

MY CITY



MY WATER



City of White Rock 2016 Annual Water Report

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Introduction

The City of White Rock is a unique, ocean-side community of 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 distribution system.

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

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 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. A written update on the status of your plan to meet these conditions shall be submitted to Fraser Health Authority by March 31st 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 (October 2015 - June 2017)

2016 was the City of White Rock's first full year of operating the water utility. Since acquiring the water utility, less than two 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.



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

Source Water

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

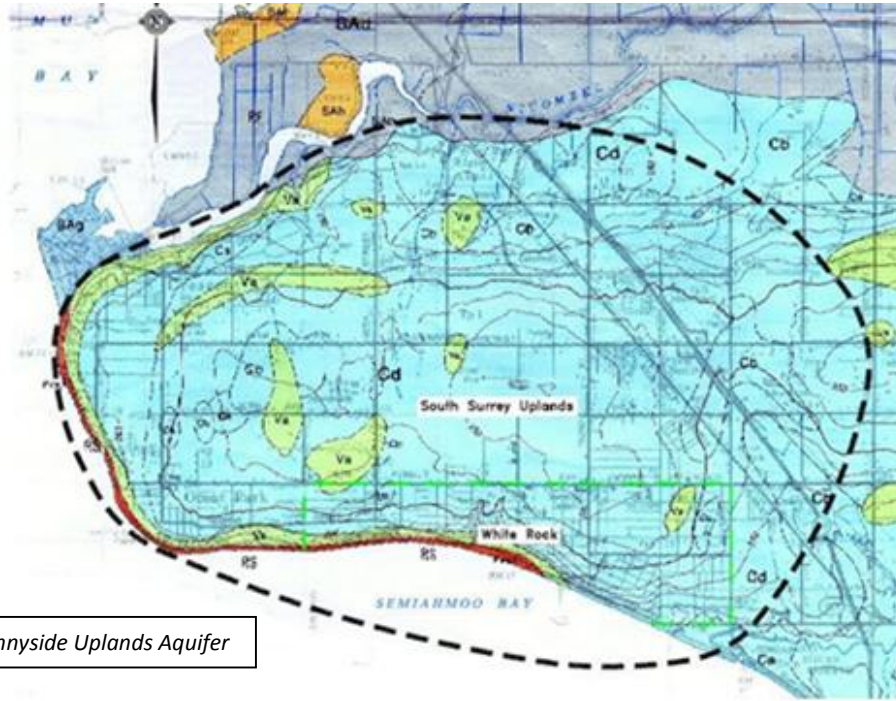


Figure 1: Sunnyside Uplands Aquifer

Well Locations in White Rock

The wells range in depth from 60 meters to 150 meters. The wells provide an adequate water supply for the community even during peak consumption in the summer months. Wells 1, 2 and 3 are located at the Oxford Site, Well 4 is a seasonal well utilized during the months of June, July and August, and well #5 is located at the Water Operations Yard (soon to be decommissioned), Wells 6 and 7 are located at the Merklin Site.



Figure 2: Well Locations in White Rock

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 Nations. City staff started uni-directional flushing of the entire system on November 07, 2016 but due to weather constraints the flushing will not be completed until early 2017. 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 is currently working on updating the Water Master Plan for 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, chlorination, and treatment facilities. The new Merklin reservoir will be completed in early 2017 which will add to the systems storage capacity. Both Merklin and Oxford reservoirs will be chlorinating the water system by February 1, 2017, as per Fraser Health requirements for a secondary disinfectant throughout the entire system



Figure3: Water Distribution System

Water Consumption

Annual water consumption patterns are tracked to ensure that the White Rock system continues to provide sufficient water services to customers. Key to this tracking is the water consumption record on the peak day each year, which is the point of highest demand.

Total Annual Water Consumption		
Year	2016	2015
(ML)*	2338.0	2426.2
Average Daily Consumption	6.4	6.6

* Million Liters

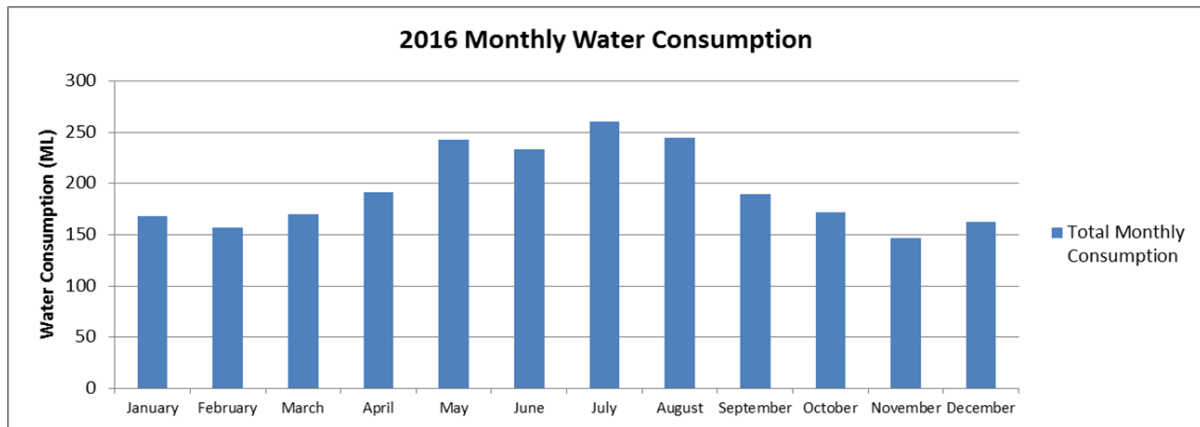


Figure 4: 2016 Monthly Water Consumption

Peak Demand

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

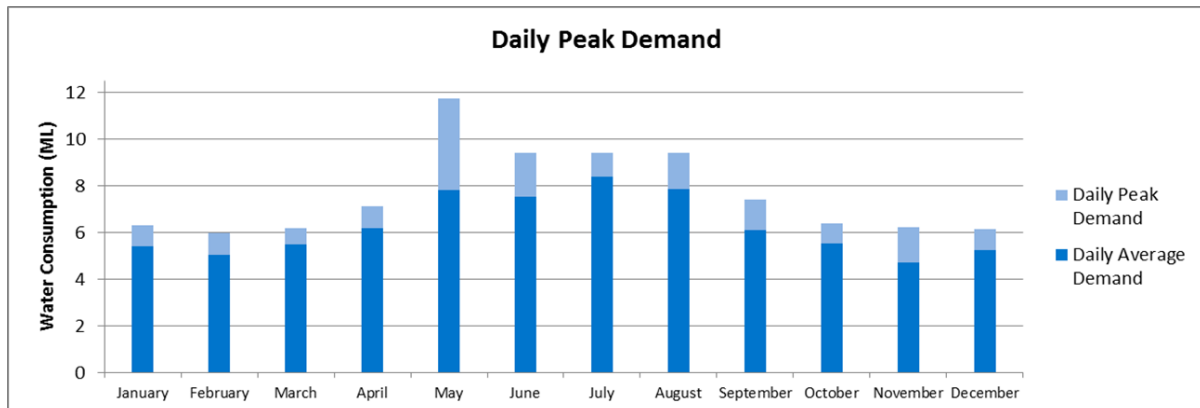


Figure 5: Daily Peak Demand

Peak Day Water Consumption

The peak day in 2016 was on May 15

Peak Day Water Consumption		
Year	2016	2015
Day	15-May*	1-Jul
(ML)	11.70	10.53

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

May 15, 2016 Fire on Pacific Ave.:

Following the fire that erupted on May 15, 2016, on Pacific Avenue, a Boil Water Advisory was issued. The boil water advisory indicated the following:

As a public health precaution, the City of White Rock with support from the Fraser Health Authority are advising residents in the City of White Rock and Semiahmoo First Nations and some properties in Surrey served by the White Rock water supply to boil their drinking water before drinking. Due to a major fire, the water supply has been drawn to low levels. This could create negative pressure in the water lines and result in contaminants entering into the water system. This precautionary measure should be followed until further notice. Residents are advised to bring their water to a rapid, rolling boil for at least one minute prior to using it for domestic purposes, including drinking, making infant formula and juices, cooking, brushing teeth, washing raw foods and making ice. Alternatively, residents may use bottled water.

The City of White Rock announced that the Boil Water Advisory was lifted on May 18, 2016:

On Sunday, May 15, 2016, the City of White Rock initiated a boil water advisory due to negative pressure in the City's water lines as a result of a significant draw on the water supply to fight a major fire. Tests on all of the City's water samples taken on Monday and Tuesday morning confirmed that there are no bacterial contaminants in the water supply. The City acknowledges the inconvenience this may have caused our water users but the health and safety of our citizens was, and will always be, our main focus. We were concerned about the potential for contamination. Fortunately, our sampling and testing has confirmed that there is no contamination. We appreciate the community's cooperation during this precautionary measure.

More information is available on: <http://www.whiterockcity.ca/EN/meta/news/news-archives/2016-archive/boil-water-advisory-in-effect.html>

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:

- Operation and maintenance of the pumping station
- Installation of water services
- Water infrastructure repairs and maintenance
- Water quality sampling and testing

The City has an ongoing preventative maintenance program that includes:

- Valve exercising
- Hydrant inspection and servicing
- Flushing of water mains

In 2016 there were a total of 11 water main breaks throughout the City; the majority of the broken pipes were cast iron. This is up from 2015 where the City experienced a total of 8 water main breaks, all of which were cast iron pipes.

Total Water Quality Management Project (TWQMP)

The 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 Authority'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 the Fraser Health mandate to treat the City's water supply through secondary disinfection.
- Phase 2: The City of White Rock started the upgrade of Merklin Pumping Station Facility. The project started in January 2016, The City has removed the high tower and added a new reservoir

to increase the water storage capacity for the city. Merklin Street construction's substantial completion is projected for April 2017.



Figure 6: Oxford Reservoir





7-a

Figure 7 a&b: Merklin Reservoir during construction

7-b



7-c

Figure 7 c&d: Merklin Reservoir close to completion



7-d

Staffing Additions and How They Contribute to Water Quality Management

In August 2016 the City of White Rock hired international award winning water quality expert Dr. Saad Jasim, P.Eng for the role of Manager, Utilities. Dr. Jasim is working on the secondary disinfection and working with RES'EAU-WaterNET on the research to investigate technologies for the removing of arsenic and manganese throughout the system. Some of the other projects he has been working on since his arrival:

- Review the existing system and future construction of Water Treatment Plant(s)
- Evaluate potential water treatment technologies that can be used for arsenic and manganese removal
- Liasing with consultants and contractors involved in the construction of the Oxford and Merklin Pumping Stations to ensure that all requirements for a successful and sustainable system are delivered.
- Communicate and meet regularly with Fraser Health Authority
- Working with the City of Surrey Water Department, to develop a protocol for emergency water supply connections
- Initiated a sampling program for metals downstream from the Oxford and Merklin Pumping Stations to evaluate the impact on the distribution system
- Started sampling for all wells to conduct analysis for arsenic speciation
- Conducted experiments for the “Distribution System Pilot Plant”, based at the Oxford Pumping Station, to evaluate the impact of chlorination on the distribution system. Samples are collected from different pipe sizes and material compositions and analyzed for metals (arsenic, manganese, lead, copper and iron). Samples were delivered to Exova Laboratories, Surrey, BC for analysis.
- Initiated discussions with the Res’eau-WaterNET, an 8 year research program funded by Natural Sciences and Engineering Research Councils (NSERC) and 26 public and private organizations, and hosted by the University of British Columbia. Discussed starting a joint pilot project to evaluate and select technologies for the removal of arsenic and manganese:
 - The City of White Rock City Council approved the proposal for a 2 year partnership with the Res’eau-WaterNET.
- Started a detailed discussion with the Res’eau WaterNET to evaluate the existing design of their Mobile Pilot Plant, and additional instruments and technologies needed to accommodate their research on the City’s water system:
 - The Mobile Pilot Plant was delivered in October 2016 and installed at the Merklin Pumping Station. City Staff provided important technical and logistical support for the research and installation of the Mobile Pilot Plant.
 - The City of White Rock’s Mayor and Councillors initiated the official launch on November 28, 2016 of the Mobile Pilot Plant. Representatives from Fraser Health and other organizations were also present at the event.
 - Experiments, sampling and analysis have begun at the Mobile Pilot Plant.
 - City staff and the Res’aeu-WaterNET members will deliver presentations at; the BC Waste Water Association Conference in May 2017 in Victoria, and the International Ozone Association World Congress, August 13, 2017.

- Scheduled staff training and certification to prepare for operating the water treatment plants.
- Initiated chlorination at the Oxford Pumping Station to meet the requirements as a condition of the operating permit issued by Fraser Health Authority.
- Chlorination at both the Merklin and Oxford Pump Stations has been monitored and updated to provide adequate disinfectant residual in the distribution system.
- Dr. Saad Jasim delivered the Keynote Address to the International Ozone Association Conference “Ozone and Advanced Oxidation Processes to Provide Sustainability for Water Systems” October 2016 in Swansea, UK. The Sustainability of water infrastructure is critical to providing the public with clean and safe drinking water. Sustainability means preparing for future growth, and potential environmental impacts. Climate change is a fact of life, and the current changes in weather and precipitation trends are clear indications. The case studies presented included the initiatives at the City of White Rock to develop a modern and sustainable water system.
- Started the Distribution System Flushing Program in November 2016. This program is a method of cleaning the water main pipes by forcing water through them at high speed and discharging it through hydrants, which are left open until the water runs clear. This fast-moving water flow scours and cleans out mineral deposits and sediment that have built up over time and settled at the bottom of the pipes.
- Delivered the Water Open House on December 7, 2016 in which City staff displayed information and analysis related to the City’s water quality. Members of the Res’eau-WaterNET also attended to answer questions from residents.

The City held open houses on March 2 and December 7, 2016 to update the public on what the City is doing in terms of water quality and the City’s plans for future arsenic and manganese removal. Also, how the City is following Fraser Health’s guidelines and implementations.



Figure 8: Water Quality Open House December 2016

- The City has planned to stop the operation of Well #5 located at the Buena Vista works yard due to water quality issues. New Well #8 is proposed to replace this supply. Well #8, will be located at the Oxford Reservoir site. A draft needs assessment was provided by Whiteside Engineering Ltd. in 2015.

Following this work, a detailed engineering design is required to drill the well, confirm the production volume, and install the entire required infrastructure to municipal standards. A preliminary plan has been prepared by Kerr Wood Leidal Consulting Engineers (KWL) which

shows the well located at the North West corner of Goggs Avenue and Overall Street. All drilling and construction will not commence until 2017.

In May 2016 the City also hired a new Engineering Technologist for the Water Works Department who reports to Dr. Saad Jasim, P.Eng. The department works on:

- Construction of the new Merklin Reservoir and Pumping Station. The work involves:
 - Coordinate correspondence and work between the City and consultants/contractor.
 - Ensure the work plan meets Water Utility objectives.
 - Contract administration between all of the parties involved in the construction.
 - Coordinate connection of fiber optic cable connections to Merklin, Oxford and Roper reservoirs to facilitate SCADA communications and Water Utility automation.
- Develop capital plan for Water Utility infrastructure improvements.
- Review and provide Water Utility recommendations for development projects.
- Provide surveying services to Operations staff as required.
- Compile and organize water information for easy retrieval by staff. Ensure the water base map is up to date.

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 Authority, 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 status 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.

White Rock Water Secondary Disinfection Treatment

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).

Disinfectant residual and maintenance:

Only chlorine, chlorine dioxide and monochloramine provide a persistent disinfectant residual and can be used for the maintenance of a residual in the distribution system. Chlorine is the most used disinfectant as a Secondary Disinfectant worldwide. Ozone and UV are used during the water treatment processes only.

In December 2015, following the City of White Rock acquisition of the Water System, City staff provided information on secondary treatment options. In January 2016, due to public feedback, City Council chose to implement chlorination (free chlorine) instead of chloramination for treatment of water.

Chlorination is the application of chlorine to water to produce free chlorine residual (directly or through oxidation of any naturally present ammonia and/or other nitrogenous substances). Free chlorine, in the form of hypochlorous acid, is considered a powerful disinfectant that is effective against a very broad range of pathogens.

Chlorination Pilot Project:

The City of White Rock started the Chlorination Pilot test, to investigate how chlorine would react with manganese in the pipes. Regular testing was conducted on weekly basis.



Figure 9: Chlorination Pilot Testing Pipes



Figure 10: Chlorination Pilot Testing Pipes

Starting October 2016 the City of White Rock took further steps towards its February 1, 2017, secondary disinfection implementation requirement, as mandated by the Fraser Health Authority.

In February 2016, the City informed the public that it would be introducing chlorine into the City's water supply. City staff continues to take a phased approach to this process which is why, the City introduced a low dosage of chlorine (0.5mg/L) at the Oxford site.

At this time, the City hasn't fully implemented the secondary treatment; the City will be working towards providing adequate disinfectant residual throughout the distribution system.

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 of White Rock has partnered up with RES'EAU-WaterNET researching technologies and solutions that best reduce the levels of naturally occurring arsenic and manganese. This is to ensure the City implements the right technology to reach its water quality goals, the partnership with RES'EAU-WaterNET, a research program funded by NSERC's Strategic Partnership Grants for Networks and hosted by the University of British Columbia.

RES'EAU-WaterNET 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 will include the most promising technologies to evaluate their viabilities both in terms of performance and economics. The pilot work will be conducted in close collaboration with the City engineers and involves RES'EAU's industry partners who have extensive experience with groundwater treatment and quality.



Figure 11: Outside Mobile Trailer



Figure 12: Inside the Mobile Trailer

The network's Mobile Water Treatment Pilot Plant will be 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 allow for faster, accurate and more cost-effective assessment of potential technologies than traditional methods.

Water Quality and Quality Assurance

Providing clean drinking water is of paramount importance for the health of our residents. To help ensure your water is of the highest quality, even as water comes into your home and through your faucets, plumbing and water heaters, there are many things along the way that can impact water quality.

The Guidelines for Canadian Drinking Water Quality (GCDWQ) established by Health Canada, sets the maximum acceptable concentrations of microbial, radiological and chemical contaminants found in water. They also address the aesthetic water quality considerations regarding colour and taste. These guidelines are the basis for 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.

Every month different water quality parameters are tested throughout the City. This includes:

- Weekly laboratory testing
 - In-house testing for conductivity, pH, turbidity, free chlorine, total chlorine and temperature
 - Microbiological testing for Total Coliforms and Escherichia Coli
 - Since October 2016 addition of chlorine to the Oxford Site the City tests for levels of arsenic, copper, lead, iron, manganese, turbidity, total chlorine and free chlorine around the Oxford and Merklin sites
- Monthly laboratory testing
 - Metal testing for 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 laboratory testing is carried out by accredited B.C. Laboratories (EXOVA and Fraser Health). The laboratory results are provided weekly to the City. Once the laboratory results received by the City they are reviewed and all of the test results are 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 representative picture of water quality within the City’s mains. It 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**
A cross connection is a real or potential connection between the drinking water supply and any source of contaminant. For instance, improper plumbing or irrigation system 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.
- **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).

The City has been consolidating all the testing data from January to December 2016. This data is included in Appendix A: City of White Rock Water Quality Testing for 2016 and Appendix B: City of White Rock Water Quality Testing for 2016 – Raw Data. In addition, testing data is regularly updated on the City of White Rock's website: www.whiterockcity.ca/EN/main/city/my-water/water-quality.html

The City performed 104 total coliform and e-coli tests with all results under the maximum allowable concentration (MAC) for the year of 2016. Along with 25 non-routine total coliform and e-coli tests.

The City conducted 209 individual tests for arsenic, copper, iron, lead and manganese throughout 2016 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 2016.

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 you could use the water for things such as watering your plants.

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.

Next Steps for 2017

- Continue monitoring the chlorination 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.
- Issue a Request for Proposal to hire an engineering firm to:
 - RFP Tender for Design Build for water treatment plant.
 - Provide a process design for the appropriate technology for arsenic and manganese removal based on research findings.
 - Determine most economical plant design.
- Construct an arsenic and manganese water treatment plant.

Summary

The City of White Rock has now owned the water utility for the entire year of 2016. During 2016 City staff has been working on engaging the community on what the City is working on to improve on the City's water quality with the addition of a water treatment plant for the arsenic and manganese removal.

During the year of 2016, staff collected and had analyzed 763 tests for water quality.

The City continues to work towards the full implementation of secondary disinfection to the distribution system by using free chlorine by February 01, 2017. As an interim measure, the City continues to provide chlorine to wells 6 and 7 in 2010 as well as 0.5 mg/L to the Oxford well 1, 2 and 3 to meet 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 2017 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

Appendix A – City of White Rock Water Quality Testing for 2016 – Raw Data

Appendix A

City of White Rock Water Quality Testing for 2016 – Raw Data January to December 2016

Microbiological Results						
Date	Microbiological Analysis MPN / 100mL	Guideline Limit	# of Samples	Pass	Fail	Guideline Comments
Jan 05 & Jan 06	Total Coliforms	0 per 100 mL	12	12	0	Below MAC
	Escherichia Coli	0 per 100 mL	12	12	0	Below MAC
Jan 12 & Jan 13	Total Coliforms	0 per 100 mL	13	13	0	Below MAC
	Escherichia Coli	0 per 100 mL	13	13	0	Below MAC
Jan 19 & Jan 20	Total Coliforms	0 per 100 mL	11	11	0	Below MAC
	Escherichia Coli	0 per 100 mL	11	11	0	Below MAC
Jan 26 & Jan 27	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Feb 02 & 03	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC
Feb 09 & 10	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC
Feb 16 & 17	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC
Feb 23 & 24	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
*Mar 01 & 02	Total Coliforms	0 per 100 mL	10	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	5	0	Below MAC
Mar 08 & 09	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Mar 18 & 19	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Mar 22 & 23	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Mar 29 & 30	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Apr 05 & 06	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
*Apr 12 & 13	Total Coliforms	0 per 100 mL	10	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	5	0	Below MAC
Apr-20	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Apr 26 & 27	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC
May 03 & 04	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC

Microbiological Results

Date	Microbiological Analysis MPN / 100mL	Guideline Limit	# of Samples	Pass	Fail	Guideline Comments
May 10 & 11	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC
May 18 (Fire)	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
May 24 & 25	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
June 01 & 02	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
June 07 & 08	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
June 14 & 15	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
June 21 & 22	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
June 28 & 29	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
July 05 & 06	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
July 12 & 13	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
July 19 & 20	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
July 28 & 29	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC
Aug 02	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Aug 09 & 10	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Aug 16 & 17	Total Coliforms	0 per 100 mL	9	9	0	Below MAC
	Escherichia Coli	0 per 100 mL	9	9	0	Below MAC
Aug 23 & 24	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Aug 30 & 31	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Sep 05	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Sep 06	Total Coliforms	0 per 100 mL	5	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	5	5	0	Below MAC
Sep 14	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Sept 27 & 28	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Oct 04 & 05	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC

Microbiological Results

Date	Microbiological Analysis MPN / 100mL	Guideline Limit	# of Samples	Pass	Fail	Guideline Comments
Oct 11 & 12	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Oct 18 & 19	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
Oct 26	Total Coliforms	0 per 100 mL	10	10	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	10	0	Below MAC
*Nov 01 & 02	Total Coliforms	0 per 100 mL	10	5	0	Below MAC
	Escherichia Coli	0 per 100 mL	10	5	0	Below MAC
Nov 08 & 09	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Nov 15	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	0	Below MAC
Nov 22 & 23	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Nov 29 & 30	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Dec 06	Total Coliforms	0 per 100 mL	4	4	0	Below MAC
	Escherichia Coli	0 per 100 mL	4	4	0	Below MAC
Dec 13 & 14	Total Coliforms	0 per 100 mL	8	8	0	Below MAC
	Escherichia Coli	0 per 100 mL	8	8	0	Below MAC
Dec 20	Total Coliforms	0 per 100 mL	7	7	0	Below MAC
	Escherichia Coli	0 per 100 mL	7	7	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

* March 01 & 02, 2016 - 5 samples submitted unsatisfactory. Exceeded 30 hours holding time.

* April 12 & 13, 2016 - 5 samples not tested; too long in transit.

* November 01 & 02, 2016 - 5 samples submitted unsatisfactory. Exceeded 30 hours holding time.

Metal Results 2016

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
13700 Blk. Malabar Avenue	14-Jan-16	0.0065	0.003	0.0001	<0.005	0.026
Well #1	19-Jan-16	0.0070	0.0010	0.0016	0.1030	0.0630
Well #2	19-Jan-16	0.0049	0.0020	<0.0001	0.00380	0.0040
Well #3	19-Jan-16	0.0066	<0.001	<0.0001	<0.005	0.1990
Well #4	19-Jan-16	0.0034	<0.001	0.0005	0.6880	0.1750
Well #6	19-Jan-16	0.0094	<0.001	0.0002	<0.005	0.1440
Well #5	20-Jan-16	0.0015	0.0050	0.0004	<0.005	0.0120
Well #7	20-Jan-16	0.0083	<0.001	0.0002	<0.005	0.1070
Well #7	5-Feb-16				<0.01	0.0960
Well #6	10-Feb-16	0.0091	Monthly Merklin Arsenic Sampling			
Well #7	10-Feb-16	0.0083				
Well #6	29-Mar-16	0.0091	Monthly Merklin Arsenic Sampling			
Well #7	29-Mar-16	0.0082				
15900 Blk. Prospect Crescent	14-Apr-16	0.0082	0.0040	0.0005	<0.005	0.107
Well #1	26-Apr-16	0.0077	<0.001	0.0003	0.0090	0.0520
Well #2	26-Apr-16	0.0050	0.0090	<0.0001	<0.005	0.0060
Well #3	26-Apr-16	0.0068	<0.001	<0.0001	<0.005	0.1860
Well #5	26-Apr-16	0.0088	0.0020	<0.0001	<0.005	0.0100
Well #6	26-Apr-16	0.0106	<0.001	<0.0001	<0.005	0.1360
Well #7	26-Apr-16	0.0091	<0.001	<0.0001	<0.005	0.1100
Well #6	2-May-16	0.0108	Monthly Merklin Arsenic Sampling			
Well #6 (Retest)	3-May-16	0.0107				
Everall St. Sample Station	10-May-16	0.0065	0.001	0.0003	<0.005	0.0890
Main Shop (Buena Vista)	10-May-16	0.0095	0.011	0.0002	<0.005	0.009
Malabar Sample Station	11-May-16	0.0066	0.002	<0.0001	<0.005	0.015
Marine Dr. Sample Station	11-May-16	0.0066	0.004	0.0002	0.005	0.006
Merklin Low Reservoir	10-May-16	0.0095	<0.001	<0.0001	<0.005	0.119
Roper PVR - Low Zone	10-May-16	0.0093	0.001	<0.0001	<0.005	0.111
Russell Ave Sample Station	10-May-16	0.0092	0.001	0.0009	<0.005	0.109
Stayte St. Sampling Station	11-May-16	0.0090	0.005	<0.0001	0.010	0.004
Stevens Sample Station	11-May-16	0.0097	0.003	<0.0001	0.008	0.112
City Washroom	11-May-16	0.0092	0.055	<0.0001	0.014	0.004
Well #7	21-Jun-16	0.0099	Monthly Merklin Arsenic Sampling			
14100 Blk Marine Drive	28-Jun-16	0.0051	0.003	<0.0001	<0.005	0.009
Everall Station	28-Jun-16	0.0064	0.002	0.0003	<0.005	0.070
Main Shop	28-Jun-16	0.0105	0.009	0.0002	0.007	0.009
Mann Park Station	29-Jun-16	0.0061	0.014	0.0005	<0.005	0.023
Marine Drive Station	29-Jun-16	0.0061	0.005	0.0005	<0.005	0.006
Roper Station	28-Jun-16	0.0088	<0.001	<0.0001	<0.005	0.104
Roper PRV Station Low	28-Jun-16	0.0088	<0.001	<0.0001	<0.005	0.104
Russell Station	28-Jun-16	0.0058	0.004	0.0004	<0.005	0.036

Metal Results 2016

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
Stevens Station	29-Jun-16	0.0094	0.003	<0.0001	<0.005	0.123
City Washrooms	29-Jun-16	0.0089	0.020	0.0002	0.009	0.031
Merklin Low Reservoir	30-Jun-16	0.0107	<0.001	<0.0001	<0.005	0.128
Well #6	30-Jun-16	0.0101	Monthly Merklin Arsenic Sampling			
Well #6	4-Jul-16	0.0103	Monthly Merklin Arsenic Sampling			
Well #1	28-Jul-16	0.0076	0.005	0.0006	0.020	0.080
Well #2	28-Jul-16	0.0054	<0.001	<0.0001	0.200	0.002
Well #3	28-Jul-16	0.0068	<0.001	<0.0001	0.005	0.185
Well #4	28-Jul-16	0.0023	<0.001	<0.0001	0.053	0.202
Well #5	28-Jul-16	0.0088	0.004	0.0001	0.010	0.011
Well #6	28-Jul-16	0.0098	<0.001	0.0001	<0.005	0.141
Well #7	28-Jul-16	0.0090	<0.001	0.0003	<0.005	0.112
Well #6	30-Aug-16	0.0097	<0.001	<0.0001	<0.005	0.138
Well #7	30-Aug-16	0.0091	<0.001	0.0002	<0.005	0.11
Well #6	27-Sep-16	0.0099	<0.0005	0.000096	0.004	0.144
Well #7	27-Sep-16	0.0091	<0.0005	0.000192	0.006	0.115
Mann Park Station	11-Oct-16	0.0065	0.0081	0.000229	<0.004	0.010
Everall Station	11-Oct-16	0.0065	0.0010	0.000078	<0.004	0.023
Russell Station	11-Oct-16	0.0064	0.0010	0.000175	<0.004	0.013
13600 Blk. Marine Station	11-Oct-16	0.0064	0.0071	0.000315	<0.004	0.006
Malabar Station	11-Oct-16	0.0065	0.0034	0.000312	<0.004	0.01
1400 Blk Bishop Road	1-Nov-16	0.0064	0.0291	0.00166	0.010	0.025
1400 Blk Blackwood Street	2-Nov-16	0.0066	0.110	0.000853	<0.004	0.021
1200 Blk Foster Street	10-Nov-16	0.0065	0.0215	0.000094	<0.004	0.015
Well #6	29-Nov-16	0.0100	Monthly Merklin Arsenic Sampling			
Well #7	29-Nov-16	0.0092				
800 Blk Stevens Street	9-Dec-16	0.0088	0.0051	0.000223	0.008	0.064
1000 Blk of Stayte Road	21-Dec-16	0.0094	0.0085	0.000132	0.007	0.122

THM & HAA RESULTS 2016

Sample	Unit of Measure	Nominal Detection Limit	Sample Location						Sampled Date
			Stevens Station	Stayte Station	Roper PRV - High	Marine Station	Everall Station	Mann Park Station	
Chloroform	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	14-Jan-16
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	14-Jan-16
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	14-Jan-16
Bromoform	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	14-Jan-16
Total THMs	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	14-Jan-16
Dibromofluoromethane	%	86-118	98	97	94	-	-	-	14-Jan-16
Toluene-d8	%	85-115	98	99	100	-	-	-	14-Jan-16
Bromofluorobenzene	%	86-115	94	93	93	-	-	-	14-Jan-16
Monochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	14-Jan-16
Monobromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	14-Jan-16
Dichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	14-Jan-16
Bromochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	14-Jan-16
Dibromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	14-Jan-16
Trichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	14-Jan-16
Total HAA6	ug/L	2	<2.0	<2.0	<2.0	-	-	-	14-Jan-16
Chloroform	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	27-Apr-16
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	27-Apr-16
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	27-Apr-16
Bromoform	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	27-Apr-16
Total THMs	mg/L	0.001	<0.001	<0.001	<0.001	-	-	-	27-Apr-16
Dibromofluoromethane	%	86-118	100	99	99	-	-	-	27-Apr-16
Toluene-d8	%	85-115	97	96	99	-	-	-	27-Apr-16
Bromofluorobenzene	%	86-115	98	97	99	-	-	-	27-Apr-16
Monochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	27-Apr-16
Monobromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	27-Apr-16
Dichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	27-Apr-16
Bromochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	27-Apr-16
Dibromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	27-Apr-16
Trichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	-	-	-	27-Apr-16
Total HAA6	ug/L	2	<2.0	<2.0	<2.0	-	-	-	27-Apr-16
Chloroform	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	-	-	28-Jul-16
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	-	-	28-Jul-16
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	-	-	28-Jul-16
Bromoform	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	-	-	28-Jul-16
Total THMs	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	-	-	28-Jul-16
Dibromofluoromethane	%	86-118	105	104	105	103	-	-	28-Jul-16
Toluene-d8	%	85-115	107	106	108	107	-	-	28-Jul-16
Bromofluorobenzene	%	86-115	99	99	99	99	-	-	28-Jul-16
Monochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	-	-	28-Jul-16
Monobromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	-	-	28-Jul-16
Dichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	-	-	28-Jul-16
Bromochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	-	-	28-Jul-16
Dibromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	-	-	28-Jul-16

THM & HAA RESULTS 2016

Sample	Unit of Measure	Nominal Detection Limit	Sample Location						Sampled Date
			Stevens Station	Stayte Station	Roper PRV - High	Marine Station	Everall Station	Mann Park Station	
Trichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	-	-	28-Jul-16
Total HAA6	ug/L	2	<2.0	<2.0	<2.0	<2.0	-	-	28-Jul-16
Chloroform	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	26-Oct-16
Bromodichloromethane	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	26-Oct-16
Dibromochloromethane	mg/L	0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	26-Oct-16
Bromoform	mg/L	0.001	<0.001	<0.001	<0.001	0.004	0.001	0.002	26-Oct-16
Total THMs	mg/L	0.001	<0.001	<0.001	<0.001	0.005	0.001	0.003	26-Oct-16
Dibromofluoromethane	%	86-118	110	110	107	107	113	101	26-Oct-16
Toluene-d8	%	85-115	103	101	101	100	102	99	26-Oct-16
Bromofluorobenzene	%	86-115	93	93	91	97	92	98	26-Oct-16
Monochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	26-Oct-16
Monobromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	26-Oct-16
Dichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	26-Oct-16
Bromochloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	26-Oct-16
Dibromoacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	26-Oct-16
Trichloroacetic Acid	ug/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	26-Oct-16
Total HAA6	ug/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	26-Oct-16

Non Routine Water Quality Results for Source and Distribution Water 2016

Sampling Point Name	Date Sampled	TC	E-coli	Comments
		MPN / 100 ml	MPN / 100 ml	
13700 Blk. Malabar Avenue	14-Jan-16	<1.0	<1.0	Below MAC
Peace Arch Elementary School	20-Jan-16	<1.0	<1.0	Below MAC
Merklin By-Pass Line	25-Jan-16	<1.0	<1.0	Below MAC
Merklin By-Pass Line	26-Jan-16	<1.0	<1.0	Below MAC
800 Blk. Stevens Street	15-Feb-16	<1.0	<1.0	Below MAC
Well #2	15-Feb-16	<1.0	<1.0	Below MAC
Well #2	16-Feb-16	<1.0	<1.0	Below MAC
1000 Blk. Foster Street	9-Mar-16	<1.0	<1.0	Below MAC
1000 Blk. Foster Street	9-Mar-16	<1.0	<1.0	Below MAC
900 Blk. Foster Street	13-May-16	<1.0	<1.0	Below MAC
15900 Blk Roper Ave	2-Jun-16	<1.0	<1.0	Below MAC
1100 Blk Centre Street	2-Jun-16	<1.0	<1.0	Below MAC
1300 Blk Fir Street	29-Jun-16	<1.0	<1.0	Below MAC
Well #1	5-Jul-16	1.0	<1.0	Above MAC
Well #1	13-Jul-16	<1.0	<1.0	Below MAC
15900 Blk Vine Ave	26-Jul-16	<1.0	<1.0	Below MAC
15100 Blk Thrift Ave	27-Jul-16	<1.0	<1.0	Below MAC
Chestnut Station	28-Jul-16	<1.0	<1.0	Below MAC
15900 Blk Vine Ave	28-Jul-16	<1.0	<1.0	Below MAC
1100 Blk Keil Cres	11-Aug-16	<1.0	<1.0	Below MAC
1300 Blk George St	23-Aug-16	<1.0	<1.0	Below MAC
Kent Street Activity Center	6-Sep-16	<1.0	<1.0	Below MAC
15400 Blk Roper Avenue	4-Nov-16	<1.0	<1.0	Below MAC
Kent Street Activity Center	4-Nov-16	<1.0	<1.0	Below MAC
Stevens Station	13-Dec-16	<1.0	<1.0	Below MAC

In-House Water Testing Results 2016

Sampling Location	Date Sampled	Time	Conductivity	pH	Turbidity	Free Cl	Total Cl	Temp. Colldd	Temp. Tested
			µS/cm		NTU	mg/L	mg/L		
January Week 1									
Merklin Low Reservoir - 25%	5-Jan-16	9:35	302	8.23	0.34	0.07	0.17	6.7	19.8
Merklin Low Reservoir - 50%	5-Jan-16	9:38	306	8.22	0.32	0.06	0.16	6.7	19.9
Merklin Low Reservoir - 75%	5-Jan-16	9:41	303	8.24	0.34	0.05	0.17	6.5	20.0
Roper Reservoir - Low Zone	5-Jan-16	10:40	275	8.18	0.11	0.04	0.41	8.3	20.0
Roper Reservoir - High Zone	5-Jan-16	10:45	274	8.23	0.08	0.04	0.38	8.3	20.1
Merklin High Standpipe	5-Jan-16	10:00	282	8.24	0.17	0.04	0.53	8.7	20.2
Main Shop (Buena Vista)	6-Jan-16	10:20	524	7.75	0.06	0.03	0.03	12.1	22.1
Stayte Sampling Station	6-Jan-16	9:50	455	7.83	0.12	0.02	0.02	7.6	22.5
City Washroom	6-Jan-16	10:05	477	7.89	0.26	0.08	0.02	11.7	20.8
Malabar Sample Station	6-Jan-16	9:00	264	8.01	0.07	0.06	0.09	8.2	23.2
Stevens Sample Station	6-Jan-16	9:35	282	8.08	0.13	0.07	0.60	8.4	23.2
Marine Dr Sample Station	6-Jan-16	8:50	258	8.08	0.13	0.03	0.03	7.6	23.6
January Week 2									
Merklin Low Reservoir - 25%	12-Jan-16	9:30	307	8.15	0.37	0.07	0.16	6.9	22.7
Merklin Low Reservoir - 50%	12-Jan-16	9:40	298	8.20	0.35	0.00	0.16	6.7	22.4
Merklin Low Reservoir - 75%	12-Jan-16	9:45	306	8.20	0.36	0.06	0.14	6.7	22.7
Roper PRV - High Zone	12-Jan-16	8:55	263	8.16	0.38	0.04	0.03	8.7	23.8
Merklin High Standpipe	12-Jan-16	9:10	303	8.12	0.23	0.08	0.53	9.1	23.5
Main Shop (Buena Vista)	13-Jan-16	10:50	532	8.12	0.12	0.02	0.03	11.8	20.9
Stayte Sampling Station	13-Jan-16	9:45	506	8.15	0.14	0.03	0.03	7.5	20.9
City Washroom	13-Jan-16	9:55	392	8.12	0.25	0.05	0.05	9.2	20.7
Mann Park Sample Station	13-Jan-16	9:10	266	8.31	0.11	0.03	0.03	7.8	21.2
Stevens Sample Station	13-Jan-16	9:30	331	8.44	0.14	0.68	0.68	8.9	20.1
Marine Dr Sample Station	13-Jan-16	8:55	287	8.46	0.17	0.04	0.04	7.6	20.6
January Week 3									
Merklin Low Reservoir - 25%	19-Jan-16	9:15	304	8.21	0.32	0.08	0.17	7.3	24.6
Merklin Low Reservoir - 50%	19-Jan-16	9:20	308	8.21	0.33	0.07	0.14	7.3	22.9
Merklin Low Reservoir - 75%	19-Jan-16	9:25	303	8.22	0.31	0.05	0.18	7.3	24.7
Roper Reservoir - Low Zone	19-Jan-16	9:40	325	8.05	0.11	0.04	0.49	9.8	21.4
Merklin High Standpipe	19-Jan-16	9:05	305	8.20	0.07	0.07	0.52	9.5	24.0
Main Shop (Buena Vista)	20-Jan-16	11:45	515	7.67	0.06	0.00	0.01	11.6	20.1
Stayte Sampling Station	20-Jan-16	9:40	471	7.76	0.07	0.02	0.01	7.9	20.2
City Washroom	20-Jan-16	10:35	451	7.79	0.15	0.01	0.00	8.9	20.2
Malabar Sample Station	20-Jan-16	11:25	246	8.09	0.10	0.03	0.01	8.5	20.3
Stevens Sample Station	20-Jan-16	9:55	284	8.21	0.12	0.05	0.59	9.7	20.3
Marine Dr Sample Station	20-Jan-16	10:55	248	8.22	0.14	0.02	0.01	7.9	20.3

In-House Water Testing Results 2016 continued									
January Week 4									
Merklin Low Reservoir - 25%	26-Jan-16	11:14	301	8.19	0.38	0.06	0.06	6.9	20.1
Merklin Low Reservoir - 50%	26-Jan-16	11:17	302	8.22	0.32	0.12	0.08	6.9	20.3
Merklin Low Reservoir - 75%	26-Jan-16	11:20	303	8.25	0.33	0.08	0.15	7.0	20.4
Roper PRV - High Zone	26-Jan-16	10:00	281	8.21	0.16	0.04	0.61	9.1	20.0
Merklin High Standpipe	26-Jan-16	11:40	287	8.23	0.20	0.00	0.38	8.9	19.2
Main Shop (Buena Vista)	27-Jan-16	11:35	532	7.62	0.11	0.06	0.00	11.9	26.3
Stayte Sampling Station	27-Jan-16	10:35	485	7.69	0.09	0.01	0.00	8.5	24.4
City Washroom	27-Jan-16	11:10	482	7.71	0.10	0.00	0.00	10.2	23.7
Mann Park Sample Station	27-Jan-16	9:30	278	7.88	0.11	0.04	0.00	8.4	24.8
Stevens Sample Station	27-Jan-16	9:50	290	8.08	0.10	0.07	0.62	9.2	24.9
Marine Dr Sample Station	27-Jan-16	9:10	258	8.07	0.11	0.06	0.00	8.2	23.4
February Week 1									
Merklin Low Reservoir - 25%	2-Feb-16	9:50	319	8.10	0.20	0.05	0.65	8.9	21.9
Merklin Low Reservoir - 50%	2-Feb-16	9:55	322	8.16	0.23	0.02	0.65	8.8	20.7
Merklin Low Reservoir - 75%	2-Feb-16	10:00	325	8.16	0.17	0.04	0.65	8.9	21.5
Roper Reservoir - Low Zone	2-Feb-16	10:35	277	8.06	0.12	0.00	0.00	9.1	21.5
Merklin High Standpipe	2-Feb-16	Offline - Under Construction							
Main Shop (Buena Vista)	3-Feb-16	11:00	530	7.81	0.08	0.02	0.01	12.1	21.5
Stayte Sampling Station	3-Feb-16	9:15	486	7.76	0.10	0.00	0.03	8.5	22.1
City Washroom	3-Feb-16	11:15	492	7.73	0.16	0.02	0.01	9.9	22.3
Malabar Sample Station	3-Feb-16	10:50	273	7.98	0.08	0.01	0.01	8.9	22.1
Stevens Sample Station	3-Feb-16	9:35	339	8.14	0.11	0.05	0.65	9.3	23.0
Marine Dr Sample Station	3-Feb-16	10:20	275	8.03	0.07	0.01	0.01	8.5	22.9
February Week 2									
Merklin Low Reservoir - 25%	9-Feb-16	10:35	324	8.06	0.10	0.07	0.68	10.1	23.1
Merklin Low Reservoir - 50%	9-Feb-16	10:40	325	8.11	0.11	0.06	0.70	10.1	23.0
Merklin Low Reservoir - 75%	9-Feb-16	10:45	327	8.15	0.11	0.05	0.69	10.1	22.6
Roper PRV - High Zone	9-Feb-16	11:10	327	8.15	0.07	0.04	0.65	9.7	22.6
Merklin High Standpipe	9-Feb-16	Offline - Under Construction							
Main Shop (Buena Vista)	10-Feb-16	11:35	516	7.79	0.11	0.00	0.00	12.1	22.2
Stayte Sampling Station	10-Feb-16	10:25	478	7.77	0.13	0.00	0.03	9.6	21.3
City Washroom	10-Feb-16	10:45	472	7.77	0.10	0.02	0.01	10.7	22.1
Mann Park Sample Station	10-Feb-16	11:20	250	8.10	0.07	0.00	0.01	8.9	21.2
Stevens Sample Station	10-Feb-16	9:40	333	8.18	0.13	0.02	0.66	9.7	22.2
Marine Dr Sample Station	10-Feb-16	11:40	255	8.18	0.05	0.00	0.00	8.7	22.2
February Week 3									
Merklin Low Reservoir - 25%	16-Feb-16	10:45	283	8.15	0.13	0.00	0.58	9.7	23.1
Merklin Low Reservoir - 50%	16-Feb-16	10:50	282	8.20	0.11	0.01	0.60	9.7	22.9
Merklin Low Reservoir - 75%	16-Feb-16	10:55	282	8.22	0.11	0.01	0.61	9.8	23.0
Roper Reservoir - Low Zone	16-Feb-16	9:50	274	8.19	0.12	0.03	0.38	9.7	22.5
Merklin High Standpipe	16-Feb-16	Offline - Under Construction							

In-House Water Testing Results 2016 continued									
Main Shop (Buena Vista)	16-Feb-16	11:20	523	7.82	0.05	0.00	0.00	11.6	23.0
Stayte Sampling Station	17-Feb-16	11:45	434	7.82	0.08	0.00	0.17	9.1	23.9
City Washroom	17-Feb-16	12:00	478	8.10	0.11	0.03	0.13	10.6	21.9
Malabar Sample Station	17-Feb-16	9:15	250	7.84	0.07	0.03	0.00	9.3	22.9
Stevens Sample Station	17-Feb-16	11:35	286	8.20	0.10	0.00	0.38	9.8	21.8
Marine Dr Sample Station	17-Feb-16	9:30	252	8.18	0.09	0.00	0.01	8.8	21.7
February Week 4									
Merklin Low Reservoir - 25%	23-Feb-16	9:50	289	8.20	0.12	0.03	0.60	9.4	21.2
Merklin Low Reservoir - 50%	23-Feb-16	9:55	290	8.15	0.11	0.04	0.61	9.5	21.3
Merklin Low Reservoir - 75%	23-Feb-16	10:00	289	8.17	0.13	0.03	0.61	9.5	20.7
Roper PRV - High Zone	23-Feb-16	10:45	281	8.17	0.09	0.03	0.46	9.5	20.6
Merklin High Standpipe	23-Feb-16	Offline - Under Construction							
Main Shop (Buena Vista)	23-Feb-16	11:05	522	7.86	0.05	0.00	0.00	12.0	20.0
Stayte Sampling Station	24-Feb-16	9:45	444	8.40	0.07	0.01	0.04	9.3	19.1
City Washroom	24-Feb-16	10:55	520	7.84	0.07	0.03	0.01	10.5	19.1
Mann Park Sample Station	24-Feb-16	11:15	251	8.12	0.08	0.05	0.02	9.0	19.2
Stevens Sample Station	24-Feb-16	9:20	287	8.25	0.11	0.05	0.58	9.7	19.2
Marine Dr Sample Station	24-Feb-16	11:35	248	8.22	0.11	0.03	0.03	9.0	19.2
March Week 1									
Merklin Low Reservoir - 25%	1-Mar-16	9:50	287	8.22	0.11	0.11	0.60	9.5	20.5
Merklin Low Reservoir - 50%	1-Mar-16	9:55	290	8.25	0.11	0.06	0.61	9.3	21.4
Merklin Low Reservoir - 75%	1-Mar-16	10:00	288	8.26	0.10	0.00	0.60	9.6	21.2
Roper Reservoir - Low Zone	1-Mar-16	11:00	287	8.27	0.13	0.00	0.49	10.8	20.7
Main Shop (Buena Vista)	1-Mar-16	11:15	517	7.90	0.06	0.00	0.00	11.9	19.3
Stayte Sampling Station	2-Mar-16	11:05	507	7.81	0.10	0.02	0.00	10.3	24.0
City Washroom	2-Mar-16	10:50	502	7.82	0.11	0.00	0.00	10.9	22.3
Malabar Sample Station	2-Mar-16	7:50	274	8.01	0.09	0.03	0.01	9.7	21.3
Stevens Sample Station	2-Mar-16	10:20	286	8.26	0.10	0.05	0.60	10.3	21.8
Marine Dr Sample Station	2-Mar-16	8:10	278	8.10	0.10	0.04	0.01	9.3	22.3
March Week 2									
Merklin Low Reservoir - 25%	8-Mar-16	10:40	292	8.21	0.11	0.05	0.60	9.6	23.5
Merklin Low Reservoir - 50%	8-Mar-16	10:45	291	8.21	0.09	0.05	0.61	9.6	23.4
Merklin Low Reservoir - 75%	8-Mar-16	10:50	293	8.23	0.11	0.05	0.61	9.6	21.6
Roper PRV - High Zone	8-Mar-16	9:20	286	8.13	0.08	0.04	0.34	10.4	24.8
Main Shop (Buena Vista)	8-Mar-16	11:20	521	7.84	0.06	0.01	0.00	12.0	22.2
Stayte Sampling Station	9-Mar-16	11:00	508	7.86	0.06	0.03	0.01	10.3	22.2
City Washroom	9-Mar-16	11:20	519	7.81	0.07	0.01	0.00	11.9	22.0
Mann Park Sample Station	9-Mar-16	9:10	276	7.97	0.09	0.02	0.00	9.6	21.8
Stevens Sample Station	9-Mar-16	10:25	291	8.24	0.09	0.02	0.59	10.4	22.6
Marine Dr Sample Station	9-Mar-16	9:40	273	8.10	0.08	0.02	0.01	9.7	22.6
March Week 3									
Merklin Low Reservoir - 25%	15-Mar-16	9:50	292	8.24	0.09	0.03	0.60	9.2	22.1

In-House Water Testing Results 2016 continued									
Merklin Low Reservoir - 50%	15-Mar-16	9:55	290	8.26	0.08	0.03	0.60	9.6	22.2
Merklin Low Reservoir - 75%	15-Mar-16	10:00	290	8.28	0.08	0.02	0.61	9.3	21.2
Roper Reservoir - Low Zone	15-Mar-16	11:00	286	8.25	0.10	0.03	0.49	9.5	21.2
Main Shop (Buena Vista)	15-Mar-16	11:35	530	7.89	0.06	0.01	0.00	11.8	20.1
Stayte Sampling Station	16-Mar-16	11:15	508	7.87	0.06	0.01	0.02	10.1	20.6
City Washroom	16-Mar-16	11:40	528	7.86	0.27	0.01	0.01	11.2	20.8
Malabar Sample Station	16-Mar-16	9:35	276	8.01	0.08	0.01	0.01	9.7	21.4
Stevens Sample Station	16-Mar-16	10:30	293	8.23	0.09	0.04	0.57	10.5	21.3
Marine Dr Sample Station	16-Mar-16	9:10	271	8.09	0.07	0.02	0.00	9.5	19.4
March Week 4									
Merklin Low Reservoir - 25%	23-Mar-16	9:45	289	8.36	0.12	0.01	0.53	11.5	21.7
Merklin Low Reservoir - 50%	23-Mar-16	9:50	290	8.32	0.09	0.03	0.56	9.7	21.9
Merklin Low Reservoir - 75%	23-Mar-16	9:55	295	8.31	0.10	0.05	0.57	9.5	22.7
Roper PRV - High Zone	23-Mar-16	9:05	275	8.27	0.07	0.03	0.11	10.4	22.6
Main Shop (Buena Vista)	23-Mar-16	10:40	523	7.98	0.08	0.04	0.00	12.4	21.2
Stayte Sampling Station	22-Mar-16	11:05	509	7.68	0.10	0.07	0.00	10.6	18.1
City Washroom	22-Mar-16	10:45	509	7.66	0.12	0.06	0.02	13.1	17.9
Mann Park Sample Station	22-Mar-16	9:20	275	8.18	0.07	0.02	0.03	9.7	17.8
Stevens Sample Station	22-Mar-16	9:35	289	8.09	0.09	0.06	0.53	10.6	17.9
Marine Dr Sample Station	22-Mar-16	9:00	270	8.14	0.10	0.04	0.00	9.9	17.9
March Week 5									
Merklin Low Reservoir - 25%	29-Mar-16	9:50	297	8.23	0.10	0.04	0.58	10.3	22.0
Merklin Low Reservoir - 50%	29-Mar-16	9:55	299	8.21	0.11	0.04	0.59	10.5	23.2
Merklin Low Reservoir - 75%	29-Mar-16	10:00	298	8.24	0.09	0.06	0.59	10.3	23.6
Roper Reservoir - Low Zone	29-Mar-16	11:20	296	8.22	0.09	0.04	0.56	10.7	23.5
Main Shop (Buena Vista)	29-Mar-16	11:45	524	7.88	0.06	0.02	0.01	12.0	22.5
Stayte Sampling Station	30-Mar-16	9:30	510	7.86	0.09	0.03	0.01	11.1	23.4
City Washroom	30-Mar-16	11:35	516	7.80	0.08	0.03	0.01	13.1	24.4
Malabar Sample Station	30-Mar-16	11:05	274	7.99	0.13	0.03	0.01	10.5	25.4
Stevens Sample Station	30-Mar-16	10:00	297	8.22	0.09	0.04	0.60	11.1	24.3
Marine Dr Sample Station	30-Mar-16	10:45	270	8.11	0.10	0.04	0.01	10.6	23.4
April Week 1									
Merklin Low Reservoir - 25%	5-Apr-16	9:50	288	8.31	0.10	0.03	0.61	9.5	21.1
Merklin Low Reservoir - 50%	5-Apr-16	9:55	288	8.31	0.08	0.01	0.61	9.6	21.0
Merklin Low Reservoir - 75%	5-Apr-16	10:00	288	8.33	0.08	0.03	0.61	9.6	21.1
Roper PRV - High Zone	5-Apr-16	10:55	287	8.31	0.08	0.04	0.57	11.3	22.4
Main Shop (Buena Vista)	5-Apr-16	11:25	521	7.94	0.09	0.02	0.01	12.3	22.2
Stayte Sampling Station	6-Apr-16	11:40	501	7.91	0.07	0.01	0.01	12.5	18.4
City Washroom	6-Apr-16	11:15	521	7.82	0.12	0.01	0.01	14.1	19.3
Mann Park Sample Station	6-Apr-16	9:45	249	8.16	0.07	0.01	0.01	11.0	19.0
Stevens Sample Station	6-Apr-16	10:30	287	8.28	0.08	0.03	0.54	12.0	18.9
Marine Dr Sample Station	6-Apr-16	9:25	249	8.24	0.08	0.02	0.01	11.5	18.8

In-House Water Testing Results 2016 continued									
April Week 2									
Merklin Low Reservoir - 25%	12-Apr-16	9:40	289	8.21	0.11	0.02	0.60	9.8	21.8
Merklin Low Reservoir - 50%	12-Apr-16	9:45	289	8.23	0.08	0.03	0.61	9.8	21.8
Merklin Low Reservoir - 75%	12-Apr-16	9:50	288	8.26	0.09	0.02	0.61	10.0	21.4
Roper Reservoir - Low Zone	12-Apr-16	11:10	289	8.24	0.09	0.02	0.59	10.9	22.1
Main Shop (Buena Vista)	12-Apr-16	11:35	512	7.93	0.05	0.01	0.01	12.1	22.5
Stayte Sampling Station	13-Apr-16	11:15	498	7.92	0.06	0.02	0.01	13.8	23.3
City Washroom	13-Apr-16	10:00	512	7.82	0.22	0.02	0.00	15.1	25.2
Malabar Sample Station	13-Apr-16	9:35	255	8.12	0.08	0.02	0.02	11.6	24.9
Stevens Sample Station	13-Apr-16	10:45	288	8.21	0.07	0.04	0.59	12.7	24.2
Marine Dr Sample Station	13-Apr-16	9:10	250	8.16	0.09	0.01	0.01	12.5	25.2
April Week 3									
Merklin Low Reservoir - 25%	20-Apr-16	9:15	306	8.21	0.12	0.05	0.59	12.0	16.7
Merklin Low Reservoir - 50%	20-Apr-16	9:20	304	8.28	0.11	0.04	0.59	11.7	16.8
Merklin Low Reservoir - 75%	20-Apr-16	9:25	304	8.23	0.12	0.04	0.59	12.4	16.7
Roper PRV - High Zone	20-Apr-16	10:30	265	8.25	0.11	0.07	0.20	12.3	16.7
Main Shop (Buena Vista)	20-Apr-16	11:40	516	7.90	0.08	0.03	0.01	13.1	16.3
Stayte Sampling Station	20-Apr-16	9:50	497	7.86	0.07	0.07	0.04	13.9	16.9
City Washroom	20-Apr-16	11:20	515	7.83	0.09	0.05	0.05	15.7	17.5
Mann Park Sample Station	20-Apr-16	11:00	250	8.16	0.13	0.07	0.01	11.3	17.0
Stevens Sample Station	20-Apr-16	9:35	269	8.27	0.13	0.05	0.24	13.0	16.9
Marine Dr Sample Station	20-Apr-16	10:50	249	8.23	0.10	0.06	0.01	12.9	16.9
April Week 4									
Merklin Low Reservoir - 25%	26-Apr-16	9:40	319	8.28	0.09	0.06	0.58	11.5	22.7
Merklin Low Reservoir - 50%	26-Apr-16	9:45	320	8.26	0.09	0.04	0.59	11.5	23.8
Merklin Low Reservoir - 75%	26-Apr-16		-	-	0.09	0.04	0.59	11.3	-
Roper Reservoir - Low Zone	26-Apr-16	10:55	295	8.27	0.09	0.04	0.35	12.1	23.5
Main Shop (Buena Vista)	26-Apr-16	11:50	519	7.94	0.06	0.01	0.01	13.1	22.6
Stayte Sampling Station	27-Apr-16	11:10	506	7.79	0.11	0.03	0.00	15.1	24.7
City Washroom	27-Apr-16	11:25	510	7.75	0.08	0.02	0.01	16.8	23.7
Malabar Sample Station	27-Apr-16	10:40	264	8.03	0.09	0.04	0.01	11.7	23.3
Stevens Sample Station	27-Apr-16	10:00	283	8.07	0.09	0.04	0.13	13.6	24.6
Marine Dr Sample Station	27-Apr-16	12:05	263	8.05	0.08	0.02	0.01	13.2	23.2
May Week 1									
Merklin Low Reservoir - 25%	3-May-16	9:25	330	8.14	0.08	0.07	0.67	11.3	21.0
Merklin Low Reservoir - 50%	3-May-16	9:30	338	8.28	0.08	0.04	0.63	11.3	20.7
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper Reservoir - High Zone	3-May-16	10:30	323	8.28	0.12	0.04	0.56	13.2	20.5
Main Shop (Buena Vista)	3-May-16	11:00	521	8.02	0.10	0.00	0.06	12.5	20.1
Stayte Sampling Station	4-May-16	11:00	504	8.04	0.09	0.05	0.03	16.1	18.8
City Washroom	4-May-16	9:45	524	7.96	0.11	0.00	0.00	18.4	18.9
Malabar Sample Station	4-May-16	8:55	258	8.19	0.13	0.05	0.01	11.8	18.9

In-House Water Testing Results 2016 continued									
Stevens Sample Station	4-May-16	10:35	337	8.38	0.09	0.03	0.55	14.0	18.9
Marine Dr Sample Station	4-May-16	9:25	263	8.31	0.09	0.04	0.02	15.1	16.9
May Week 2									
Merklin Low Reservoir - 25%	10-May-16	9:45	293	8.01	0.14	0.07	0.60	11.7	16.5
Merklin Low Reservoir - 50%	10-May-16	9:50	304	8.31	0.11	0.03	0.60	11.6	16.5
Merklin Low Reservoir - 75%	-	-	-	-	-	-	-	-	-
Roper PRV - Low Zone	10-May-16	10:30	296	8.32	0.06	0.06	0.58	12.0	16.4
Main Shop (Buena Vista)	10-May-16	8:25	536	7.98	0.08	0.06	0.01	12.5	18.1
Stayte Sampling Station	11-May-16	10:50	513	7.85	0.11	0.03	0.00	17.5	18.5
City Washroom	11-May-16	9:35	522	7.90	0.06	0.03	0.02	18.9	18.4
Mann Park Sample Station	11-May-16	8:45	262	8.15	0.11	0.04	0.01	12.1	18.0
Stevens Sample Station	11-May-16	10:25	296	8.42	0.09	0.05	0.61	13.6	18.1
Marine Dr Sample Station	11-May-16	9:10	265	8.36	0.09	0.04	0.01	15.6	18.5
May Week 3									
Merklin Low Reservoir - 25%	18-May-16	9:10	301	8.24	0.09	0.03	0.56	11.1	21.3
Merklin Low Reservoir - 50%	18-May-16	9:15	301	8.26	0.08	0.03	0.56	10.7	21.5
Merklin Low Reservoir - 75%	18-May-16	9:20	302	8.27	0.08	0.03	0.57	10.5	23.4
Roper Reservoir - High Zone	18-May-16	9:45	298	8.26	0.08	0.05	0.52	12.6	23.6
Main Shop (Buena Vista)	18-May-16	11:30	522	7.95	0.08	0.00	0.07	14.5	21.4
Stayte Sampling Station	18-May-16	10:25	508	7.90	0.12	0.05	0.03	17.6	22.8
City Washroom	18-May-16	10:40	494	7.88	0.16	0.08	0.04	19.1	23.7
Malabar Sample Station	18-May-16	11:00	269	8.19	0.08	0.05	0.00	11.9	22.5
Stevens Sample Station	18-May-16	9:30	288	8.32	0.09	0.06	0.44	14.2	23.1
Marine Dr Sample Station	18-May-16	11:10	269	8.20	0.10	0.05	0.03	16.1	24.1
May Week 4									
Merklin Low Reservoir - 25%	24-May-16	9:40	300	8.58	0.09	0.04	0.60	10.7	25.0
Merklin Low Reservoir - 50%	24-May-16	9:45	300	8.47	0.12	0.05	0.64	10.5	25.6
Merklin Low Reservoir - 75%	24-May-16	9:50	287	8.49	0.09	0.03	0.59	10.5	23.5
Roper PRV - Low Zone	24-May-16	10:40	286	8.47	0.06	0.06	0.40	12.8	24.5
Main Shop (Buena Vista)	24-May-16	11:00	530	8.20	0.10	0.06	0.02	12.6	24.3
Stayte Sampling Station	25-May-16	11:10	522	8.00	0.08	0.02	0.01	17.6	24.7
City Washroom	25-May-16	11:25	533	7.98	0.11	0.01	0.01	19.2	23.4
Mann Park Sample Station	25-May-16	9:45	271	8.26	0.08	0.02	0.02	12.0	24.4
Stevens Sample Station	25-May-16	10:50	299	8.42	0.10	0.04	0.60	13.6	25.5
Marine Dr Sample Station	25-May-16	9:25	271	8.32	0.06	0.02	0.01	15.8	24.9
May Week 5									
Merklin Low Reservoir - 25%	31-May-16	9:20	295	8.35	0.08	0.03	0.59	14.1	23.3
Merklin Low Reservoir - 50%	31-May-16	9:25	296	8.42	0.09	0.04	0.58	14.7	24.1
Merklin Low Reservoir - 75%	31-May-16	Reservoir low level							
Roper Reservoir - High Zone	31-May-16	9:50	290	8.41	0.06	0.04	0.55	13.2	24.6
Main Shop (Buena Vista)	31-May-16	10:45	537	8.09	0.09	0.02	0.02	13.8	24.3
June Week 1									

In-House Water Testing Results 2016 continued									
Stayte Sampling Station	1-Jun-16	11:05	526	7.97	0.05	0.02	0.03	17.6	23.1
City Washroom	1-Jun-16	11:30	535	7.91	0.06	0.04	0.01	17.8	23.5
Malabar Sample Station	1-Jun-16	9:55	267	8.28	0.07	0.03	0.02	11.8	23.0
Stevens Sample Station	1-Jun-16	10:50	301	8.47	0.07	0.04	0.57	13.7	23.2
Marine Dr Sample Station	1-Jun-16	9:35	269	8.38	0.08	0.03	0.02	15.8	23.0
June Week 2									
Merklin Low Reservoir - 25%	7-Jun-16	8:30	315	8.36	0.07	0.04	0.63	15.4	26.0
Merklin Low Reservoir - 50%	7-Jun-16	8:35	317	8.40	0.08	0.05	0.62	14.3	28.7
Merklin Low Reservoir - 75%	7-Jun-16	8:25	311	8.48	0.09	0.05	0.60	12.9	29.0
Roper PRV - Low Zone	7-Jun-16	12:05	307	8.48	0.13	0.07	0.52	12.3	26.9
Main Shop (Buena Vista)	7-Jun-16	7:35	536	8.14	0.09	0.03	0.05	14.0	29.4
Stayte Sampling Station	8-Jun-16	9:35	491	8.19	0.07	0.03	0.01	19.0	26.8
City Washroom	8-Jun-16	9:15	398	8.00	0.07	0.02	0.02	19.4	27.4
Malabar Sample Station	8-Jun-16	10:35	272	8.02	0.09	0.05	0.01	12.6	27.1
Stevens Sample Station	8-Jun-16	9:50	305	8.31	0.09	0.06	0.58	13.7	27.2
Marine Dr Sample Station	8-Jun-16	10:55	265	8.24	0.09	0.06	0.02	17.3	25.7
June Week 3									
Merklin Low Reservoir - 25%	14-Jun-16	8:54	363	8.40	0.17	0.06	0.70	11.7	19.5
Merklin Low Reservoir - 50%	14-Jun-16	8:59	333	8.44	0.08	0.09	0.68	11.3	19.3
Merklin Low Reservoir - 75%	14-Jun-16	9:10	332	8.50	0.10	0.07	0.69	10.5	19.1
Roper Reservoir - High Zone	14-Jun-16	10:03	305	7.90	0.10	0.03	0.41	12.3	19.2
Main Shop (Buena Vista)	14-Jun-16	8:00	520	8.12	0.09	0.06	0.01	17.7	19.3
Stayte Sampling Station	15-Jun-16	9:10	449	8.13	0.06	0.04	0.02	19.3	23.8
City Washroom	15-Jun-16	9:27	509	8.11	0.14	0.04	0.01	19.8	23.7
Mann Park Sample Station	15-Jun-16	9:44	260	8.42	0.08	0.05	0.03	12.2	29.0
Stevens Sample Station	15-Jun-16	10:15	334	8.41	0.09	0.01	0.03	17.1	23.4
Marine Dr Sample Station	15-Jun-16	11:20	269	8.24	0.18	0.05	0.63	14.3	24.0
June Week 4									
Merklin Low Reservoir - 25%	21-Jun-16	9:40	331	8.31	0.08	0.04	0.60	11.1	21.8
Merklin Low Reservoir - 50%	21-Jun-16	9:35	331	8.35	0.10	0.04	0.67	11.1	21.9
Merklin Low Reservoir - 75%	21-Jun-16	9:30	332	8.38	0.10	0.06	0.66	10.9	22.2
Roper PRV - Low Zone	21-Jun-16	10:30	281	8.33	0.14	0.04	0.16	12.1	22.5
Main Shop (Buena Vista)	21-Jun-16	11:00	531	8.06	0.10	0.01	0.02	14.1	21.5
Stayte Sampling Station	22-Jun-16	11:10	476	8.10	0.10	0.01	0.01	18.5	22.5
City Washroom	22-Jun-16	11:30	507	8.03	0.06	0.02	0.02	19.1	22.3
Malabar Sample Station	22-Jun-16	12:00	264	8.32	0.08	0.02	0.20	13.2	21.4
Stevens Sample Station	22-Jun-16	10:50	330	8.34	0.08	0.04	0.63	14.1	21.7
Marine Dr Sample Station	22-Jun-16	9:50	264	8.35	0.10	0.02	0.01	18.6	22.0
June Week 5									
Merklin Low Reservoir - 25%	28-Jun-16	9:30	303	8.37	0.11	0.04	0.61	11.6	21.8
Merklin Low Reservoir - 50%	28-Jun-16	9:25	303	8.42	0.12	0.04	0.45	11.6	22.2
Merklin Low Reservoir - 75%	28-Jun-16	9:20	303	8.47	0.12	0.04	0.51	11.3	21.8

In-House Water Testing Results 2016 continued									
Roper Reservoir - High Zone	28-Jun-16	11:05	294	8.45	0.09	0.04	0.47	12.4	22.4
Main Shop (Buena Vista)	28-Jun-16	11:45	528	8.15	0.06	0.01	0.02	13.1	21.7
Stayte Sampling Station	29-Jun-16	10:35	512	7.98	0.09	0.02	0.01	19.0	24.0
City Washroom	29-Jun-16	11:50	504	7.99	0.12	0.01	0.05	17.2	24.0
Mann Park Sample Station	29-Jun-16	11:20	269	8.27	0.09	0.03	0.01	12.9	23.4
Stevens Sample Station	29-Jun-16	10:15	301	8.50	0.08	0.04	0.55	14.3	23.8
Marine Dr Sample Station	29-Jun-16	11:00	268	8.41	0.12	0.03	0.07	18.1	24.1
July Week 1									
Merklin Low Reservoir - 25%	5-Jul-16	8:30	301	8.40	0.16	0.03	0.60	10.1	19.5
Merklin Low Reservoir - 50%	5-Jul-16	8:40	301	8.48	0.11	0.03	0.63	10.7	19.6
Merklin Low Reservoir - 75%	5-Jul-16	8:45	303	8.41	0.11	0.01	0.62	10.1	19.6
Roper Reservoir - Low Zone	5-Jul-16	9:25	296	8.25	0.08	0.02	0.46	12.5	19.7
Main Shop (Buena Vista)	5-Jul-16	9:15	532	8.17	0.08	0.03	0.02	12.5	19.6
Stayte Sampling Station	5-Jul-16	9:52	498	8.19	0.07	0.06	0.02	19.1	19.6
City Washroom	5-Jul-16	10:05	528	7.87	0.08	0.07	0.03	19.0	19.7
Malabar Sample Station	5-Jul-16	10:32	262	8.25	0.09	0.08	0.02	12.8	19.6
Stevens Sample Station	5-Jul-16	9:39	299	8.29	0.07	0.02	0.54	14.3	19.7
Marine Dr Sample Station	5-Jul-16	11:30	268	8.05	0.07	0.08	0.03	18.3	19.6
July Week 2									
Merklin Low Reservoir - 25%	12-Jul-16	9:40	296	8.30	0.14	0.00	0.66	11.2	23.9
Merklin Low Reservoir - 50%	12-Jul-16	9:45	300	8.33	0.12	0.00	0.51	10.8	24.3
Merklin Low Reservoir - 75%	12-Jul-16	9:50	298	8.36	0.13	0.00	0.46	11.0	24.0
Roper PRV - High Zone	12-Jul-16	10:45	290	8.35	0.07	0.02	0.39	12.0	24.4
Main Shop (Buena Vista)	12-Jul-16	11:10	535	8.05	0.07	0.00	0.01	13.3	24.4
Stayte Sampling Station	13-Jul-16	10:00	-	-	0.13	0.14	0.06	19.5	-
City Washroom	13-Jul-16	11:10	-	-	0.07	0.05	0.05	17.7	-
Mann Park Sample Station	13-Jul-16	10:55	-	-	0.12	0.09	0.05	13.9	-
Stevens Sample Station	13-Jul-16	9:45	-	-	0.11	0.10	0.59	14.1	-
Marine Dr Sample Station	13-Jul-16	11:05	-	-	0.13	0.07	0.04	19.0	-
July Week 3									
Merklin Low Reservoir - 25%	19-Jul-16	8:50	309	8.52	0.13	0.02	0.61	10.7	25.2
Merklin Low Reservoir - 50%	19-Jul-16	8:55	313	8.34	0.13	0.01	0.68	10.7	26.3
Merklin Low Reservoir - 75%	19-Jul-16	9:00	315	8.42	0.10	0.03	0.57	10.7	28.4
Roper Reservoir - Low Zone	19-Jul-16	10:35	295	8.44	0.09	0.04	0.51	12.5	26.0
Main Shop (Buena Vista)	19-Jul-16	9:25	530	8.15	0.07	0.05	0.00	13.9	27.3
Stayte Sampling Station	20-Jul-16	9:50	492	8.26	0.07	0.03	0.00	19.8	26.1
City Washroom	20-Jul-16	9:35	322	8.28	0.08	0.00	0.02	21.8	28.0
Malabar Sample Station	20-Jul-16	8:45	263	8.27	0.15	0.05	0.03	13.7	27.0
Stevens Sample Station	20-Jul-16	10:30	300	8.57	0.08	0.03	0.59	14.2	26.3
Marine Dr Sample Station	20-Jul-16	9:05	263	8.46	0.08	0.02	0.02	18.3	26.5
July Week 4									
Merklin Low Reservoir - 25%	27-Jul-16	7:55	398	8.40	0.13	0.03	0.58	11.9	26.5

In-House Water Testing Results 2016 continued									
Merklin Low Reservoir - 50%	27-Jul-16	8:00	330	8.32	0.11	0.02	0.61	11.9	24.6
Merklin Low Reservoir - 75%	27-Jul-16		-	-	-	-	-	-	-
Roper PRV - High Zone	27-Jul-16	10:55	322	8.32	0.15	0.00	0.54	12.1	25.5
Main Shop (Buena Vista)	27-Jul-16	11:10	532	8.07	0.06	0.03	0.00	14.1	25.1
Stayte Sampling Station	27-Jul-16	8:30	497	8.03	0.09	0.05	0.05	20.3	26.4
City Washroom	27-Jul-16	8:45	472	8.04	0.09	0.02	0.08	22.7	26.2
Mann Park Sample Station	27-Jul-16	10:40	267	8.31	0.07	0.04	0.01	12.9	25.6
Stevens Sample Station	27-Jul-16	8:15	336	8.47	0.13	0.05	0.77	13.7	24.9
Marine Dr Sample Station	27-Jul-16	9:15	266	8.38	0.07	0.02	0.03	18.8	26.5
August Week 1									
Merklin Low Reservoir - 25%	2-Aug-16	9:05	321	8.44	0.09	0.04	0.65	10.5	23.9
Merklin Low Reservoir - 50%	2-Aug-16	9:10	322	8.41	0.09	0.04	0.64	10.4	25.1
Merklin Low Reservoir - 75%	2-Aug-16	9:15	322	8.49	0.08	0.02	0.64	10.3	25.3
Roper Reservoir - Low Zone	2-Aug-16	9:35	321	8.47	0.08	0.05	0.59	12.3	24.7
Main Shop (Buena Vista)	2-Aug-16	10:30	533	8.20	0.07	0.00	0.01	15.0	25.7
Stayte Sampling Station	3-Aug-16	10:35	478	8.12	0.11	0.01	0.02	20.8	23.2
City Washroom	3-Aug-16	11:00	517	8.02	0.08	0.01	0.01	19.7	23.5
Malabar Sample Station	3-Aug-16	9:25	266	8.37	0.07	0.01	0.01	14.0	22.8
Stevens Sample Station	3-Aug-16	9:45	335	8.50	0.11	0.04	0.63	14.9	23.3
Marine Dr Sample Station	3-Aug-16	9:10	264	8.47	0.11	0.02	0.02	19.1	23.2
August Week 2									
Merklin Low Reservoir - 25%	9-Aug-16	10:15	324	8.35	0.09	0.00	0.49	11.7	22.3
Merklin Low Reservoir - 50%	9-Aug-16	10:10	320	8.37	0.10	0.00	0.56	11.5	22.0
Merklin Low Reservoir - 75%	9-Aug-16	10:05	320	8.39	0.09	0.00	0.60	11.3	22.3
Roper PRV - High Zone	9-Aug-16	11:05	320	8.37	0.08	0.00	0.54	12.3	22.4
Main Shop (Buena Vista)	9-Aug-16	11:50	536	8.06	0.05	0.00	0.01	15.1	22.0
Stayte Sampling Station	10-Aug-16	11:05	481	7.97	0.10	0.02	0.01	19.3	22.9
City Washroom	10-Aug-16	11:20	490	7.96	0.07	0.00	0.03	19.8	23.1
Mann Park Sample Station	10-Aug-16	9:10	265	8.32	0.07	0.01	0.01	12.7	21.7
Stevens Sample Station	10-Aug-16	10:45	322	8.46	0.10	0.03	0.66	13.2	22.5
Marine Dr Sample Station	10-Aug-16	8:55	264	8.36	0.08	0.02	0.03	18.7	22.4
August Week 3									
Merklin Low Reservoir - 25%	17-Aug-16	9:30	304	8.40	0.11	0.04	0.61	11.4	26.5
Merklin Low Reservoir - 50%	17-Aug-16	9:35	306	8.43	0.10	0.05	0.61	11.7	27.0
Merklin Low Reservoir - 75%	17-Aug-16		-	-	-	-	-	-	-
Roper Reservoir - Low Zone	17-Aug-16	9:55	304	8.48	0.16	0.00	0.53	12.0	27.0
Main Shop (Buena Vista)	17-Aug-16	10:50	527	8.14	0.13	0.01	0.02	13.3	26.7
Stayte Sampling Station	16-Aug-16	8:40	503	8.04	0.08	0.02	0.02	20.4	27.1
City Washroom	16-Aug-16	9:00	534	8.05	0.09	0.00	0.02	22.7	27.9
Malabar Sample Station	16-Aug-16	8:00	270	8.37	0.09	0.01	0.00	14.1	27.5
Stevens Sample Station	16-Aug-16	8:20	305	8.51	0.08	0.04	0.58	14.1	27.0
Marine Dr Sample Station	16-Aug-16	7:45	271	8.43	0.10	0.03	0.01	19.3	26.8

In-House Water Testing Results 2016 continued									
August Week 4									
Merklin Low Reservoir - 25%	23-Aug-16	9:40	328	8.40	0.14	0.05	0.65	13.1	25.3
Merklin Low Reservoir - 50%	23-Aug-16	9:45	335	8.46	0.09	0.05	0.64	12.5	25.0
Merklin Low Reservoir - 75%	23-Aug-16	9:50	332	8.45	0.10	0.02	0.64	12.3	25.1
Roper PRV - High Zone	23-Aug-16	11:05	269	8.41	0.07	0.02	0.05	14.0	25.2
Main Shop (Buena Vista)	23-Aug-16	11:30	533	8.16	0.07	0.01	0.01	14.9	24.9
Stayte Sampling Station	24-Aug-16	10:45	467	8.08	0.09	0.01	0.02	21.0	24.3
City Washroom	24-Aug-16	11:00	497	8.08	0.07	0.01	0.03	19.5	24.4
Mann Park Sample Station	24-Aug-16	11:45	267	8.37	0.06	0.02	0.01	13.0	24.0
Stevens Sample Station	24-Aug-16	10:20	322	8.53	0.10	0.06	0.64	14.5	24.5
Marine Dr Sample Station	24-Aug-16	11:25	264	8.50	0.11	0.04	0.02	18.3	24.2
August Week 5									
Merklin Low Reservoir - 25%	30-Aug-16	9:55	323	8.39	0.11	0.04	0.62	11.8	25.0
Merklin Low Reservoir - 50%	30-Aug-16	9:50	325	8.41	0.10	0.01	0.63	11.2	24.7
Merklin Low Reservoir - 75%	30-Aug-16	9:45	327	8.45	0.10	0.04	0.61	10.9	24.9
Roper Reservoir - Low Zone	30-Aug-16	11:15	323	8.44	0.09	0.03	0.56	12.8	24.9
Main Shop (Buena Vista)	30-Aug-16	11:40	531	8.13	0.07	0.01	0.01	14.1	24.6
Stayte Sampling Station	31-Aug-16	9:40	493	8.07	0.07	0.01	0.02	20.7	23.8
City Washroom	31-Aug-16	11:05	495	8.07	0.08	0.01	0.01	21.2	23.9
Malabar Sample Station	31-Aug-16	11:45	273	8.29	0.11	0.03	0.03	13.3	22.9
Stevens Sample Station	31-Aug-16	9:15	334	8.50	0.11	0.04	0.61	14.5	23.5
Marine Dr Sample Station	31-Aug-16	11:30	278	8.44	0.12	0.01	0.01	18.5	24.0
September Week 1									
Merklin Low Reservoir - 25%	6-Sep-16	9:15	319	8.25	0.23	0.07	0.64	10.1	25.6
Merklin Low Reservoir - 50%	6-Sep-16	9:20	303	8.35	0.18	0.06	0.64	10.1	26.2
Merklin Low Reservoir - 75%	6-Sep-16	9:25	303	8.5	0.12	0	0.63	10.3	26.3
Roper Reservoir - High Zone	6-Sep-16	9:40	299	8.47	0.13	0.06	0.58	11.8	26.7
Main Shop (Buena Vista)	6-Sep-16	11:00	517	7.87	0.1	0.02	0.02	12.6	27
Stayte Sampling Station	7-Sep-16	9:50	475	8.14	0.11	0.07	0.02	19.8	27.7
City Washroom	7-Sep-16				2.02	0.01	0.22		
Mann Park Sample Station	7-Sep-16	8:30	273	8.33	0.09	0.05	0.01	12.6	30.2
Stevens Sample Station	7-Sep-16	9:35	288	8.6	0.08	0.03	0.6	14.5	28.4
Marine Dr Sample Station	7-Sep-16	8:50	257	8.14	0.09	0.03	0.02	17.9	25.1
September Week 2									
Merklin Low Reservoir - 25%	14-Sep-16	9:20	304	8.3	0.12	0.04	0.64	11.4	26.7
Merklin Low Reservoir - 50%	14-Sep-16	9:15	301	8.38	0.11	0.04	0.65	11	22.5
Merklin Low Reservoir - 75%	14-Sep-16	9:10	305	8.35	0.1	0.04	0.64	11	26.1
Roper PRV - Low Zone	14-Sep-16	9:27	302	8.32	0.09	0.06	0.67	11.3	26.8
Main Shop (Buena Vista)	14-Sep-16	10:20	527	7.9	0.1	0.06	0.03	13.2	24.7
Stayte Sampling Station	14-Sep-16	8:15	458	8	0.09	0.06	0.01	19.3	27.2
City Washroom	14-Sep-16	8:32	330	8.09	0.12	0	0.01	19.4	27.4
Malabar Sample Station	14-Sep-16	7:40	280	8.25	0.1	0.04	0.01	16.1	26.3

In-House Water Testing Results 2016 continued									
Stevens Sample Station	14-Sep-16	8:00	298	8.38	0.08	0.05	0.64	13	24.6
Marine Dr Sample Station	14-Sep-16	7:30	277	8.3	0.1	0.05	0.02	17.9	24.7
September Week 3									
Merklin Low Reservoir - 25%	20-Sep-16	7:50	299	8.36	0.12	0.02	0.62	9.9	24.5
Merklin Low Reservoir - 50%	20-Sep-16	7:55	304	8.41	0.11	0.02	0.6	9.9	27.6
Merklin Low Reservoir - 75%	20-Sep-16	8:00	302	8.43	0.11	0.01	0.62	9.9	27.2
Roper Reservoir - High Zone	20-Sep-16	8:30	298	8.42	0.08	0	0.58	11.4	27.7
Main Shop (Buena Vista)	20-Sep-16	9:05	527	8.07	0.07	0.02	0.01	13.3	27.2
Stayte Sampling Station	21-Sep-16	10:45	387	8.09	0.12	0.02	0	21	24.4
City Washroom	21-Sep-16	11:15	484	8.06	0.1	0	0.01	19.5	24.7
Mann Park Sample Station	21-Sep-16	9:35	278	8.33	0.1	0.02	0.01	13.1	23.1
Stevens Sample Station	21-Sep-16	9:55	331	8.48	0.11	0	0.62	13.4	24.1
Marine Dr Sample Station	21-Sep-16	9:15	277	8.42	0.11	0.02	0.03	17.9	23.9
September Week 4									
Merklin Low Reservoir - 25%	27-Sep-16	9:45	336	8.36	0.1	0.04	0.66	11.7	23.1
Merklin Low Reservoir - 50%	27-Sep-16	9:50	336	8.39	0.09	0.04	0.67	11.2	23.5
Merklin Low Reservoir - 75%	27-Sep-16	9:55	336	8.44	0.08	0.03	0.67	11	23.7
Roper PRV - Low Zone	27-Sep-16	10:45	325	8.43	0.11	0.03	0.49	12.4	23.7
Main Shop (Buena Vista)	27-Sep-16	11:05	527	8.05	0.09	0.01	0.02	12.9	22.7
Stayte Sampling Station	28-Sep-16	10:50	482	7.95	0.11	0.01	0.01	19.5	22.7
City Washroom	28-Sep-16	11:30	533	7.9	0.06	0.01	0.01	17.6	22.9
Malabar Sample Station	28-Sep-16	9:45	277	8.28	0.1	0.01	0.01	12.3	21.7
Stevens Sample Station	28-Sep-16	10:30	335	8.45	0.11	0.04	0.68	13.5	22.4
Marine Dr Sample Station	28-Sep-16	9:25	277	8.39	0.1	0.01	0.01	17.3	22.4
October Week 1									
Merklin Low Reservoir - 25%	5-Oct-16	1:00 PM	285	8.49	0.18	0.06	0.68	10.5	18.8
Merklin Low Reservoir - 50%	5-Oct-16	12:50	293	8.53	0.17	0.06	0.64	10.1	20.9
Merklin Low Reservoir - 75%	5-Oct-16	11:35	286	8.50	0.15	0.09	0.54	10.4	18.6
Roper PRV - High Zone	4-Oct-16	9:15	290	8.58	0.19	0.03	0.59	11.8	20.3
Main Shop (Buena Vista)	4-Oct-16	10:00	553	8.21	0.10	0.02	0.07	14.7	20.2
Stayte Sampling Station	4-Oct-16	10:30	456	8.30	0.11	0.05	0.07	17.9	20.0
City Washroom	5-Oct-16	10:30	514	8.11	0.08	0.03	0.09	16.7	22.8
Mann Park Sample Station	4-Oct-16	11:20	287	8.41	0.14	0.03	0.05	14.1	19.7
Stevens Sample Station	4-Oct-16	9:38	291	8.54	0.15	0.03	0.56	14.1	20.1
Marine Dr Sample Station	5-Oct-16	11:10	298	8.35	0.10	0.04	0.02	16.3	23.3
October Week 2									
Merklin Low Reservoir - 25%	12-Oct-16	9:05	288	8.34	0.16	0.04	0.59	10.5	25.5
Merklin Low Reservoir - 50%	12-Oct-16	9:10	291	8.34	0.16	0.04	0.59	9.5	26.9
Merklin Low Reservoir - 75%	12-Oct-16	9:15	291	8.39	0.17	0.03	0.59	10.0	26.1
Roper PRV - Low Zone	12-Oct-16	9:40	291	8.35	0.19	0.03	0.41	11.0	26.7
Main Shop (Buena Vista)	12-Oct-16	10:00	530	8.02	0.08	0.01	0.01	13.8	25.8
Stayte Sampling Station	11-Oct-16	11:13	558	7.93	0.09	0.04	0.09	15.5	19.8

In-House Water Testing Results 2016 continued									
City Washroom	11-Oct-16	11:29	505	7.87	0.08	0.03	0.02	15.6	19.4
Malabar Sample Station	11-Oct-16	9:49	293	8.05	0.15	0.15	0.23	13.1	19.3
Stevens Sample Station	11-Oct-16	10:59	281	8.10	0.19	0.05	0.58	13.5	19.2
Marine Dr Sample Station	11-Oct-16	10:10	295	8.09	0.10	0.09	0.10	15.5	20.2
October Week 3									
Merklin Low Reservoir - 25%	19-Oct-16	9:20	337	8.37	0.10	0.04	0.64	11.9	22.1
Merklin Low Reservoir - 50%	19-Oct-16	9:25	339	8.44	0.10	0.03	0.64	11.0	22.6
Merklin Low Reservoir - 75%	19-Oct-16	9:30	337	8.47	0.11	0.03	0.63	11.3	22.2
Roper PRV - High Zone	18-Oct-16	11:15	314	8.24	0.15	0.04	0.41	12.3	19.8
Main Shop (Buena Vista)	18-Oct-16	11:40	533	7.93	0.10	0.01	0.00	12.5	19.9
Stayte Sampling Station	19-Oct-16	9:50	493	8.11	0.11	0.04	0.05	-	22.5
City Washroom	18-Oct-16	10:50	514	8.01	0.11	0.00	0.00	15.0	20.4
Mann Park Sample Station	19-Oct-16	10:50	290	8.33	0.13	0.19	0.21	-	21.9
Stevens Sample Station	18-Oct-16	9:30	307	8.37	0.13	0.04	0.29	13.7	20.0
Marine Dr Sample Station	18-Oct-16	10:30	290	8.36	0.16	0.02	0.04	14.8	20.1
October Week 4									
Merklin Low Reservoir - 25%	26-Oct-16	11:25	310	8.44	0.07	0.01	0.65	10.3	18.0
Merklin Low Reservoir - 50%	26-Oct-16	11:30	310	8.41	0.07	0.04	0.65	10.1	20.0
Merklin Low Reservoir - 75%	26-Oct-16	11:35	297	8.56	0.09	0.04	0.65	13.5	17.6
Roper PRV - Low Zone	26-Oct-16	9:20	317	8.51	0.79	0.07	0.41	12.9	24.4
Main Shop (Buena Vista)	26-Oct-16	11:55	512	8.14	0.12	0.00	0.00	12.9	21.4
Stayte Sampling Station	26-Oct-16	8:50	509	8.34	0.08	0.01	0.00	14.8	21.3
City Washroom	26-Oct-16	8:32	510	8.17	0.26	0.00	0.00	14.7	20.6
Malabar Sample Station	26-Oct-16	7:55	293	8.63	0.25	0.32	0.29	11.6	23.2
Stevens Sample Station	26-Oct-16	9:00	304	8.71	0.09	0.06	0.65	12.5	21.9
Marine Dr Sample Station	26-Oct-16	7:40	276	8.53	0.17	0.09	0.06	13.9	21.8
November Week 1									
Merklin Low Reservoir - 25%	2-Nov-16	10:00	296	8.42	0.16	0.02	0.64	9.6	22.0
Merklin Low Reservoir - 50%	2-Nov-16	10:05	298	8.47	0.10	0.06	0.62	9.7	22.4
Merklin Low Reservoir - 75%	2-Nov-16		-	-	-	-	-	-	-
Roper Reservoir - High Zone	1-Nov-16	11:42	286	8.31	0.09	0.04	0.57	11.2	20.5
Main Shop (Buena Vista)	1-Nov-16	12:02	526	7.94	0.09	0.01	0.04	13.1	20.4
Stayte Sampling Station	1-Nov-16	10:45	491	7.98	0.14	0.02	0.01	14.6	21.1
City Washroom	1-Nov-16	11:05	494	7.99	0.09	0.01	0.01	13.6	21.1
Mann Park Sample Station	2-Nov-16	10:55	292	8.34	0.13	0.14	0.17	11.8	22.3
Stevens Sample Station	1-Nov-16	9:35	290	8.43	0.14	0.03	0.58	12.4	20.4
Marine Dr Sample Station	2-Nov-16	9:15	285	8.45	0.13	0.04	0.04	13.7	22.0
November Week 2									
Merklin Low Reservoir - 25%	8-Nov-16	9:55	324	8.56	0.12	0.06	0.67	10.3	28.1
Merklin Low Reservoir - 50%	8-Nov-16		-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	8-Nov-16		-	-	-	-	-	-	-
Roper PRV - Low Zone	8-Nov-16	10:40	297	8.62	0.14	0.06	0.67	10.9	24.5

In-House Water Testing Results 2016 continued									
Main Shop (Buena Vista)	8-Nov-16	11:00	528	8.26	0.16	0.07	0.00	12.4	26.1
Stayte Sampling Station	9-Nov-16	8:55	491	8.21	0.10	0.00	0.00	14.1	19.8
City Washroom	9-Nov-16	9:15	522	8.05	0.22	0.07	0.00	14.3	21.2
Malabar Sample Station	9-Nov-16	8:30	286	8.23	0.20	0.04	0.07	11.8	19.4
Stevens Sample Station	9-Nov-16	8:45	313	8.48	0.11	0.06	0.56	12.0	19.6
Marine Dr Sample Station	8-Nov-16	9:00	289	8.77	0.14	0.06	0.08	13.6	20.3
November Week 3									
Merklin Low Reservoir - 25%	15-Nov-16	10:45	304	8.40	0.10	0.04	0.67	10.1	18.8
Merklin Low Reservoir - 50%			-	-	-	-	-	-	-
Merklin Low Reservoir - 75%			-	-	-	-	-	-	-
Roper Reservoir - High Zone	15-Nov-16	12:15	294	8.35	0.13	0.04	0.58	13.0	18.6
Main Shop (Buena Vista)	15-Nov-16	12:55	516	8.12	0.15	0.00	0.00	12.9	18.6
Stayte Sampling Station	15-Nov-16	12:30	505	8.18	0.11	0.00	0.00	14.5	19.0
City Washroom	15-Nov-16	12:45	534	8.11	0.07	0.00	0.00	14.1	19.4
Mann Park Sample Station	15-Nov-16	10:30	276	8.35	0.16	0.07	0.10	11.3	19.0
Stevens Sample Station	15-Nov-16	11:15	319	8.34	0.17	0.06	0.60	21.2	18.7
Marine Dr Sample Station	15-Nov-16	11:00	288	8.60	0.12	0.02	0.02	13.9	19.6
November Week 4									
Merklin Low Reservoir - 25%	23-Nov-16	10:00	301	8.38	0.10	0.02	0.70	10.0	19.2
Merklin Low Reservoir - 50%			-	-	-	-	-	-	-
Merklin Low Reservoir - 75%			-	-	-	-	-	-	-
Roper PRV - Low Zone	22-Nov-16	13:00	317	8.53	0.15	0.00	0.76	10.5	19.0
Main Shop (Buena Vista)	23-Nov-16	11:00	-	-	-	-	-	-	-
Stayte Sampling Station	22-Nov-16	13:33	497	8.45	0.13	0.00	0.05	12.3	19.0
City Washroom	22-Nov-16	13:15	501	8.04	0.10	0.02	0.80	11.8	19.1
Malabar Sample Station	23-Nov-16	11:15	288	8.39	0.15	0.08	0.09	10.4	19.0
Stevens Sample Station	22-Nov-16	13:20	289	8.60	0.11	0.00	0.60	11.3	19.1
Marine Dr Sample Station	22-Nov-16	11:30	276	8.41	0.19	0.00	0.00	10.3	19.0
December Week 1									
Merklin Low Reservoir - 25%	8-Dec-16	11:00			0.07	0.04	0.63	9.3	
Merklin Low Reservoir - 50%									
Merklin Low Reservoir - 75%									
Roper Reservoir - Low Zone	6-Dec-16	9:55	316	8.30	0.11	0.06	0.56	10.2	16.1
Main Shop (Buena Vista)	6-Dec-16	11:55	321	8.29	0.13	0.04	0.06	11.1	16.0
Stayte Sampling Station	6-Dec-16	11:30	322	8.34	0.19	0.03	0.08	10.7	17.1
City Washroom	8-Dec-16	11:30			0.10	0.02	0.25	7.3	
Malabar Sample Station	6-Dec-16	11:05	287	8.27	0.16	0.03	0.09	10.3	17.4
Stevens Sample Station	9-Dec-16	10:30			0.09	0.02	0.70	9.0	
Marine Dr Sample Station	6-Dec-16	10:45	286	8.32	0.15	0.04	0.02	10.6	16.8
December Week 2									
Merklin Low Reservoir - 25%	13-Dec-16	9:15	310	8.37	0.14	0.03	0.67	9.7	15.1
Merklin Low Reservoir - 50%	13-Dec-16		-	-	-	-	-	-	-

In-House Water Testing Results 2016 continued									
Merklin Low Reservoir - 75%	13-Dec-16		-	-	-	-	-	-	-
Roper PRV - High Zone	13-Dec-16	11:20	302	8.33	0.12	0.02	0.41	9.2	16.6
Main Shop (Buena Vista)	13-Dec-16	11:50	314	8.31	0.18	0.02	0.02	13.8	17.3
Stayte Sampling Station	13-Dec-16	10:45	307	8.35	0.17	0.00	0.19	8.7	16.2
City Washroom	14-Dec-16	9:20	294	8.28	0.15	0.00	0.06	10.5	12.9
Mann Park Sample Station	14-Dec-16	10:48	285	8.22	0.15	0.00	0.11	7.9	13.0
Stevens Sample Station	13-Dec-16	9:45	315	8.43	0.10	0.04	0.65	9.3	16.3
Marine Dr Sample Station	14-Dec-16	10:30	285	8.29	0.19	0.01	0.03	8.4	12.8
December Week 3									
Merklin Low Reservoir - 25%	20-Dec-16	7:15	326	8.34	0.07	0.12	0.67	9.8	27.8
Merklin Low Reservoir - 50%	20-Dec-16		-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	20-Dec-16		-	-	-	-	-	-	-
Roper Reservoir - Low Zone	20-Dec-16	7:00	281	8.19	0.12	0.08	0.12	8.9	25.7
Main Shop (Buena Vista)	20-Dec-16	9:50	284	8.25	0.13	0.01	0.07	8.5	25.2
Stayte Sampling Station	20-Dec-16	8:10	302	8.33	0.14	0.05	0.12	7.7	27.2
City Washroom	20-Dec-16	7:45	306	8.37	0.17	0.04	0.40	8.5	27.5
Mann Park Sample Station	20-Dec-16	9:25	273	8.31	0.11	0.10	0.10	7.8	22.2
Stevens Sample Station	20-Dec-16	8:35	310	8.54	0.11	0.04	0.66	8.3	23.3
Marine Dr Sample Station	20-Dec-16	9:05	288	8.41	0.12	0.06	0.09	7.6	26.6
December Week 4									
Merklin Low Reservoir - 25%	28-Dec-16	10:35	284	8.36	0.37	0.08	0.64	9.6	18.1
Merklin Low Reservoir - 50%	28-Dec-16		-	-	-	-	-	-	-
Merklin Low Reservoir - 75%	28-Dec-16		-	-	-	-	-	-	-
Roper PRV - High Zone	28-Dec-16	9:40	278	8.23	0.23	0.02	0.42	9.1	18.8
Main Shop (Buena Vista)	28-Dec-16		-	-	-	-	-	-	-
Stayte Sampling Station	28-Dec-16	11:05	280	8.34	0.29	0.10	0.18	7.3	18.0
City Washroom	28-Dec-16	11:25	279	8.35	0.38	0.04	0.09	7.7	17.7
Malabar Sample Station	28-Dec-16	9:20	278	8.26	0.19	0.07	0.06	8.1	18.3
Stevens Sample Station	28-Dec-16	10:55	282	8.49	0.38	0.00	0.30	8.5	17.0
Marine Dr Sample Station	28-Dec-16	9:00	277	8.34	0.21	0.05	0.06	7.3	17.5

May 16, 2016 Test Results from Fire

Sample Location	Date Sampled	Arsenic	Copper	Lead	Iron	Manganese	Total Coliforms	Escherichia Coli
Units		mg/L	mg/L	mg/L	mg/L	mg/L	MPN/100mL	MPN/100mL
Nominal Detection Limit		0.0002	0.001	0.0001	0.005	0.001	1.0	1.0
Guideline Limit		0.010	1	0.01	0.3	0.05	1.0	1.0
Main Shop (Buena Vista)	16-May-16	0.0092	0.015	<0.0001	<0.005	0.009	<1.0	<1.0
Everall Station	16-May-16	0.0063	0.002	<0.0001	0.009	0.075	<1.0	<1.0
Malabar Station	16-May-16	0.0050	0.003	<0.0001	0.010	0.019	<1.0	<1.0
Mann Park Station	16-May-16	0.0057	0.012	<0.0001	0.007	0.031	<1.0	<1.0
Marine Station	16-May-16	0.0036	0.004	<0.0001	0.033	0.025	<1.0	<1.0
Merklin Reservoir	16-May-16	0.0095	<0.001	<0.0001	0.009	0.124	<1.0	<1.0
Roper Station	16-May-16	0.0056	0.002	<0.0001	0.015	0.056	<1.0	<1.0
Russell Ave Station	16-May-16	0.0062	0.002	0.0004	0.008	0.056	<1.0	<1.0
Stayte Station	16-May-16	0.0080	0.007	0.0005	0.040	0.025	<1.0	<1.0
Stevens Station	16-May-16	0.0058	0.003	<0.0001	0.013	0.070	<1.0	<1.0
WR Washroom	16-May-16	0.0086	0.098	0.0014	0.059	0.129	<1.0	<1.0

Oxford & Merklin Chlorination Metal Results 2016

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	6-Oct-16	0.0061	0.0013	0.000267	<0.004	0.032	-	-
Mann Park Sample Station	6-Oct-16	0.0061	0.0089	0.000284	<0.004	0.009	-	-
Malabar Sample Station	6-Oct-16	0.0061	0.0042	0.000487	<0.004	0.009	-	-
Marine Drive Sample Station	6-Oct-16	0.0062	0.0055	0.000476	<0.004	0.006	-	-
Russell Avenue Sample Station	6-Oct-16	0.0060	0.0014	0.000290	<0.004	0.012	-	-
Everall Sample Station	7-Oct-16	0.0064	0.0020	0.000145	<0.004	0.026	-	-
Mann Park Sample Station	7-Oct-16	0.0062	0.0145	0.000693	<0.004	0.012	-	-
Malabar Sample Station	7-Oct-16	0.0063	0.0035	0.000489	<0.004	0.009	-	-
Marine Drive Sample Station	7-Oct-16	0.0063	0.0041	0.000573	<0.004	0.008	-	-
Russell Avenue Sample Station	7-Oct-16	0.0064	0.0016	0.000260	<0.004	0.014	-	-
Everall Sample Station	14-Oct-16	0.0065	0.0011	0.000121	<0.004	0.028	-	-
Mann Park Sample Station	14-Oct-16	0.0064	0.0096	0.000314	<0.004	0.014	-	-
Malabar Sample Station	14-Oct-16	0.0005	<0.0005	0.000217	<0.004	0.012	-	-
Marine Drive Sample Station	14-Oct-16	0.0062	0.0042	0.000478	<0.004	0.007	-	-
Russell Avenue Sample Station	14-Oct-16	0.0061	0.0016	0.000349	<0.004	0.015	-	-
Everall Sample Station	17-Oct-16	0.0067	0.0015	0.000151	0.005	0.032	-	-
Mann Park Sample Station	17-Oct-16	0.0067	0.0085	0.000391	<0.004	0.014	-	-
Malabar Sample Station	17-Oct-16	0.0067	0.0030	0.000100	<0.004	0.014	-	-
Marine Drive Sample Station	17-Oct-16	0.0066	0.0051	0.000407	0.005	0.009	-	-
Russell Avenue Sample Station	17-Oct-16	0.0064	0.0011	0.000054	<0.004	0.016	-	-
Everall Sample Station	19-Oct-16	0.0068	0.0011	0.000152	<0.004	0.031	-	-
Mann Park Sample Station	19-Oct-16	0.0062	0.0110	0.000906	<0.004	0.012	-	-
Malabar Sample Station	19-Oct-16	0.0065	0.0033	0.000446	<0.004	0.01	-	-
Marine Drive Sample Station	19-Oct-16	0.0068	0.0036	0.000631	<0.004	0.008	-	-
Russell Avenue Sample Station	19-Oct-16	0.0067	0.0011	0.000278	<0.004	0.015	-	-
Everall Sample Station	21-Oct-16	0.0062	0.0010	0.000059	<0.004	0.031	-	-
Mann Park Sample Station	21-Oct-16	0.0061	0.0105	0.000282	<0.004	0.012	-	-
Malabar Sample Station	21-Oct-16	0.0061	0.0048	0.000468	<0.004	0.012	-	-
Marine Drive Sample Station	21-Oct-16	0.0061	0.0049	0.000367	<0.004	0.007	-	-
Russell Avenue Sample Station	21-Oct-16	0.0064	0.0016	0.000231	<0.004	0.018	-	-

Oxford & Merklin Chlorination Metal Results 2016 continued

Everall Sample Station	24-Oct-16	0.0065	0.0008	0.000098	<0.004	0.033	-	-
Mann Park Sample Station	24-Oct-16	0.0065	0.0122	0.000895	<0.004	0.012	-	-
Malabar Sample Station	24-Oct-16	0.0066	0.0022	0.000290	<0.004	0.012	-	-
Marine Drive Sample Station	24-Oct-16	0.0065	0.0045	0.000414	<0.004	0.009	-	-
Russell Avenue Sample Station	24-Oct-16	0.0071	0.0008	0.000273	<0.004	0.039	-	-
Everall Sample Station	26-Oct-16	0.0063	0.0017	0.000404	<0.004	0.032	-	-
Mann Park Sample Station	26-Oct-16	0.0064	0.0071	0.000483	<0.004	0.017	-	-
Malabar Sample Station	26-Oct-16	0.0063	0.0032	0.000245	<0.004	0.017	-	-
Marine Drive Sample Station	26-Oct-16	0.0062	0.0024	0.000276	0.005	0.011	-	-
Russell Avenue Sample Station	26-Oct-16	0.0087	0.0007	0.000183	<0.004	0.089	-	-
Everall Sample Station	28-Oct-16	0.0058	0.001	0.000067	<0.004	0.028	-	-
Finlay Sample Station	28-Oct-16	0.0061	0.0015	0.000149	<0.004	0.032	-	-
Mann Park Sample Station	28-Oct-16	0.0058	0.0105	0.000584	<0.004	0.015	-	-
Malabar Sample Station	28-Oct-16	0.0058	0.0026	0.000305	<0.004	0.015	-	-
Marine Drive Sample Station	28-Oct-16	0.0059	0.0045	0.000457	<0.004	0.007	-	-
Stevens Station	28-Oct-16	0.0081	0.0022	0.000335	0.009	0.099	-	-
Roper PVR Station	28-Oct-16	0.0079	0.0014	0.000248	<0.004	0.086	-	-
Roper Sampling Station	28-Oct-16	0.0085	0.0021	0.000766	0.114	0.107	-	-
Russell Avenue Sample Station	28-Oct-16	0.0060	0.0012	0.000167	<0.004	0.019	-	-
Everall Sample Station	1-Nov-16	0.0065	0.0029	0.000761	0.004	0.040	<5	7.32
Mann Park Sample Station	1-Nov-16	0.0063	0.0120	0.001740	<0.004	0.020	<5	7.57
Malabar Sample Station	1-Nov-16	0.0065	0.0016	0.000404	<0.004	0.019	<5	7.66
Marine Drive Sample Station	1-Nov-16	0.0062	0.0036	0.000927	0.004	0.01	<5	7.71
Russell Avenue Sample Station	1-Nov-16	0.0085	0.0008	0.000231	<0.004	0.092	<5	7.79
Stevens Sampling Station	1-Nov-16	0.0088	0.0024	0.000115	<0.004	0.113	-	-
Roper Sampling Station	1-Nov-16	0.0087	0.0030	0.000550	0.0050	0.109	-	-
Finlay Sampling Station	1-Nov-16	0.0084	0.0031	0.000152	<0.004	0.001	-	-
Kent St Activity Centre	1-Nov-16	0.0088	0.0075	0.000100	0.004	0.108	-	-
Roper PVR-High Zone	1-Nov-16	0.0088	0.0077	0.000271	0.004	0.097	-	-
Everall Sample Station	4-Nov-16	0.0066	0.0011	0.000280	<0.004	0.033	<5	7.40
Mann Park Sample Station	4-Nov-16	0.0066	0.0074	0.000654	<0.004	0.019	<5	7.63
Malabar Sample Station	4-Nov-16	0.0067	0.0032	0.000343	<0.004	0.017	<5	7.71
Marine Drive Sample Station	4-Nov-16	0.0066	0.0044	0.000422	<0.004	0.01	<5	7.77
Russell Avenue Sample Station	4-Nov-16	0.0067	0.0013	0.000235	<0.004	0.019	<5	7.36
Stevens Sampling Station	4-Nov-16	0.0091	0.0023	0.000183	0.006	0.099	<5	7.48
Roper Sampling Station	4-Nov-16	0.0095	0.0030	0.000629	0.005	0.107	<5	7.58

Oxford & Merklin Chlorination Metal Results 2016 continued

Finlay Sampling Station	4-Nov-16	0.0077	0.0042	0.000168	<0.004	0.052	<5	7.80
Kent St Activity Centre	4-Nov-16	0.0093	0.0108	0.000079	<0.004	0.104	<5	7.88
Roper PVR-High Zone	4-Nov-16	0.0089	0.0008	0.000037	<0.004	0.084	<5	7.76
Everall Sample Station	8-Nov-16	0.0065	0.0009	0.000087	<0.004	0.039	<5	5.24
Mann Park Sample Station	8-Nov-16	0.0067	0.0074	0.000558	0.008	0.041	<5	7.35
Malabar Sample Station	8-Nov-16	0.0065	0.0023	0.000344	0.004	0.018	<5	7.08
Marine Drive Sample Station	8-Nov-16	0.0065	0.0025	0.000646	<0.004	0.009	<5	7.56
Russell Avenue Sample Station	8-Nov-16	0.0093	0.0012	0.000265	<0.004	0.111	<5	7.21
Stevens Sampling Station	8-Nov-16	0.0093	0.0025	0.000174	0.006	0.119	<5	6.70
Roper Sampling Station	8-Nov-16	0.0094	0.0027	0.000472	0.013	0.113	<5	7.65
Finlay Sampling Station	8-Nov-16	0.0080	0.0018	0.000119	<0.004	0.065	<5	6.74
Kent St Activity Centre	8-Nov-16	0.0093	0.0108	0.000033	0.005	0.112	<5	6.39
Roper PVR-High Zone	8-Nov-16	0.0092	0.001	0.000035	<0.004	0.108	<5	7.24
Everall Sample Station	10-Nov-16	0.0062	0.0011	0.000101	<0.004	0.030	<5	7.86
Mann Park Sample Station	10-Nov-16	0.0063	0.0066	0.000364	0.004	0.021	<5	7.85
Malabar Sample Station	10-Nov-16	0.0065	0.0039	0.000408	<0.004	0.017	<5	7.86
Marine Drive Sample Station	10-Nov-16	0.0065	0.0044	0.000440	<0.004	0.013	<5	7.90
Russell Avenue Sample Station	10-Nov-16	0.0089	0.0012	0.00025	<0.004	0.096	<5	7.64
Stevens Sampling Station	10-Nov-16	0.0092	0.0025	0.000157	<0.004	0.116	<5	7.58
Roper Sampling Station	10-Nov-16	0.0094	0.0025	0.000579	<0.004	0.112	<5	7.67
Finlay Sampling Station	10-Nov-16	0.0077	0.0046	0.000238	<0.004	0.061	<5	7.88
Kent St Activity Centre	10-Nov-16	0.0094	0.0142	0.000106	<0.004	0.109	<5	7.95
Roper PVR-High Zone	10-Nov-16	0.0090	0.0011	0.000062	<0.004	0.097	<5	7.85
Everall Sample Station	15-Nov-16	0.0069	0.0009	0.000074	<0.004	0.038	<5	7.71
Mann Park Sample Station	15-Nov-16	0.0072	0.0049	0.000242	<0.004	0.025	<5	7.77
Malabar Sample Station	15-Nov-16	0.0071	0.0029	0.000475	<0.004	0.018	<5	7.77
Marine Drive Sample Station	15-Nov-16	0.0068	0.0044	0.000406	0.004	0.006	<5	7.80
Russell Avenue Sample Station	15-Nov-16	0.0101	0.0013	0.000311	<0.004	0.111	<5	7.71
Stevens Sampling Station	15-Nov-16	0.010	0.0028	0.000174	0.007	0.116	<5	7.61
Roper Sampling Station	15-Nov-16	0.0099	0.0023	0.000436	0.005	0.112	<5	7.81
Finlay Sampling Station	15-Nov-16	0.0088	0.0027	0.000163	<0.004	0.078	<5	7.87
Kent St Activity Centre	15-Nov-16	0.0101	0.0135	0.000068	0.005	0.111	<5	7.58
Roper PVR-High Zone	15-Nov-16	0.0098	0.0007	0.000011	<0.004	0.108	<5	7.87
Everall Sample Station	22-Nov-16	0.0065	0.0012	0.000131	0.019	0.036	<5	7.27
Mann Park Sample Station	22-Nov-16	0.0065	0.0056	0.000423	0.007	0.026	<5	7.53

Oxford & Merklin Chlorination Metal Results 2016 continued

Malabar Sample Station	22-Nov-16	0.0065	0.0038	0.00223	0.006	0.024	<5	7.61
Marine Drive Sample Station	22-Nov-16	0.0066	0.0041	0.000406	0.007	0.016	<5	7.67
Russell Avenue Sample Station	22-Nov-16	0.0097	0.0018	0.000346	0.007	0.124	<5	7.79
Stevens Sampling Station	23-Nov-16	0.0099	0.0030	0.000184	0.006	0.132	<5	7.44
Roper Sampling Station	23-Nov-16	0.0099	0.0024	0.000440	0.005	0.124	<5	7.73
Finlay Sampling Station	23-Nov-16	0.0095	0.0030	0.000138	<0.004	0.104	<5	7.79
Kent St Activity Centre	23-Nov-16	0.010	0.0090	0.000050	<0.004	0.129	<5	7.84
Roper PVR-High Zone	23-Nov-16	0.0099	0.0011	0.000081	<0.004	0.127	<5	7.78
Everall Sample Station	28-Nov-16	0.0062	0.0011	0.000067	<0.004	0.029	<5	7.37
Mann Park Sample Station	28-Nov-16	0.0064	0.0043	0.000293	<0.004	0.018	<5	7.61
Malabar Sample Station	28-Nov-16	0.0064	0.0026	0.000574	<0.004	0.016	<5	7.70
Marine Drive Sample Station	28-Nov-16	0.0064	0.0052	0.000461	0.005	0.012	<5	7.73
Russell Avenue Sample Station	28-Nov-16	0.0067	0.0009	0.000199	<0.004	0.035	<5	7.75
Stevens Sampling Station	29-Nov-16	0.010	0.0023	0.000136	<0.004	0.124	<5	7.89
Roper Sampling Station	29-Nov-16	0.0097	0.0022	0.000359	0.005	0.126	<5	7.93
Finlay Sampling Station	29-Nov-16	0.0096	0.0057	0.000226	<0.004	0.126	<5	7.92
Kent St Activity Centre	29-Nov-16	0.0095	0.0081	0.000019	<0.004	0.126	<5	7.92
Roper PVR-High Zone	29-Nov-16	0.0075	0.0009	<0.00001	<0.004	0.062	<5	7.84
Everall Sample Station	14-Dec-16	0.0064	0.0023	0.000050	<0.004	0.026	<5	7.77
Mann Park Sample Station	14-Dec-16	0.0062	0.0072	0.000183	<0.004	0.015	<5	7.85
Malabar Sample Station	14-Dec-16	0.0062	0.0050	0.000333	<0.004	0.013	<5	7.83
Marine Drive Sample Station	14-Dec-16	0.0061	0.0081	0.000925	0.006	0.009	<5	7.83
Russell Avenue Sample Station	14-Dec-16	0.0062	0.0095	0.000164	<0.004	0.018	<5	7.79
Stevens Sampling Station	14-Dec-16	0.0094	0.0035	0.000168	<0.004	0.122	<5	7.85
Roper Sampling Station	14-Dec-16	0.0095	0.0026	0.000418	<0.004	0.118	<5	7.88
Finlay Sampling Station	14-Dec-16	0.0094	0.0013	0.000112	<0.004	0.099	<5	7.87
Kent St Activity Centre	14-Dec-16	0.0095	0.0086	0.000050	<0.004	0.120	<5	7.76
Roper PVR-High Zone	14-Dec-16	0.0083	0.001	0.000044	<0.004	0.079	<5	7.85

Annual Samples

Sample	Unit of Measure	Nominal Detection Limit	Guideline Limit	Sample Location						
				Well #1	Well #2	Well #3	Well #4	Well #5	Chestnut Stn	Marine Dr Stn
Inorganic Nonmetallic Parameters										
Organic Carbon	mg/L	0.5		0.7	0.7	0.7	0.9	0.8	0.7	0.8
Ammonia - N	mg/L	0.01		0.04	<0.01	0.06	0.03	0.04	<0.01	<0.01
Metals Extractable										
Aluminum	mg/L	0.001	0.1	0.00392	0.00255	0.00205	0.00215	<0.00100	0.00281	0.00180
Antimony	mg/L	0.00002	0.006	0.000086	0.000079	0.000063	0.000036	0.000091	0.000076	0.000072
Arsenic	mg/L	0.0001	0.010	0.0066	0.0049	0.0066	0.0028	0.0084	0.0059	0.0059
Barium	mg/L	0.0001	1	0.0146	0.0151	0.0164	0.0150	0.0113	0.0153	0.0153
Boron	mg/L	0.002	5	0.019	0.018	0.016	0.01	0.069	0.020	0.018
Cadmium	mg/L	0.00001	0.005	0.000022	0.000018	0.000016	<0.00001	<0.00001	<0.00001	<0.00001
Chromium	mg/L	0.00005	0.05	0.000158	0.000399	0.000061	<0.000050	0.000977	0.000212	0.000225
Copper	mg/L	0.0005	1.0	0.0044	0.0009	<0.0005	<0.0005	0.0045	0.0006	0.0048
Lead	mg/L	0.00001	0.01	0.000336	0.000092	0.000031	0.000084	0.000028	0.000347	0.000479
Selenium	mg/L	0.0002	0.05	0.0015	0.0074	0.0002	<0.0002	0.0009	0.0034	0.0036
Uranium	mg/L	0.00001	0.02	0.000139	0.000234	0.000103	0.00010	0.000227	0.000143	0.000143
Vanadium	mg/L	0.00005		0.00275	0.00349	0.00293	0.00206	0.00445	0.00268	0.00279
Zinc	mg/L	0.0005	5.0	0.0087	0.0123	0.0015	0.0033	0.0196	<0.0005	0.0030
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		0.12	1.2	0.07	0.23	0.08	0.10	0.16
Routine Water										
pH			6.5-8.5	7.35	7.36	7.42	7.42	7.35	7.35	7.37
Electrical Conductivity		1		266	264	226	232	488	266	269
Calcium	mg/L	0.01		22.4	25.8	21.5	24.4	23.2	23.0	23.2
Iron	mg/L	0.004	0.3	0.011	0.227	0.008	0.018	0.006	0.006	<0.004
Mangesium	mg/L	0.02		9.4	10.9	8.7	11.1	11.2	9.8	9.6
Manganese	mg/L	0.001	0.05	0.062	0.003	0.189	0.187	0.010	0.007	0.010
Potassium	mg/L	0.04	200	3.2	3.2	3.0	2.7	4.8	3.2	3.1
Silicon	mg/L	0.005		11.5	11.7	11.7	12.4	11.7	11.5	11.4
Sodium	mg/L	0.1		18.5	13.8	13.5	9.0	66.9	17.9	17.5
T-Alkalinity	mg/L	5		97	107	97	104	120	98	99
Chloride	mg/L	0.05	250	24.4	13.1	12.4	8.15	69.2	20.1	20.6
Fluoride	mg/L	0.01	1.5	0.13	0.13	0.13	0.11	0.14	0.12	0.11
Nitrate - N	mg/L	0.01	10	<0.01	0.35	<0.01	<0.01	0.96	0.16	0.18
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	14.5	17.9	11.7	15.0	22.7	14.0	14.9
Hardness	mg/L	1		94	109	89	107	104	98	97
Total Dissolved Solids	mg/L	1		182	182	161	166	306	179	180

Annual Samples

Sample	Unit of Measure	Nominal Detection Limit	Guideline Limit	Sample Location						
				Malabar Stn	Mann Park Stn	Main Shop	Oxford Stn	Oxford Reservoir	Everall Stn	Russell Stn
Inorganic Nonmetallic Parameters										
Organic Carbon	mg/L	0.5		0.7	0.6	0.7	0.7	0.7	0.6	0.6
Ammonia - N	mg/L	0.01		<0.01	<0.01	0.02	0.02	<0.01	<0.01	<0.01
Metals Extractable										
Aluminum	mg/L	0.001	0.1	0.0022	0.00149	0.00192	0.0129	0.00207	0.00144	0.00158
Antimony	mg/L	0.00002	0.006	0.000076	0.000072	0.000077	0.000077	0.000072	0.000065	0.000072
Arsenic	mg/L	0.0001	0.010	0.0061	0.0061	0.0084	0.0085	0.0060	0.0062	0.0061
Barium	mg/L	0.0001	1	0.0153	0.0148	0.0117	0.0116	0.0147	0.0144	0.0144
Boron	mg/L	0.002	5	0.015	0.019	0.070	0.073	0.020	0.016	0.020
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	0.000193	0.000205	0.000925	0.000916	0.000234	0.000154	0.000200
Copper	mg/L	0.0005	1.0	0.0028	0.0111	0.0127	0.0022	0.0171	0.0009	0.0015
Lead	mg/L	0.00001	0.01	0.000411	0.000378	0.000305	0.00463	0.000279	0.000140	0.000335
Selenium	mg/L	0.0002	0.05	0.0033	0.0035	0.001	0.001	0.0034	0.0026	0.0034
Uranium	mg/L	0.00001	0.02	0.000138	0.000139	0.000229	0.000235	0.000140	0.000129	0.000143
Vanadium	mg/L	0.00005		0.00284	0.00287	0.00427	0.00442	0.00287	0.00288	0.00280
Zinc	mg/L	0.0005	5.0	0.0018	0.0018	0.0242	0.0014	0.0134	0.0013	0.0022
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		0.18	0.12	0.10	0.08	0.23	0.20	0.11
Routine Water										
pH			6.5-8.5	7.34	7.34	7.34	7.32	7.35	7.35	7.36
Electrical Conductivity		1		269	272	502	499	266	265	266
Calcium	mg/L	0.01		22.5	22.9	23.0	23.2	23.0	22.7	22.9
Iron	mg/L	0.004	0.3	<0.004	<0.004	<0.004	<0.004	0.011	<0.004	<0.004
Magnesium	mg/L	0.02		9.4	9.5	10.9	10.9	9.6	9.2	9.4
Manganese	mg/L	0.001	0.05	0.026	0.016	0.007	0.008	0.041	0.048	0.023
Potassium	mg/L	0.04	200	3.1	3.1	4.6	4.6	3.1	3.1	3.1
Silicon	mg/L	0.005		11.2	11.3	11.4	11.3	11.0	11.1	11.1
Sodium	mg/L	0.1		17.7	17.7	67.4	68.1	18.0	18.4	17.8
T-Alkalinity	mg/L	5		97	98	121	119	97	97	98
Chloride	mg/L	0.05	250	20.9	20.8	73.0	71.7	21.8	21.8	21.0
Fluoride	mg/L	0.01	1.5	0.12	0.15	0.17	0.13	0.13	0.12	0.11
Nitrate - N	mg/L	0.01	10	0.15	0.18	0.98	1.07	0.13	0.09	<0.01
Nitrite - N	mg/L	0.01	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01
Sulfate (SO4)	mg/L	0.5	500	14.8	14.8	23.2	24.3	15.3	14.5	13.9
Hardness	mg/L	1		95	96	102	103	97	95	96
Total Dissolved Solids	mg/L	1		178	179	310	310	180	178	177

Annual Samples

Sample	Unit of Measure	Nominal Detection Limit	Guideline Limit	Sample Location							Sample Location			
				Stevens Stn	Finlay Stn	Stayte Stn	City Washroom	Roper Stn	Merklin Reservoir	Well #6	Well #7	Roper PRV-High Zone	Roper PRV-Low Zone	Roper Reservoir
Inorganic Nonmetallic Parameters														
Organic Carbon	mg/L	0.5		0.8	1.6	0.9	0.8	0.9	0.8	0.8	0.7	0.7	0.7	0.7
Ammonia - N	mg/L	0.01		0.12	0.07	<0.01	<0.01	0.12	0.11	0.15	0.11	0.08	0.09	0.01
Metals Extractable														
Aluminum	mg/L	0.001	0.1	0.00145	0.00213	0.00241	<0.00100	<0.00100	<0.00100	<0.00100	0.00151	0.00182	0.00153	0.00458
Antimony	mg/L	0.00002	0.006	0.000068	0.000064	0.000092	0.000091	0.000054	0.000055	0.000052	0.000063	0.000063	0.000114	0.000107
Arsenic	mg/L	0.0001	0.010	0.0091	0.0081	0.0080	0.0081	0.0093	0.0092	0.0093	0.0089	0.0082	0.0081	0.0081
Barium	mg/L	0.0001	1	0.210	0.0174	0.0130	0.0122	0.0203	0.0216	0.0218	0.0152	0.0178	0.0185	0.0130
Boron	mg/L	0.002	5	0.040	0.033	0.071	0.073	0.043	0.041	0.041	0.024	0.037	0.032	0.071
Cadmium	mg/L	0.00001	0.005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.000016	0.000032
Chromium	mg/L	0.00005	0.05	<0.000050	0.000145	0.000680	0.000719	<0.000050	<0.000050	0.000051	<0.000050	0.000092	0.000109	0.000751
Copper	mg/L	0.0005	1.0	0.0023	0.0018	0.0045	0.120	0.0044	<0.0005	<0.0005	0.001	0.0048	0.0012	0.0017
Lead	mg/L	0.00001	0.01	0.000172	0.00296	0.000954	0.000992	0.00111	0.000056	0.000079	0.00273	0.000056	0.000160	0.000553
Selenium	mg/L	0.0002	0.05	<0.0002	0.0012	0.0009	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0009	0.0013
Uranium	mg/L	0.00001	0.02	0.000165	0.000151	0.000233	0.000234	0.000150	0.000158	0.000154	0.000124	0.000153	0.000184	0.000231
Vanadium	mg/L	0.00005		0.00256	0.00258	0.00414	0.00412	0.00250	0.00253	0.00251	0.00212	0.00263	0.00266	0.00410
Zinc	mg/L	0.0005	5.0	0.0016	<0.0005	0.0088	0.0281	0.0026	0.001	0.0007	0.0025	0.0047	0.0035	0.0209
Metals Total														
Mercury	mg/L	0.00001	0.001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Physical and Aggregate Properties														
Colour	Colour Units	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Turbidity	NTU	0.02		0.06	0.20	0.07	0.12	0.05	0.10	0.06	0.09	0.17	0.20	0.06
Routine Water														
pH			6.5-8.5	7.52	7.45	7.3	7.32	7.48	7.47	7.49	7.43	7.46	7.46	7.37
Electrical Conductivity		1		314	308	499	504	317	316	316	249	306	311	469
Calcium	mg/L	0.01		23.8	23.2	22.8	22.6	23.5	23.6	23.8	21.9	23.5	23.1	22.7
Iron	mg/L	0.004	0.3	<0.004	<0.004	<0.004	0.020	0.007	0.004	0.005	0.011	<0.004	0.004	<0.004
Mangesium	mg/L	0.02		9.9	9.6	10.8	10.8	9.8	9.8	9.9	9.2	9.7	9.6	10.7
Manganese	mg/L	0.001	0.05	0.135	0.065	0.006	0.009	0.127	0.140	0.141	0.110	0.086	0.091	0.015
Potassium	mg/L	0.04	200	3.9	3.5	4.5	4.5	3.8	3.8	3.8	3.5	3.6	3.5	4.3
Silicon	mg/L	0.005		11.3	11.2	11.1	11.1	11.2	11.3	11.3	11.2	11.2	11.1	11.1
Sodium	mg/L	0.1		28.7	24.3	63.8	65.0	28.1	28.4	28.1	15.6	25.6	25.0	55.7
T-Alkalinity	mg/L	5		125	114	121	119	124	125	125	109	116	117	117
Chloride	mg/L	0.05	250	18.0	18.6	70.4	76.7	18.4	18.3	18.1	8.69	18.8	19.3	62.9
Fluoride	mg/L	0.01	1.5	0.21	0.18	0.13	0.12	0.19	0.23	0.19	0.18	0.15	0.18	0.15
Nitrate - N	mg/L	0.01	10	<0.01	<0.01	1.12	1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.80
Nitrite - N	mg/L	0.01	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate (SO4)	mg/L	0.5	500	19.7	17.5	23.1	22.8	20.4	19.3	20.0	14.1	18.1	18.5	22.6
Hardness	mg/L	1		100	97	101	101	99	100	100	93	99	97	100
Total Dissolved Solids	mg/L	1		210	196	303	309	209	209	210	169	199	199	283