0.0090	0.0015	0.000020	<0.004	0.11	<5	8.00
Finlay Sampling Station	11-May-17	0.0085	0.0028	0.000093	0.006	0.094	<5	7.91
Stayte Station	11-May-17	0.0082	0.0025	0.000322	0.008	0.075	<5	7.97
Buena Vista Station	11-May-17	0.0087	0.0066	0.000338	0.014	0.14	<5	7.96
Balsam	11-May-17	0.0083	0.0448	0.000411	0.009	0.092	<5	7.96
Everall Sample Station	16-May-17	0.0057	0.0015	0.000038	<0.004	0.024	<5	7.65
Malabar Sample Station	16-May-17	0.0056	0.0036	0.000341	<0.004	0.009	<5	7.74
Marine Drive Sample Station	16-May-17	0.0055	0.0040	0.000345	<0.004	0.007	<5	7.79
Russell Avenue Sample Station	16-May-17	0.0088	0.0011	0.000152	<0.004	0.12	<5	7.92
Chestnut Street	16-May-17	0.0056	0.0013	0.000155	<0.004	0.005	<5	7.81
Stevens Sampling Station	16-May-17	0.0087	0.0026	0.000129	0.004	0.13	<5	7.93
Roper Sampling Station	16-May-17	0.0089	0.0037	0.000432	<0.004	0.13	<5	7.96
Roper PRV - High Zone	16-May-17	0.0086	0.0013	<0.000010	<0.004	0.16	<5	7.96
Finlay Sampling Station	16-May-17	0.0086	0.0022	0.000051	<0.004	0.110	<5	8.02
Stayte Station	16-May-17	0.0078	0.0027	0.000343	0.005	0.080	<5	7.94
Buena Vista Station	16-May-17	0.0071	0.0061	0.000332	0.007	0.12	<5	7.90
Balsam	16-May-17	0.0072	0.0369	0.000301	<0.004	0.090	<5	7.90
Everall Sample Station	18-May-17	0.0055	0.0009	0.000068	<0.004	0.024	<5	7.73
Mann Park Sample Station	18-May-17	0.0053	0.0081	0.000264	<0.004	0.011	<5	7.77
Marine Drive Sample Station	18-May-17	0.0052	0.0037	0.000362	<0.004	0.003	<5	7.69
Russell Avenue Sample Station	18-May-17	0.0083	0.0012	0.000178	0.007	0.12	<5	7.92
Chestnut Street	18-May-17	0.0050	0.0016	0.000149	0.005	0.002	<5	7.80
Stevens Sampling Station	18-May-17	0.0084	0.0026	0.000158	0.007	0.13	<5	7.95
Roper Sampling Station	18-May-17	0.0086	0.0031	0.000413	0.008	0.13	<5	7.89
Roper PRV - High Zone	18-May-17	0.0082	0.0012	0.000029	0.006	0.12	<5	7.94
Finlay Sampling Station	18-May-17	0.0081	0.0012	0.000077	0.007	0.11	<5	7.95
Stayte Station	18-May-17	0.0075	0.0028	0.000313	0.008	0.082	<5	7.94
Buena Vista Station	18-May-17	0.0068	0.0048	0.000277	0.008	0.10	<5	7.93
Balsam	18-May-17	0.0071	0.0310	0.000296	0.0096	0.097	<5	7.94
Everall Sample Station	23-May-17	0.0054	0.0013	0.000078	<0.004	0.025	<5	7.75

Mann Park Sample Station	23-May-17	0.0053	0.0089	0.000280	<0.004	0.012	<5	7.81
Marine Drive Sample Station	23-May-17	0.0052	0.0051	0.000429	0.004	0.006	<5	7.83
Russell Avenue Sample Station	23-May-17	0.0082	0.0012	0.000146	0.005	0.12	<5	7.93
Chestnut Street	23-May-17	0.0052	0.0016	0.000185	0.006	0.003	<5	7.83
Stevens Sampling Station	23-May-17	0.0083	0.0026	0.000158	0.006	0.12	<5	7.96
Roper Sampling Station	23-May-17	0.0083	0.0041	0.000498	0.008	0.12	<5	8.00
Roper PRV - High Zone	23-May-17	0.0082	0.0008	0.000062	<0.004	0.11	<5	7.99
Finlay Sampling Station	23-May-17	0.0079	0.0017	0.000081	0.005	0.11	<5	7.98
Stayte Station	23-May-17	0.0076	0.0031	0.000432	0.007	0.087	<5	7.95
Buena Vista Station	23-May-17	0.0074	0.0070	0.000312	0.0096	0.14	<5	7.96
Balsam	23-May-17	0.0079	0.0157	0.000170	0.008	0.11	<5	7.97
Everall Sample Station	25-May-17	0.0058	0.0014	0.0000969	0.013	0.026	<5	7.65
Malabar Sample Station	25-May-17	0.0057	0.0046	0.000453	<0.004	0.008	<5	7.76
Marine Drive Sample Station	25-May-17	0.0058	0.0057	0.000487	0.004	0.004	<5	7.81
Russell Avenue Sample Station	25-May-17	0.0091	0.0017	0.000200	0.004	0.12	<5	7.92
Chestnut Street	25-May-17	0.0058	0.0021	0.000203	0.006	0.004	<5	7.81
Stevens Sampling Station	25-May-17	0.0090	0.0027	0.000198	0.006	0.130	<5	7.94
Roper Sampling Station	25-May-17	0.0089	0.0038	0.000510	0.008	0.120	<5	7.94
Roper PRV - High Zone	25-May-17	0.0088	0.0015	0.000041	0.005	0.120	<5	7.94
Finlay Sampling Station	25-May-17	0.0087	0.0013	0.000104	0.006	0.11	<5	7.94
Stayte Station	25-May-17	0.0081	0.0028	0.000379	0.011	0.078	<5	7.93
Buena Vista Station	25-May-17	0.0086	0.0116	0.000463	0.014	0.14	<5	7.92
Balsam	25-May-17	0.0087	0.0232	0.000424	0.014	0.10	<5	7.95
Everall Sample Station	30-May-17	0.0059	0.0011	0.000066	<0.004	0.027	<5	7.59
Malabar Sample Station	30-May-17	0.0059	0.004	0.000402	<0.004	0.009	<5	7.76
Marine Drive Sample Station	30-May-17	0.0058	0.0052	0.000480	<0.004	0.005	<5	7.77
Russell Avenue Sample Station	30-May-17	0.0091	0.0013	0.000157	0.005	0.12	<5	7.88
Chestnut Street	30-May-17	0.0059	0.0015	0.000162	0.007	0.004	<5	7.79
Stevens Sampling Station	30-May-17	0.0091	0.0026	0.000168	<0.004	0.12	<5	7.89
Roper Sampling Station	30-May-17	0.0091	0.0025	0.000395	0.011	0.12	<5	7.91
Roper PRV - High Zone	30-May-17	0.0090	0.0014	0.000031	0.005	0.11	<5	7.91
Finlay Sampling Station	30-May-17	0.0085	0.0014	0.000083	<0.004	0.10	<5	7.91
Stayte Station	30-May-17	0.0087	0.0033	0.000454	0.006	0.088	<5	7.92
Buena Vista Station	30-May-17	0.0088	0.0067	0.000358	0.0097	0.12	<5	7.96
Balsam	30-May-17	0.0088	0.0501	0.000553	0.017	0.10	<5	7.89
Everall Sample Station	01-Jun-17	0.0062	0.0014	0.000082	<0.004	0.026	<5	7.90
Mann Park Sample Station	01-Jun-17	0.0062	0.0108	0.000554	<0.004	0.015	<5	7.97

Marine Drive Sample Station	01-Jun-17	0.0061	0.0060	0.000570	<0.004	0.004	<5	8.00
Russell Avenue Sample Station	01-Jun-17	0.0094	0.0018	0.000201	0.006	0.12	<5	8.08
Chestnut Street	01-Jun-17	0.0063	0.0024	0.000225	0.004	0.006	<5	7.98
Stevens Sampling Station	01-Jun-17	0.0096	0.0025	0.000222	0.005	0.12	<5	8.09
Roper Sampling Station	01-Jun-17	0.0096	0.0040	0.000590	0.006	0.12	<5	8.09
Roper PRV - High Zone	01-Jun-17	0.0098	0.0020	0.000044	0.005	0.12	<5	8.12
Finlay Sampling Station	01-Jun-17	0.0094	0.0016	0.000120	0.004	0.11	<5	8.07
Stayte Station	01-Jun-17	0.0092	0.0033	0.000511	0.006	0.087	<5	8.09
Buena Vista Station	01-Jun-17	0.0089	0.0071	0.000401	0.014	0.17	<5	8.07
Balsam	01-Jun-17	0.0090	0.0386	0.000552	0.009	0.10	<5	8.09
Everall Sample Station	13-Jun-17	0.0056	0.0012	0.00006	<0.004	0.033	<5	7.74
Malabar Sample Station	13-Jun-17	0.0059	0.0028	0.00035	<0.004	0.011	<5	7.80
Russell Avenue Sample Station	13-Jun-17	0.0085	0.0012	0.00016	<0.004	0.14	<5	7.94
Chestnut Street	13-Jun-17	0.0054	0.0014	0.00017	0.008	0.005	<5	7.80
Stevens Sampling Station	13-Jun-17	0.0084	0.0019	0.00012	0.006	0.13	<5	7.80
Roper Sampling Station	13-Jun-17	0.0084	0.0026	0.00049	0.005	0.13	<5	7.90
Roper PRV - High Zone	13-Jun-17	0.0084	0.0009	0.00004	0.004	0.13	<5	7.93
Finlay Sampling Station	13-Jun-17	0.0081	0.0018	0.00010	0.004	0.11	<5	7.92
Stayte Station	13-Jun-17	0.0080	0.0020	0.00032	0.006	0.099	<5	7.82
Buena Vista Station	13-Jun-17	0.0074	0.0007	0.00025	0.013	0.18	<5	7.89
Balsam	13-Jun-17	0.0084	0.0179	0.00022	0.006	0.11	<5	7.92
Everall Sample Station	21-Jun-17	0.0056	0.0013	0.00010	<0.004	0.035	<5	7.62
Mann Park Sample Station	21-Jun-17	0.0058	0.0085	0.00035	0.005	0.018	<5	7.82
Marine Drive Sample Station	21-Jun-17	0.0055	0.0062	0.00059	0.004	0.005	<5	7.85
Russell Avenue Sample Station	21-Jun-17	0.0082	0.0015	0.00021	0.005	0.13	<5	7.96
Stevens Sampling Station	21-Jun-17	0.0082	0.0028	0.00018	0.005	0.13	<5	7.98
Roper PRV - High Zone	21-Jun-17	0.0081	0.0015	0.00005	0.004	0.13	<5	7.97
Finlay Sampling Station	21-Jun-17	0.0080	0.0018	0.00012	0.007	0.12	<5	7.98
Stayte Station	21-Jun-17	0.0077	0.0039	0.00068	0.008	0.10	<5	7.98
Buena Vista Station	21-Jun-17	0.0077	0.0141	0.00056	0.022	0.20	<5	7.97
Balsam	21-Jun-17	0.0083	0.0185	0.00029	0.008	0.12	<5	8.00
Everall Sample Station	27-Jun-17	0.0059	0.0015	0.00015	0.005	0.062	<5	7.65
Malabar Sample Station	27-Jun-17	0.0058	0.0034	0.00047	<0.004	0.017	<5	7.82
Chestnut Street	27-Jun-17	0.0059	0.0021	0.00025	0.009	0.008	<5	7.84
Russell Avenue Sample Station	27-Jun-17	0.0088	0.0019	0.00024	0.005	0.12	<5	7.90
Roper PRV - High Zone	27-Jun-17	0.0083	0.0010	0.00004	<0.004	0.10	<5	7.94
Roper Sampling Station	27-Jun-17	0.0088	0.0033	0.00051	0.005	0.12	<5	7.95

Finlay Sampling Station	27-Jun-17	0.0076	0.0063	0.00013	0.006	0.087	<5	7.92
Stayte Station	27-Jun-17	0.0075	0.0032	0.00060	0.011	0.099	<5	7.90
Balsam	27-Jun-17	0.0084	0.0196	0.00039	0.006	0.098	<5	7.94
Buena Vista Station	27-Jun-17	0.0081	0.0068	0.00042	0.013	0.15	<5	7.90
Everall Sample Station	06-Jul-17	0.0059	0.0024	0.00062	<0.004	0.069	<5	7.59
Mann Park Sample Station	06-Jul-17	0.0059	0.0072	0.00035	<0.004	0.032	<5	7.74
Marine Drive Sample Station	06-Jul-17	0.0059	0.0049	0.00059	<0.004	0.11	<5	7.79
Russell Avenue Sample Station	06-Jul-17	0.0089	0.0018	0.00023	<0.004	0.13	<5	7.89
Roper PRV - High Zone	06-Jul-17	0.0086	0.0012	0.00004	<0.004	0.13	<5	7.90
Stevens Sampling Station	06-Jul-17	0.0089	0.0016	0.00017	<0.004	0.14	<5	7.93
Finlay Sampling Station	06-Jul-17	0.0082	0.0014	0.00011	<0.004	0.11	<5	7.93
Stayte Station	06-Jul-17	0.0077	0.0023	0.00030	<0.004	0.093	<5	7.89
Balsam	06-Jul-17	0.0088	0.0207	0.00023	0.004	0.13	<5	7.92
Buena Vista Station	06-Jul-17	0.0077	0.0131	0.00077	<0.004	0.10	<5	7.90
Everall Sample Station	11-Jul-17	0.0058	0.0015	0.00007	<0.004	0.068	<5	7.66
Malabar Sample Station	11-Jul-17	0.0057	0.0046	0.00055	<0.004	0.023	<5	7.81
Chestnut Street	11-Jul-17	0.0057	0.0018	0.00016	<0.004	0.011	<5	7.85
Russell Avenue Sample Station	12-Jul-17	0.0085	0.0021	0.00016	<0.004	0.13	<5	7.92
Roper PRV - High Zone	12-Jul-17	0.0085	0.0010	0.00001	<0.004	0.13	<5	7.96
Roper Sampling Station	12-Jul-17	0.0084	0.0067	0.00088	<0.004	0.13	<5	7.96
Finlay Sampling Station	12-Jul-17	0.0081	0.0014	0.00009	<0.004	0.12	<5	7.92
Stayte Station	12-Jul-17	0.0075	0.0032	0.00056	<0.004	0.093	<5	7.93
Balsam	12-Jul-17	0.0084	0.0196	0.00025	<0.004	0.11	<5	7.96
Buena Vista Station	12-Jul-17	0.0080	0.0065	0.00034	<0.004	0.11	<5	7.90
Everall Sample Station	18-Jul-17	0.0058	0.0018	0.00009	<0.004	0.069	<5	7.63
Mann Park Sample Station	18-Jul-17	0.0057	0.0089	0.00025	<0.004	0.039	<5	7.78
Marine Drive Sample Station	18-Jul-17	0.0059	0.0049	0.00048	0.006	0.016	<5	7.82
Russell Avenue Sample Station	18-Jul-17	0.0087	0.0018	0.00016	<0.004	0.12	<5	7.92
Roper PRV - High Zone	18-Jul-17	0.0083	0.0015	0.00002	0.004	0.12	<5	7.79
Stevens Sampling Station	18-Jul-17	0.0087	0.0028	0.00020	0.004	0.13	<5	7.91
Finlay Sampling Station	19-Jul-17	0.0082	0.0013	0.00008	0.006	0.11	<5	7.92
Stayte Station	19-Jul-17	0.0076	0.0038	0.00118	0.007	0.094	<5	7.92
Balsam	19-Jul-17	0.0084	0.0258	0.00030	0.008	0.12	<5	7.83
Buena Vista Station	19-Jul-17	0.0083	0.0084	0.00046	0.010	0.12	<5	7.92
Everall Sample Station	25-Jul-17	0.0062	0.0013	0.00008	<0.004	0.069	<5	7.62
Malabar Sample Station	25-Jul-17	0.0061	0.0042	0.00049	<0.004	0.028	<5	7.79
Chestnut Street	25-Jul-17	0.0061	0.0017	0.00018	0.005	0.017	<5	7.82

Russell Avenue Sample Station	25-Jul-17	0.0090	0.0020	0.00019	<0.004	0.13	<5	7.96
Roper PRV - High Zone	25-Jul-17	0.0088	0.0014	0.00003	<0.004	0.12	<5	7.96
Roper Sampling Station	25-Jul-17	0.0091	0.0035	0.00065	<0.004	0.13	<5	7.96
Finlay Sampling Station	25-Jul-17	0.0084	0.0013	0.00009	<0.004	0.11	<5	7.93
Stayte Station	25-Jul-17	0.0078	0.0043	0.00160	<0.004	0.093	<5	7.91
Balsam	25-Jul-17	0.0088	0.0179	0.00032	<0.004	0.11	<5	7.95
Buena Vista Station	25-Jul-17	0.0086	0.0071	0.00040	0.004	0.12	<5	7.93
Everall Sample Station	02-Aug-17	0.0059	0.0014	0.00009	<0.004	0.075	<5	7.86
Mann Park Sample Station	01-Aug-17	0.0058	0.0079	0.00027	<0.004	0.047	<5	7.67
Marine Drive Sample Station	01-Aug-17	0.0059	0.0043	0.00045	<0.004	0.019	<5	7.84
Russell Avenue Sample Station	02-Aug-17	0.0086	0.0019	0.00015	<0.004	0.12	<5	7.94
Roper PRV - High Zone	02-Aug-17	0.0083	0.0014	0.00005	<0.004	0.11	<5	7.95
Stevens Sampling Station	02-Aug-17	0.0084	0.0033	0.00022	<0.004	0.12	<5	7.95
Finlay Sampling Station	02-Aug-17	0.0080	0.0011	0.00010	<0.004	0.11	<5	7.93
Stayte Station	02-Aug-17	0.0069	0.0034	0.00096	<0.004	0.087	<5	7.89
Balsam	02-Aug-17	0.0083	0.0174	0.00024	<0.004	0.10	<5	7.94
Buena Vista Station	01-Aug-17	0.0080	0.0085	0.00050	0.004	0.11	<5	7.88
Roper PRV - High Zone	08-Aug-17	0.0086	0.00097	<0.00001	0.004	0.12	<5	7.68
Buena Vista Station	08-Aug-17	0.0080	0.0016	0.00023	0.011	0.13	<5	7.86
Malabar Sample Station	08-Aug-17	0.0060	0.0035	0.00032	<0.004	0.041	<5	7.83
Chestnut Street	08-Aug-17	0.0060	0.0012	0.00012	0.007	0.020	<5	7.84
Stayte Station	09-Aug-17	0.0075	0.0031	0.00053	0.005	0.092	<5	7.91
Balsam	09-Aug-17	0.0087	0.0219	0.00029	0.006	0.11	<5	7.95
Finlay Sampling Station	09-Aug-17	0.0090	0.0009	0.00004	0.005	0.12	<5	7.99
Everall Sample Station	09-Aug-17	0.0062	0.0013	0.00003	<0.004	0.077	<5	7.89
Russell Avenue Sample Station	09-Aug-17	0.0090	0.0016	0.00008	0.004	0.13	<5	7.97
Roper Sampling Station	09-Aug-17	0.0087	0.0058	0.00096	0.006	0.12	<5	7.98
Buena Vista Station	15-Aug-17	0.0078	0.0015	0.00022	0.007	0.11	6	7.87
Mann Park Sample Station	15-Aug-17	0.0056	0.0077	0.00025	0.005	0.043	5	7.80
Stayte Station	15-Aug-17	0.0068	0.0032	0.00056	0.008	0.088	6	7.64
Balsam	15-Aug-17	0.0079	0.0225	0.00029	0.004	0.10	6	7.84
Finlay Sampling Station	15-Aug-17	0.0075	0.00097	0.00008	0.005	0.10	7	7.87
Stevens Sampling Station	15-Aug-17	0.0084	0.0027	0.00016	0.004	0.12	8	7.91
Everall Sample Station	15-Aug-17	0.0056	0.0019	0.000098	<0.004	0.069	8	7.57
Russell Avenue Sample Station	15-Aug-17	0.0068	0.0016	0.00012	<0.004	0.079	10	7.79
Marine Drive Sample Station	15-Aug-17	0.0057	0.0039	0.00041	0.004	0.022	14	7.80
Roper PRV - High Zone	15-Aug-17	0.0078	0.0013	0.00003	<0.004	0.11	22	7.90

Buena Vista Station	22-Aug-17	0.0079	0.0013	0.00022	0.004	0.12	<5	7.64
Malabar Sample Station	22-Aug-17	0.0057	0.0033	0.00042	<0.004	0.048	<5	7.70
Stayte Station	22-Aug-17	0.0069	0.0044	0.00081	<0.004	0.099	<5	7.79
Balsam	22-Aug-17	0.0081	0.0294	0.00037	<0.004	0.12	<5	7.85
Finlay Sampling Station	22-Aug-17	0.0078	0.0009	0.00011	<0.004	0.12	<5	7.86
Everall Sample Station	22-Aug-17	0.0057	0.0016	0.00009	<0.004	0.13	<5	7.78
Russell Avenue Sample Station	22-Aug-17	0.0083	0.0012	0.00013	<0.004	0.13	<5	7.88
Roper Sampling Station	22-Aug-17	0.0082	0.0041	0.00096	<0.004	0.13	<5	7.90
Chestnut Street	22-Aug-17	0.0057	0.0011	0.00012	<0.004	0.026	<5	7.79
Roper PRV - High Zone	22-Aug-17	0.0077	0.0011	0.00003	<0.004	0.12	<5	7.87
Everall Sample Station	29-Aug-17	0.0065	0.0013	0.00009	0.009	0.13	<5	7.49
Mann Park Sample Station	29-Aug-17	0.0066	0.0061	0.00022	<0.004	0.094	<5	7.74
Marine Drive Sample Station	29-Aug-17	0.0066	0.0033	0.00039	0.006	0.047	<5	7.78
Russell Avenue Sample Station	29-Aug-17	0.0085	0.0009	0.00009	0.006	0.13	<5	7.88
Roper PRV - High Zone	29-Aug-17	0.0083	0.0019	0.00006	<0.004	0.13	<5	7.89
Stevens Sampling Station	29-Aug-17	0.0085	0.0027	0.00018	0.010	0.16	<5	7.93
Finlay Sampling Station	30-Aug-17	0.0083	0.0008	0.00009	0.004	0.12	<5	7.81
Stayte Station	30-Aug-17	0.0075	0.0027	0.00044	0.007	0.10	<5	7.86
Balsam	30-Aug-17	0.0075	0.0331	0.00041	0.009	0.12	<5	7.88
Buena Vista Station	30-Aug-17	0.0075	0.0014	0.00021	0.008	0.12	<5	7.90
Everall Sample Station	05-Sep-17	0.0068	0.0018	0.00009	<0.004	0.12	<5	7.63
Malabar Sample Station	05-Sep-17	0.0068	0.0034	0.00039	<0.004	0.058	<5	7.82
Chestnut Street	05-Sep-17	0.0068	0.0013	0.00013	0.007	0.057	<5	7.85
Russell Avenue Sample Station	05-Sep-17	0.0078	0.0050	0.00044	<0.004	0.12	<5	7.89
Roper PRV - High Zone	05-Sep-17	0.0087	0.0020	0.00005	0.005	0.13	<5	7.93
Roper Sampling Station	06-Sep-17	0.0089	0.0045	0.00072	0.004	0.12	<5	7.95
Finlay Sampling Station	06-Sep-17	0.0088	0.0010	0.00009	<0.004	0.11	<5	7.93
Stayte Station	06-Sep-17	0.0079	0.0033	0.00054	0.006	0.11	<5	7.90
Balsam	06-Sep-17	0.0082	0.0300	0.00042	<0.004	0.086	<5	7.91
Buena Vista Station	06-Sep-17	0.0081	0.0024	0.00034	0.005	0.15	<5	7.90
Everall Sample Station	12-Sep-17	0.0070	0.0014	0.00008	<0.004	0.11	<5	7.60
Mann Park Sample Station	12-Sep-17	0.0069	0.0061	0.00025	<0.004	0.092	<5	7.78
Marine Drive Sample Station	12-Sep-17	0.0069	0.0039	0.00042	0.005	0.049	<5	7.81
Russell Avenue Sample Station	12-Sep-17	0.0070	0.0011	0.00010	<0.004	0.095	<5	7.81
Roper PRV - High Zone	12-Sep-17	0.0088	0.0012	0.00005	0.017	0.13	<5	7.88
Stevens Sampling Station	12-Sep-17	0.0093	0.0032	0.00020	0.005	0.13	<5	7.91
Finlay Sampling Station	12-Sep-17	0.0091	0.0012	0.00011	<0.004	0.13	<5	7.90

Stayte Station	12-Sep-17	0.0073	0.0051	0.00088	0.006	0.099	<5	7.81
Balsam	12-Sep-17	0.0084	0.0350	0.00051	0.005	0.12	<5	7.87
Oxford & Buena Vista Station	12-Sep-17	0.0078	0.0012	0.00020	0.007	0.14	<5	7.85
Roper PRV - High Zone	19-Sep-17	0.0085	0.0009	0.00004	<0.004	0.13	<5	8.16
Roper Sampling Station	19-Sep-17	0.0091	0.0029	0.00045	0.005	0.13	<5	8.21
Finlay Sampling Station	19-Sep-17	0.0083	0.0012	0.000099	0.005	0.13	<5	8.19
Stayte Station	19-Sep-17	0.0073	0.0032	0.00046	0.004	0.12	<5	8.15
Balsam	19-Sep-17	0.0082	0.0383	0.00035	<0.004	0.12	<5	8.20
Everall Sample Station	20-Sep-17	0.0070	0.0013	0.00008	<0.004	0.12	<5	8.16
Malabar Sample Station	20-Sep-17	0.0070	0.0031	0.00035	<0.004	0.093	<5	8.17
Chestnut Street	20-Sep-17	0.0070	0.0013	0.00014	0.011	0.055	<5	8.16
Russell Avenue Sample Station	20-Sep-17	0.0070	0.0012	0.00011	<0.004	0.10	<5	8.17
Oxford & Buena Vista Station	20-Sep-17	0.0071	0.0011	0.00012	0.005	0.13	<5	8.18
Everall Sample Station	26-Sep-17	0.0067	0.0007	0.00005	<0.004	0.11	<5	8.10
Mann Park Sample Station	26-Sep-17	0.0067	0.0076	0.00024	<0.004	0.096	<5	8.13
Marine Drive Sample Station	26-Sep-17	0.0068	0.0034	0.00029	<0.004	0.062	<5	8.13
Russell Avenue Sample Station	26-Sep-17	0.0067	0.0009	0.00008	<0.004	0.10	<5	8.13
Roper PRV - High Zone	26-Sep-17	0.0077	0.0009	<0.00001	0.005	0.12	<5	8.16
Stevens Sampling Station	26-Sep-17	0.0088	0.0022	0.000098	<0.004	0.12	<5	8.19
Finlay Sampling Station	26-Sep-17	0.0071	0.0011	0.00005	<0.004	0.10	<5	8.15
Stayte Station	26-Sep-17	0.0073	0.0038	0.00050	0.004	0.11	<5	8.15
Balsam	26-Sep-17	0.0077	0.0287	0.00030	<0.004	0.073	<5	8.17
Oxford & Buena Vista Station	26-Sep-17	0.0067	0.0011	0.00011	0.006	0.12	<5	8.14
Stevens Sampling Station	04-Oct-17	0.0084	0.0026	0.00014	0.007	0.12	<5	8.14
Finlay Sampling Station	04-Oct-17	0.0066	0.0011	0.00009	0.004	0.090	<5	8.13
Stayte Station	04-Oct-17	0.0067	0.0036	0.00054	0.007	0.093	<5	8.14
Balsam	04-Oct-17	0.0070	0.0320	0.00050	0.007	0.087	<5	8.11
Oxford & Buena Vista Station	04-Oct-17	0.0063	0.0009	0.00012	0.006	0.089	<5	8.11
Everall Sample Station	03-Oct-17	0.0061	0.001	0.0001	0.02	0.056	<5	7.94
Mann Park Sample Station	03-Oct-17	0.0058	0.006	0.0003	<0.01	0.046	<5	7.99
Marine Drive Sample Station	03-Oct-17	0.0059	0.005	0.0004	<0.01	0.052	<5	8.06
Russell Avenue Sample Station	03-Oct-17	0.0060	0.001	0.0001	<0.01	0.049	<5	8.04
Roper PRV - High Zone	03-Oct-17	0.0081	0.001	<0.0001	0.01	0.101	<5	8.13
Everall Sample Station	10-Oct-17	0.0057	0.0016	0.00009	0.005	0.051	<5	8.04
Malabar Sample Station	10-Oct-17	0.0056	0.0031	0.00038	0.006	0.037	<5	8.07
Chestnut Street	10-Oct-17	0.0056	0.0013	0.00018	0.0096	0.028	<5	8.08
Russell Avenue Sample Station	10-Oct-17	0.0057	0.0009	0.000095	<0.004	0.047	<5	8.09

Roper Sampling Station	10-Oct-17	0.0068	0.00099	0.00004	<0.004	0.075	<5	8.13
Roper Sampling Station	11-Oct-17	0.0088	0.0021	0.00032	0.005	0.12	<5	8.12
Finlay Sampling Station	11-Oct-17	0.0062	0.0018	0.00006	0.004	0.071	<5	8.10
Stayte Station	11-Oct-17	0.0064	0.0028	0.00037	0.007	0.077	<5	8.14
Balsam	11-Oct-17	0.0064	0.0381	0.00032	0.010	0.072	<5	8.11
Oxford & Buena Vista Station	11-Oct-17	0.0066	0.0011	0.00013	0.008	0.092	<5	8.12
Stevens Sampling Station	18-Oct-17	0.0080	0.0022	0.000096	0.005	0.11	<5	8.09
Finlay Sampling Station	18-Oct-17	0.0064	0.0016	0.00008	<0.04	0.08	<5	8.12
Stayte Station	18-Oct-17	0.0062	0.0031	0.00038	0.007	0.068	<5	8.12
Balsam	18-Oct-17	0.0059	0.0368	0.00040	0.006	0.062	<5	8.12
Oxford & Buena Vista Station	18-Oct-17	0.0056	0.0013	0.00013	0.016	0.074	<5	8.01
Everall Sample Station	17-Oct-17	0.0056	0.0008	0.00007	<0.004	0.043	<5	8.04
Mann Park Sample Station	17-Oct-17	0.0057	0.0064	0.00028	<0.004	0.041	<5	8.13
Marine Drive Sample Station	17-Oct-17	0.0056	0.0010	0.00011	0.006	0.037	<5	8.16
Russell Avenue Sample Station	17-Oct-17	0.0057	0.0043	0.00050	<0.004	0.042	<5	8.13
Roper PRV - High Zone	17-Oct-17	0.0067	0.00097	0.00003	<0.004	0.068	<5	8.16
Everall Sample Station	24-Oct-17	0.0057	0.0011	0.00006	<0.004	0.042	<5	8.18
Malabar Sample Station	24-Oct-17	0.0057	0.0033	0.00033	<0.004	0.033	<5	8.12
Chestnut Street	24-Oct-17	0.0056	0.0017	0.00014	0.010	0.028	<5	8.08
Russell Avenue Sample Station	24-Oct-17	0.0056	0.0012	0.000099	<0.004	0.033	<5	8.09
Roper PRV - High Zone	24-Oct-17	0.0070	0.0012	0.00001	<0.004	0.079	<5	8.13
Roper Sampling Station	24-Oct-17	0.0085	0.0023	0.00032	0.006	0.12	<5	8.19
Finlay Sampling Station	24-Oct-17	0.0066	0.0015	0.00006	0.005	0.069	<5	8.12
Stayte Station	24-Oct-17	0.0064	0.0027	0.00031	0.006	0.061	<5	8.12
Balsam	24-Oct-17	0.0059	0.0317	0.00047	0.007	0.053	<5	8.11
Oxford & Buena Vista Station	24-Oct-17	0.0057	0.0012	0.00011	0.006	0.071	<5	8.08
Everall Sample Station	31-Oct-17	0.0058	0.0011	0.00006	<0.004	0.040	6	8.10
Mann Park Sample Station	31-Oct-17	0.0058	0.0067	0.00021	<0.004	0.038	<5	8.10
Marine Drive Sample Station	31-Oct-17	0.0058	0.0039	0.00029	0.005	0.030	<5	8.12
Russell Avenue Sample Station	31-Oct-17	0.0058	0.0010	0.00011	<0.004	0.036	<5	8.10
Roper PRV - High Zone	31-Oct-17	0.0071	0.0007	0.00003	<0.004	0.078	<5	8.17
Stevens Sampling Station	31-Oct-17	0.0063	0.0027	0.00013	<0.004	0.069	<5	8.11
Finlay Sampling Station	31-Oct-17	0.0064	0.0010	0.00006	<0.004	0.058	<5	8.12
Stayte Station	31-Oct-17	0.0062	0.0035	0.00041	0.005	0.064	<5	8.14
Balsam	31-Oct-17	0.0060	0.0257	0.00031	<0.004	0.048	5	8.14
Oxford & Buena Vista Station	31-Oct-17	0.0061	0.0009	0.00009	0.004	0.069	6	8.15
Everall Sample Station	07-Nov-17	0.0053	0.0011	0.000098	<0.004	0.021	<5	7.94

Malabar Sample Station	07-Nov-17	0.0055	0.0030	0.00040	<0.004	0.021	<5	7.93
Chestnut Street	07-Nov-17	0.0054	0.0015	0.00016	0.011	0.020	<5	8.03
Russell Avenue Sample Station	07-Nov-17	0.0085	0.00097	0.00011	0.006	0.12	<5	8.11
Roper PRV - High Zone	07-Nov-17	0.0078	0.0008	0.00003	0.006	0.10	<5	8.14
Roper Sampling Station	07-Nov-17	0.0085	0.0027	0.00035	0.006	0.12	<5	8.16
Finlay Sampling Station	07-Nov-17	0.0078	0.0011	0.00008	0.015	0.10	<5	8.17
Stayte Station	07-Nov-17	0.0073	0.0031	0.00035	0.011	0.081	<5	8.17
Balsam	07-Nov-17	0.0065	0.0387	0.00036	0.011	0.063	<5	8.12
Oxford & Buena Vista Station	07-Nov-17	0.0062	0.0011	0.00010	0.007	0.069	<5	8.13
Everall Sample Station	14-Nov-17	0.0052	0.0009	0.00006	<0.004	0.022	<5	8.14
Mann Park Sample Station	14-Nov-17	0.0054	0.0065	0.00020	<0.004	0.022	<5	8.17
Marine Drive Sample Station	14-Nov-17	0.0052	0.0039	0.00027	0.010	0.024	<5	8.20
Russell Avenue Sample Station	14-Nov-17	0.0078	0.0009	0.00010	<0.004	0.12	<5	8.26
Roper PRV - High Zone	14-Nov-17	0.0080	0.0009	0.00010	<0.004	0.11	<5	8.27
Stevens Sampling Station	14-Nov-17	0.0082	0.0025	0.00012	<0.004	0.12	<5	8.27
Finlay Sampling Station	14-Nov-17	0.0072	0.0009	0.00006	0.005	0.093	<5	8.24
Stayte Station	14-Nov-17	0.0071	0.0031	0.00035	0.008	0.081	<5	8.24
Balsam	14-Nov-17	0.0064	0.0379	0.00052	0.011	0.061	<5	8.22
Oxford & Buena Vista Station	14-Nov-17	0.0059	0.0009	0.00013	0.006	0.072	<5	8.21
Everall Sample Station	21-Nov-17	0.0056	0.0008	0.00005	0.005	0.026	<5	7.98
Malabar Sample Station	21-Nov-17	0.0055	0.0030	0.00034	0.0098	0.024	<5	8.01
Chestnut Street	21-Nov-17	0.0056	0.0019	0.00017	0.014	0.021	<5	8.02
Russell Avenue Sample Station	21-Nov-17	0.0085	0.0010	0.00014	0.006	0.13	<5	8.12
Roper PRV - High Zone	21-Nov-17	0.0086	0.0007	0.00004	0.005	0.10	<5	8.13
Roper PRV - High Zone	22-Nov-17	0.0087	0.0037	0.00049	0.0099	0.13	<5	8.15
Finlay Sampling Station	22-Nov-17	0.0077	0.0006	0.00004	0.007	0.096	<5	8.14
Stayte Station	22-Nov-17	0.0077	0.0045	0.00040	0.009	0.083	<5	8.13
Balsam	22-Nov-17	0.0079	0.0534	0.00044	0.0097	0.076	<5	8.15
Oxford & Buena Vista Station	22-Nov-17	0.0073	0.0072	0.00025	0.008	0.085	<5	8.12
Everall Sample Station	28-Nov-17	0.0057	0.0010	0.00006	<0.004	0.023	<5	8.01
Mann Park Sample Station	28-Nov-17	0.0057	0.0070	0.00020	<0.004	0.021	<5	8.05
Marine Drive Sample Station	28-Nov-17	0.0056	0.0032	0.00021	0.007	0.022	<5	8.05
Russell Avenue Sample Station	28-Nov-17	0.0085	0.0008	0.000095	0.006	0.13	<5	8.15
Roper PRV - High Zone	28-Nov-17	0.0085	<0.0005	0.00005	0.005	0.12	<5	8.13
Stevens Sampling Station	28-Nov-17	0.0084	0.0021	0.00010	0.006	0.12	<5	8.14
Finlay Sampling Station	29-Nov-17	0.0078	0.0008	0.00006	0.006	0.098	<5	8.08
Stayte Station	29-Nov-17	0.0077	0.0026	0.00027	0.009	0.078	<5	8.13

Balsam	29-Nov-17	0.0067	0.0326	0.00037	0.009	0.064	<5	8.11
Oxford & Buena Vista Station	29-Nov-17	0.0066	0.0009	0.000099	0.009	0.077	<5	8.12
Everall Sample Station	05-Dec-17	0.0055	0.0009	0.00007	<0.004	0.024	<5	7.60
Malabar Sample Station	05-Dec-17	0.0054	0.0026	0.00034	<0.004	0.019	<5	7.77
Chestnut Street	05-Dec-17	0.0054	0.0017	0.00020	0.018	0.019	<5	7.85
Russell Avenue Sample Station	05-Dec-17	0.0084	0.00098	0.00013	0.007	0.14	<5	7.95
Roper PRV - High Zone	05-Dec-17	0.0078	0.0009	0.00008	<0.004	0.099	<5	7.94
Roper PRV - High Zone	06-Dec-17	0.0082	0.0024	0.00029	0.009	0.12	<5	7.85
Finlay Sampling Station	06-Dec-17	0.0070	0.0006	0.00001	0.007	0.082	<5	7.89
Stayte Station	06-Dec-17	0.0073	0.0016	0.00017	0.007	0.069	<5	7.92
Balsam	06-Dec-17	0.0074	0.0013	0.00023	0.13	0.45	<5	7.92
Oxford & Buena Vista Station	06-Dec-17	0.0064	0.0071	0.00026	0.008	0.087	<5	7.91
Everall Sample Station	12-Dec-17	0.0056	0.0008	0.00006	0.005	0.024	<5	7.71
Mann Park Sample Station	12-Dec-17	0.0056	0.0046	0.00022	0.005	0.022	<5	7.81
Marine Drive Sample Station	12-Dec-17	0.0054	0.0026	0.00018	0.011	0.020	<5	7.83
Russell Avenue Sample Station	12-Dec-17	0.0088	0.0009	0.00013	0.005	0.12	<5	7.95
Roper PRV - High Zone	12-Dec-17	0.0080	0.0010	0.00005	0.006	0.10	<5	7.94
Stevens Sampling Station	13-Dec-17	0.0076	0.0019	0.00013	0.006	0.094	<5	7.73
Finlay Sampling Station	13-Dec-17	0.0067	0.0009	0.00006	0.005	0.059	<5	7.83
Stayte Station	13-Dec-17	0.0072	0.0016	0.00018	0.009	0.075	<5	7.88
Balsam	13-Dec-17	0.0077	0.0016	0.00038	0.008	0.085	<5	7.89
Oxford & Buena Vista Station	13-Dec-17	0.0064	0.0089	0.00060	0.008	0.065	<5	7.87
Everall Sample Station	19-Dec-17	0.0054	0.0009	0.00001	<0.004	0.025	<5	7.63
Malabar Sample Station	19-Dec-17	0.0055	0.0025	0.00028	0.015	0.023	<5	7.79
Chestnut Street	19-Dec-17	0.0056	0.0017	0.00012	0.016	0.020	<5	7.88
Russell Avenue Sample Station	19-Dec-17	0.0084	0.0009	0.00007	0.007	0.13	<5	7.98
Roper PRV - High Zone	19-Dec-17	0.0080	0.0012	0.00002	0.005	0.11	<5	7.99
Roper PRV - High Zone	20-Dec-17	0.0087	0.0022	0.00028	0.009	0.12	<5	8.13
Finlay Sampling Station	20-Dec-17	0.0070	0.0013	0.00003	0.007	0.072	<5	8.13
Stayte Station	20-Dec-17	0.0071	0.0023	0.00022	0.008	0.072	<5	8.16
Balsam	20-Dec-17	0.0081	0.0014	0.00027	0.010	0.093	<5	8.17
Oxford & Buena Vista Station	20-Dec-17	0.0064	0.0013	0.00007	0.007	0.080	<5	8.13
Everall Sample Station	27-Dec-17	0.0059	0.0025	0.00005	<0.004	0.024	<5	7.88
Mann Park Sample Station	27-Dec-17	0.0059	0.0066	0.00032	<0.004	0.023	<5	7.93
Marine Drive Sample Station	27-Dec-17	0.0058	0.0041	0.00013	0.011	0.020	<5	7.94
Russell Avenue Sample Station	27-Dec-17	0.0089	0.0018	0.00009	<0.004	0.12	<5	8.01
Roper PRV - High Zone	27-Dec-17	0.0087	0.0012	0.00004	0.004	0.11	<5	8.01

Stevens Sampling Station	27-Dec-17	0.0093	0.0022	0.00013	<0.004	0.13	<5	8.02
Finlay Sampling Station	28-Dec-17	0.0077	0.0012	0.00004	0.006	0.10	<5	7.97
Stayte Station	28-Dec-17	0.0072	0.0035	0.00039	0.008	0.084	<5	8.00
Balsam	28-Dec-17	0.0065	0.0014	0.00020	0.008	0.075	<5	8.00
Oxford & Buena Vista Station	28-Dec-17	0.0061	0.0075	0.00028	0.004	0.075	<5	7.98

Annual Samples 2017

Sample	Unit of Measure	Nominal Detection Limit	Guideline Limit	Sample Location						
				Well #1 Sep 13, 2017	Well #2 Sep 13, 2017	Well #3 Sep 13, 2017	Well #6 Sep 13, 2017	Well #7 Sep 13, 2017	Chestnut Stn Sep 13, 2017	Marine Dr Stn Sep 13, 2017
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**	**0.01**		0.01	<0.01	0.05	0.13	0.09	0.13	0.14
Metals Extractable										
Aluminum	**mg/L**	**0.001**	**0.1**	0.005	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Antimony	**mg/L**	**0.00002**	**0.006**	0.00017	0.00014	0.00009	0.00008	0.00009	0.00012	0.00009
Arsenic	**mg/L**	**0.0001**	**0.010**	0.0066	0.0040	0.0071	0.0094	0.009	0.0071	0.0071
Barium	**mg/L**	**0.0001**	**1**	0.0162	0.0185	0.0181	0.0251	0.0186	0.0124	0.0133
Boron	**mg/L**	**0.002**	**5**	0.019	0.017	0.016	0.039	0.023	0.016	0.016
Cadmium	**mg/L**	**0.00001**	**0.005**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chromium	**mg/L**	**0.00005**	**0.05**	0.00011	0.00058	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Copper	**mg/L**	**0.0005**	**1.0**	0.0085	0.0015	0.0007	0.0005	<0.0005	0.0019	0.0043
Lead	**mg/L**	**0.00001**	**0.01**	0.00020	0.00003	0.00002	0.00006	0.00074	0.00029	0.00043
Selenium	**mg/L**	**0.0002**	**0.05**	0.0027	0.0160	<0.0002	<0.0002	<0.0002	0.0014	0.0013
Uranium	**mg/L**	**0.00001**	**0.02**	0.00015	0.00027	0.000096	0.00017	0.00014	0.00014	0.00013
Vanadium	**mg/L**	**0.00005**		0.00274	0.00364	0.00299	0.00249	0.00224	0.00289	0.00286
Zinc	**mg/L**	**0.0005**	**5.0**	0.0106	0.0023	0.0027	0.0012	0.0017	0.0017	0.0035
Metals Total										
Mercury	**mg/L**	**0.00001**	**0.001**	<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**	**0.02**		0.21	0.30	0.09	0.13	0.06	0.15	0.15
Routine Water										
pH			**6.5-8.5**	7.73	7.67	7.78	7.84	7.84	7.72	7.26
Electrical Conductivity		**1**		257	292	243	310	263	246	244
Calcium	**mg/L**	**0.01**		22	28	22	25	24	22	22
Iron	**mg/L**	**0.004**	**0.3**	0.005	0.064	0.008	0.009	0.006	0.019	0.006
Mangesium	**mg/L**	**0.02**		9.8	13	9.2	11	10	9.4	9.6
Manganese	**mg/L**	**0.001**	**0.05**	0.047	0.013	0.20	0.15	0.12	0.051	0.058
Potassium	**mg/L**	**0.04**	**200**	3.2	3.3	3.3	4.2	3.9	3.1	3.1
Silicon	**mg/L**	**0.005**		12	12	12	12	12	11	12
Sodium	**mg/L**	**0.1**		16	14	17	26	18	14	14
T-Alkalinity	**mg/L**	**5**		83	89	78	105	102	51	33
Chloride	**mg/L**	**0.05**	**250**	16.5	16.8	17.7	16.3	10.6	13.6	13.3

Fluoride	**mg/L**	**0.01**	**1.5**	0.12	0.12	0.13	0.19	0.17	0.13	0.13
Nitrate - N	**mg/L**	**0.01**	**10**	0.18	0.84	<0.01	<0.01	<0.01	0.08	0.07
Nitrite - N	**mg/L**	**0.01**	**1**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate (SO4)	**mg/L**	**0.5**	**500**	13.2	20.2	10.1	19.6	14.2	13.2	12.9
Hardness	**mg/L**	**1**		97	124	92	108	101	93	95
Total Dissolved Solids	**mg/L**	**1**		164	185	158	198	173	137	127

Sample	**Unit of Measure**	**Nominal Detection Limit**	**Guideline Limit**	**Sample Location**						
				Malabar Stn Sep 13, 2017	Mann Park Stn Sep 13, 2017	Balsam Stn Sep 13, 2017	Oxford Stn Sep 13, 2017	Oxford Reservoir Sep 13, 2017	Everall Stn Sep 13, 2017	Russell Stn Sep 13, 2017
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**	**0.01**		0.14	0.14	0.09	0.08	0.15	0.15	0.11
Metals Extractable										
Aluminum	**mg/L**	**0.001**	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Antimony	**mg/L**	**0.00002**	**0.006**	0.00006	0.00006	0.00006	0.00006	0.00035	0.00006	0.00006
Arsenic	**mg/L**	**0.0001**	**0.010**	0.0070	0.0070	0.0089	0.0083	0.0070	0.0069	0.0082
Barium	**mg/L**	**0.0001**	**1**	0.0150	0.0160	0.0201	0.0193	0.0176	0.0172	0.0191
Boron	**mg/L**	**0.002**	**5**	0.016	0.016	0.036	0.028	0.016	0.016	0.028
Cadmium	**mg/L**	**0.00001**	**0.005**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chromium	**mg/L**	**0.00005**	**0.05**	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	0.00006	<0.00005
Copper	**mg/L**	**0.0005**	**1.0**	0.0047	0.0076	0.0253	0.0013	<0.0005	0.0013	0.0015
Lead	**mg/L**	**0.00001**	**0.01**	0.00062	0.00034	0.00034	0.00027	<0.00001	0.000099	0.00014
Selenium	**mg/L**	**0.0002**	**0.05**	0.0014	0.0014	0.0002	0.0004	0.0014	0.0013	0.0008
Uranium	**mg/L**	**0.00001**	**0.02**	0.00013	0.00013	0.00016	0.00015	0.00014	0.00013	0.00015
Vanadium	**mg/L**	**0.00005**		0.00263	0.00268	0.00251	0.00251	0.00264	0.00261	0.00257
Zinc	**mg/L**	**0.0005**	**5.0**	0.0052	0.0022	0.0030	0.0006	<0.0005	0.0020	0.0011
Metals Total										
Mercury	**mg/L**	**0.00001**	**0.001**	<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**	**0.02**		0.11	0.42	0.32	0.22	0.05	<0.05	0.17
Routine Water										
pH			**6.5-8.5**	7.73	7.74	7.83	7.76	7.78	7.88	8.00
Electrical Conductivity		**1**		246	246	295	291	252	238	264
Calcium	**mg/L**	**0.01**		22	21	22	23	22	21	23
Iron	**mg/L**	**0.004**	**0.3**	0.004	<0.004	0.006	0.016	0.005	0.005	0.005
Mangesium	**mg/L**	**0.02**		9.4	9.4	10	10	9.6	9.3	9.9
Manganese	**mg/L**	**0.001**	**0.05**	0.086	0.094	0.12	0.14	0.12	0.11	0.11

Potassium	**mg/L**	**0.04**	**200**	3.0	3.0	3.6	3.6	3.1	3.0	3.5
Silicon	**mg/L**	**0.005**		11	11	11	12	12	11	12
Sodium	**mg/L**	**0.1**		14	13	22	21	14	14	19
T-Alkalinity	**mg/L**	**5**		72	60	96	104	92	62	105
Chloride	**mg/L**	**0.05**	**250**	13.1	13.2	15.6	14.9	13.4	13.4	14.5
Fluoride	**mg/L**	**0.01**	**1.5**	0.14	0.13	0.19	0.17	0.13	0.12	0.16
Nitrate - N	**mg/L**	**0.01**	**10**	0.097	0.07	0.02	0.06	0.14	0.08	0.06
Nitrite - N	**mg/L**	**0.01**	**1**	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
Sulfate (SO4)	**mg/L**	**0.5**	**500**	13.6	13.3	17.6	16.8	13.6	13.2	16.3
Hardness	**mg/L**	**1**		93	92	97	100	96	92	98
Total Dissolved Solids	**mg/L**	**1**		149	141	179	184	164	143	182

Sample	**Unit of Measure**	**Nominal Detection Limit**	**Guideline Limit**	**Sample Location**						
				Stevens Stn Sep 13, 2017	Finlay Stn Sep 13, 2017	Stayte Stn Sep 13, 2017	Roper Stn Sep 13, 2017	Merklin Reservoir Sep 13, 2017	Merklin Low Reservoir Sep 13, 2017	Roper Reservoir Sep 13, 2017
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**	**0.01**		0.08	0.09	0.1	0.08	0.08	0.09	0.09
Metals Extractable										
Aluminum	**mg/L**	**0.001**	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Antimony	**mg/L**	**0.00002**	**0.006**	0.00006	0.00005	0.00006	0.00006	0.00118	0.00006	0.00021
Arsenic	**mg/L**	**0.0001**	**0.010**	0.0095	0.0093	0.0073	0.0091	0.0094	0.0093	0.0079
Barium	**mg/L**	**0.0001**	**1**	0.0227	0.0226	0.0179	0.0221	0.0236	0.0228	0.0179
Boron	**mg/L**	**0.002**	**5**	0.037	0.036	0.018	0.037	0.040	0.034	0.026
Cadmium	**mg/L**	**0.00001**	**0.005**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chromium	**mg/L**	**0.00005**	**0.05**	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Copper	**mg/L**	**0.0005**	**1.0**	0.00029	0.0011	0.0036	0.0066	<0.0005	0.0334	0.0021
Lead	**mg/L**	**0.00001**	**0.01**	0.00018	0.00009	0.00048	0.00122	<0.00001	0.00050	0.00029
Selenium	**mg/L**	**0.0002**	**0.05**	<0.0002	<0.0002	0.0011	<0.0002	<0.0002	<0.0002	0.0008
Uranium	**mg/L**	**0.00001**	**0.02**	0.00017	0.00016	0.00013	0.00016	0.00021	0.00016	0.00015
Vanadium	**mg/L**	**0.00005**		0.00242	0.00237	0.00249	0.00239	0.00250	0.00237	0.00266
Zinc	**mg/L**	**0.0005**	**5.0**	0.0039	<0.0005	0.0032	0.0095	<0.0005	0.0059	0.0056
Metals Total										
Mercury	**mg/L**	**0.00001**	**0.001**	<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**	**0.02**		0.27	0.16	0.25	0.30	0.19	0.33	0.19
Routine Water										
pH			**6.5-8.5**	8.05	7.33	7.62	8.04	7.85	7.83	7.86
Electrical Conductivity		**1**		289	307	257	286	303	298	271

Calcium	**mg/L**	**0.01**		24	23	21	23	24	23	24
Iron	**mg/L**	**0.004**	**0.3**	0.005	0.008	0.008	0.011	0.006	0.007	0.015
Mangesium	**mg/L**	**0.02**		10	10	9.3	10	11	10	9.8
Manganese	**mg/L**	**0.001**	**0.05**	0.14	0.13	0.11	0.13	0.14	0.14	0.10
Potassium	**mg/L**	**0.04**	**200**	3.9	3.7	3.1	3.8	3.9	3.8	3.5
Silicon	**mg/L**	**0.005**		12	11	11	11	12	12	12
Sodium	**mg/L**	**0.1**		25	24	15	23	25	24	18
T-Alkalinity	**mg/L**	**5**		118	55	57	121	119	107	94
Chloride	**mg/L**	**0.05**	**250**	16.3	16.1	13.9	15.6	15.8	15.6	14.2
Fluoride	**mg/L**	**0.01**	**1.5**	0.19	0.18	0.13	0.20	0.18	0.19	0.15
Nitrate - N	**mg/L**	**0.01**	**10**	<0.01	<0.1	0.08	<0.01	<0.01	0.01	0.12
Nitrite - N	**mg/L**	**0.01**	**1**	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01
Sulfate (SO4)	**mg/L**	**0.5**	**500**	18.5	17.8	13.9	17.8	18.5	18.0	15.0
Hardness	**mg/L**	**1**		102	98	91	101	103	101	99
Total Dissolved Solids	**mg/L**	**1**		200	157	141	198	201	191	173