Drinking Water Quality

2007 Annual Report

CITY OF VANCOUVER

CITY OF VANCOUVER

WATER QUALITY MISSION

To affordably and equitably provide our customers with a sustainable supply of high quality drinking water.

ACRONYMS

BCDWPR – British Columbia Drinking Water Protection Regulation

HAA – Haloacetic acid

GCDWQ – Guidelines for Canadian Drinking Water Quality

GVWD – Greater Vancouver Water District

MAC – Maximum Acceptable Concentration

NTU – nephelometric turbidity unit

THM - Trihalomethane

WQMRP – Water Quality Monitoring and Reporting Plan

EXECUTIVE SUMMARY

City of Vancouver residents enjoy drinking water from three supply sources: the Capilano, Seymour and Coquitlam Reservoirs - mountainous watersheds that are protected and operated by the Greater Vancouver Water District (GVWD). The provision of clean, safe drinking water is critical for public health. It is the joint responsibility of the City of Vancouver and Metro Vancouver (GVWD) to meet the B.C. Drinking Water Protection Regulations and the Federal Guidelines for Canadian Drinking Water Quality (GCDWQ) to ensure high quality drinking water for its residents.

The British Columbia Drinking Water Protection Act, enacted April 2001, mandates a multi-barrier approach to protecting water quality. This involves safeguarding the supply source, regular monitoring both at the source and throughout the distribution systems, and publicly reporting monitoring results. In accordance with this, the GVWD (as the source water provider) tests daily and treats the supply water before delivery to its member municipalities. The City of Vancouver then further monitors and tests the drinking water quality throughout its water distribution system. In Vancouver, representative samples are taken at fifty-three sites throughout the municipal area and are tested against the water quality standards set out in the British Columbia Drinking Water Protection Act and the GCDWQ.

This report details the results of the City of Vancouver Drinking Water Quality Monitoring Program. Highlights include:

- No e-coli, fecal coliform, or total coliform bacteria was found in the water system, and heterotrophic plate count (HPC) levels were well below guideline limits.
- The turbidity level exceeded 1 NTU in 33% of total samples with no impairment to microbiological quality. The winter rainstorms in December caused elevated turbidity in the GVWD's North Shore reservoirs for several weeks.
- Temperature met the aesthetic guideline of less than 15^0 Celsius with the exception of periods of warmer water during the late summer. August's average water temperature was 15.8^0 C and September's average water temperature was 15.1^0 C.
- Chlorine residuals were above the 0.2 mg/L minimum target for disinfection with the exception of some low flow sites located near distribution system end points.
- Disinfection-by-products (THMs & HAAs) concentrations are consistent with previous years and were within the GCDWQ Maximum Acceptable Concentrations.

TABLE OF CONTENTS

1.0 INTRODUCTION

Delivering high quality water to Vancouver residents, businesses and visitors is a top priority for the City in its commitment to meet drinking water health standards, and maintain the taste and appearance consumers enjoy and expect from their water.

Vancouver's drinking water must comply with the quality standards set by the BC Drinking Water Protection Regulations. In addition, it is the City's goal to meet Health Canada's Guidelines for Canadian Drinking Water Quality. To ensure the drinking water meets this level of quality, it is sampled and tested daily at the supply source and within the City's water distribution system, providing a good picture of its quality before it reaches consumers' taps.

The City of Vancouver's Water Quality Monitoring Program design is guided by the Water Quality and Monitoring and Reporting Plan (WQMRP); a regional plan that was jointly developed by the lower mainland Medical Health Officers, Metro Vancouver and member municipalities. In the WQMRP, the responsibilities of the water suppliers (purveyors) are detailed in accordance with the Drinking Water Protection Act. Each purveyor is required to hold an annual operating permit issued by the Medical Health Officer approving the potability, monitoring and reporting protocol and emergency notification process.

A summary of the City of Vancouver's Water Quality Monitoring Program and 2007 water quality results are presented in this report. Detailed analysis of the water quality test results are found in the appendices.

2.0 WATER QUALITY IMPROVEMENT PROJECTS

In complement to the Water Quality Monitoring Program the City also manages a number of ongoing programs that work to improve the water delivery system and water quality within the distribution system, and safeguard the drinking water from accidental contamination.

Infrastructure Replacement Program

Since the early 1990s the City has had a policy to replace 1% of water mains each year. The distribution system, consisting of 1,450 km of pipelines covering virtually every street in the City of Vancouver, carries water from transmission pipelines to customer service pipes and fire hydrants. The City's water system infrastructure replacement program replaces aging water mains to prevent pipe breaks and maintain reliable water service. A secondary benefit of this program is that it improves the quality of water by replacing aging unlined cast iron distribution mains with new cement lined pipes that are more resistant to corrosion. In 2007, 8,992 meters of distribution pipeline were replaced.

Water Main Looping and Spur Connection

The vast majority of Vancouver's distribution system pipes are looped (connected at both ends) to provide redundancy of supply and to avoid water stagnation. To address the identified areas that are not looped, the City has a program of connecting dead end water mains to the nearest available location on the distribution system. In 2007, six locations were looped.

Cross Connection Program

The City of Vancouver's Cross Connection Control Program works to ensure the potable water supply is protected from contamination from backflow sources. Working proactively with citizens, business and industry, the City verifies that appropriate backflow assemblies are installed and that they are tested on an annual basis as prescribed by the Waterworks Bylaw 4848.

3.0 SOURCE WATER

The City of Vancouver purchases drinking water from the Greater Vancouver Water District (GVWD) for delivery to over 94,000 service connections. The source waters are three mountainous watersheds protected and managed by GVWD – the Capilano, Seymour and Coquitlam Reservoirs. Closed to the public, these forested watersheds collect surface water from rain and snowmelt. No recreational, agricultural, or industrial activities are permitted in the watersheds, thus safeguarding the water against risk from human contamination.

GVWD is responsible for source water quality monitoring and treatment by disinfection to ensure high quality water before delivery to its member municipalities. Water treatment by disinfection destroys disease-causing or pathogenic organisms. GVWD uses chlorine disinfection at Capilano and Seymour reservoir and ozone treatment at Coquitlam. Secondary chlorine disinfection of the water is required at facilities downstream of all the reservoirs to maintain a chlorine residual in the distribution system for the prevention of bacterial regrowth. Within the City of Vancouver there are three rechlorination stations.

A summary of the 2007 source water quality laboratory results for Capilano, Seymour and Coquitlam Reservoirs is found in Appendix A of the supporting document.

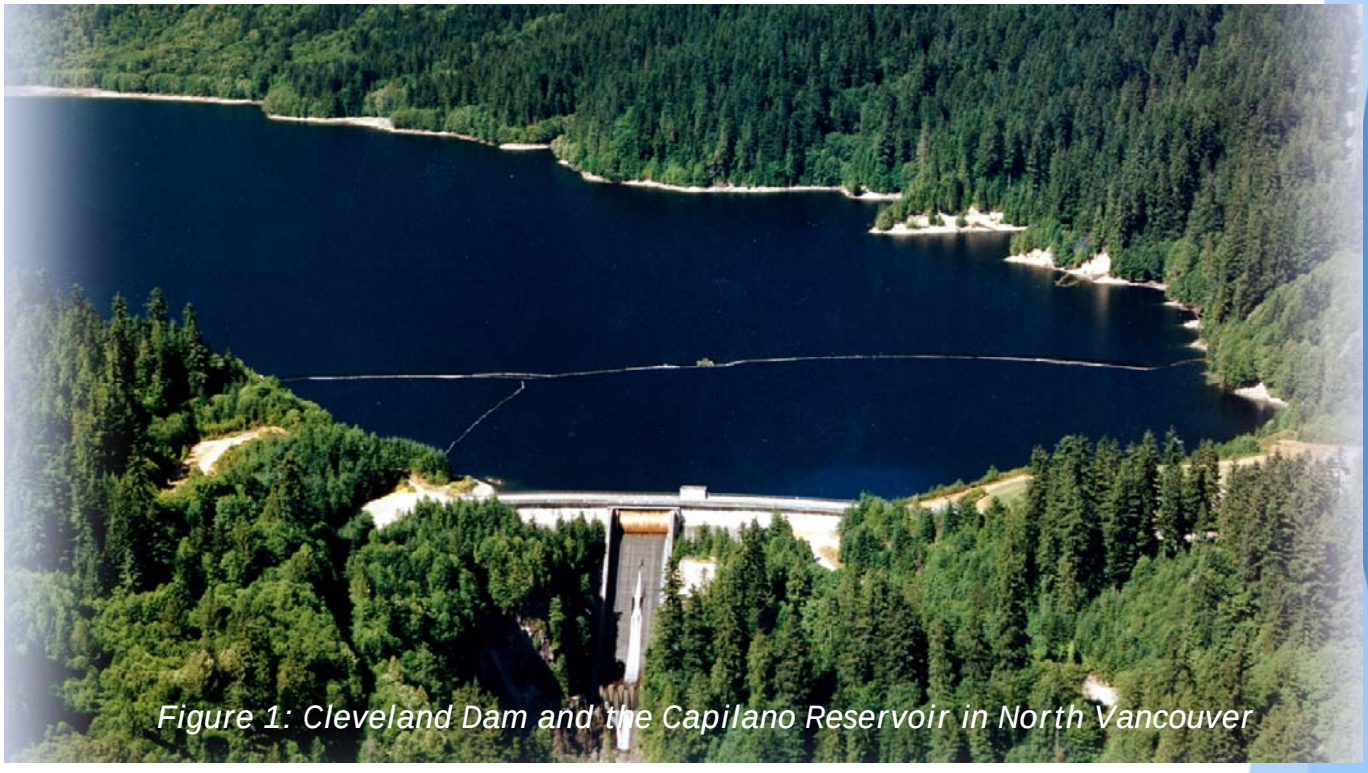
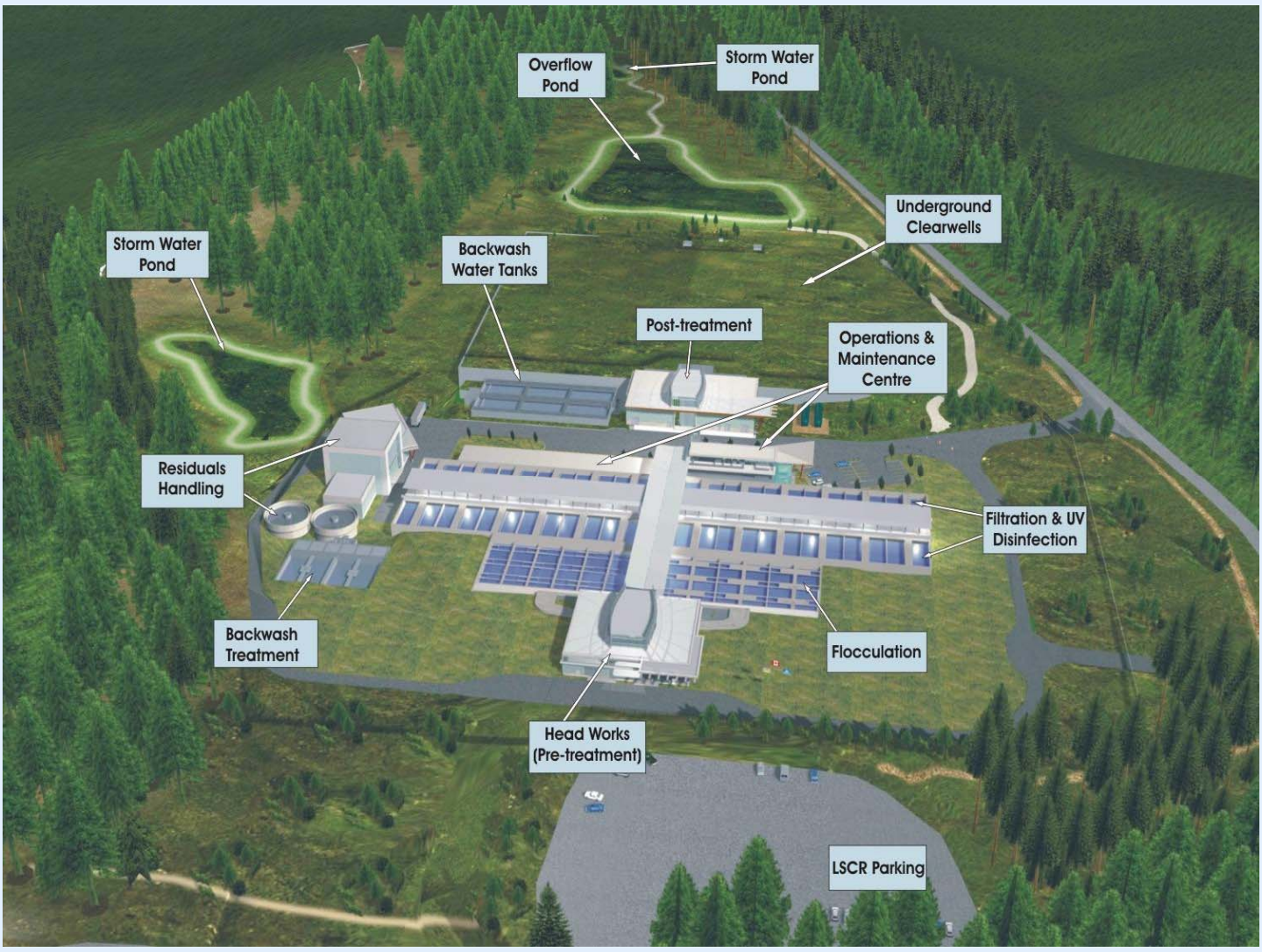


Figure 1: Cleveland Dam and the Capilano Reservoir in North Vancouver

Seymour-Capilano Filtration Plant Project

Metro Vancouver is currently building a Seymour-Capilano water filtration plant that will treat water from both the Capilano and Seymour Reservoirs. The filtration plant, scheduled for completion by 2009, is being constructed in the Lower Seymour Conservation Reserve, located downstream of the Seymour reservoir. Water from each reservoir will be conveyed to the filtration plant by underground twin tunnels each measuring 3.2 meter in diameter and traveling a distance of 7.2 kilometers.

The filtration process will reduce levels of turbidity to less than 0.3 NTU, remove 99.9 percent of *Giardia* and *Cryptosporidium* micro-organisms and reduce the amount of chlorine required for disinfection. Less chlorine added and fewer organics in the water will also result in fewer disinfection by-products created. To the consumer, the filtration process will improve the taste, colour and odour of the water.



4.0 WATER QUALITY MONITORING PROGRAM

The City of Vancouver's Water Quality Monitoring Program involves routine testing for microbiological indicators and physical and chemical water quality parameters. Drinking water samples are collected from 53 dedicated sampling stations located in representative locations across the City. Vancouver's drinking water must comply with BC's Drinking Water Protection Regulation standards and Federal Guidelines for Canadian Drinking Water Quality from Health Canada.

Routine sampling is conducted 4 days per week in addition to semi annual testing for metals, quarterly sampling for disinfection by-products, and project based water quality monitoring. In 2007, there were 2109 samples collected for routine testing and the analysis performed for these are listed in Table 1 below.

The physical and chemical water properties are tested on site for instantaneous results. Microbiological samples are collected at each site and submitted to the BC Centre for Disease Control for analysis. Microbiological results are reviewed within 24 hours by the Vancouver Coastal Health Officer and, in the event a positive result should occur, corrective action is taken immediately. A complete list of the monitoring parameters and testing protocols are found in Table 1.

Table 1: City's Water Quality and Testing Program

	PARAMETER	SAMPLE FREQUENCY
Physical properties	Temperature	4 days per week
	Turbidity	4 days per week
Chemical properties	Chlorine residual (total chlorine and free chlorine)	4 days per week
	pH	4 days per week
	Metals	Semi-annually
	Disinfection-by-products	Quarterly
Microbiological properties	Total coliform	4 days per week
	E-coli	4 days per week
	Aerobic heterotrophic microorganisms	4 days per week

4.1 PHYSICAL PARAMETERS

Water in the distribution system is tested for the physical parameters of turbidity and temperature.

Temperature

Water temperature in the distribution system is directly related to source water seasonal temperature change. The Canadian Guidelines has set the aesthetic objective of less than 15.0° C for drinking water temperature. Temperatures above 15.0°C enhance the growth of micro-organisms, which can impact aesthetic properties of taste, colour and odour, as well as accelerate corrosion.

Average water temperature in the distribution system remained well below the aesthetic maximum objective of 15°C throughout most of the year with the exception of the warm weather months of August and September as shown in Figure 2. The average water temperature was 15.8°C in August and 15.1°C in September, with no increase in bacteriological growth, indicating effective chlorine disinfection.

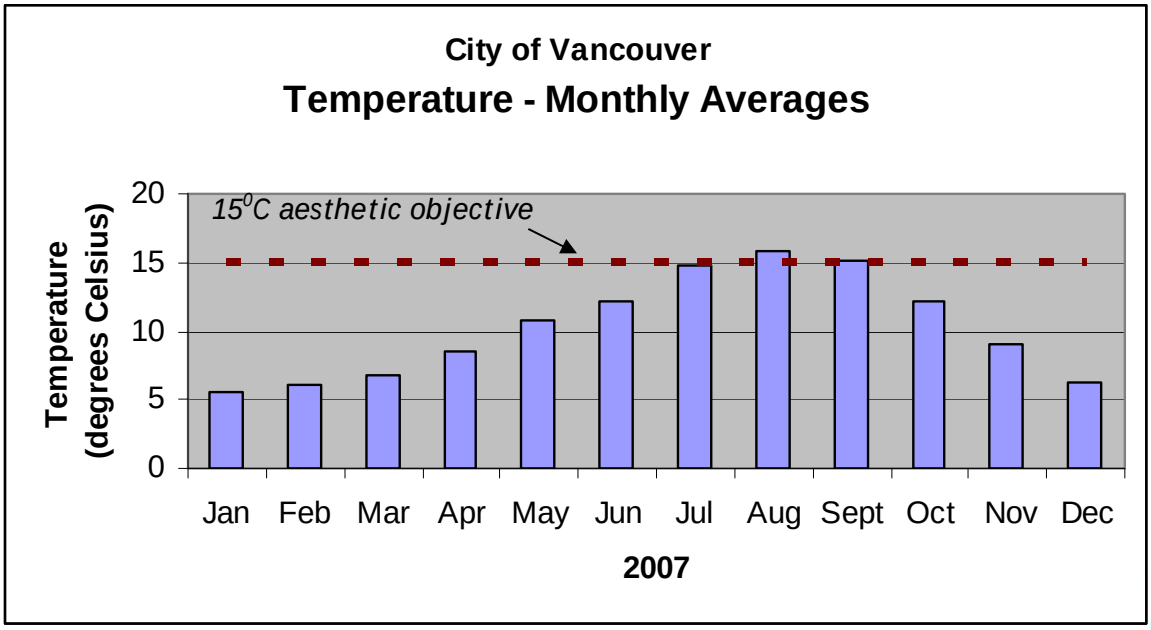


Figure 2: Monthly average water temperatures in the distribution system.

Turbidity

Turbidity is a measure of fine suspended matter in water, caused mostly by clay, silt, and organics. Vancouver's water turbidity level is most often directly related to levels at the source where winter rainfall events in the watersheds can cause sediment to runoff. Localized turbidity events can also occur from watermain flushing or hydrant works within the distribution system. Elevated turbidity events pose an aesthetic concern for consumers and can limit the effectiveness of disinfection.

In March 2005, a new guideline for source water turbidity was published by Health Canada, recommending that surface water sources be filtered unless it is demonstrated that the system has a history of acceptable microbiological quality and the water turbidity is around 1 nephelometric turbidity unit (NTU) but does not exceed 5.0 NTU for more than 2 days in a 12 month period. To gain compliance with this new guideline, the turbidity levels at the Capilano and Seymour reservoirs will be addressed with the construction of the filtration plant, scheduled for completion by 2009. Water from the Coquitlam reservoir will continue to be unfiltered and an early turbidity warning system will be installed to alert the GVWD on when to remove the source from service in the rare event elevated turbidity levels should occur.

In Vancouver's water system, the turbidity levels exceeded the 1 NTU guideline in 33% of the samples taken in 2007 with no impairment to microbiological quality. These turbidity episodes occurred mostly in spring when source water turbidity increased due to spring rain and runoff, and again in December during the heavy winter storms when source water turbidity reached over 15 NTU. Figure 3 shows the average monthly turbidity levels in Vancouver for 2007.

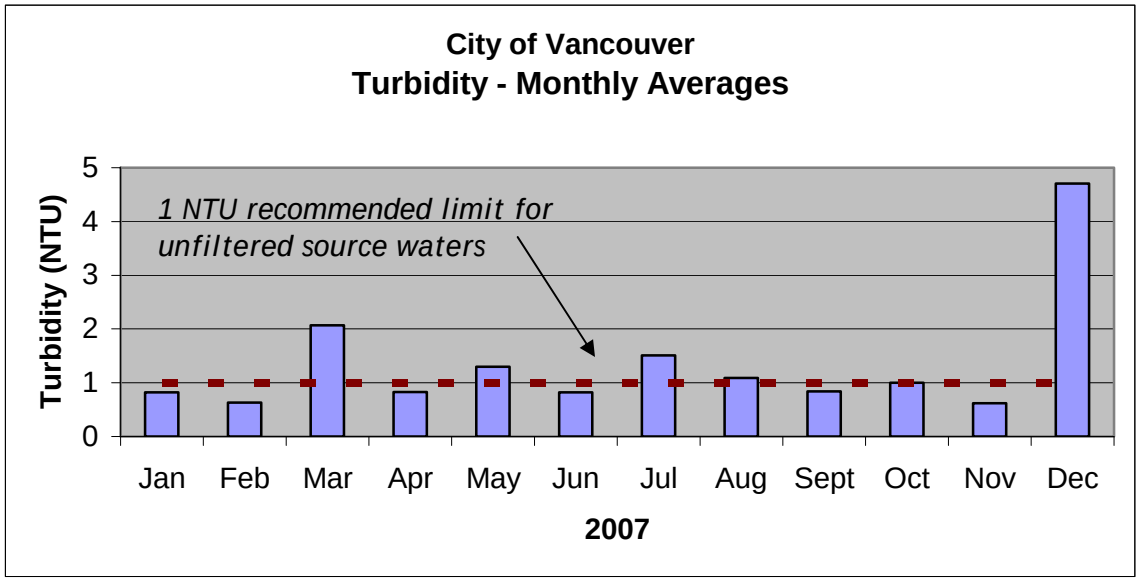


Figure 3: Monthly average turbidity levels in distribution system.

Turbidity

Vancouverites know that with our heavy winter rains comes a greater potential for source water turbidity. Turbid (cloudy) water occurs when sediment, composed mostly of fine clay, runs off the steep mountainous slopes and is transported into the watersheds.

Although aesthetically unpleasing, source water turbidity has shown little direct health impact. One reason for this is Metro Vancouver's watersheds are closed to the public and protected against recreational, agricultural and industrial activities. This makes the risk of microbiological or chemical contamination extremely low, even during periods of heavy rains that may result in turbidity event. Metro Vancouver's long standing experience monitoring water quality during turbidity events has also shown no link to the presence of bacteria or other pathogens such as Giardia and Cryptosporium. Continuous in-line monitoring of the disinfection of water, bolstered with back-up power sources in case of emergency, provides an extra level of water quality protection.

When complete, the construction of the Seymour-Capilano Filtration Plant by the GVWD will eliminate source water triggered turbidity events, improving the drinking water supply for Metro Vancouver.

4.2 CHEMICAL PARAMETERS

The chemical properties of water sampled include pH, metals, chlorine residuals, and disinfection-by-product levels.

pH

Vancouver's source water is surface water that comes from rainfall and snowmelt. By nature of this, and the local geology, Vancouver's water is soft (low amount of dissolved calcium and magnesium) and slightly acidic, with pH values occasionally measuring below the aesthetic guideline of 6.5. Average pH of Vancouver's drinking water is 6.8. See Appendix A for GVWD source water pH levels.

Due to Vancouver's soft, slightly acidic water supply, metals used in home plumbing systems can corrode and produce stains on bathroom fixtures. Most common is blue-green staining from copper piping. Although the stains may be unpleasant, the water is safe to drink and use.

To reduce the corrosiveness of the water and lengthen the service of plumbing, the GVWD has a corrosion control program (pH adjustment). Soda ash (sodium carbonate), a natural mineral, is added to waters from the Seymour and Coquitlam reservoirs to raise the pH. Soda ash is not added at the Capilano reservoir because the liquid sodium hypochlorite used for disinfection is alkaline. Full implementation of the corrosion control program will occur with completion of the Seymour-Capilano filtration project, in which the pH of the water from all sources will be raised to 8 – 8.5.

Metals

The City of Vancouver's water consistently meets the Canadian Guidelines for metals in drinking water. In 2007, metal concentrations were sampled for in the City's water distribution system on two separate occasions: once in the summer and once in the winter. These samples were collected by City staff and the analysis was performed by the GVWD laboratory. A complete summary of the results is found in Appendix C.

Metal concentrations in drinking water at consumers' taps can be affected by the age and materials used in household plumbing. In homes with metallic piping systems, leaching of metals can occur when Vancouver's naturally soft and slightly acidic water sits stagnant in the pipes.

To monitor the extent of dissolved metals in drinking water from household piping, the City of Vancouver in partnership with Vancouver Coastal Health conducted metals testing at the taps of sixty-seven homes since 2001. The results have consistently shown that running the water for 20 seconds significantly lowers dissolved copper and lead (from plumbing systems with lead based solder and brass faucets) to below the Canadian guidelines levels.

Disinfection - Chlorine Residual Levels

Chlorine is a strong oxidizer used to disinfect the water and safeguard against any microbial regrowth or contamination in the distribution system. The Canadian Drinking Water Guidelines recommend a minimum concentration of 0.2 mg/L chlorine residual.

The average chlorine residual in the large majority of the City's distribution system continues to be at an acceptable level, with below target readings at a few locations (see Appendix E). The lower chlorine residual levels of these sites is due to a combination of relatively low water use, causing chlorine to dissipate as water sits in the pipe, and chlorine demand from turbidity. All sampling stations identified with low chlorine residual have had no microbiological impairment and are closely monitored by the City.

Disinfection By-products (DBPs) – THMs & HAAs

Disinfection-by-products (DBPs) are compounds formed by the interaction between disinfectant chlorine and naturally occurring organic substances in the water, such as breakdown products of decaying leaves and vegetation. Two groups of DBPs are monitored within Vancouver's drinking water – the trihalomethane group[1] (THMs) and the haloacetic acids group[2] (HAAs). Within the THM group, chloroform is the compound found in the highest concentrations in drinking water, and as such has been most extensively studied for adverse health affects. Epidemiological investigations have suggested chloroform is a possible carcinogen to humans. For this reason, the total THM guideline is based on health risks linked to chloroform.

The Canadian Guidelines maximum acceptable concentration (MAC) for total THMs is 100 ppb (100 µg/L) based on locational running annual average from quarterly samples. Bromodichloromethane (BDCM), a compound within the THM group, has its own MAC of 16 ppb (16 µg/L). A MAC of 80 ppb (80 µg/L) is currently being proposed for HAAs. The guidelines are set by a review of all associated health risks and routes of exposure, plus application of a safety factor.

In Vancouver's drinking water all DBP test results were below the maximum acceptable concentration value of 100 ppb for total THMs, and 16 ppb for BDCM. See Appendix D for the complete list of results by sampling location.

The Seymour-Capilano water filtration plant will serve to reduce the formation of DBPs by removing the organic precursors and lessening the amount of chlorine required for disinfection.

[1] Total trihalomethanes is the sum of bromoform, chloroform, bromodichloromethane and dibromochloromethane.

[2] Total haloacetic acids is the sum of dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid and trichloroacetic acid.

4.3 BACTERIOLOGICAL QUALITY

The bacteriological monitoring includes testing for heterotrophic plate count (HPC), total coliform, and *Escherichia coli* (*E.coli*). HPC and total coliform are indicator tests that report specific groups of biological activity in a sample. HPC is a count of all heterotrophic micro-organisms - a useful indicator for monitoring the effectiveness of disinfection and early signs of bacteria regrowth. Total coliform is a more specific test of all bacteria within the coliform group. The detection of total coliform indicates possible conditions for pathogen or parasite contamination. *E.coli* is considered to be a more specific indicator of fecal contamination, and can now be effectively and practically tested on a regular basis. The *E.coli* group is monitored against a stringent regulation of zero maximum acceptable concentration (MAC). If the presence of *E.coli* is found in the water, a boil water advisory is issued by the Chief Medical Health Officer and corrective action is taken immediately.

Bacteriological testing of the water distribution system is required to meet the standards set out in the *BC Drinking Water Protection Regulation.* The standards, as listed in Table 2 below, are a legislated requirement under the *Provincial Drinking Water Protection Act*.

Table 2: BC Drinking Water Protection Act Bacteriological Quality Standards

Parameter:	**Standard:**
E.coli bacteria	No detectable e-coli bacteria per 100 ml
Fecal Coliform	No detectable e-coli bacteria per 100 ml
Total Coliform bacteria (a) 1 sample in a 30 day period	No detectable total coliform bacteria per 100 ml.
(b) more than 1 sample in a 30 day period	At least 90% of samples have no detectable total coliform per 100 ml and no sample has more than 10 total coliform bacteria per 100 ml.

Bacteriological sampling in 2007 had perfect compliance with BCDWPR standards. No samples were found to have total coliform or *E.coli*. Table 3 shows a summary of positive total coliform samples over the last 5 years.

Table 3: Summary of bacterial compliance results – 2003 to 2007

Year	# samples containing >10 total coliforms per 100mL	# samples containing >0 fecal coliforms per 100mL	# samples containing >0 *E.coli* per 100mL
2003	1	0	n/a*
2004	0	0	n/a*
2005	2	0	n/a*
2006	0	0	n/a*
2007	0	n/a*	0

* *E.coli* monitoring is considered a more specific indicator for fecal contamination and replaced fecal coliform testing in April 2006.

5.0 CUSTOMER SERVICE

The City makes every effort to provide the public with up-to-date water quality information, and to receive water quality inquiries and provide timely follow-up. Public reporting of water quality results is achieved through online, monthly posting of sampling results on the City's water quality webpage. As well, a more comprehensive analysis of the City's compliance and water system improvement projects is made available through this annual report.

Water quality inquires are received most often by email and phone. In 2007, hundreds of calls and emails were received on a variety of water quality topics, with the most common being questions around turbidity and general information gathering on drinking water treatment. A dedicated 24 hour phone line is available for emergency response and to capture customer inquiries outside of regular business hours. To ensure timely follow-up on complaints and to help identify system definciencies, all water quality inquiries are logged into a customer relations database.

6.0 CONCLUSION

The City of Vancouver prides itself on delivering high quality drinking water to its customers. In 2007, the bacteriological and chemical quality of Vancouver's water continued to meet or exceed the Canadian Guidelines for Drinking Water Quality and the standards set out in the British Columbia Drinking Water Protection Act. No coliform or *E.coli* bacteria were found in the water system, and HPC levels were well below the guideline limits. The chlorine residuals were above the 0.2 mg/L minimum target, with the exception of some low flow sites located near distribution system end points. Disinfection-by-products (THMs & HAAs) concentrations were consistent with previous years and were within the GCDWQ interim maximum acceptable concentrations for THMs.

The turbidity level exceeded 1 NTU in 33% of samples with no impairment to microbiological quality. Once the Seymour-Capilano filtration plant is completed by 2009, the background turbidity level and spike events are expected to substantially decline, and less system wide flushing is anticipated. At that time, the possible need for additional rechlorination stations will be assessed. The City of Vancouver and GVWD remain committed partners to affordably and equitably provide a sustainable supply of high quality drinking water to the residents of and visitors to Vancouver.

Appendix A
Source Water Quality

Physical and Chemical Analysis of Water Supply

Greater Vancouver Water District

2007 - Capilano Water System

Parameter	Untreated	Treated			Canadian Guideline Limit	Reason Guideline Established
	Average	Average	Range	Days Guideline Exceeded		
Alkalinity as $CaCO_3$ (mg/L)	2.5	3.3	3.0-4.0		none	
Aluminium Dissolved (mg/L)	0.09	0.09	0.08-0.10		none	
Aluminium Total (mg/L)	0.27	0.19	0.14-0.26		none	
Antimony Total (mg/L)	<0.002	<0.002	<0.002	0	0.006	health
Arsenic Total (mg/L)	<0.0001*	<0.001	<0.001	0	0.010	health
Barium Total (mg/L)	0.004	0.002	0.002	0	1.0	health
Bromate (mg/L)	<0.01	<0.01	<0.01	0	0.01	health
Bromide (mg/L)	<0.01	<0.01	<0.01		none	
Boron Total (mg/L)	<0.02	<0.02	<0.02	0	5.0	health
Cadmium Total (mg/L)	<0.0005	<0.0005	<0.0005	0	0.005	health
Calcium Total (mg/L)	1.24	1.18	1.09-1.36		none	
Carbon Organic Dissolved (mg/L)	1.7	1.5	1.5-2.3		none	
Carbon Organic Total (mg/L)	1.70	1.68	1.50-2.37		none	
Chlorate (mg/L)	<0.01	<0.01	<0.01		none	
Chloride Total (mg/L)	0.6	1.8	0.4-2.5	0	≤250	aesthetic
Chromium Total (mg/L)	<0.001	<0.001	<0.001	0	0.05	health
Color Apparent (ACU)	15	7	2-22		none	
Color True (TCU)	13	5	1-18	0	≤15	aesthetic
Conductivity (umhos/cm)	10	16	11-22		none	
Copper Total (mg/L)	0.004	<0.002	<0.002	0	≤1	aesthetic
Cyanide Total (mg/L)	<0.005	<0.005	<0.005	0	0.2	health
Fluoride (mg/L)	<0.05	<0.05	<0.05	0	1.5	health
Hardness as $CaCO_3$ (mg/L)	3.79	3.55	3.25-4.14		none	
Iron Dissolved (mg/L)	0.04	0.04	0.02-0.15		none	
Iron Total (mg/L)	0.11	0.10	0.05-0.33	1	≤0.3	aesthetic
Lead Total (mg/L)	<0.001	<0.001	<0.001	0	0.01	health
Magnesium Total (mg/L)	0.17	0.15	0.13-0.18		none	
Manganese Dissolved (mg/L)	0.007	0.008	0.002-0.24		none	
Manganese Total (mg/L)	0.014	0.010	0.003-0.027	0	≤0.05	aesthetic
Mercury Total (mg/L)	<0.00005	<0.00005	<0.00005	0	0.001	health
Nickel Total (mg/L)	<0.001	<0.001	<0.001		none	
Nitrogen - Ammonia as N (mg/L)	0.01	<0.01	<0.01-0.02		none	
Nitrogen - Nitrate as N (mg/L)	0.08	0.06	0.05-0.09	0	10	health
Nitrogen - Nitrite as N (mg/L)	<0.01	<0.01	<0.01	0	1.0	health
pH	6.5	6.5	6.2-6.7	6	6.5 to 8.5	aesthetic
Phenols (mg/L)	<0.005	<0.005	<0.005		none	
Phosphorus Total (mg/L)	0.005	<0.005	<0.005		none	
Potassium Total (mg/L)	0.16	0.14	0.14		none	
Residue Total (mg/L)	17	18	17-20		none	
Residue Total Dissolved (mg/L)	14	16	14-17	0	≤500	aesthetic
Residue Total Fixed (mg/L)	11	12	10-14		none	
Residue Total Volatile (mg/L)	6	6	6-7		none	
Selenium Total (mg/L)	<0.01	<0.01	<0.01	0	0.01	health
Silica as SiO_2 (mg/L)	3.0	2.9	2.7-3.0		none	
Silver Total (mg/L)	<0.001	<0.001	<0.001		none	
Sodium Total (mg/L)	0.5	1.4	0.5-1.9	0	≤200	aesthetic
Sulphate (mg/L)	0.8	0.8	0.7-0.9	0	≤500	aesthetic
Turbidity (NTU) Daily Average	1.03	1.01	0.41-2.40			
UV254 (Abs/cm)	0.074	0.054	0.043-0.102		none	
Zinc Total (mg/L)	0.003	0.004	0.004	0	≤5	aesthetic

These figures are average values from a number of laboratory analyses done throughout the year. Where the range is a single value no variation was measured for the samples analysed. Methods and terms are based on those of "Standard Methods of Water and Waste Water" 21st Edition 2005. Less than (<) denotes not detectable with the technique used for determination. Untreated water is from the intake prior to chlorination, treated water is from a sample line after 10 minutes chlorine contact time. Guidelines are taken from "Guidelines for Canadian Drinking Water Quality - Sixth Edition" Health and Welfare Canada 1996, updated to March 2007. Capilano source water is treated with sodium hypochlorite for disinfection. Capilano source was out of service from Jan 1-April 25, July 22-26 and Nov. 1 to Dec. 31 due to turbidity.

**Arsenic for untreated water was analyzed by an outside laboratory using GC-MS.*

Physical and Chemical Analysis of Water Supply

Greater Vancouver Water District

2007 - Coquitlam Water System

Parameter	Untreated	Treated			Canadian Guideline Limit	Reason Guideline Established
	Average	Average	Range	Days Guideline Exceeded		
Alkalinity as $CaCO_3$ (mg/L)	1.7	7.2	6.0-9.0		none	
Aluminium Dissolved (mg/L)	0.07	0.07	0.06-0.07		none	
Aluminium Total (mg/L)	0.11	0.10	0.09-0.12		none	
Antimony Total (mg/L)	<0.002	<0.002	<0.002	0	0.006	health
Arsenic Total (mg/L)	<0.0001*	<0.001	<0.001	0	0.010	health
Barium Total (mg/L)	0.002	0.002	0.002	0	1.0	health
Boron Total (mg/L)	<0.02	<0.02	<0.02	0	5.0	health
Bromate (mg/L)	<0.01	<0.01	<0.01	0	0.01	health
Bromide (mg/L)	<0.01	<0.01	<0.01		none	
Cadmium Total (mg/L)	<0.0005	<0.0005	<0.0005	0	0.005	health
Calcium Total (mg/L)	0.91	0.90	0.78-0.99		none	
Carbon Organic Dissolved (mg/L)	1.5	1.5	1.1-2.3		none	
Carbon Organic Total (mg/L)	1.54	1.49	1.11-2.28		none	
Chlorate (mg/L)	<0.01	<0.01	<0.01		none	
Chloride Total (mg/L)	0.5	1.9	1.7-2.3	0	≤250	aesthetic
Chromium Total (mg/L)	<0.001	<0.001	<0.001	0	0.05	health
Color Apparent (ACU)	12	2	1-7		none	
Color True (TCU)	10	1	1-3	0	≤15	aesthetic
Conductivity (umhos/cm)	8	25	21-30		none	
Copper Total (mg/L)	<0.002	<0.002	<0.002	0	≤1	aesthetic
Cyanide Total (mg/L)	<0.005	<0.005	<0.005	0	0.2	health
Fluoride (mg/L)	<0.05	<0.05	<0.05	0	1.5	health
Hardness as $CaCO_3$ (mg/L)	2.67	2.63	2.24-2.94		none	
Iron Dissolved (mg/L)	0.02	0.02	0.01-0.04		none	
Iron Total (mg/L)	0.07	0.07	0.04-0.40	5	≤0.3	aesthetic
Lead Total (mg/L)	<0.001	<0.001	<0.001	0	0.01	health
Magnesium Total (mg/L)	0.10	0.10	0.07-0.11		none	
Manganese Dissolved (mg/L)	0.005	0.004	0.003-0.006		none	
Manganese Total (mg/L)	0.006	0.005	0.003-0.007	0	≤0.05	aesthetic
Mercury Total (mg/L)	<0.00005	<0.00005	<0.00005	0	0.001	health
Nickel Total (mg/L)	<0.001	<0.001	<0.001		none	
Nitrogen - Ammonia as N (mg/L)	<0.01	<0.01	<0.01		none	
Nitrogen - Nitrate as N (mg/L)	0.10	0.10	0.06-0.13	0	10	health
Nitrogen - Nitrite as N (mg/L)	<0.01	<0.01	<0.01	0	1.0	health
pH	6.4	6.8	6.2-7.2	4	6.5 to 8.5	aesthetic
Phenols (mg/L)	<0.005	<0.005	<0.005		none	
Phosphorus Total (mg/L)	<0.005	<0.005	<0.005		none	
Potassium Total (mg/L)	0.12	0.12	0.12		none	
Residue Total (mg/L)	13	23	21-25		none	
Residue Total Dissolved (mg/L)	11	21	16-24	0	≤500	aesthetic
Residue Total Fixed (mg/L)	7	16	15-18		none	
Residue Total Volatile (mg/L)	6	7	6-8		none	
Selenium Total (mg/L)	<0.001	<0.001	<0.001	0	0.01	health
Silica as SiO_2 (mg/L)	2.3	2.4	2.1-2.6		none	
Silver Total (mg/L)	<0.001	<0.001	<0.001		none	
Sodium Total (mg/L)	0.4	4.5	4.0-4.8	0	≤200	aesthetic
Sulphate (mg/L)	0.8	0.7	0.6-0.9	0	≤500	aesthetic
Turbidity (NTU)	0.80	0.79	0.12-8.3			
UV254 (Abs/cm)	0.072	0.019	0.009-0.041		none	
UV254 App. (Abs/cm)	0.064	0.025	0.011-0.069		none	
Zinc Total (mg/L)	0.002	0.002	0.002	0	≤5	aesthetic

These figures are average values from a number of laboratory analyses done throughout the year. Where the range is a single value no variation was measured for the samples analysed. Methods and terms are based on those of "Standard Methods of Water and Waste Water" 21st Edition 2005. Less than (<) denotes not detectable with the technique used for determination. Untreated water is from the intake prior to chlorination, treated water is from a single site in the GVRD distribution system downstream of chlorination. Guidelines are taken from "Guidelines for Canadian Drinking Water Quality - Sixth Edition" Health and Welfare Canada 1996, updated to March 2007. Coquitlam water is treated with ozone for primary disinfection, chlorine for secondary disinfection, and soda ash to increase pH and alkalinity. Arsenic for untreated water was analysed by GC-MS.*

Physical and Chemical Analysis of Water Supply

Greater Vancouver Water District

2007 - Seymour Water System

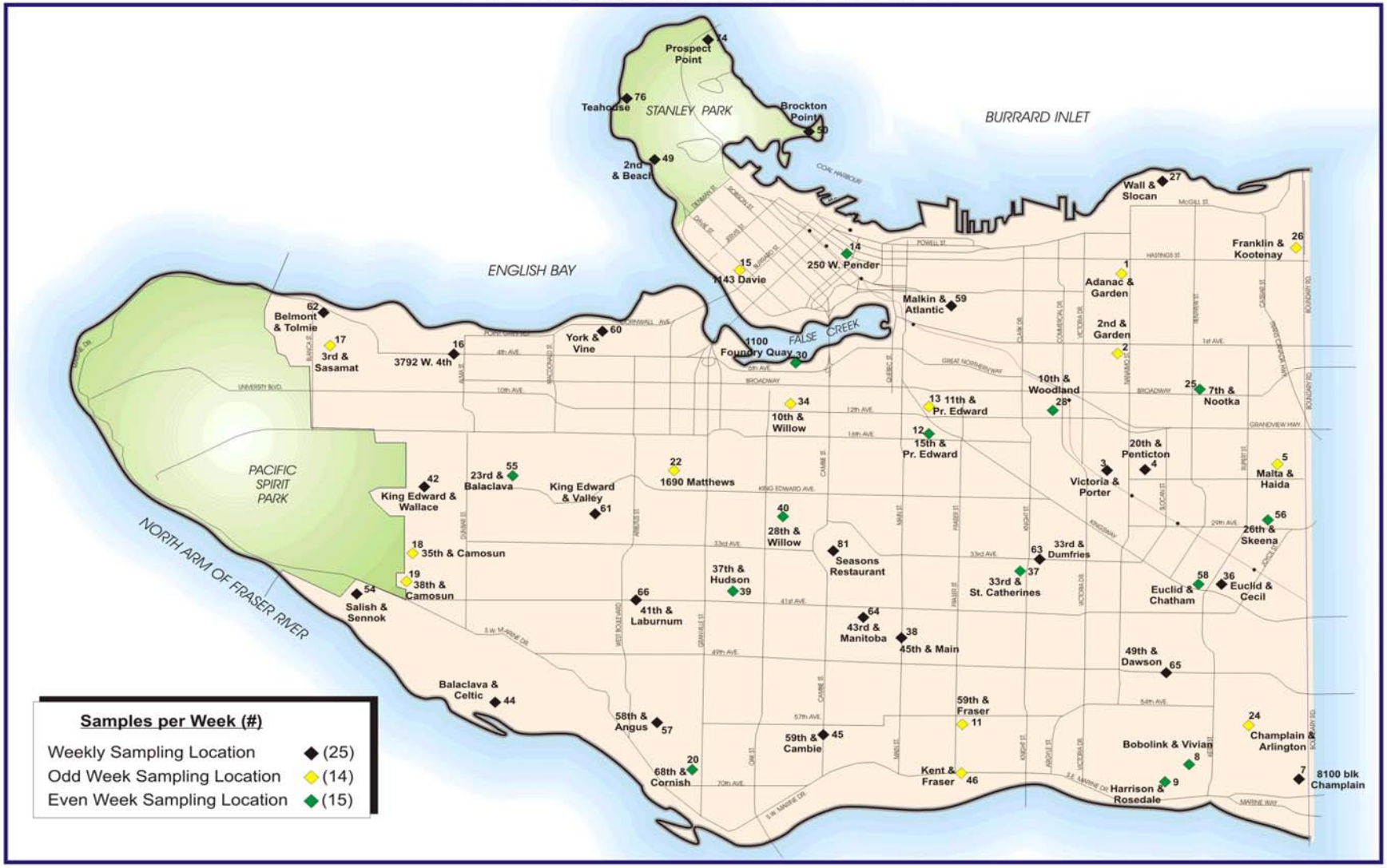
Parameter	Untreated Average	Treated Average	Treated Range	Treated Days Guideline Exceeded	Canadian Guideline Limit	Reason Guideline Established
Alkalinity as $CaCO_3$ (mg/L)	3.4	9.7	7.5-12.6		none	
Aluminium Dissolved (mg/L)	0.07	0.07	0.05-0.09		none	
Aluminium Total (mg/L)	0.12	0.11	0.07-0.13		none	
Antimony Total (mg/L)	<0.002	<0.002	<0.002	0	0.006	health
Arsenic Total (mg/L)	<0.0001*	<0.001	<0.001	0	0.010	health
Barium Total (mg/L)	0.004	0.003	0.003	0	1.0	health
Boron Total (mg/L)	<0.02	<0.02	<0.02	0	5.0	health
Bromate (mg/L)	<0.01	<0.01	<0.01	0	0.01	health
Bromide (mg/L)	<0.01	<0.01	<0.01		none	
Cadmium Total (mg/L)	<0.0005	<0.0005	<0.0005	0	0.005	health
Calcium Total (mg/L)	1.24	1.66	1.37-1.90		none	
Carbon Organic Dissolved (mg/L)	1.5	1.6	1.0-2.3		none	
Carbon Organic Total (mg/L)	1.54	1.61	1.02-2.43		none	
Chlorate (mg/L)	<0.01	<0.01	<0.01		none	
Chloride Total (mg/L)	0.6	1.9	1.6-2.3	0	≤250	aesthetic
Chromium Total (mg/L)	<0.001	<0.001	<0.001	0	0.05	health
Color Apparent (ACU)	12	7	3-16		none	
Color True (TCU)	10	5	1-10	0	≤15	aesthetic
Conductivity (umhos/cm)	8	29	15-36		none	
Copper Total (mg/L)	<0.002	<0.002	<0.002	0	1.0	aesthetic
Cyanide Total (mg/L)	<0.005	<0.005	<0.005	0	0.2	health
Fluoride (mg/L)	<0.05	<0.05	<0.05	0	1.5	health
Hardness as $CaCO_3$ (mg/L)	3.79	4.72	3.92-5.34		none	
Iron Dissolved (mg/L)	0.02	0.06	0.03-0.25		none	
Iron Total (mg/L)	0.07	0.16	0.08-0.55		≤0.3	aesthetic
Lead Total (mg/L)	<0.001	<0.001	<0.001	0	0.01	health
Magnesium Total (mg/L)	0.014	0.14	0.12-0.16		none	
Manganese Dissolved (mg/L)	0.007	0.007	0.003-0.017		none	
Manganese Total (mg/L)	0.014	0.013	0.005-0.059	0	≤0.05	aesthetic
Mercury Total (mg/L)	<0.00005	<0.00005	<0.00005	0	0.001	health
Nickel Total (mg/L)	<0.001	<0.001	<0.001		none	
Nitrogen - Ammonia as N (mg/L)	0.01	<0.01	<0.01 to 0.02		none	
Nitrogen - Nitrate as N (mg/L)	0.08	0.07	0.03-0.11	0	10	health
Nitrogen - Nitrite as N (mg/L)	<0.01	<0.01	<0.01	0	1.0	health
pH	6.4	7.0	6.0-7.4	3	6.5 to 8.5	aesthetic
Phenols (mg/L)	<0.005	<0.005	<0.005		none	
Phosphorus Total (mg/L)	<0.005	<0.005	<0.005-0.005		none	
Potassium Total (mg/L)	0.14	0.15	0.13-0.16		none	
Residue Total (mg/L)	16	28	25-30		none	
Residue Total Dissolved (mg/L)	15	26	23-29	0	≤500	aesthetic
Residue Total Fixed (mg/L)	10	20	19-22		none	
Residue Total Volatile (mg/L)	7	7	5-9		none	
Selenium Total (mg/L)	<0.001	<0.001	<0.001	0	0.01	health
Silica as SiO_2 (mg/L)	3.0	3.0	2.7-3.6		none	
Silver Total (mg/L)	<0.001	<0.001	<0.001		none	
Sodium Total (mg/L)	0.5	4.9	3.5-7.0	0	≤200	aesthetic
Sulphate (mg/L)	0.8	1.37	0.28-26	0	≤500	aesthetic
Turbidity (NTU)	1.35	1.37	0.28-26			
UV254 (Abs/cm)	0.072	0.050	0.037-0.071		none	
Zinc Total (mg/L)	0.003	0.002	0.002	0	≤5	aesthetic

*These figures are average values from a number of laboratory analyses done throughout the year. Where the range is a single value no variation was measured for the samples analysed. Methods and terms are based on those of "Standard Methods of Water and Waste Water" 21st Edition 2005. Less than (<) denotes not detectable with the technique used for determination. Untreated water is from the intake prior to chlorination, treated water is from a single site in the GVRD distribution system downstream of chlorination. Guidelines are taken from "Guidelines for Canadian Drinking Water Quality - Sixth Edition" Health and Welfare Canada 1996, updated to March 2007. Seymour source water is treated with chlorine for disinfection and soda ash to increase pH and alkalinity. *Arsenic for untreated water was analysed by an outside laboratory using GC-MS.*

Appendix B
Water Sampling Stations

CITY OF VANCOUVER

Water Sampling Sites - 53 Dedicated Stations



April 14/2008

N.T.S.

Appendix C
Metals Analysis

Metals Analysis at Distribution System – 2007 (Provided by Metro Vancouver)

	Harrison & Rosedale		38th & Camosun		Franklin & Kootenay		10th & Willow		37th & Hudson		
	4-Jun-07	3-Dec-07	4-Jun-07	3-Dec-07	4-Jun-07	3-Dec-07	4-Jun-07	3-Dec-07	4-Jun-07	3-Dec-07	Canadian Guideline
Aluminum Total mg/L	0.09	0.1	0.11	0.14	0.08	0.1	0.1	0.11	0.08	0.1	none
Arsenic Total mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.025
Barium Total mg/L	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	1
Boron Total mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	5
Cadmium Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.005
Calcium Total mg/L	1.24	1.44	1.3	1.55	1.55	1.64	1.33	1.37	1.3	1.25	none
Chromium Total mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.05
Cobalt Total mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	none
Copper Total mg/L	<0.002	<0.002	0.004	0.011	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	≤ 0.002
Iron Total mg/L	0.1	0.1	0.07	0.18	0.08	0.11	0.09	0.09	0.07	0.08	≤ 0.3
Lead Total mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.01
Magnesium Total mg/L	0.11	0.13	0.13	0.13	0.12	0.13	0.11	0.12	0.11	0.11	none
Manganese Total mg/L	0.007	0.003	0.002	0.004	0.004	0.003	0.012	0.003	0.003	0.002	≤ 0.05
Molybdenum Total mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	none
Nickel Total mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	none
Selenium Total mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Silver Total mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	none
Sodium Total mg/L	3.6	4.6	2.2	4.7	2.8	4.5	3.5	4.8	3.6	4.5	≤ 200
Zinc Total mg/L	0.003	0.002	0.003	0.003	0.002	0.003	0.003	0.003	0.003	<0.002	≤ 5.0

Appendix D
Disinfection By-product Results

Sample	Date Sampled	THM (ppb)						HAA (ppb)						
		Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	Total Trihalomethanes	**Total THM Quarterly Average**	Dibromoacetic Acid	Dichloroacetic Acid	Monobromoacetic Acid	Monochloroacetic Acid	Trichloroacetic Acid	Total Haloacetic Acid	**Total HAA Quarterly Average**
Porter & Victoria	10-May-06	0.6	<1	<0.5	36	37		<0.5	28	<1	<15	31	59	
	11-Sep-06	1	<1	<0.5	34	35		<0.5	21	<1	<15	30	51	
	30-Nov-06	0.5	<1	<0.5	21	22		<0.5	22	<1	<15	28	50	
	14-Mar-07	0.5	<1	<0.5	33	34	**32**	<0.5	24	<1	10	32	66	**57**
	10-May-07	<1.0	<1	<1.0	52	52	**36**	<0.5	36	<1	2	41	79	**62**
	26-Sep-07	<1	<1	<1	47	47	**39**	<0.5	28	<1	3	47	78	**68**
	6-Dec-07	<1	<1	<1	22	22	**39**	<0.5	16	<1	4	11	31	**64**
8100 Champlain	10-May-06	0.5	<1	<0.5	32	33		<0.5	32	<1	<15	17	49	
	11-Sep-06	1	<1	<0.5	33	34		<0.5	23	<1	<15	31	54	
	30-Nov-06	0.5	<1	<0.5	17	18		<0.5	23	<1	<15	26	49	
	14-Mar-07	0.5	<1	<0.5	36	37	**31**	<0.5	23	<1	11	28	62	**54**
	10-May-07	<1.0	<1	<1.0	42	42	**33**	<0.5	26	<1	4	26	56	**55**
	26-Sep-07	1	<1	<1	48	49	**37**	<0.5	24	<1	6	32	62	**57**
	6-Dec-07	<1	<1	<1	24	24	**38**	<0.5	7	<1	7	6	20	**50**
Champlain & Arlington	10-May-06	0.6	<1	<0.5	40	41		<0.5	29	<1	<15	14	43	
	11-Sep-06	2	<1	<0.5	40	42		<0.5	24	<1	<15	34	58	
	30-Nov-06	0.7	<1	<0.5	56	57		<0.5	28	<1	<15	36	64	
	14-Mar-07	0.4	<1	<0.5	36	36	**44**	<0.5	26	<1	6	32	64	**57**
	10-May-07	<1.0	<1	<1.0	33	33	**42**	<0.5	25	<1	2	22	49	**59**
	26-Sep-07	<1	<1	<1	35	35	**40**	<0.5	21	<1	3	23	47	**56**
	6-Dec-07	<1	<1	<1	83	83	**47**	<0.5	30	<1	6	64	100	**65**
10th & Woodland	10-May-06	0.6	<1	<0.5	34	35		<0.5	28	<1	<15	24	52	
	11-Sep-06	0.9	<1	<0.5	35	36		<0.5	19	<1	<15	32	51	
	30-Nov-06	0.7	<1	<0.5	60	61		<0.5	21	<1	<15	36	57	
	14-Mar-07	0.6	<1	<0.5	44	45	**44**	<0.5	28	<1	13	37	78	**60**
	10-May-07	<1.0	<1	<1.0	39	39	**45**	<0.5	29	<1	4	26	59	**61**
	26-Sep-07	<1	<1	<1	49	49	**49**	<0.5	36	<1	3	52	91	**71**
	6-Dec-07	<1	<1	<1	83	83	**54**	<0.5	37	<1	6	67	110	**85**

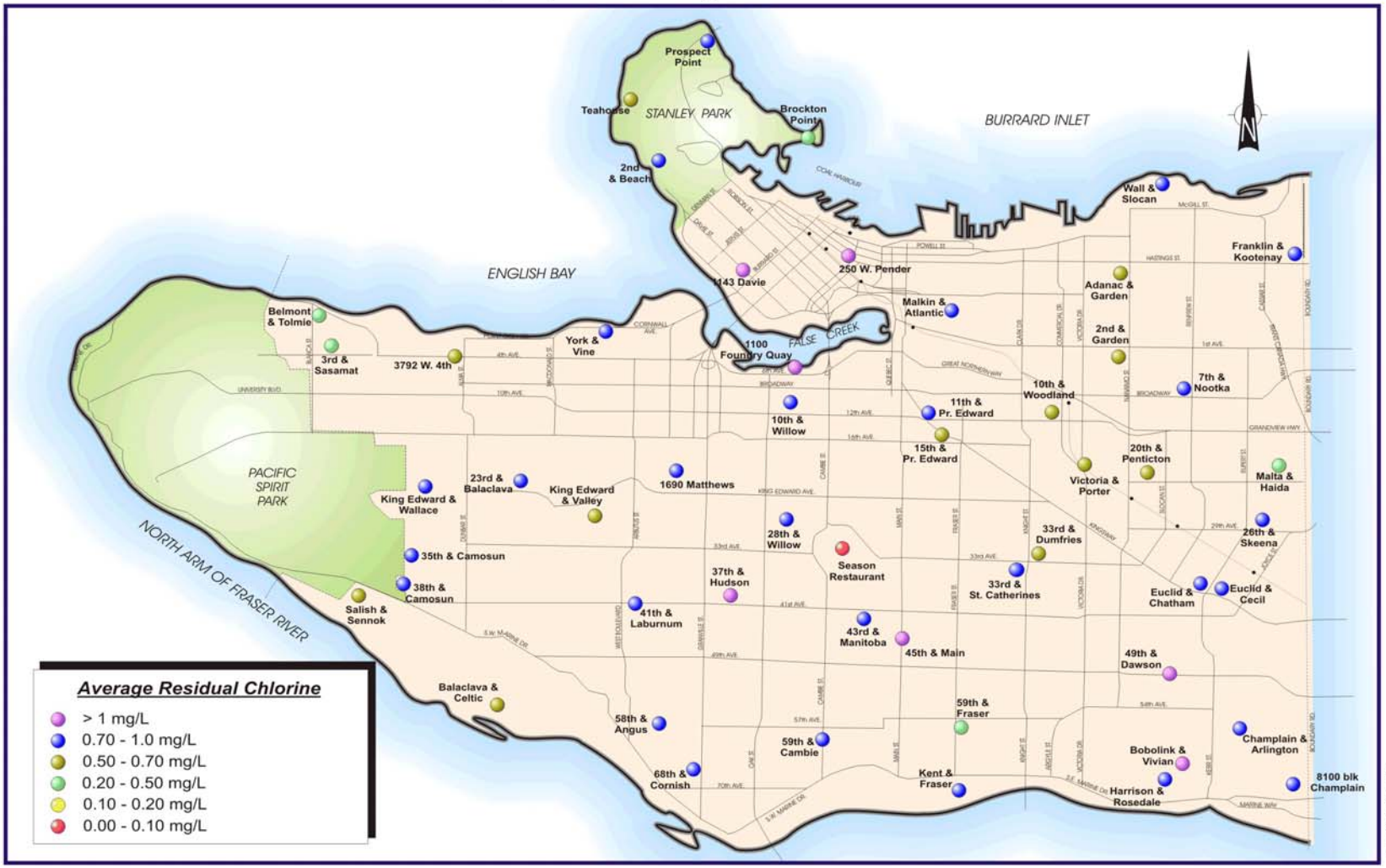
Sample	Date Sampled	THM (ppb)						HAA (ppb)						
		Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	Total Trihalomethanes	**Total THM Quarterly Average**	Dibromoacetic Acid	Dichloroacetic Acid	Monobromoacetic Acid	Monochloroacetic Acid	Trichloroacetic Acid	Total Haloacetic Acid	**Total HAA Quarterly Average**
1100 Foundry Quay	10-May-06	<0.4	<1	<0.5	20	20		<0.5	16	<1	<15	17	33	
	11-Sep-06	0.5	<1	<0.5	20	21		<0.5	19	<1	<15	17	36	
	30-Nov-06	0.7	<1	<0.5	69	70		<0.5	27	<1	<15	43	70	
	14-Mar-07	<0.4	<1	<0.5	38	38	**37**	<0.5	26	<1	8	29	63	**51**
	10-May-07	<1.0	<1	<1.0	32	32	**40**	<0.5	25	<1	6	23	54	**56**
	26-Sep-07	<1	<1	<1	25	25	**41**	<0.5	15	<1	2	13	30	**54**
	6-Dec-07	<1	<1	<1	84	84	**45**	<0.5	31	<1	3	65	99	**62**
N. Kent & Fraser	10-May-06	0.6	<1	<0.5	41	42								
	11-Sep-06	1	<1	<0.5	27	28								
	30-Nov-06	0.6	<1	<0.5	36	37								
	14-Mar-07	0.4	<1	<0.5	37	37	**36**							
	10-May-07	<1.0	<1	<1.0	42	42	**36**							
	26-Sep-07	1	<1	<1	36	37	**38**							
	6-Dec-07	<1	<1	<1	20	20	**34**							
Salish & Sennok	10-May-06	0.4	<1	<0.5	26	26		<0.5	16	<1	<15	19	35	
	11-Sep-06	0.6	<1	<0.5	25	26		<0.5	20	<1	<15	26	46	
	30-Nov-06	0.8	<1	<0.5	63	64		<0.5	29	<1	<15	45	74	
	14-Mar-07	0.7	<1	<0.5	59	60	**44**	<0.5	33	<1	8	49	90	**61**
	10-May-07	<1.0	<1	<1.0	42	42	**48**	<0.5	31	<1	2	34	67	**69**
	26-Sep-07	<1	<1	<1	32	32	**50**	<0.5	20	<1	3	33	56	**72**
	6-Dec-07	<1	<1	<1	93	93	**57**	<0.5	21	<1	4	52	77	**73**
23rd & Balaclava	10-May-06	0.6	<1	<0.5	34	35		<0.5	19	<1	<15	20	39	
	11-Sep-06	2	<1	<0.5	29	31		<0.5	23	<1	<15	23	46	
	30-Nov-06	0.7	<1	<0.5	54	55		<0.5	22	<1	<15	23	45	
	14-Mar-07	0.4	<1	<0.5	31	31	**38**	<0.5	22	<1	10	23	55	**46**
	10-May-07	<1.0	<1	<1.0	37	37	**39**	<0.5	27	<1	3	26	56	**51**
	26-Sep-07	37	<1	<1	37	74	**49**	<0.5	30	<1	3	38	71	**57**
	6-Dec-07	<1	<1	<1	19	19	**40**	<0.5	7	<1	8	5	20	**51**

Sample	Date Sampled	THM (ppb)						HAA (ppb)						
		Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	Total Trihalomethanes	**Total THM Quarterly Average**	Dibromoacetic Acid	Dichloroacetic Acid	Monobromoacetic Acid	Monochloroacetic Acid	Trichloroacetic Acid	Total Haloacetic Acid	**Total HAA Quarterly Average**
Euclid & Chatham	10-May-06	0.8	<1	<0.5	38	39		<0.5	25	<1	<15	28	53	
	11-Sep-06	1	<1	<0.5	37	38		<0.5	20	<1	<15	25	45	
	30-Nov-06	0.5	<1	<0.5	18	19		<0.5	25	<1	<15	26	51	
	14-Mar-07	0.5	<1	<0.5	36	37	**33**	<0.5	25	<1	11	33	69	**55**
	10-May-07	<1.0	<1	<1.0	57	57	**38**	<0.5	28	<1	4	35	67	**58**
	26-Sep-07	<1	<1	<1	34	34	**37**	<0.5	16	<1	4	20	40	**57**
	6-Dec-07	<1	<1	<1	25	25	**38**	<0.5	10	<1	5	8	23	**50**
Belmont & Tolmie	10-May-06	0.6	<1	<0.5	44	45								
	11-Sep-06	0.8	<1	<0.5	30	31								
	1-Dec-06	0.8	<1	<0.5	50	51								
	14-Mar-07	0.7	<1	<0.5	60	61	**47**							
	10-May-07	<1.0	<1	<1.0	37	37	**45**							
	26-Sep-07	<1	<1	<1	41	41	**48**							
	6-Dec-07	<1	<1	<1	23	23	**41**							

Appendix E
Chlorine Residual levels by Sampling Site

CITY OF VANCOUVER

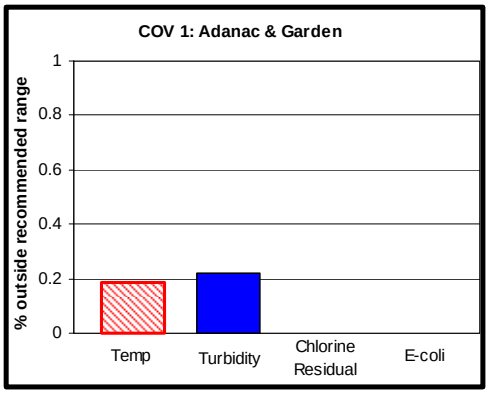
Water Quality Data - Average Residual Chlorine 2007

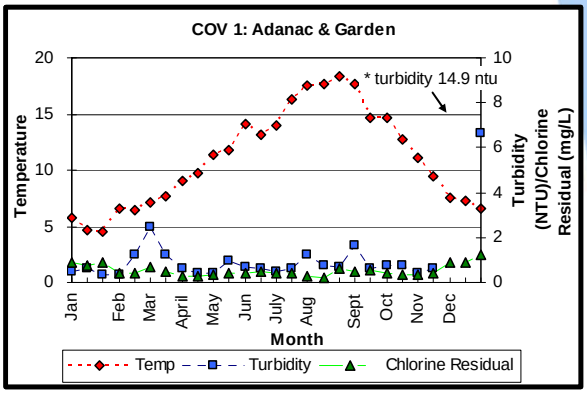


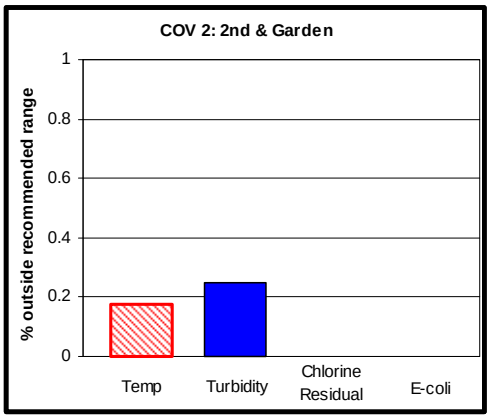
April 10/2007

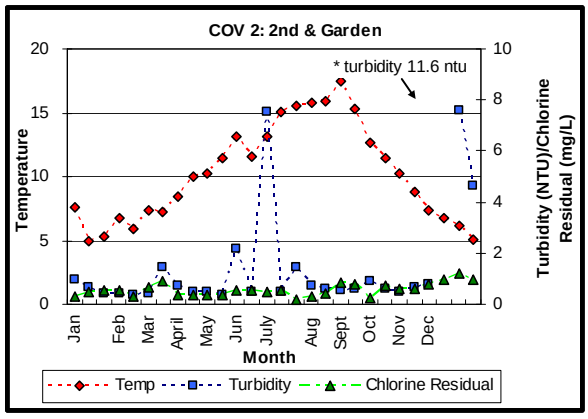
N.T.S.

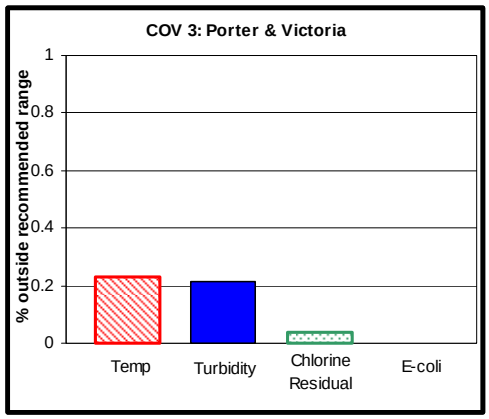
Appendix F
Sampling Site Characterization

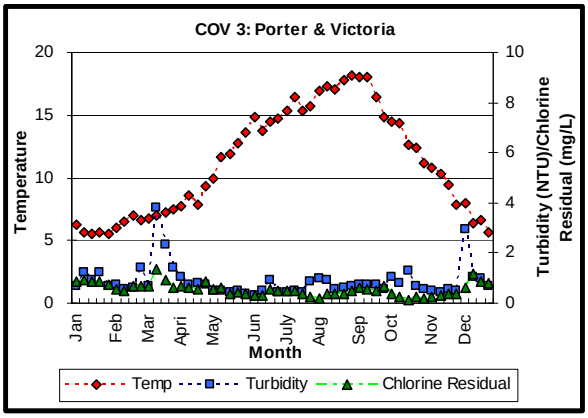

COV 1: Adanac & Garden
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

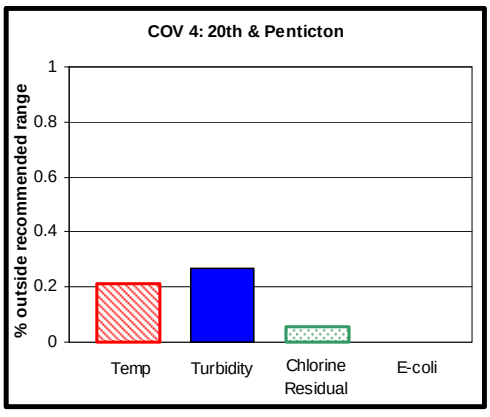

COV 1: Adanac & Garden
* turbidity 14.9 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

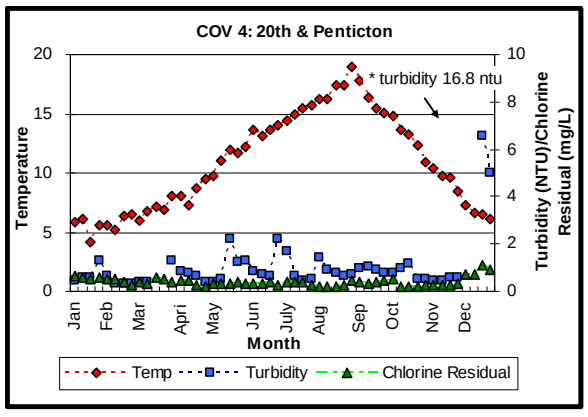

COV 2: 2nd & Garden
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

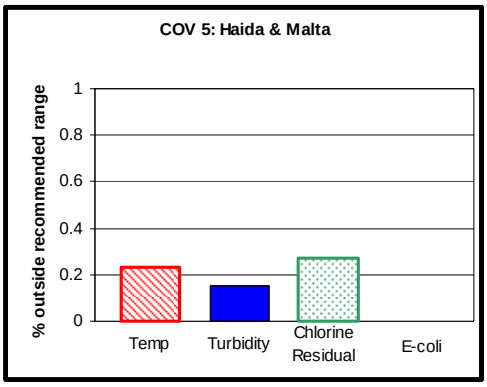

COV 2: 2nd & Garden
* turbidity 11.6 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

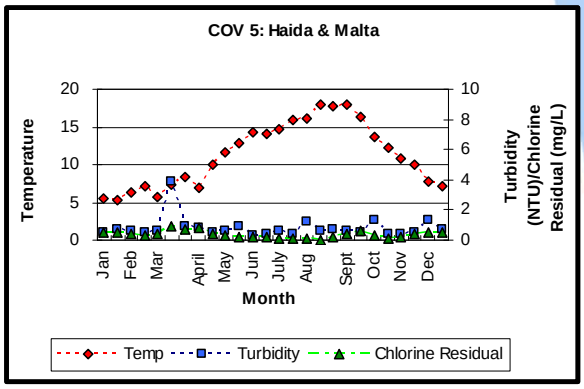

COV 3: Porter & Victoria
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

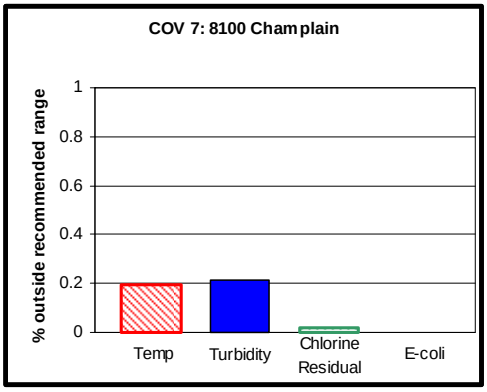

COV 3: Porter & Victoria
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

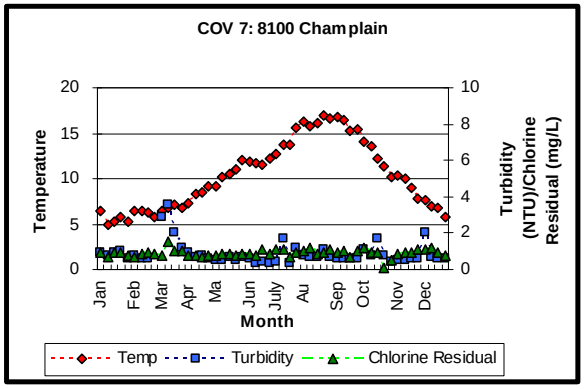

COV 4: 20th & Penticton
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

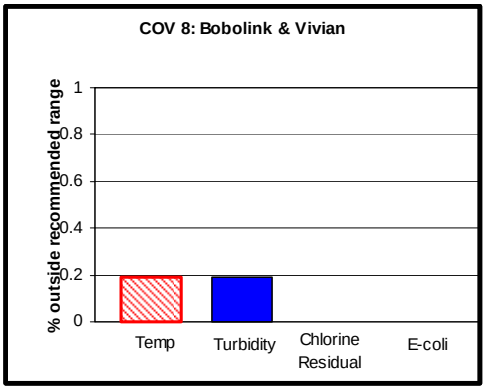

COV 4: 20th & Penticton
* turbidity 16.8 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

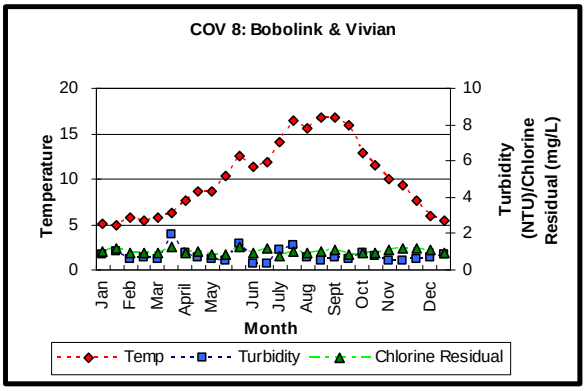

COV 5: Haida & Malta
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

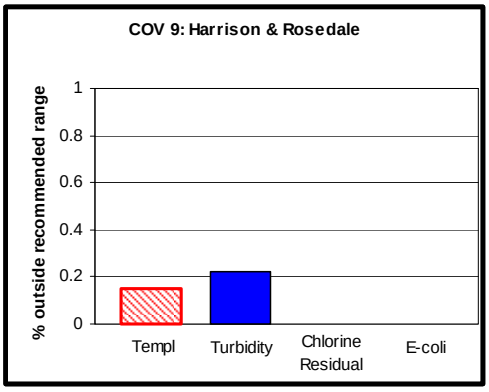

COV 5: Haida & Malta
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

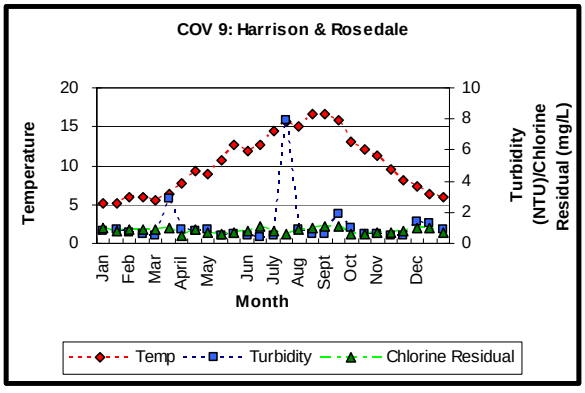

COV 7: 8100 Champlain
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

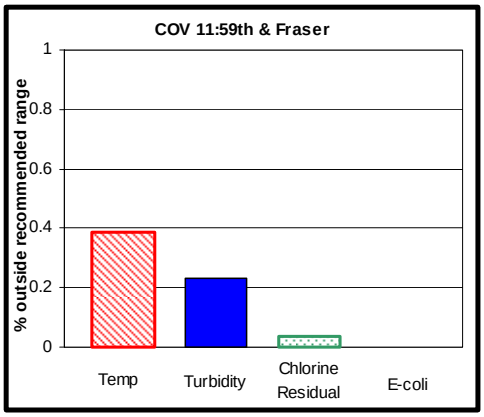

COV 7: 8100 Champlain
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

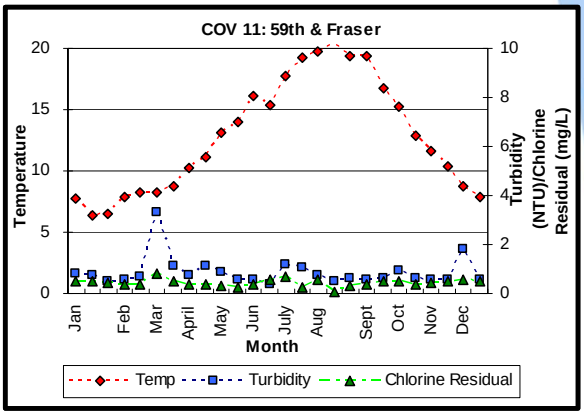

COV 8: Bobolink & Vivian
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

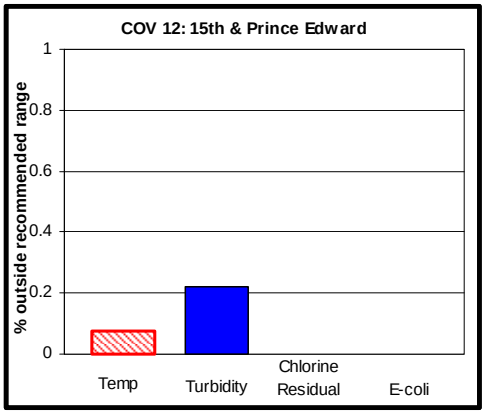

COV 8: Bobolink & Vivian
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

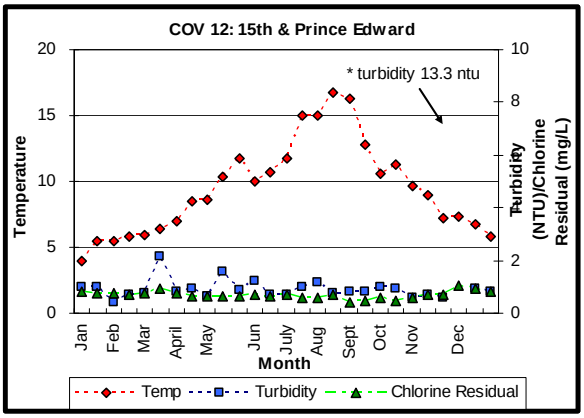

COV 9: Harrison & Rosedale
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Templ
Turbidity
Chlorine Residual
E-coli

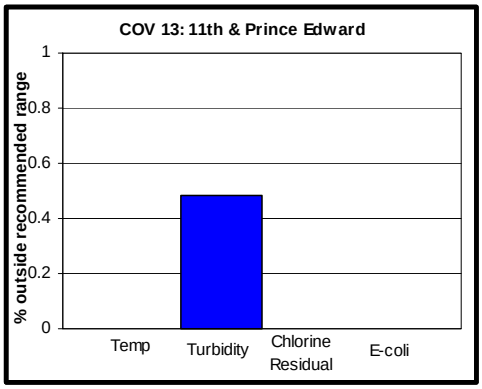

COV 9: Harrison & Rosedale
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

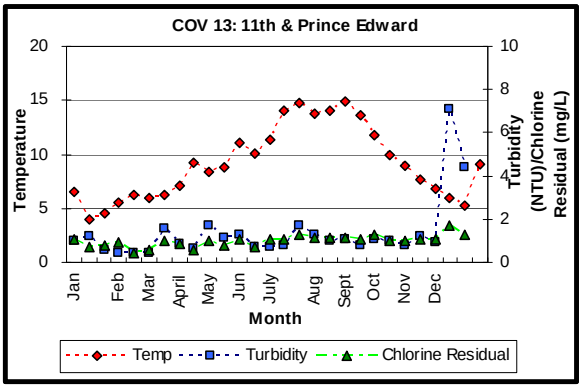

COV 11:59th & Fraser
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

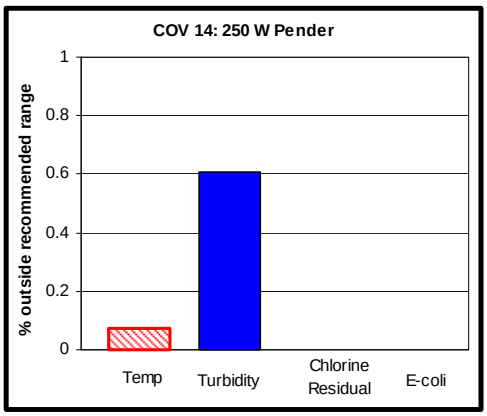

COV 11: 59th & Fraser
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

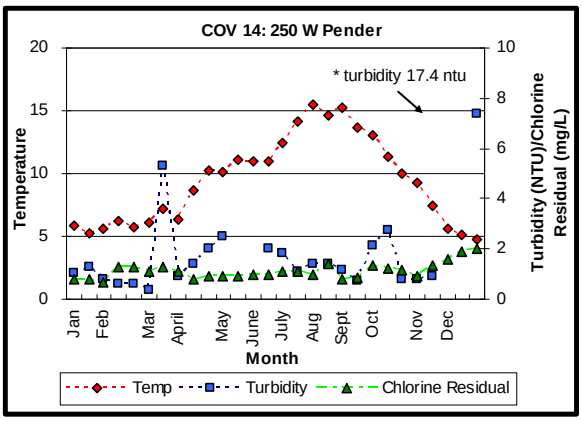

COV 12: 15th & Prince Edward
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

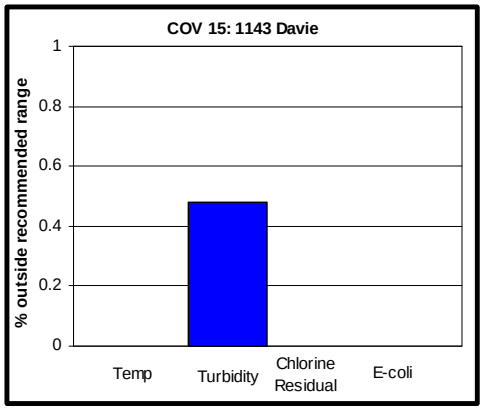

COV 12: 15th & Prince Edward
* turbidity 13.3 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

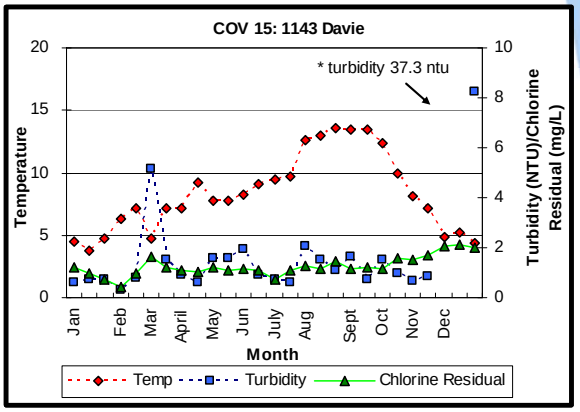

COV 13: 11th & Prince Edward
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

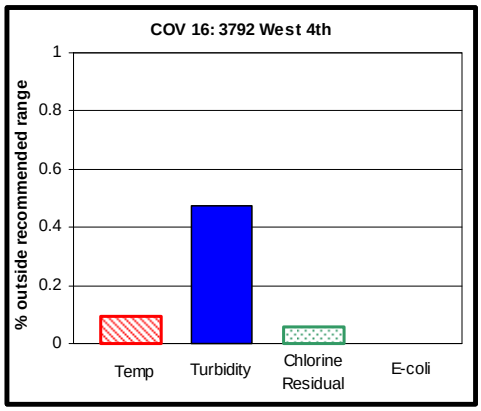

COV 13: 11th & Prince Edward
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

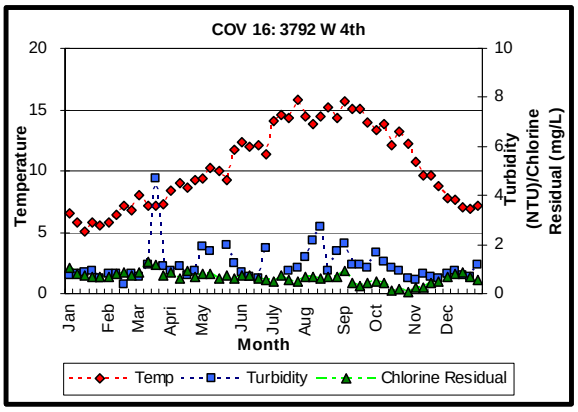

COV 14: 250 W Pender
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

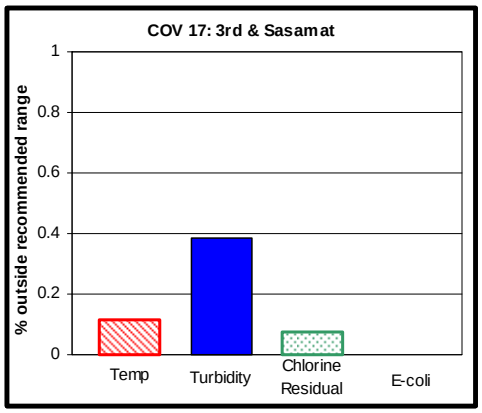

COV 14: 250 W Pender
* turbidity 17.4 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
June
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

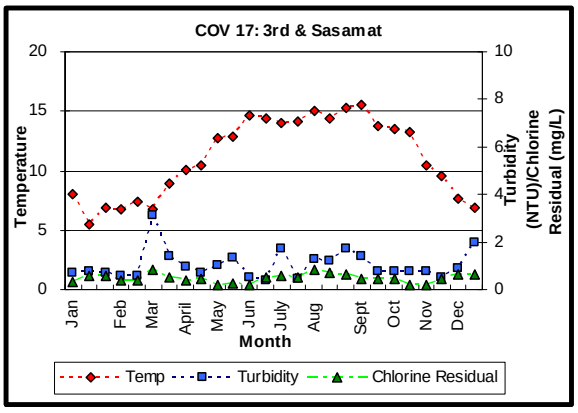

COV 15: 1143 Davie
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

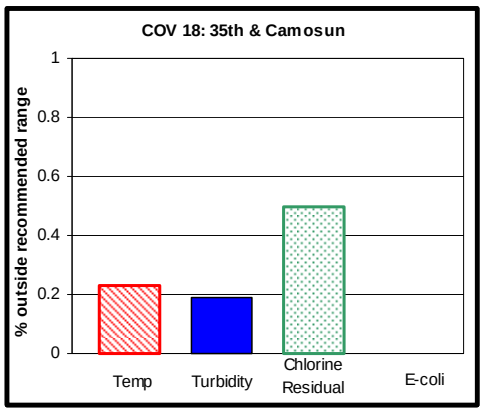

COV 15: 1143 Davie
* turbidity 37.3 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

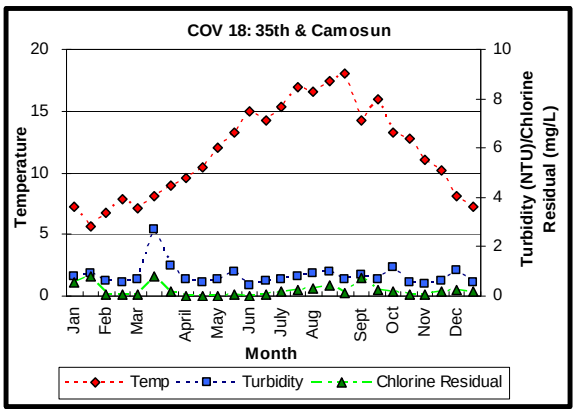

COV 16: 3792 West 4th
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

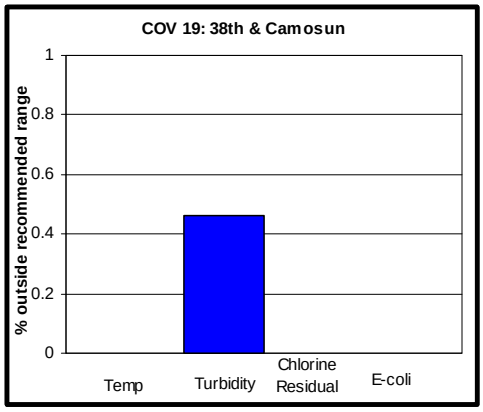

COV 16: 3792 W 4th
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

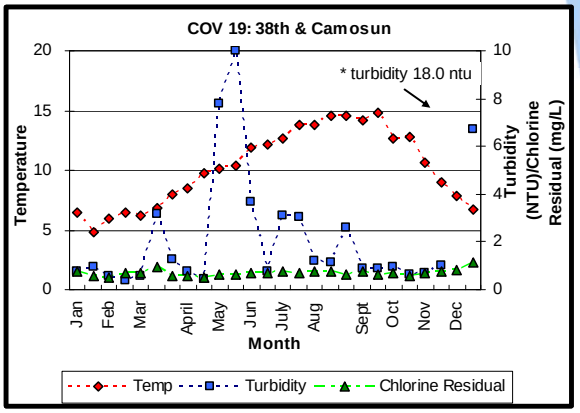

COV 17: 3rd & Sasamat
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

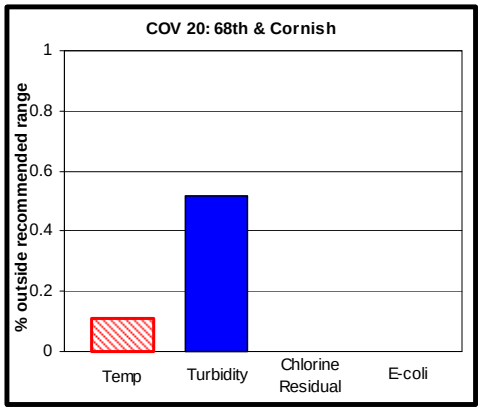

COV 17: 3rd & Sasamat
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

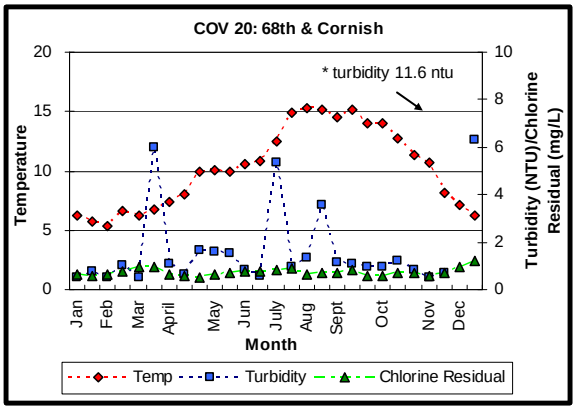

COV 18: 35th & Camosun
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

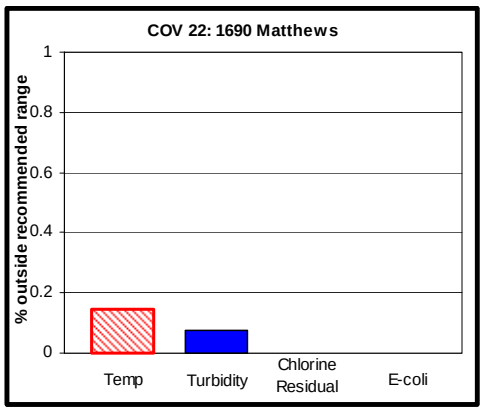

COV 18: 35th & Camosun
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

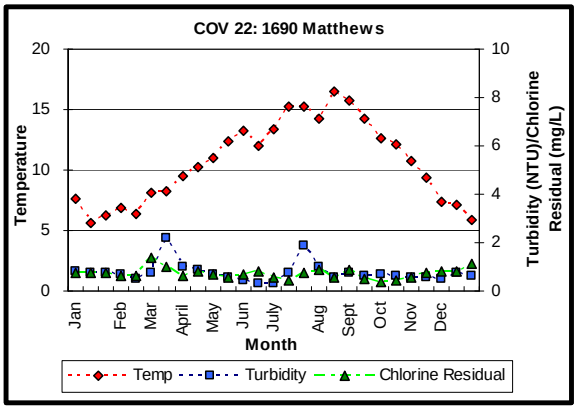

COV 19: 38th & Camosun
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

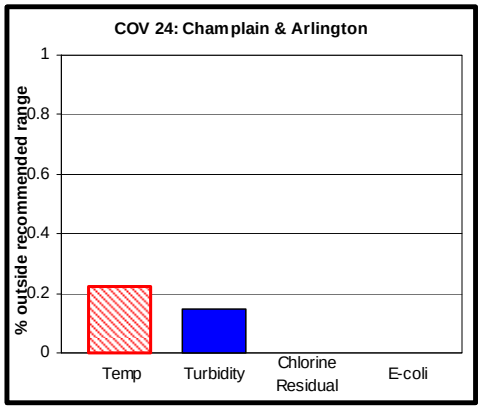

COV 19: 38th & Camosun
* turbidity 18.0 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

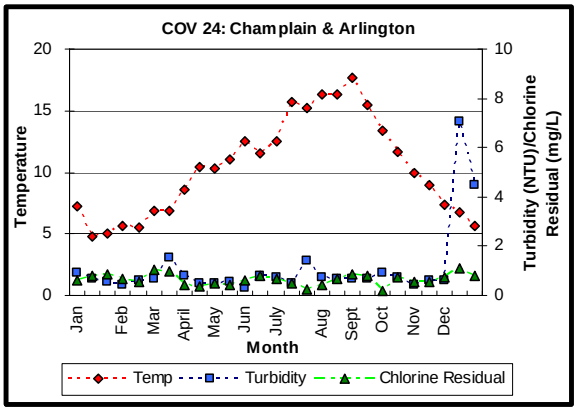

COV 20: 68th & Cornish
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

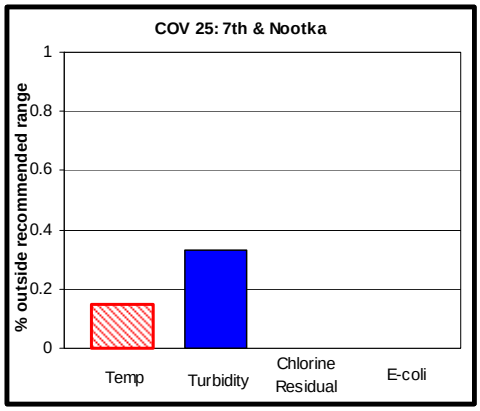

COV 20: 68th & Cornish
* turbidity 11.6 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

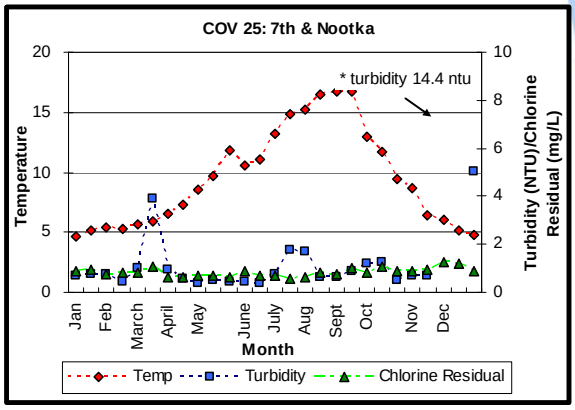

COV 22: 1690 Matthews
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

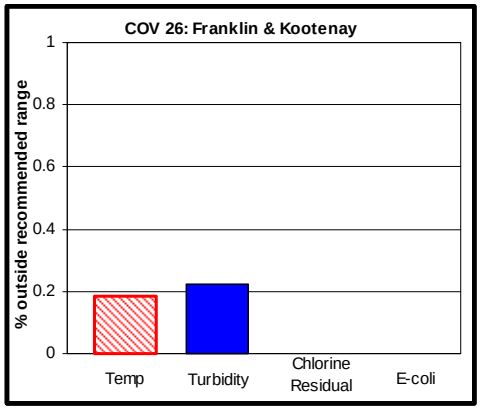

COV 22: 1690 Matthews
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

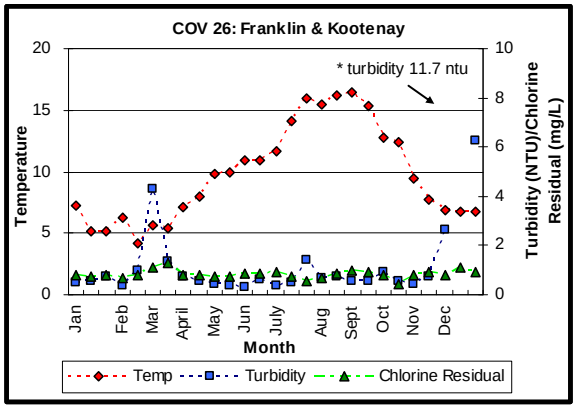

COV 24: Champlain & Arlington
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

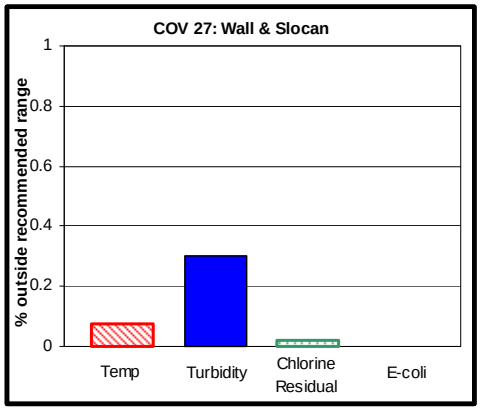

COV 24: Champlain & Arlington
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

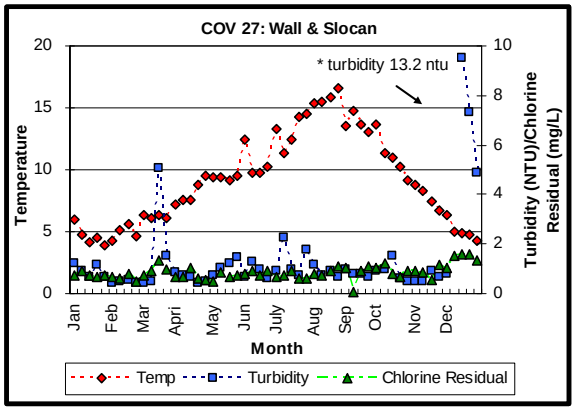

COV 25: 7th & Nootka
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

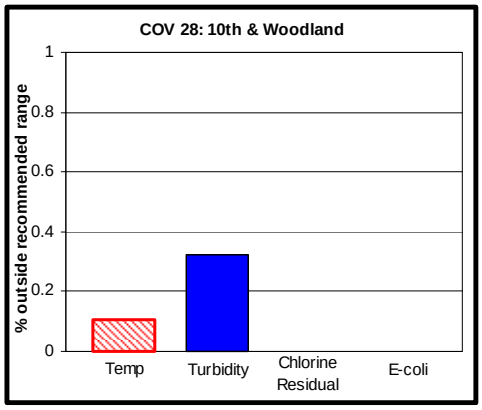

COV 25: 7th & Nootka
* turbidity 14.4 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
March
April
May
June
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

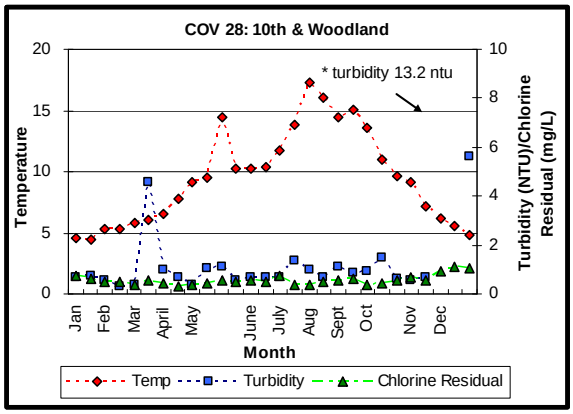

COV 26: Franklin & Kootenay
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

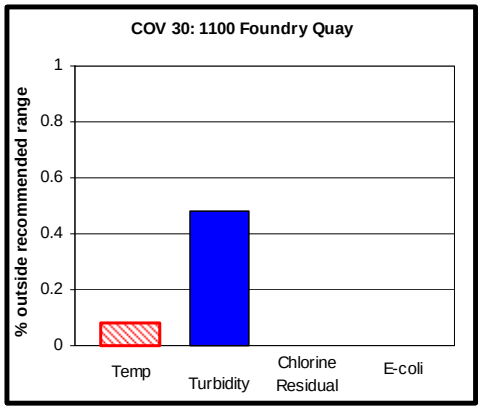

COV 26: Franklin & Kootenay
* turbidity 11.7 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

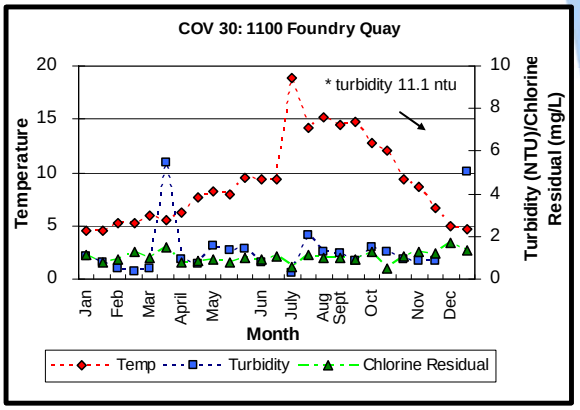

COV 27: Wall & Slocan
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

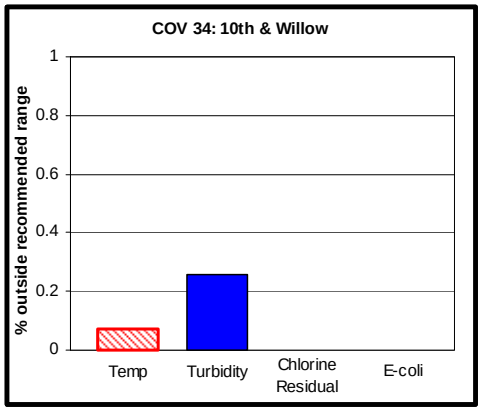

COV 27: Wall & Slocan
* turbidity 13.2 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

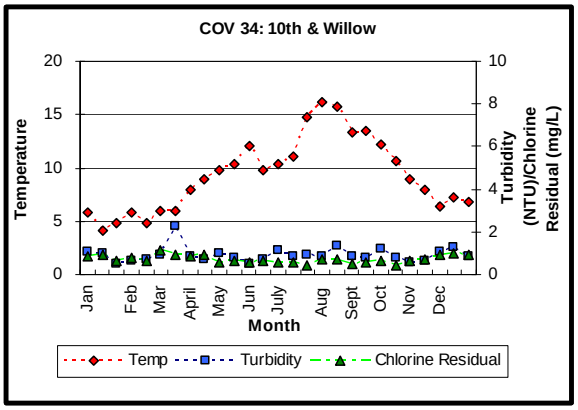

COV 28: 10th & Woodland
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

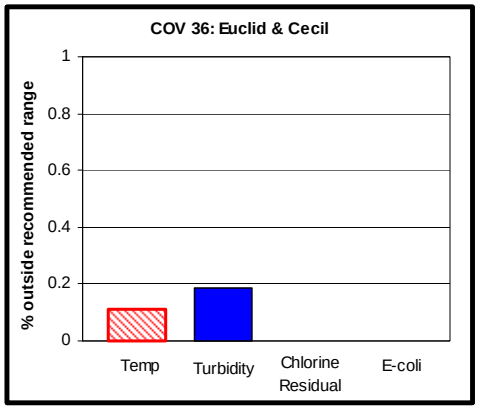

COV 28: 10th & Woodland
* turbidity 13.2 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
June
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

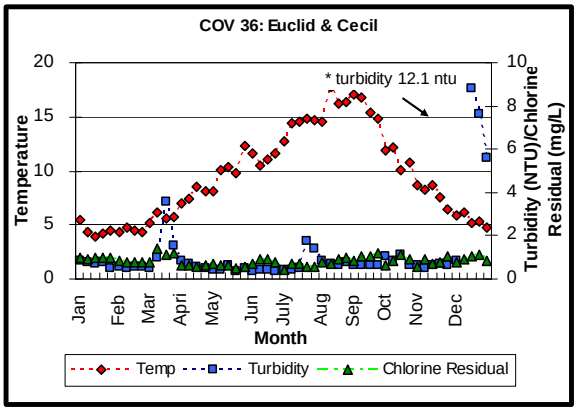

COV 30: 1100 Foundry Quay
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

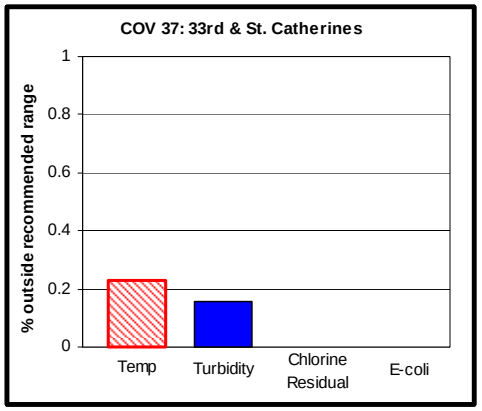

COV 30: 1100 Foundry Quay
* turbidity 11.1 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

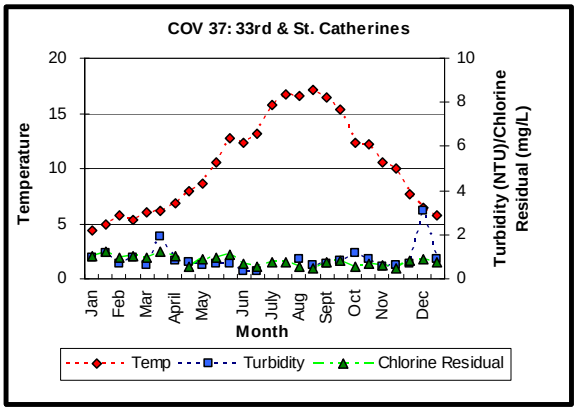

COV 34: 10th & Willow
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

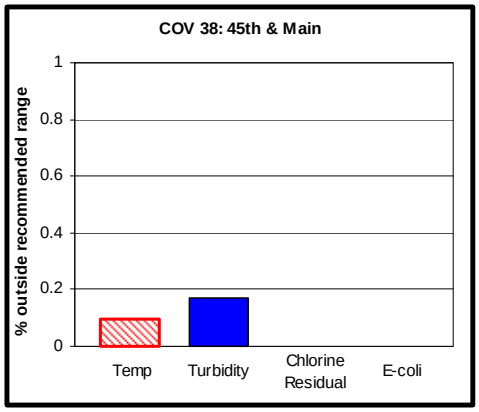

COV 34: 10th & Willow
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

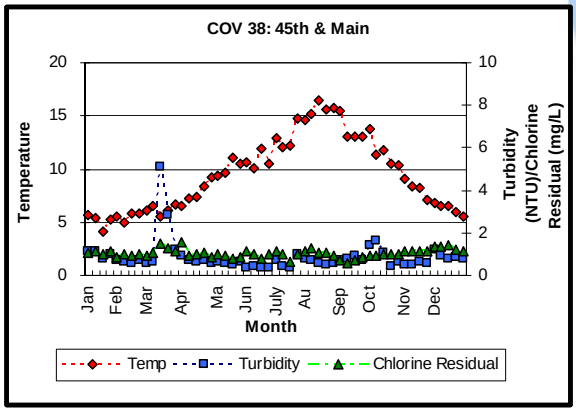

COV 36: Euclid & Cecil
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

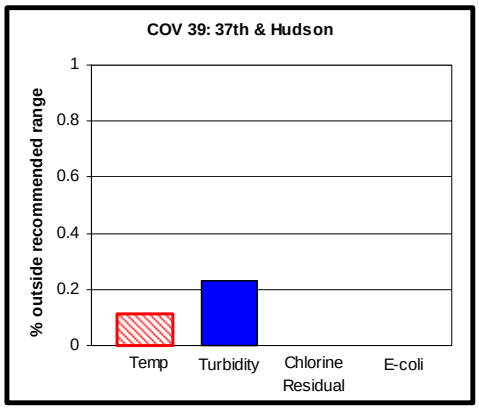

COV 36: Euclid & Cecil
* turbidity 12.1 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

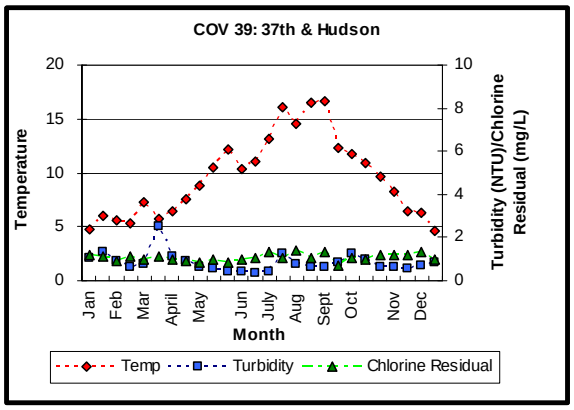

COV 37: 33rd & St. Catherines
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

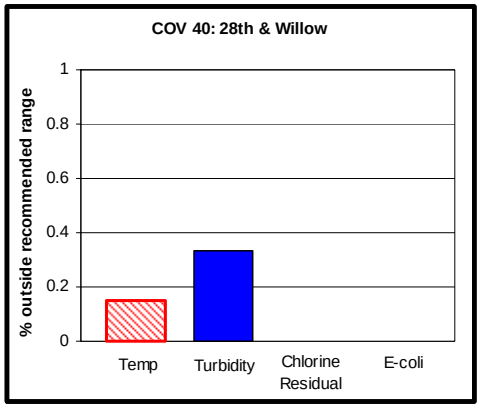

COV 37: 33rd & St. Catherines
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

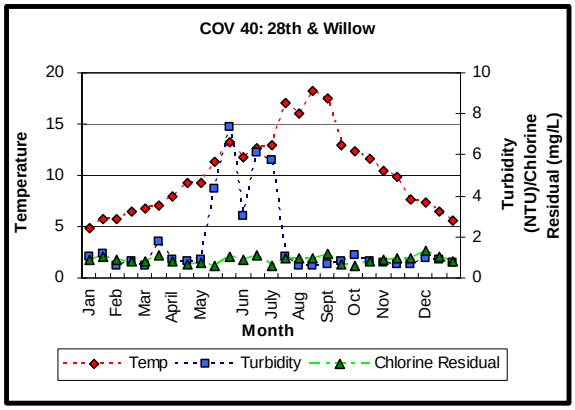

COV 38: 45th & Main
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

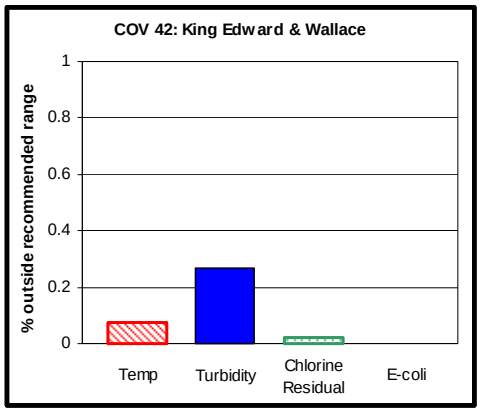

COV 38: 45th & Main
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

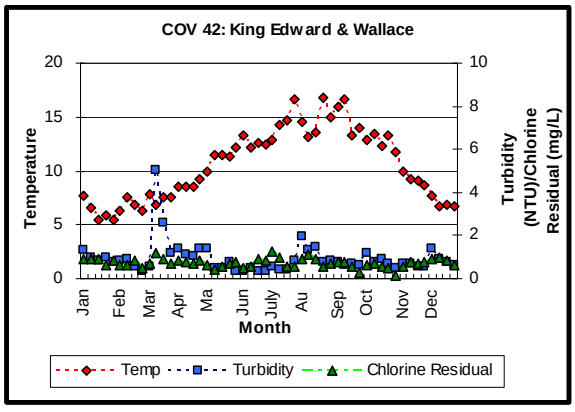

COV 39: 37th & Hudson
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

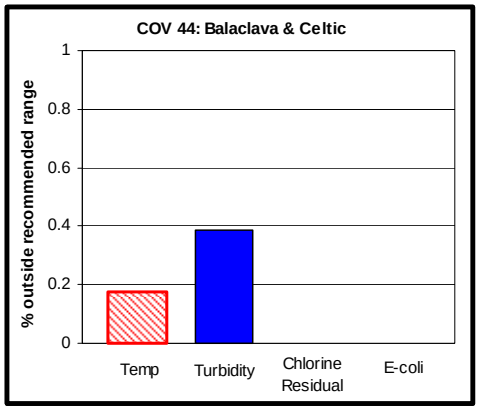

COV 39: 37th & Hudson
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

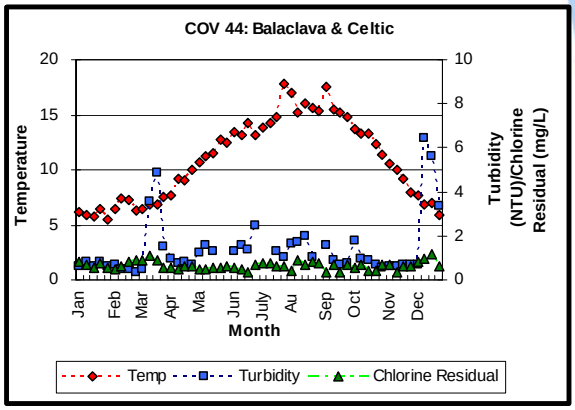

COV 40: 28th & Willow
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

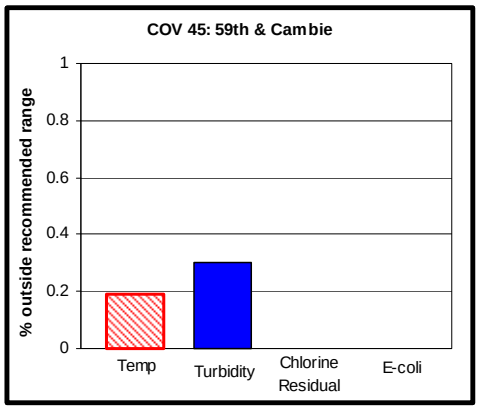

COV 40: 28th & Willow
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

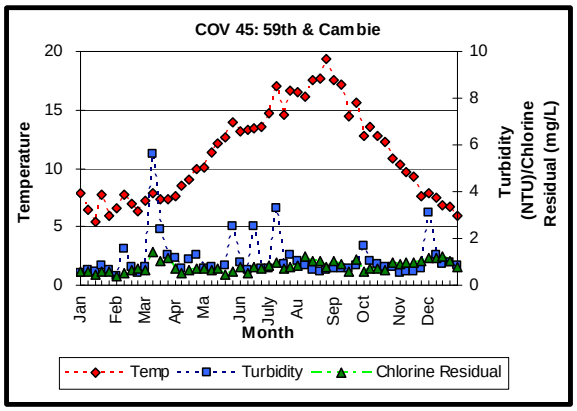

COV 42: King Edward & Wallace
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

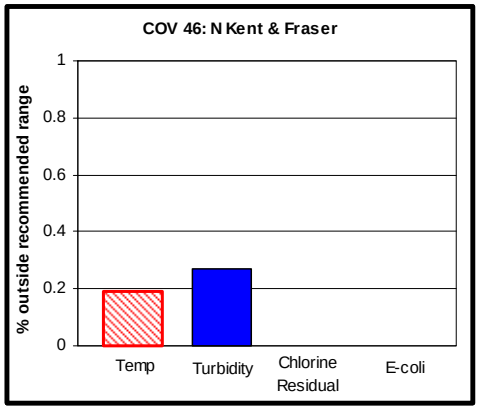

COV 42: King Edward & Wallace
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

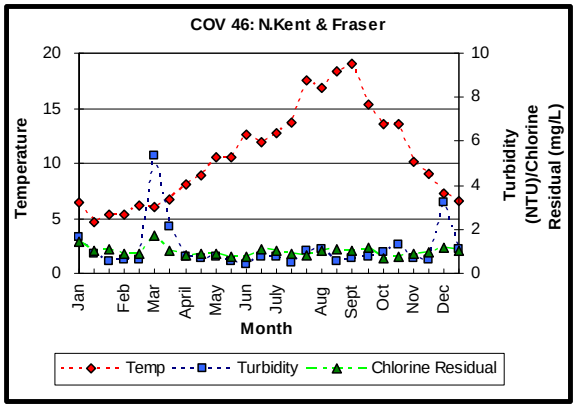

COV 44: Balaclava & Celtic
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

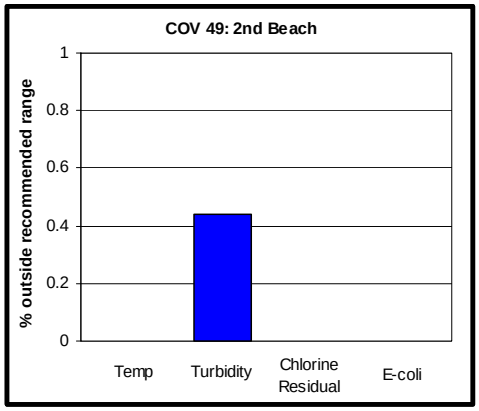

COV 44: Balaclava & Celtic
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

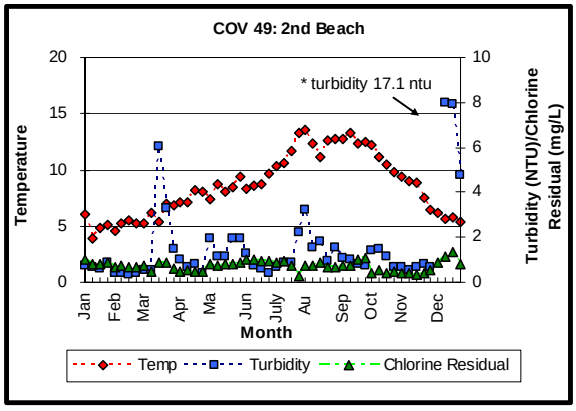

COV 45: 59th & Cambie
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

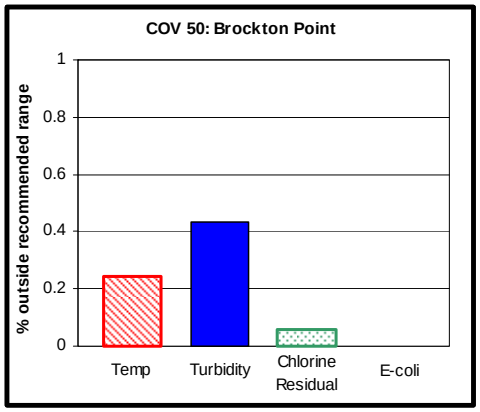

COV 45: 59th & Cambie
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

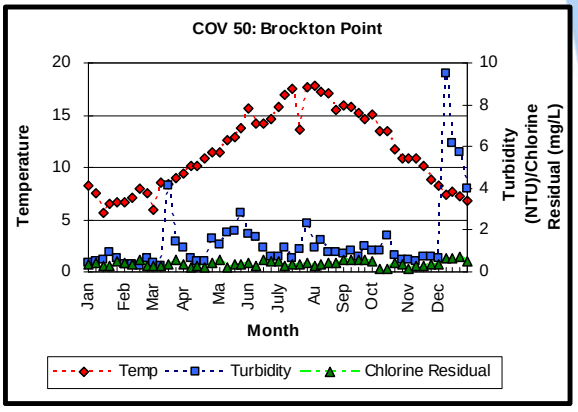

COV 46: N Kent & Fraser
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

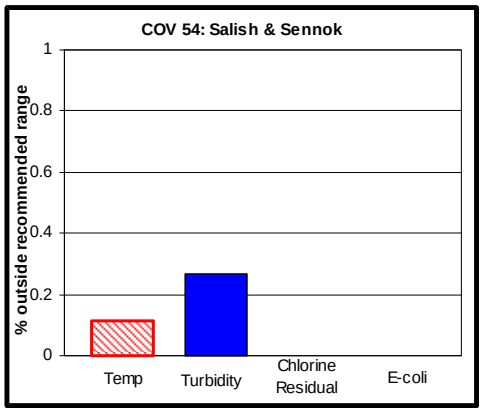

COV 46: N.Kent & Fraser
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

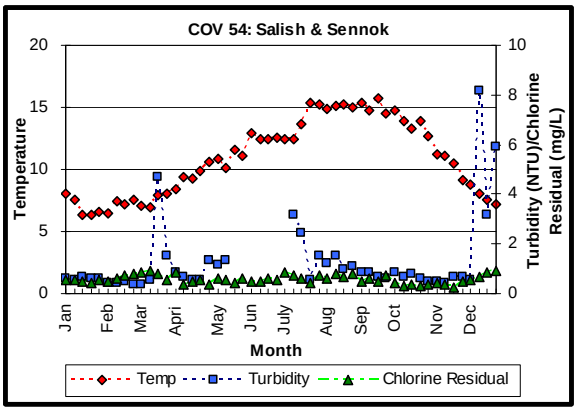

COV 49: 2nd Beach
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

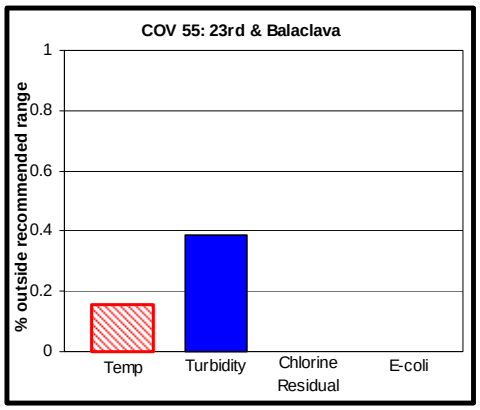

COV 49: 2nd Beach
* turbidity 17.1 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

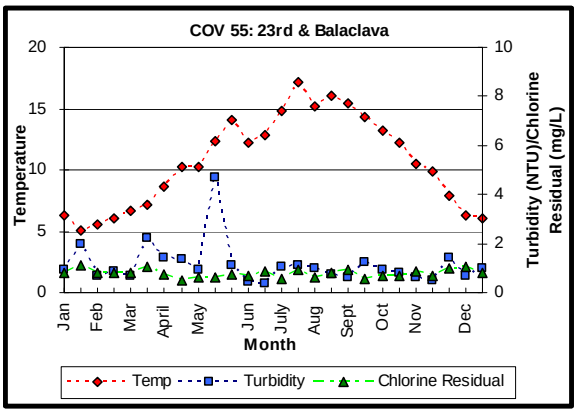

COV 50: Brockton Point
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

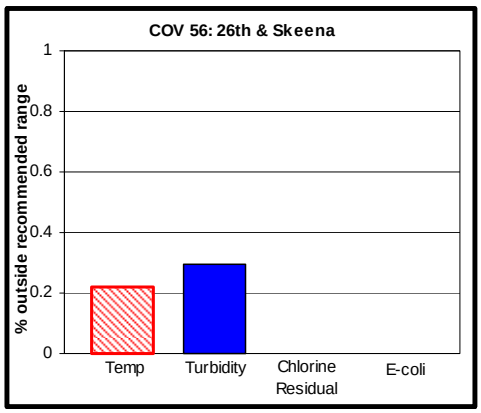

COV 50: Brockton Point
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

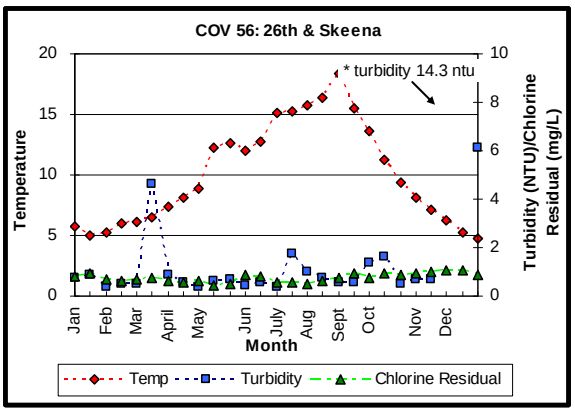

COV 54: Salish & Sennok
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

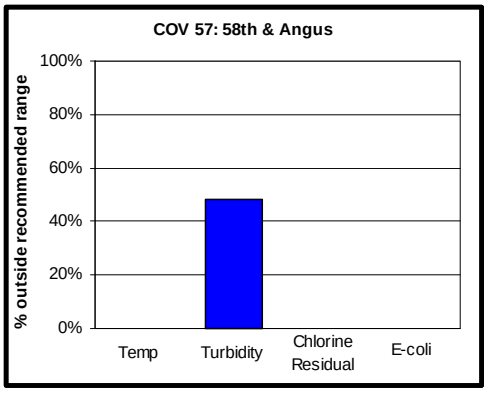

COV 54: Salish & Sennok
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

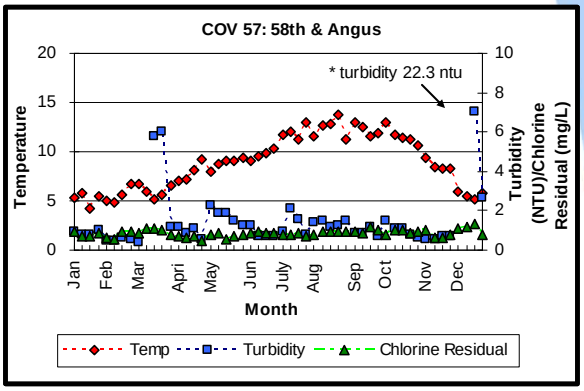

COV 55: 23rd & Balaclava
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

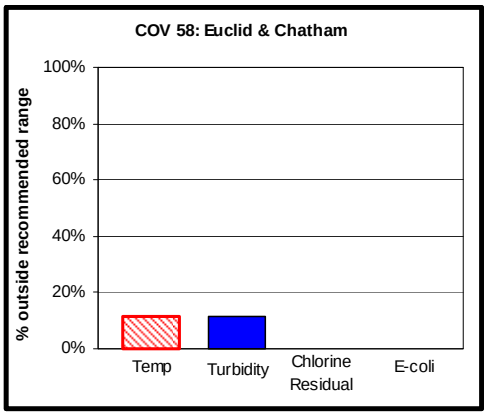

COV 55: 23rd & Balaclava
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

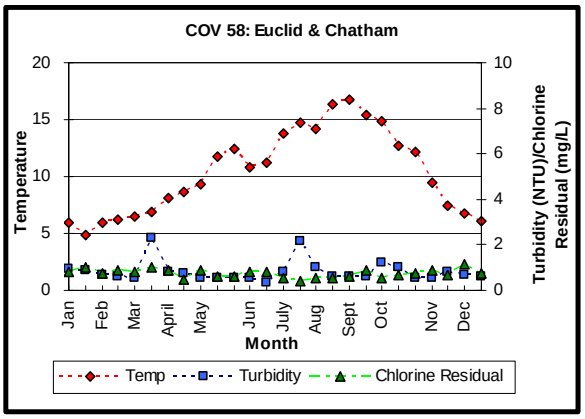

COV 56: 26th & Skeena
% outside recommended range
1
0.8
0.6
0.4
0.2
0
Temp
Turbidity
Chlorine Residual
E-coli

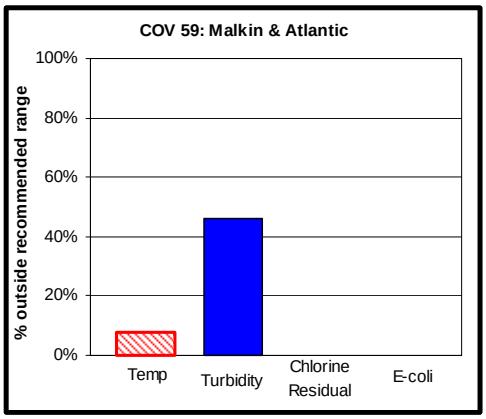

COV 56: 26th & Skeena
* turbidity 14.3 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
20
15
10
5
0
10
8
6
4
2
0
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Month
Temp
Turbidity
Chlorine Residual

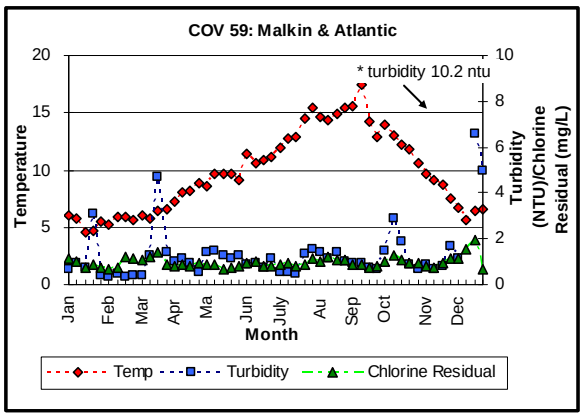

COV 57: 58th & Angus
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

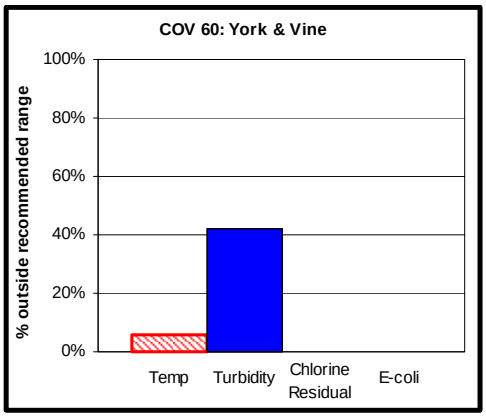

COV 57: 58th & Angus
* turbidity 22.3 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

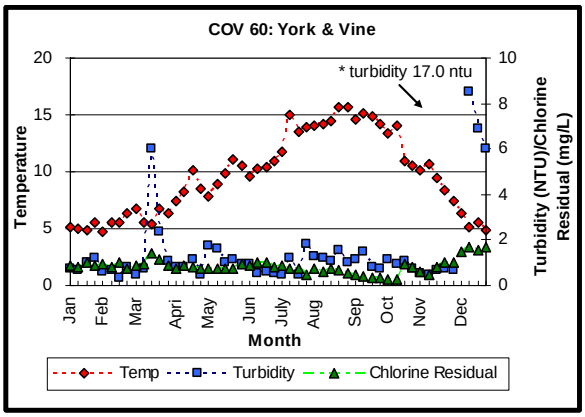

COV 58: Euclid & Chatham
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

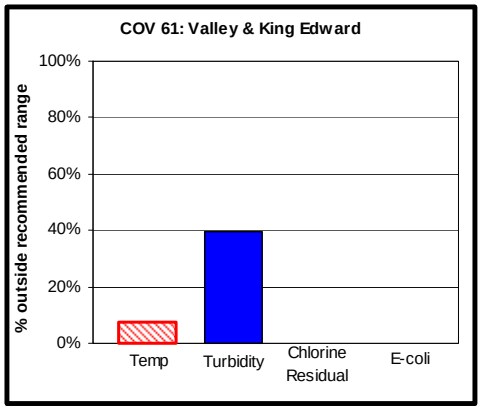

COV 58: Euclid & Chatham
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
April
May
Jun
July
Aug
Sept
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

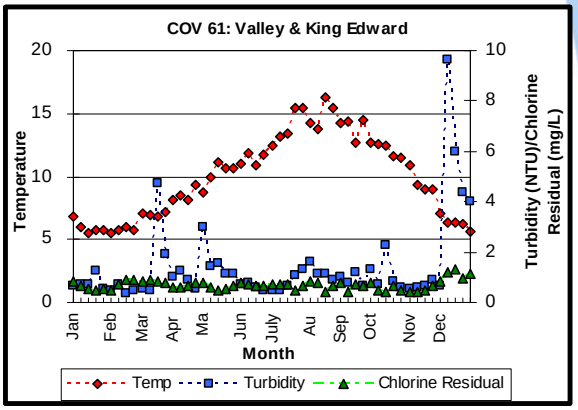

COV 59: Malkin & Atlantic
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

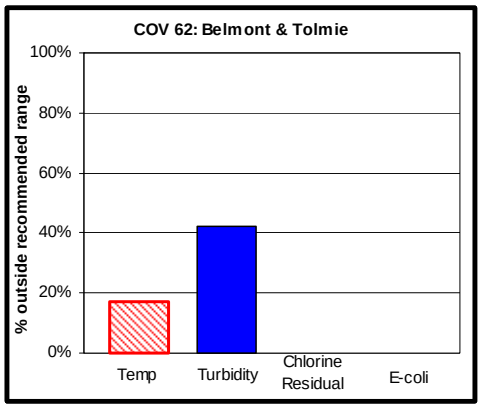

COV 59: Malkin & Atlantic
* turbidity 10.2 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

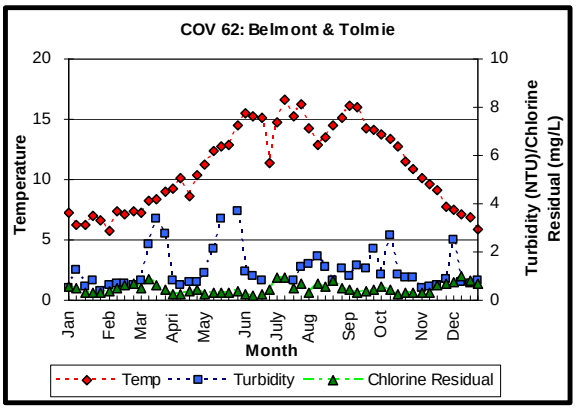

COV 60: York & Vine
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

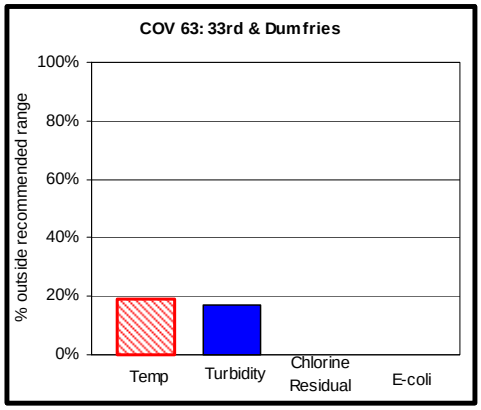

COV 60: York & Vine
* turbidity 17.0 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

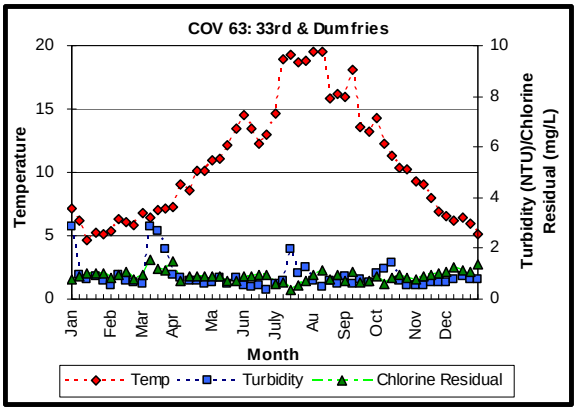

COV 61: Valley & King Edward
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

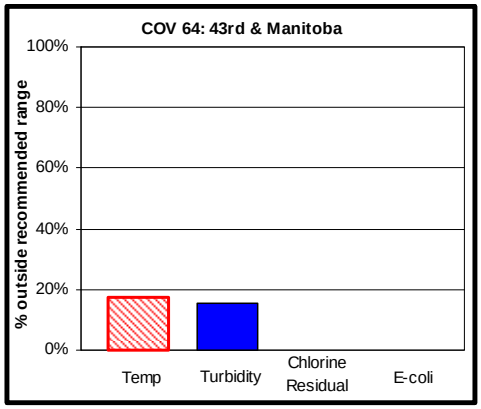

COV 61: Valley & King Edward
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

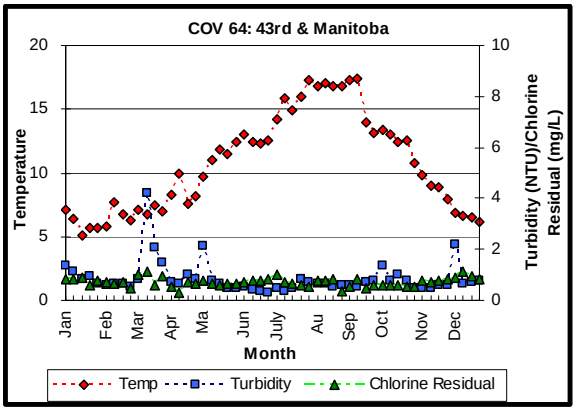

COV 62: Belmont & Tolmie
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

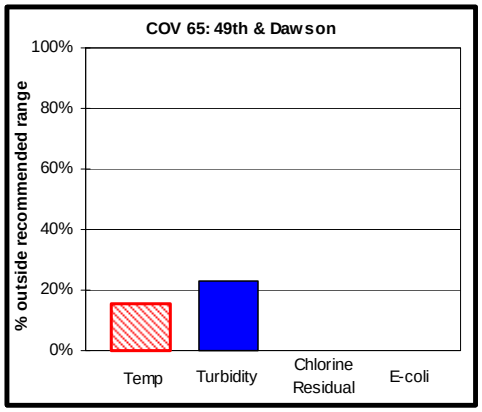

COV 62: Belmont & Tolmie
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

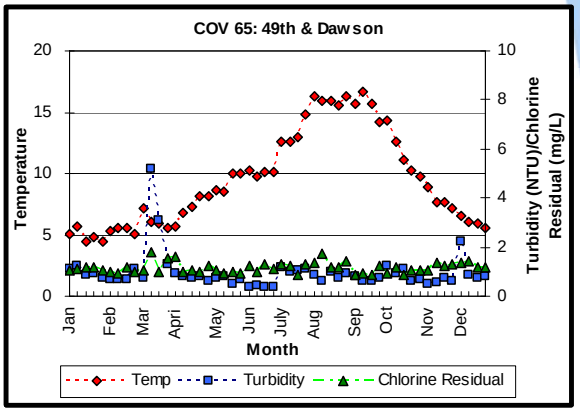

COV 63: 33rd & Dumfries
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

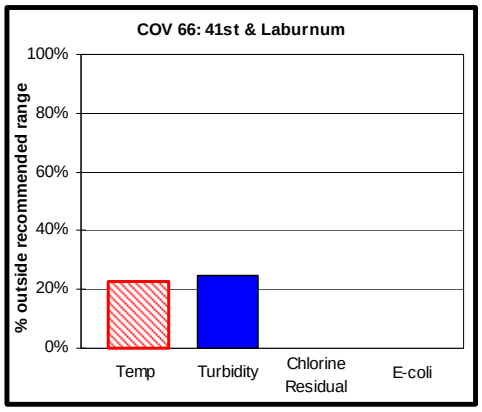

COV 63: 33rd & Dumfries
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

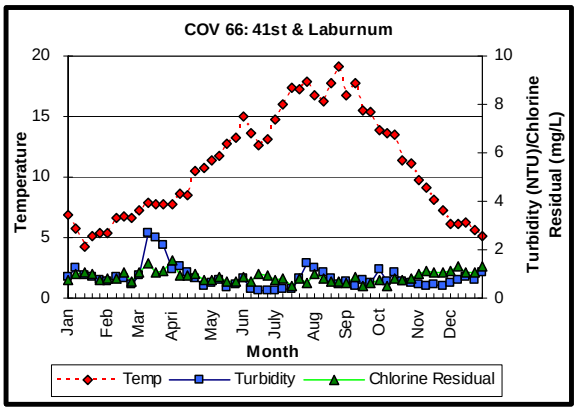

COV 64: 43rd & Manitoba
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

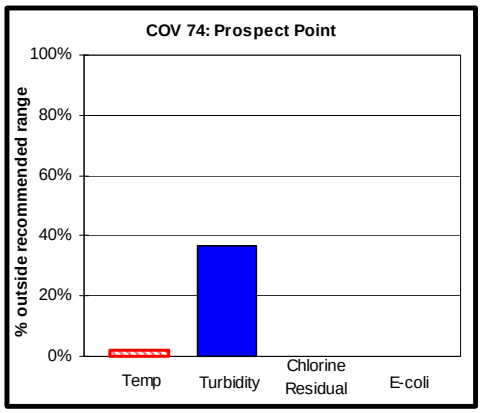

COV 64: 43rd & Manitoba
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apr
Ma
Jun
July
Au
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

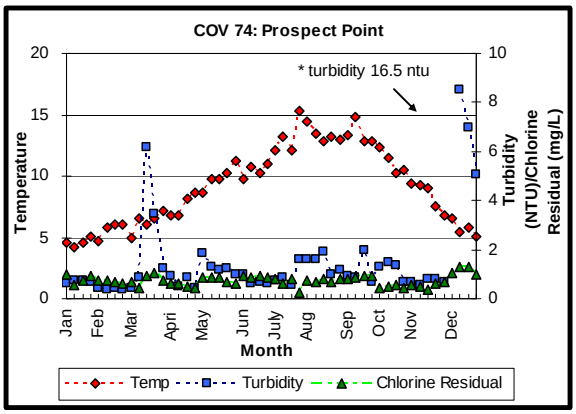

COV 65: 49th & Dawson
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli

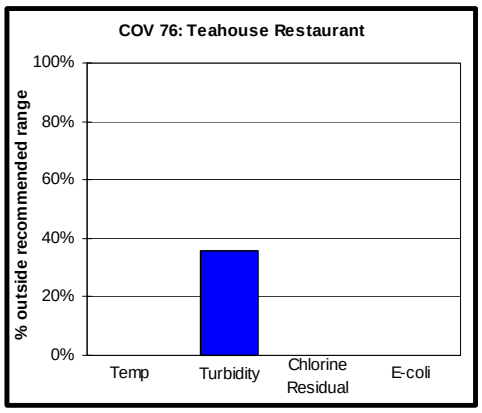

COV 65: 49th & Dawson
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual

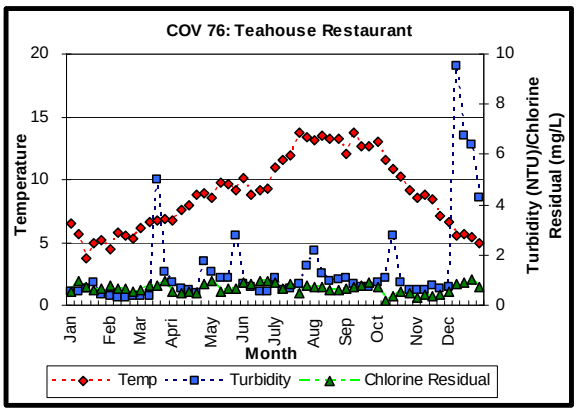

COV 66: 41st & Laburnum
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli


COV 66: 41st & Laburnum
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual


COV 74: Prospect Point
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli


COV 74: Prospect Point
* turbidity 16.5 ntu
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual


COV 76: Teahouse Restaurant
% outside recommended range
100%
80%
60%
40%
20%
0%
Temp
Turbidity
Chlorine Residual
E-coli


COV 76: Teahouse Restaurant
Temperature
Turbidity (NTU)/Chlorine Residual (mg/L)
Month
Jan
Feb
Mar
Apri
May
Jun
July
Aug
Sep
Oct
Nov
Dec
Temp
Turbidity
Chlorine Residual