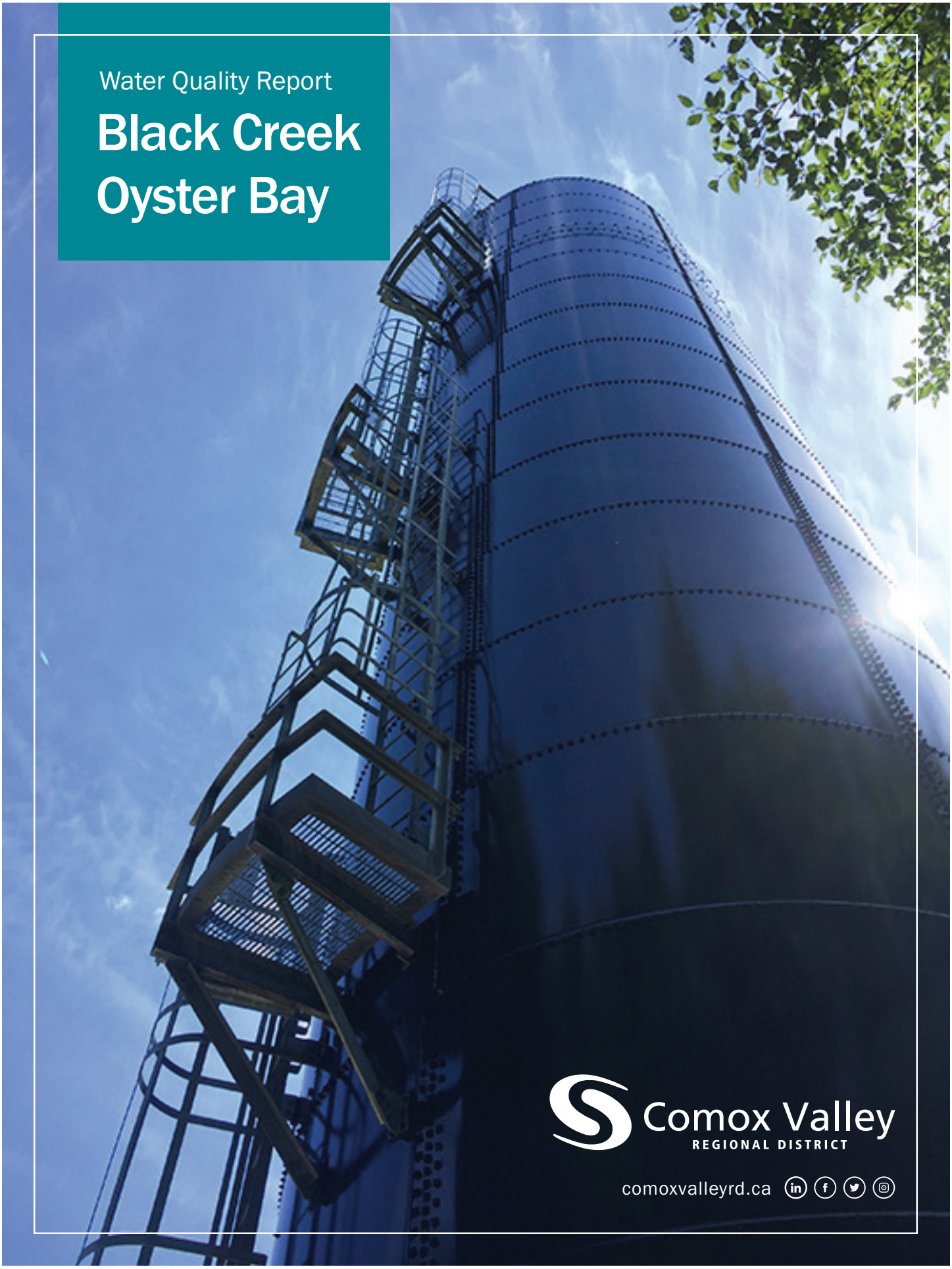
Water Quality Report

Black Creek Oyster Bay



Comox Valley
REGIONAL DISTRICT

comoxvalleyrd.ca

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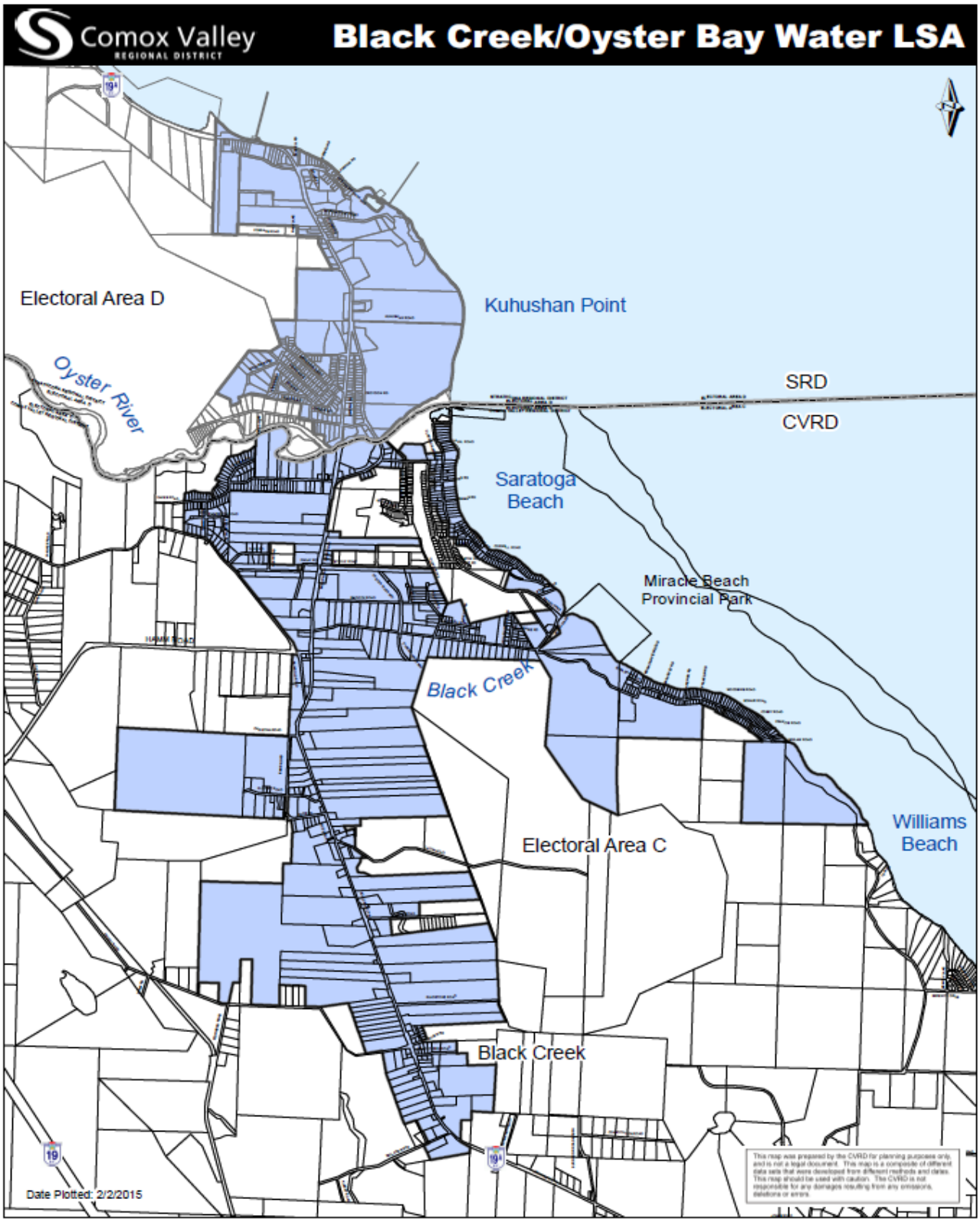
"The CVRD's role is to provide a reliable source of safe, high quality drinking water to homes and businesses. This includes acquiring and maintaining the water supply, treating it to ensure quality and delivering it - all at a reasonable cost"

-Mike Herschmiller, Manager of Water Services

Map of Service Area



Introduction

The Comox Valley Regional District (CVRD) strives to provide high quality drinking water to the Black Creek-Oyster Bay (BCOB) Service Area, through responsible operation, monitoring, and management of the water system. The CVRD is regulated by Island Health as part of the Ministry of Health for its activities as a potable water supplier. Under the *Drinking Water Protection Act* (DWP Act), the CVRD is now required to report annually on water quality for the BCOB Drinking Water System. This report covers the period from January 1 to December 31, 2016 and includes information on water quality, consumption, maintenance and capital projects.

The BCOB water service provides domestic water to approximately 2,100 residents and 30 local businesses located in both the CVRD Electoral Area 'C' and the Strathcona Regional District Electoral Area 'D'. The service is owned and operated by the CVRD for the benefit of both regional districts and is funded through a combination of frontage tax and user rates.

Figure 1: Inside the BCOB Water Treatment Facility.

The service consists of two groundwater supply wells and one surface water infiltration gallery adjacent to the Oyster River. Recently completed upgrades include rebuilding the water treatment facility that includes chlorination technology, pH control systems, a chlorine gas scrubber, UV disinfection technology and emergency backup power. The system also utilizes one pump station and two reservoirs located on Macaulay and Kelland Road.

Operations

Goals

To provide high quality drinking water to all customers through efficient and effective disinfection and distribution operations.

Water Quality Summary

	2015	2016	Target
Source Water			
Chlorine Dose (mg/L)	1.29	1.33	<2.0
Source Water Turbidity (average NTU)	0.09	0.05	<1.0
Source Water Temperature (Celsius)	12.2	12.0	15
Source Water pH Level	7.04	7.10	6.5-8.5
Distribution System			
Chlorine residual-distribution system (mg/L)	0.483	0.81	>0.20
Total Coliforms (positive samples)	0	0	0
E.Coli (positive samples)	0	0	0
Trihalomethanes (mg/L)	0.007	0.003	<0.1

The Ministry of Health regulates municipal drinking water quality through the DWP Act and the *Drinking Water Protection Regulation* (the Regulation). The DWP Act and Regulation are administered by regional health authorities, and for the CVRD, the administering authority is Island Health. Both the DWP Act and Regulation set out certain requirements for drinking water operators and suppliers to ensure the provision of safe drinking water to their customers.

In the BCOB System, raw water enters the treatment facility and is treated using ultraviolet light (UV) disinfection, chlorine for gas disinfection and then caustic soda for pH adjustment. Once the raw water is treated it proceeds into the distribution system, which consists of two reservoirs and one booster pump station. The CVRD takes weekly water quality samples of the source water and treated water at four fixed locations within the distribution system, to ensure that water is meeting provincial objectives. Annual testing for distribution by-products is taken from the Macaulay reservoirs and an annual water chemistry report is completed. A summary of water quality and a description of sampling results can be found below. For detailed water quality results refer to Appendix A.

Disinfection

All water supply systems governed by Island Health that are using surface water are required to adhere to provincial 4-3-2-1-0 surface water treatment objectives to ensure that the water treatment process is effectively killing disease causing viruses, bacteria and parasites. The 4-3-2-1-0 specifications are as follows:

- 4-log (99.99 per cent) removal/inactivation of viruses
- 3-log (99.9 per cent) removal/inactivation of Giardia cysts and Cryptosporidium oocysts
- 2 treatment processes, usually filtration and disinfection
- 1 NTU turbidity (maximum) in finished water
- No detectable E.Coli, fecal coliforms and total coliforms in treated water

Figure 2: Chlorine Injection Within BCOB Treatment Facility

The system is fully compliant with Island Health's surface water treatment objectives and has obtained a filtration deferral permit for use of the Oyster River infiltration gallery. Water drawn from the river utilizes a two-step disinfection process for surface water, UV disinfection followed by chlorination. When water is being drawn out of groundwater wells caustic is also used to help raise the pH of the water.

By dosing the water with chlorine at the treatment plant a free chlorine residual is established throughout the distribution network to help prevent water from bacteriological regrowth and cross contamination during storage. The free chlorine residual is an indicator of the effectiveness of disinfection within the distribution system. The CVRD strives to maintain a free chlorine residual around 0.3-0.5mg/L at the end of the system. The CVRD regularly monitors the chlorine residual throughout the distribution network at four fixed locations. In 2016, the CVRD worked with Island Health to improve sampling procedures for the system. Water sampling locations were evaluated and new water sampling kiosks were installed at four fixed locations throughout the distribution system. Figure three below provides the average chlorine residual at the four new sampling kiosks.

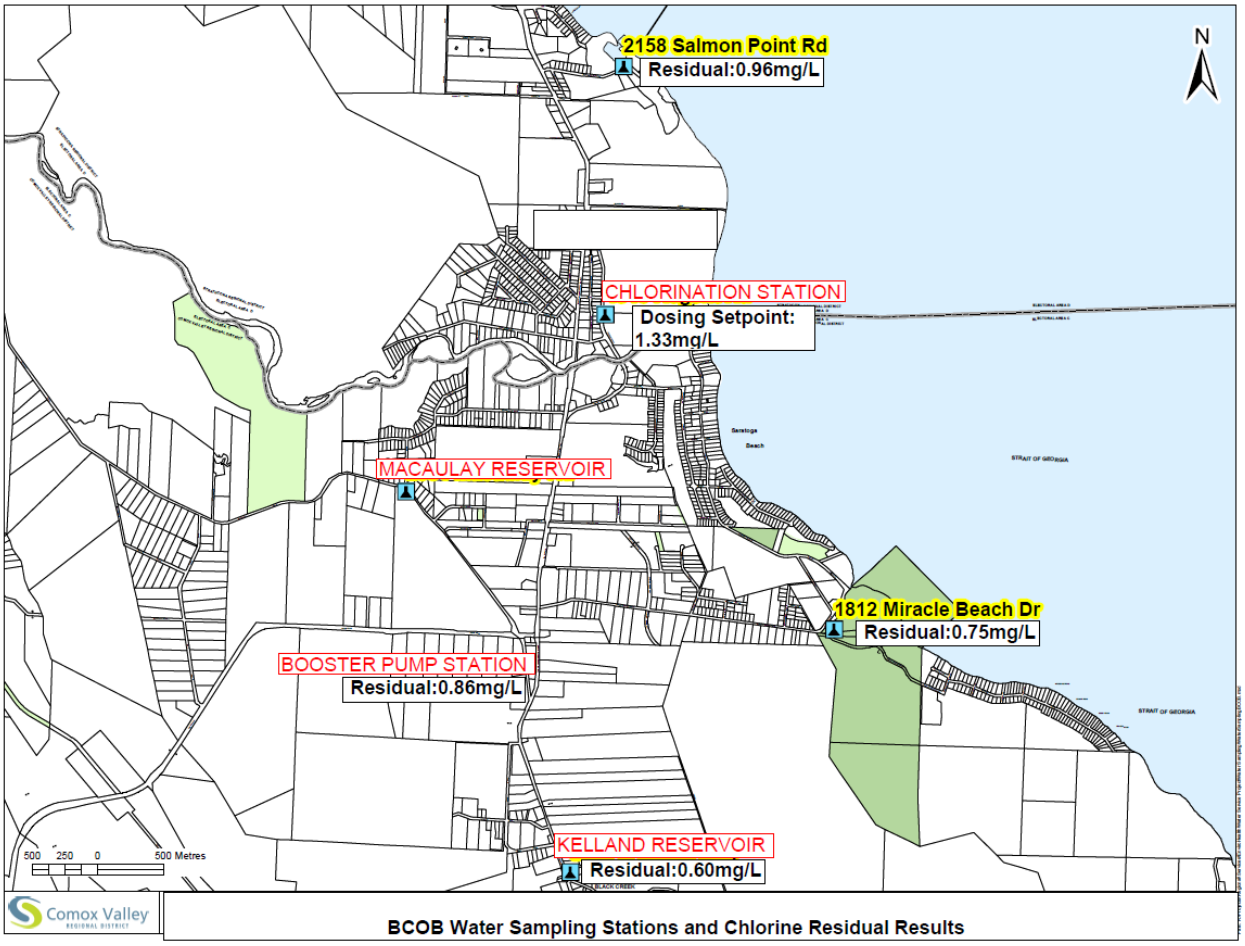


Figure 3: Average Chlorine Residual at the BCOB Sampling Locations

A by-product of chlorination can be Trihalomethanes (THM). There are four types of THM's that contribute to total THM's. Chloroform is the most common THM and is formed when natural organic matter reacts with chlorine and/or bromine in disinfected water. The guidelines require that the total THM's for drinking water must be less than 0.1mg/L, Table No. 1 below shows the total THM's at the Macaulay reservoir.

Table No. 1: Total THM Concentration at the Macaulay Reservoir

Trihalomethanes	Macaulay Reservoir
Chloroform	0.002
Bromodichloromethane	0.001
Dibromochlromethane	<0.001
Bromoform	<0.001
Total THMs (mg/L)	**0.003**

Bacteria

E.Coli and total coliform bacteria are microorganisms that if present in water samples indicate possible contamination with sewage or animal waste. Chlorination helps to remove harmful

pathogens within the water supply network. Table No. 2 below, shows that within the BCOB water distribution system for 2016, there were zero positive results found for E.Coli and total coliforms.

Table No. 2: Bacteriological Standards and Sampling Results

Results	E.Coli*		Total Coliform Bacteria**	
	Exceedances	# of Samples	Exceedances	# of Samples
January	0	8	0	8
February	0	8	0	8
March	0	7	0	7
April	0	8	0	8
May	0	8	0	8
June	0	8	0	8
July	0	6	0	6
August	0	6	0	6
September	0	6	0	6
October	0	8	0	8
November	0	4	0	4
December	0	5	0	5
Totals	**0 exceedances per 82 samples**		**0 exceedances per 82 samples**	

*Standard-No detectable E.Coli per 100mL

**Standard-At least 90 per cent of samples have no detectable total coliform bacteria per 100 ml and no sample has more than 10 total coliform bacteria per 100 ml

Canadian Drinking Water Guidelines

Health Canada develops the *Canadian Drinking Water Guidelines*. These are guidelines for limits on microbial, chemical, physical and radiological substances in drinking water. In the guidelines, there are health-based limits on a substance maximum allowable concentration. The guidelines also assign aesthetic objectives to substances that do not cause risk to human health, but will influence consumer acceptance of the water based on factors such as taste, odour and colour. Table No. 3 shows the Macaulay reservoir drinking water concentration averages for multiple parameters compared to the guideline concentrations. In 2016, the system was below all maximum allowable concentrations as illustrated in the Table No. 3.

Table No. 3: Chemical and Physical Parameters at Macaulay Reservoir Compared to Guideline Concentrations

Parameter	Macaulay Reservoir (mg/L)	Guideline Concentration (mg/L)
Aluminum	0.00116	≤0.1
Arsenic	<0.001	≤0.01
Barium	0.013	≤1.0
Boron	0.021	≤5.0
Cadmium	<0.00001	≤0.005
Chloride	6.85	250
Chromium	<0.00005	≤0.05
Copper	0.0009	1
Fluoride	0.035	≤1.5
Iron	0.044	≤0.30
Lead	<0.0001	≤0.01
Manganese	<0.001	≤0.05
Nitrate (as NO_3)	1.45	45
Nitrite (as N)	<0.01	10
Selenium	<0.0002	≤0.05
Sodium	18.3	≤200
Sulfate (SO_4)	3.8	≤500
Zinc	0.0029	≤5

Turbidity

The *Canadian Drinking Water Guidelines* also require the turbidity to be below 1 NTU. Turbidity is the measure of relative clarity of a liquid. Clarity is important when producing drinking water for human consumption and in many manufacturing uses. The average source water turbidity was 0.05 NTU.

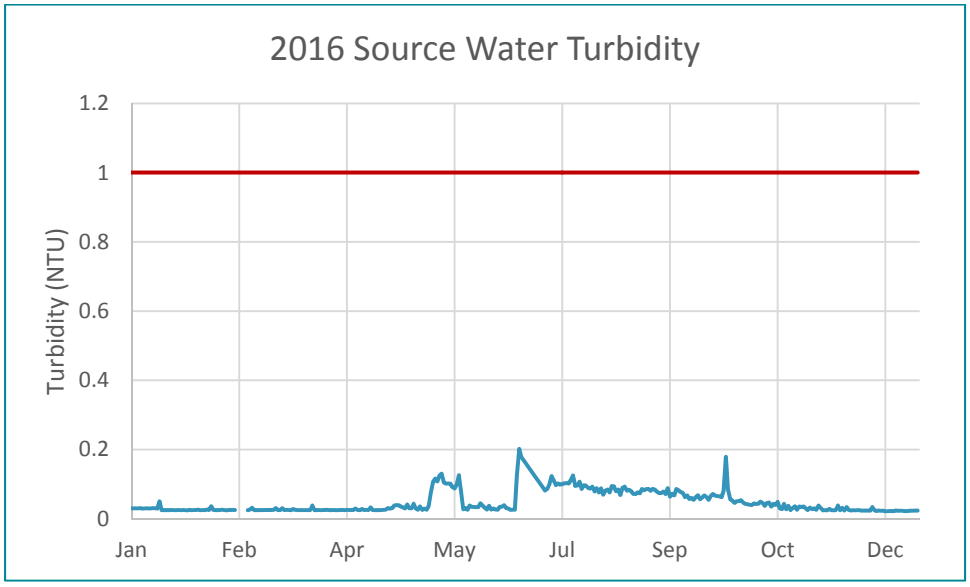


Figure 4: Source Water Turbidity

Temperature

Temperature is described as an aesthetic objective (a parameter that may impair the taste, smell or colour of water) and physical characteristic of water. Gradual variations in water temperature occur throughout the seasons, however signifcant changes in water temperature can upset chlorination and chemical water treatment processess. The guidelines recommend water temperature to be less than 15˚C. The average temperature for the incoming source water was 12 ºC.

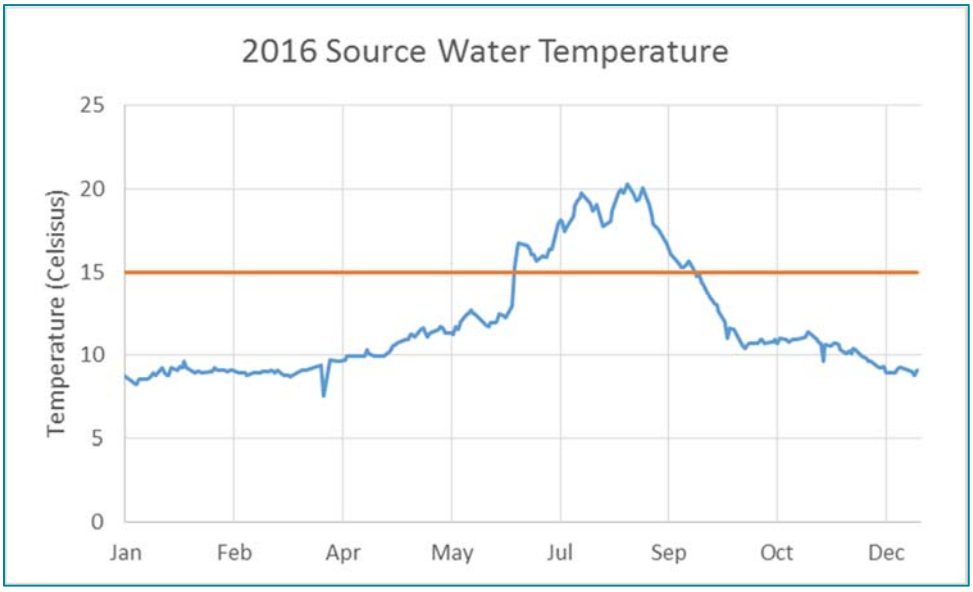


Figure 5: Source Water Temperature

pH

The pH of water is a measure of water acidity. pH has minimal impact for water consumers and varies greatly depending on the water source. However, pH is very important for many operational water quality parameters. The *Canadian Drinking Water Guidelines* recommend the pH ranging between 6.5-8.5. In 2015, the average pH of the source water was 7.10 and the average pH within the distribution system was 6.9.

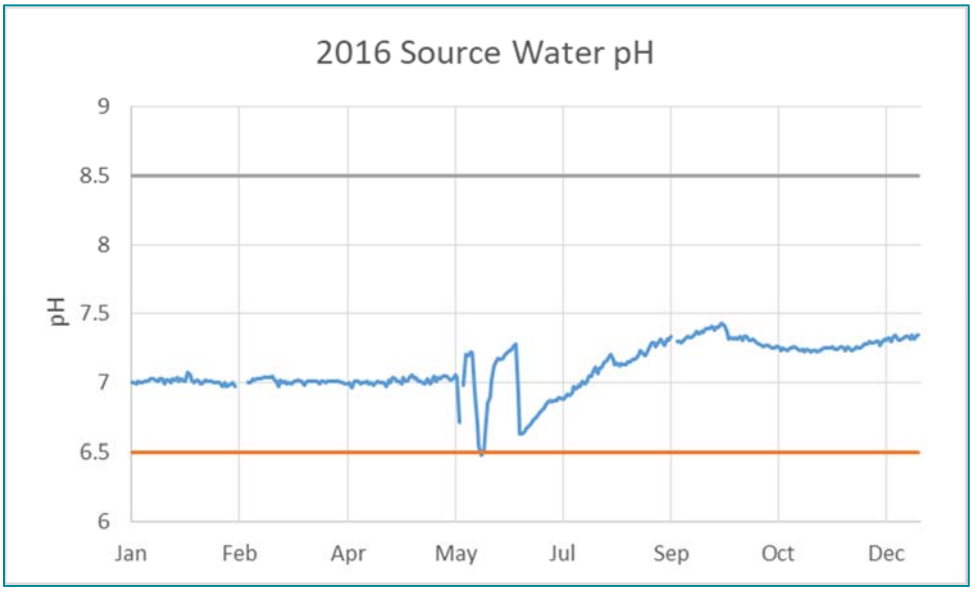


Figure 6: Source Water pH

Planning

Goals

To ensure effective long-term planning and management programs are in place to meet the needs of all users groups while minimizing operation and infrastructure costs.

Consumption

The average daily water consumption for the system is 1000m^3/day. For the BCOB System, surface water and groundwater sources are typically rotated seasonally depending on turbidity and system demand. In 2016, no watering restrictions were implemented for the BCOB Water System. However it can be seen that during the summer months water consumption is increasing approximately two fold from the average day demand, as shown in the Figure 7 below. The maximum day demand was 2,224m^3 and occurred on June 29, 2016.

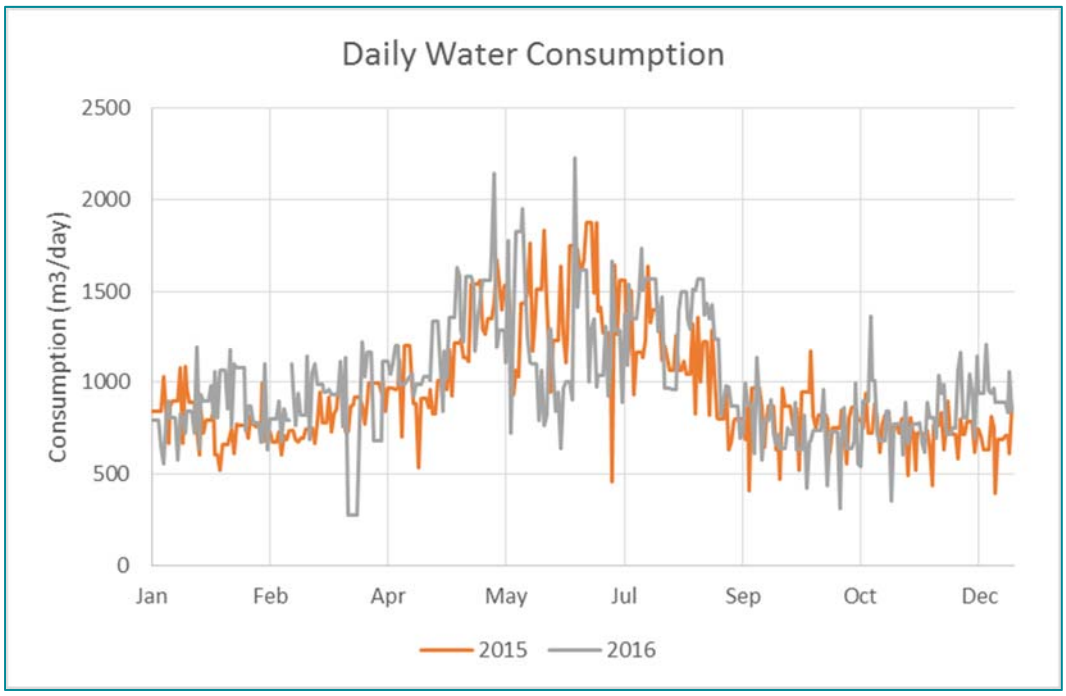


Figure 7: Daily Water Consumption in BCOB for 2015 and 2016

Maintenance

The BCOB Water System is owned and operated by the CVRD. The water services staff consists of seven operators with varying ranges of certification. Each operator is registered with the environmental operator's certification program within BC and is required to remain in good standing by taking yearly continuing education courses.

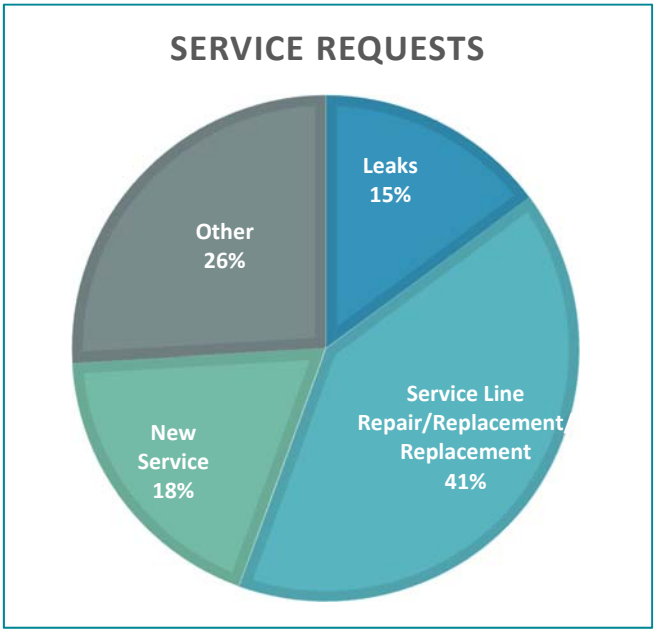


Figure 8: Service Requests by Category

The CVRD carries out regular and routine maintenance of the entire BCOB System, to ensure continued operation and supply of safe and clean water to all users. The treatment facility, wells, distribution lines and reservoirs are regularly inspected and maintained.

Every service request within the system is investigated by the regional districts waterworks operations staff and appropriate action is taken. Figure 8 identifies the various types of service requests received by waterworks staff.

Financial

In 2016, the CVRD treated a total of 365,898m^3 of water. The water rate increase in July 2016, was required to meet both the operational costs of running the system and to begin funding a long-term asset management strategy. An increase in the water rate in April 2017 is scheduled and will help ensure continued safe and sustainable water services for residents and businesses within BCOB. The new rates reduce the volumetric threshold, promoting water conservation and minimize increases to tiered water rates. One of the primary reasons for the water rate increase is the CVRD is investing in infrastructure replacement, which will help to avoid expenses associated with system failures in the future. Investing in infrastructure now will reduce additional costs associated with recurring main breaks and will result in reduced inconveniences in the future.

Throughout the past five years the BCOB System has gone through extensive improvements. In 2010, a new treatment plant was constructed at 4840 Regent Road, the station treats water using chlorine and caustic. In 2011, the Macaulay reservoir was replaced to provide increased water storage. In 2015, UV disinfection was added for additional treatment of incoming source water. In 2016, the Kelland reservoir was replaced to improve water quantity, quality and firefighting capacity within the system.

Part one of a hydrogeological assessment and capacity study of the supply wells was conducted in 2015 to help investigate the capacity of the BCOB Water System. During the past few summers, the BCOB System has had operational challenges keeping up with demand. To address this problem a hydrogeological study of one of the groundwater supply wells was completed in 2015. The study identified initial capacity issues but required a pump test and assessment report of the Oyster River infiltration gallery and the second groundwater well. In 2016, part two of the hydrogeological assessment and well capacity study was completed. Alternate water sources were investigated and

one of the current groundwater wells was rehabilitated in hopes of improving capacity. The work concluded that even with rehabilitation of one of the groundwater wells, securing an additional water supply to meet demands due to growth is required.

An application to the Clean Water and Wastewater Fund was submitted in 2016 for grant funding for the installation of a new water supply well for the system, the CVRD will be informed in spring 2017 if the application was successful. Development of a new water supply source for the system will be a priority in 2017, with scheduled projects including installation of a test well, an assessment of the infiltration gallery and completion of the Watutco Water System feasibility study.

2016 Accomplishments

- ✓ Completion of stage two of the hydrogeological assessment and well capacity study
- ✓ Cost estimates for installation of a new test and production well
- ✓ Installation of water sampling kiosks
- ✓ Detailed user rate analysis
- ✓ Replacement of the Kelland Reservoir
- ✓ Application to the Clean Water and Wastewater Fund for a new production well

2017 Objectives

- Replace a watermain along Miracle Beach Road
- Complete an assessment of the Oyster River infiltration gallery
- Develop a detailed asset management list for the service
- Installation of a test well and ultimately a new production well
- Develop a new water supply for the service
- Complete the Watutco Water System feasibility study

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15	Column16	Column17	Column18	Column19	Column20	Column21	Column22	Column23
1-Jan	788		0.03	7.00																		
2-Jan	788		0.03	7.00																		
3-Jan	788		0.03	6.99																		
4-Jan	788	8.4	0.03	7.01	1.3926131		0.88	0.71	0.95			<1			<1			<1			<1	
5-Jan	644	8.3	0.03	7.00	1.27046866		0.56															
6-Jan	555	8.2	0.03	7.00	1.14660115		0.91															
7-Jan	809	8.5	0.03	7.01	1.23609394		0.93															
8-Jan	896	8.5	0.03	7.01	1.31899351																	
9-Jan	803		0.03	7.02																		
10-Jan	803		0.03	7.03																		
11-Jan	803	8.5	0.03	7.03	1.20809423		1.03				<1					<1	<1					<1
12-Jan	571	8.6	0.03	7.02	1.27368253		0.86															
13-Jan	825	8.8	0.03	7.01	1.21212121		0.65															
14-Jan	804	8.9	0.05	7.03	1.52645862		1.18															
15-Jan	724	8.8	0.02	7.03	0.81617278		0.95															
16-Jan	839		0.02	6.99																		
17-Jan	839		0.02	7.02																		
18-Jan	839	9.2	0.02	7.02	1.22752545		0.81	0.95	0.95			<1			<1			<1			<1	
19-Jan	721	8.9	0.02	7.00	1.38696255		0.96															
20-Jan	1198	8.8	0.03	7.03	0.68295644		0.98															
21-Jan	639	8.8	0.02	7.02	1.14																	
22-Jan	930	9.2	0.02	7.03	1.08																	
23-Jan	895		0.02	7.01																		
24-Jan	895		0.02	7.03																		
25-Jan	895	9.1	0.02	7.01	1.02		1.03			0.84	<1					<1	<1					<1
26-Jan	980	9.3	0.02	7.01	1.11		1.05															
27-Jan	806	9.2	0.02	7.07	1.12		0.75															
28-Jan	1055	9.6	0.03	7.06	1.03		0.88															
29-Jan	807	9.2	0.02	7.02	1.35		0.96															
30-Jan	1063		0.02	7.00																		
31-Jan	1063		0.02	7.02																		
1-Feb	1063	9	0.03	7.01	1.06		0.67	0.81	0.92			<1			<1			<1			<1	
2-Feb	853	8.9	0.02	6.99	1.07																	
3-Feb	1177	9	0.02	7.00	1.16		0.84															
4-Feb	755	9	0.02	7.02	0.84286574		0.91															
5-Feb	1097	8.9	0.03	7.01	2.90047236		0.98															
6-Feb	1076		0.03	7.01																		
7-Feb	1076		0.04	7.01																		
8-Feb	1076		0.03	7.00																		
9-Feb	1076	9	0.02	7.00	1.05634547		0.93			0.96	<1					<1	<1					<1
10-Feb	734	9	0.02	7.00	0.99083478																	
11-Feb	864	9.2	0.02	7.00	0.9469697																	
12-Feb	869	9.1	0.03	6.97	1.15074799																	
13-Feb	776		0.03	7.00																		
14-Feb	776		0.02	6.97																		
15-Feb	776	9.1	0.02	6.98	1.09293883		0.57	0.91	1.03			<1			<1			<1			<1	
16-Feb	674	9.1	0.03	6.99	1.01159968		0.99															
17-Feb	674	9	0.03	7.00	1.41623955		0.79															
18-Feb	1098	9.1	0.03	6.98			0.84															
19-Feb	628	9.1																				
20-Feb	797																					
21-Feb	797																					
22-Feb	797	8.9			0.60859642					0.87	<1					<1	<1					<1
23-Feb	796	8.9			0.7994518																	
24-Feb	895	8.9	0.02	7.00	0.91416963																	
25-Feb	675	8.9	0.03	7.00	0.91582492																	
26-Feb	850	8.8	0.03	7.03	1.19786096																	
27-Feb	789		0.02	7.02																		
28-Feb	789		0.02	7.02																		
29-Feb	789	8.9	0.02	7.03	1																	
1-Mar	1099	8.9	0.02	7.03	0.74447845																	
2-Mar	973	8.9	0.02	7.03	1.12118098		0.97	0.82	0.94			<1			<1			<1			<1	
3-Mar	762	8.9	0.02	7.04	0.95442615		0.84															
4-Mar	934	9	0.02	7.04	1.07066381		0.76															
5-Mar	820		0.03	7.04																		
6-Mar	820		0.03	7.04																		
7-Mar	820	9	0.03	7.03	1.03431717		0.74			0.67	<1					<1	<1					<1

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
8-Mar	1139	9.1	0.03	7.01	0.95777796		0.83															
9-Mar	687	9	0.02	6.97	1.05862115		0.86															
10-Mar	1046	8.9	0.02	7.02	1.1298453		1.01															
11-Mar	1100	9.1	0.03	7.00	0.82644628		0.99															
12-Mar	987		0.03	7.01																		
13-Mar	987		0.03	6.99																		
14-Mar	987	8.8	0.02	7.00	1.25921376		0.9	1.01	0.85			<1			<1			<1			<1	
15-Mar	941		0.02	6.99																		
16-Mar	941	8.8	0.03	7.01	2																	
17-Mar	960	8.7	0.03	7.01	1.13636364		0.81															
18-Mar	930		0.03	7.02																		
19-Mar	930		0.02	7.01																		
20-Mar	930		0.02	7.01																		
21-Mar	930	9	0.02	6.99	1.1485826		1.04			1.01						<1						<1
22-Mar	1114	9.1	0.03	7.01	1.06087808		0.84															
23-Mar	757	9.1	0.02	7.01	0.96073015																	
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25-Mar	275		0.04	7.01																		
26-Mar	275		0.02	7.01																		
27-Mar	275		0.02	7.01																		
28-Mar	275		0.02	6.99																		
29-Mar	275	9.3	0.02	7.01	6.23400215		1.07															
30-Mar	778	9.3	0.03	7.01	1.46062164		1.05															
31-Mar	1227	9.4	0.02	7.00	1.40772023		0.99															
1-Apr	1025	7.5	0.03	7.01	1.37472284		1.06															
2-Apr	1164		0.02	7.01																		
3-Apr	1164		0.02	7.01																		
4-Apr	1164	9.7	0.02	7.01	1.45042194		0.9	0.99	0.73			<1			<1			<1			<1	
5-Apr	676		0.02	7.01																		
6-Apr	676		0.02	7.01																		
7-Apr	676		0.02	7.00																		
8-Apr	676	9.6	0.03	7.00	1.44147607		1.07															
9-Apr	1115		0.02	6.99																		
10-Apr	1115		0.03	6.99																		
11-Apr	1115	9.7	0.03	7.00	1.38647238					0.89	<1					<1	<1					<1
12-Apr	1041	9.9	0.02	6.97	1.39725788		0.93															
13-Apr	1102	9.9	0.02	7.01	1.69114008																	
14-Apr	1206		0.03	7.01																		
15-Apr	1206	9.9	0.03	7.01	1.41397383		1.07															
16-Apr	984		0.02	6.99																		
17-Apr	984		0.03	7.00																		
18-Apr	984	9.9	0.03	7.00	1.44740084							<1			<1			<1			<1	
19-Apr	1008	9.9	0.03	7.01	1.44300144		1.09															
20-Apr	1028	9.9	0.03	6.99	1.370711																	
21-Apr	1042	10.3	0.03	7.00	1.39591694		1.06															
22-Apr	926	10.1	0.02	6.98																		
23-Apr	987		0.02	6.99																		
24-Apr	987		0.02	7.01																		
25-Apr	987	9.9	0.02	7.00	1.34213759						<1					<1	<1					<1
26-Apr	1030		0.02	7.00																		
27-Apr	1030		0.03	7.00																		
28-Apr	1030	9.9	0.03	6.98	1.4352519																	
29-Apr	1005	9.9	0.03	7.02	1.3568521																	
30-Apr	1336		0.03	7.00																		
1-May	1336		0.03	7.04																		
2-May	1336	10.2	0.04	7.03	1.41761931		1.17	0.96	1.02			<1			<1			<1			<1	
3-May	1090	10.5	0.04	7.01	1.33444537	off	1.14															
4-May	842	10.6	0.04	7.01	1.18764846		1.02															
5-May	1171	10.7	0.04	6.99	1.31977331																	
6-May	1020	10.8	0.03	7.03	1.42602496		1.13															
7-May	1357		0.03	7.01																		
8-May	1357		0.04	7.02																		
9-May	1357	10.9	0.03	7.03	1.12798749		1.08				<1					<1	<1					<1
10-May	1632	10.9	0.03	7.05	1.114082																	
11-May	1580	11.2	0.04	7.03	1.20828539																	
12-May	1288	11.2	0.03	7.04	1.27046866																	
13-May	1221	11.1	0.03	7.01	1.34018316		1.07															
14-May	1579		0.04	7.01																		

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
15-May	1579		0.03	7.00																		
16-May	1579	11.5	0.03	6.99	1.20879543		1.17					<1			<1			<1			<1	
17-May	1531	11.6	0.03	7.03	1.42509352		0.96															
18-May	1167	11.4	0.04	6.99	1.40219677		1.01															
19-May	1334	11.1	0.08	7.00	1.63554586		1.08															
20-May	1445	11.3	0.11	7.05	1.32117018		1.1															
21-May	1558		0.12	7.01																		
22-May	1558		0.11	7.03																		
23-May	1558		0.12	7.03																		
24-May	1558	11.5	0.13	7.05	1.21056547		1.06			<1						<1	<1					<1
25-May	1709	11.7	0.10	7.05	1.22346933		1.14															
26-May	2143	11.6	0.10	7.05	1.18		1.06															
27-May	1187	11.3	0.10	7.03	1.57003906																	
28-May	1290		0.10	7.02																		
29-May	1290		0.09	7.03																		
30-May	1290	11.3	0.09	7.05	1.24500822																	
31-May	1106	11.2	0.10	7.04	1.23294427																	
1-Jun	1775	11.7	0.13	6.71	1.10115237																	
2-Jun	723	11.5	0.08		1.25738715		0.78															
3-Jun	1344	12	0.03	6.98	1.08225108		0.57															
4-Jun	1823		0.03	7.21																		
5-Jun	1823		0.03	7.19																		
6-Jun	1823	12.5	0.04	7.22	1.05988562			0.75	1.05			<1			<1			<1			<1	
7-Jun	1949	12.5	0.03	7.21	1.117123																	
8-Jun	1570	12.7	0.03	6.93	1.16097279																	
9-Jun	1255	12.5	0.03	6.71	1.39442231		0.92															
10-Jun	1107	12.5	0.03	6.54	1.39607457																	
11-Jun	1096		0.04	6.49																		
12-Jun	1096		0.04	6.50																		
13-Jun	1096	12.1	0.03	6.63	1.18649224						<1					<1	<1					<1
14-Jun	793	11.9	0.03	6.85	1.38713745		0.92															
15-Jun	1066	11.8	0.04	6.90	1.2792086		1.08															
16-Jun	760	11.7	0.03	7.02	1.07655502																	
17-Jun	821	11.9	0.03	7.12	1.55021592		0.97															
18-Jun	1295		0.03	7.15																		
19-Jun	1295	11.9	0.03	7.18	0.98280098																	
20-Jun	1051	12	0.03	7.17	1.29746562	0.88	0.88	0.57	1			<1			<1			<1			<1	
21-Jun	838	12.5	0.03	7.18	0.75938381		0.77															
22-Jun	944	12.4	0.04	7.20	1.25192604		0.92															
23-Jun	637	12.4	0.03	7.21	1.35578707		1.02															
24-Jun	967	12.2	0.03	7.23	1.78621792		0.87															
25-Jun	1001		0.03	7.23																		
26-Jun	1001		0.03	7.26																		
27-Jun	1001	12.9	0.03	7.27	1.07432514		0.9				<1					<1	<1					<1
28-Jun	899	15.3	0.13	6.91	1.41571443																	
29-Jun	2224	16.4	0.20	6.63	1.49198823																	
30-Jun	1411	16.8	0.18	6.63	1.6751498																	
1-Jul	1618		0.17	6.65																		
2-Jul	1618		0.16	6.66																		
3-Jul	1618		0.15	6.68																		
4-Jul	1618	16.6	0.14	6.70	1.78859048		0.84					<1			<1			<1			<1	
5-Jul	1001	16.4	0.13	6.72	1.72554718		0.69															
6-Jul	1304	16.1	0.13	6.74	1.70803123		0.72															
7-Jul	1352	16.1	0.12	6.76	1.58015062		0.77															
8-Jul	969	15.7	0.11	6.78	1.5010789		0.88															
9-Jul	1033		0.10	6.80																		
10-Jul	1033		0.09	6.82																		
11-Jul	1033	16	0.08	6.83	1.39296188		0.57			0.43						<1						<1
12-Jul	1311	15.9	0.09	6.86	1.80292629		0.74															
13-Jul	924	15.9	0.10	6.88	1.52499016		0.68															
14-Jul	1113	16.4	0.12	6.87	1.63358654		0.65															
15-Jul	1664	16.4	0.11	6.87	1.63898601		0.68															
16-Jul	1289		0.10	6.88																		
17-Jul	1289		0.10	6.89																		
18-Jul	1289	17.9	0.10	6.89	1.64605183		0.74					<1			<1			<1			<1	
19-Jul	888	18.2	0.10	6.88	1.63800164																	
20-Jul	1376	18.1	0.10	6.90	1.78382664		0.73															
21-Jul	1093	17.5	0.10	6.92	1.74665225		0.56															

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
22-Jul	1539	17.8	0.10	6.91	1.65396657		0.71															
23-Jul	1349		0.11	6.92																		
24-Jul	1349		0.13	6.97																		
25-Jul	1349	18.4	0.10	6.95	1.28009342		0.83									<1						<1
26-Jul	1483	19	0.10	6.98	1.77772329		0.66															
27-Jul	1732	19.3	0.11	6.97	1.73210162	0.34	0.7															
28-Jul	1506	19.5	0.09	7.01	1.56947966	0.35	0.77															
29-Jul	1565	19.8	0.10	6.99	1.56839965		0.97															
30-Jul	1564		0.10	7.00																		
31-Jul	1564		0.09	7.04																		
1-Aug	1564		0.09	7.05																		
2-Aug	1564	19.2	0.09	7.08	1.63453296			0.44	0.98			<1			<1			<1			<1	
3-Aug	1279	18.7	0.08	7.11	1.67033904		0.92															
4-Aug	1365	18.9	0.09	7.07	1.53180153	0.77	0.84															
5-Aug	1468	19.1	0.08	7.10	1.48625217																	
6-Aug	966		0.09	7.12																		
7-Aug	966		0.07	7.14																		
8-Aug	966	17.8	0.08	7.16	1.70905328	0.6	0.84			0.57						<1						<1
9-Aug	961		0.08	7.18																		
10-Aug	961		0.08	7.20																		
11-Aug	961	18.1	0.09	7.17	1.49780847																	
12-Aug	1390	18.7	0.09	7.13	1.34074559	0.53	0.53															
13-Aug	1494		0.08	7.14																		
14-Aug	1494		0.08	7.12																		
15-Aug	1494	19.8	0.07	7.14	1.44992193			0.8	1.02			<1			<1			<1			<1	
16-Aug	1349	20	0.09	7.13	1.4151897																	
17-Aug	1297	19.8	0.09	7.13	1.61211187		0.78															
18-Aug	1508	19.9	0.08	7.15	1.56739812	0.69	0.86															
19-Aug	1507	20.3	0.08	7.14	1.35730229		0.7															
20-Aug	1568		0.08	7.17																		
21-Aug	1568		0.07	7.16																		
22-Aug	1568	19.7	0.07	7.18	1.55606673		0.86			0.86						<1						<1
23-Aug	1370	19.3	0.08	7.20	1.59256802																	
24-Aug	1435	19.4	0.07	7.23	1.52043079		0.97															
25-Aug	1353	19.6	0.09	7.21	1.34381509		0.7															
26-Aug	1429	20.1	0.08	7.19	1.4631974		0.91															
27-Aug	1240		0.09	7.21																		
28-Aug	1240		0.09	7.25																		
29-Aug	1240	19.1	0.08	7.28	1.25821504		0.64															
30-Aug	816	18.5	0.09	7.28	1.3368984																	
31-Aug	893	17.9	0.08	7.26	1.73063219																	
1-Sep	970		0.08	7.29																		
2-Sep	970	17.6	0.07	7.31	1.54639175																	
3-Sep	866		0.07	7.29																		
4-Sep	866		0.08	7.27																		
5-Sep	866		0.07	7.31																		
6-Sep	866	16.7	0.09	7.31	1.470511	0.3	0.92					<1	<1					<1	<1			
7-Sep	695	16.5	0.06	7.33	1.63505559	0.28	0.66															
8-Sep	718	16.1	0.07		1.32945049																	
9-Sep	995	15.9	0.07		1.64458657																	
10-Sep	872		0.09	7.30																		
11-Sep	872		0.08	7.29																		
12-Sep	872	15.5	0.08	7.29	1.47692522		0.92			0.92				<1						<1		
13-Sep	606	15.3	0.07	7.30	1.65016502		0.83															
14-Sep	1134	15.3	0.06	7.32	1.40291807	0.21	0.74															
15-Sep	897	15.5	0.07	7.33	1.46954495	0.26	0.94															
16-Sep	573	15.7	0.06	7.33	1.42789148	0.21	0.8															
17-Sep	792		0.06	7.33																		
18-Sep	792		0.05	7.35																		
19-Sep	792	15	0.06	7.37	1.56805752	0.15	0.79	0.68	0.98			<1	<1					<1	<1			
20-Sep	900	14.8	0.07	7.36	1.41414141	0.15	0.93															
21-Sep	720	14.9	0.06	7.37	1.64141414	0.17	0.94															
22-Sep	661	14.4	0.06	7.36	1.5128593	0.16	0.69															
23-Sep	715	14.3	0.07	7.39	1.52574698	0.22	0.81															
24-Sep	637		0.06	7.39																		
25-Sep	637		0.05	7.39																		
26-Sep	637	13.4	0.07	7.40	1.42639787	0.23	0.78			0.82				<1						<1		
27-Sep	752	13.3	0.07	7.38	1.45067698																	

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
28-Sep	713	13.1	0.07	7.39	1.65752901	0.22	0.71															
29-Sep	714	13	0.07	7.40	1.27323657	0.29	0.78															
30-Sep	886	12.6	0.06	7.43	1.84691155	0.32	1.07															
1-Oct	627		0.06	7.42																		
2-Oct	627		0.08	7.41																		
3-Oct	627	12	0.18	7.36	1.59404888			0.87	0.9			<1	<1					<1	<1			
4-Oct	820	11	0.08	7.31	1.2195122																	
5-Oct	421	11.6	0.06	7.32	1.07968041	0.35	0.83															
6-Oct	673	11.5	0.05	7.32	1.21572336	0.35	0.77															
7-Oct	676	11.5	0.05	7.32	1.21032813		0.83															
8-Oct	738		0.05	7.32																		
9-Oct	738		0.05	7.33																		
10-Oct	738		0.05	7.31																		
11-Oct	738	10.5	0.05	7.34	1.41660508		0.9							<1						<1		
12-Oct	960	10.4	0.04	7.33	1.32575758																	
13-Oct	615	10.5	0.04	7.30	1.33037694	0.31	0.86															
14-Oct	434	10.7	0.04	7.31	1.46627566	0.31																
15-Oct	728		0.04	7.32																		
16-Oct	728		0.04	7.30																		
17-Oct	728		0.04	7.29								<1			<1			<1			<1	
18-Oct	728	10.7	0.04	7.28	1.06216807	0.29	0.99															
19-Oct	307	10.9	0.05	7.26	1.18448327	0.29	0.85															
20-Oct	664	10.9	0.05	7.26	1.23220153	0.36	0.8															
21-Oct	857	10.7	0.04	7.27	1.16686114																	
22-Oct	635		0.05	7.27																		
23-Oct	635		0.05	7.26																		
24-Oct	635	10.8	0.04	7.25	1.24010302	0.79	0.64							<1						<1		
25-Oct	677	10.8	0.04	7.25	1.07425809	0.86	0.85															
26-Oct	991	10.9	0.04	7.26	1.19255114	0.92	0.84															
27-Oct	551	10.7	0.05	7.26	0.98993565	0.98																
28-Oct	538	11	0.03	7.23	0.67590402	1.01	0.79															
29-Oct	897		0.03	7.25																		
30-Oct	897		0.04	7.24																		
31-Oct	897	10.9	0.03	7.23	1.12875972	1.09	0.57					<1			<1			<1			<1	
1-Nov	1363	10.8	0.04	7.25	1.30060695	1.1	0.75															
2-Nov	1005		0.03	7.25																		
3-Nov	1005	10.9	0.03	7.26	0.76926558	1.1	0.76															
4-Nov	715	10.9	0.04	7.25	0.82644628	1.1	0.62															
5-Nov	682		0.03	7.24																		
6-Nov	682		0.04	7.23																		
7-Nov	682	11	0.03	7.24	1.24411268		0.75							<1						<1		
8-Nov	841		0.04	7.22																		
9-Nov	841	11.1	0.03	7.24	1.21608475	1.02	0.79															
10-Nov	353	11.4	0.02	7.23	1.28766418	1	0.84															
11-Nov	769		0.03	7.22																		
12-Nov	769		0.03	7.23																		
13-Nov	769		0.03	7.23																		
14-Nov	769	10.9	0.03	7.22	1.31516728							<1	<1					<1	<1			
15-Nov	603	10.8	0.04	7.23	1.58299412	0.88	0.75															
16-Nov	888	10.7	0.03	7.24	1.22850123	0.85	0.8															
17-Nov	665	9.6	0.02	7.25	1.2303486	0.84	0.74															
18-Nov	742	10.6	0.02	7.25	1.2864494	0.87	0.84															
19-Nov	771		0.02	7.25																		
20-Nov	771		0.03	7.25																		
21-Nov	771	10.5	0.02	7.26	1.17961623	0.78	0.85							<1						<1		
22-Nov	776	10.7	0.02	7.24	1.28865979		0.94															
23-Nov	667	10.7	0.02	7.24	1.29480714																	
24-Nov	618	10.6	0.04	7.25	1.47102089		0.9															
25-Nov	889	10.3	0.02	7.26	1.12485939	0.72	0.87															
26-Nov	802		0.03	7.25																		
27-Nov	802		0.02	7.24																		
28-Nov	802	10.1	0.03	7.26	1.41750142																	
29-Nov	695	10.2	0.03	7.24	0.85022891		0.85															
30-Nov	1036	10.1	0.02	7.23	1.22850123	0.71	0.84															
1-Dec	940	10.4	0.02	7.24	1.16054159																	
2-Dec	984	10.3	0.02	7.25	1.20103474																	
3-Dec	713		0.02	7.25																		
4-Dec	713		0.02	7.25																		

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
5-Dec	713	9.9	0.02	7.26	1.23194562	0.7	0.81					<1	<1					<1	<1			
6-Dec	749		0.02	7.28																		
7-Dec	749	9.8	0.02	7.28	1.21292983	0.7	0.85															
8-Dec	1064	9.6	0.02	7.30	1.28161312	0.7	0.85															
9-Dec	1164	9.6	0.02	7.29	1.30818494	0.73	0.9															
10-Dec	803		0.03	7.28																		
11-Dec	803		0.02	7.30																		
12-Dec	803	9.3	0.02	7.29	0.95365789	0.74	0.76							<1						<1		
13-Dec	1044	9.2	0.02	7.27	0.78369906	0.76	0.75															
14-Dec	954	9.2	0.02	7.29	1.33409567	0.78	0.5															
15-Dec	693	9.3	0.02	7.31	1.44300144		0.91															
16-Dec	1139	8.9	0.02	7.31	1.19722244																	
17-Dec	935		0.02	7.32																		
18-Dec	935		0.02	7.30																		
19-Dec	935	8.9	0.02	7.32	1.16674769	0.83	0.76						<1						<1			
20-Dec	1208	8.9	0.02	7.34	1.20409392		0.88															
21-Dec	954	9.1	0.02	7.31	0.93386697	0.84	0.83															
22-Dec	935	9.2	0.02	7.30	1.57510938	0.86	0.81															
23-Dec	968	9.2	0.02	7.32	1.1269722																	
24-Dec	891		0.02	7.33																		
25-Dec	891		0.02	7.34																		
26-Dec	891		0.02	7.33																		
27-Dec	891		0.02	7.32																		
28-Dec	891	9	0.02	7.34	1.16366903									<1						<1		
29-Dec	831	8.8	0.02	7.31	1.20336943																	
30-Dec	1058	9.1	0.02	7.35	0.68740333																	
31-Dec	841		0.02	7.35																		

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15	Column16	Column17	Column18	Column19	Column20	Column21	Column22	Column23
1-Jan	788		0.03	7.00																		
2-Jan	788		0.03	7.00																		
3-Jan	788		0.03	6.99																		
4-Jan	788	8.4	0.03	7.01	1.3926131		0.88	0.71	0.95			<1			<1			<1			<1	
5-Jan	644	8.3	0.03	7.00	1.27046866		0.56															
6-Jan	555	8.2	0.03	7.00	1.14660115		0.91															
7-Jan	809	8.5	0.03	7.01	1.23609394		0.93															
8-Jan	896	8.5	0.03	7.01	1.31899351																	
9-Jan	803		0.03	7.02																		
10-Jan	803		0.03	7.03																		
11-Jan	803	8.5	0.03	7.03	1.20809423		1.03				<1					<1	<1					<1
12-Jan	571	8.6	0.03	7.02	1.27368253		0.86															
13-Jan	825	8.8	0.03	7.01	1.21212121		0.65															
14-Jan	804	8.9	0.05	7.03	1.52645862		1.18															
15-Jan	724	8.8	0.02	7.03	0.81617278		0.95															
16-Jan	839		0.02	6.99																		
17-Jan	839		0.02	7.02																		
18-Jan	839	9.2	0.02	7.02	1.22752545		0.81	0.95	0.95			<1			<1			<1			<1	
19-Jan	721	8.9	0.02	7.00	1.38696255		0.96															
20-Jan	1198	8.8	0.03	7.03	0.68295644		0.98															
21-Jan	639	8.8	0.02	7.02	1.14																	
22-Jan	930	9.2	0.02	7.03	1.08																	
23-Jan	895		0.02	7.01																		
24-Jan	895		0.02	7.03																		
25-Jan	895	9.1	0.02	7.01	1.02		1.03			0.84	<1					<1	<1					<1
26-Jan	980	9.3	0.02	7.01	1.11		1.05															
27-Jan	806	9.2	0.02	7.07	1.12		0.75															
28-Jan	1055	9.6	0.03	7.06	1.03		0.88															
29-Jan	807	9.2	0.02	7.02	1.35		0.96															
30-Jan	1063		0.02	7.00																		
31-Jan	1063		0.02	7.02																		
1-Feb	1063	9	0.03	7.01	1.06		0.67	0.81	0.92			<1			<1			<1			<1	
2-Feb	853	8.9	0.02	6.99	1.07																	
3-Feb	1177	9	0.02	7.00	1.16		0.84															
4-Feb	755	9	0.02	7.02	0.84286574		0.91															
5-Feb	1097	8.9	0.03	7.01	2.90047236		0.98															
6-Feb	1076		0.03	7.01																		
7-Feb	1076		0.04	7.01																		
8-Feb	1076		0.03	7.00																		
9-Feb	1076	9	0.02	7.00	1.05634547		0.93			0.96	<1					<1	<1					<1
10-Feb	734	9	0.02	7.00	0.99083478																	
11-Feb	864	9.2	0.02	7.00	0.9469697																	
12-Feb	869	9.1	0.03	6.97	1.15074799																	
13-Feb	776		0.03	7.00																		
14-Feb	776		0.02	6.97																		
15-Feb	776	9.1	0.02	6.98	1.09293883		0.57	0.91	1.03			<1			<1			<1			<1	
16-Feb	674	9.1	0.03	6.99	1.01159968		0.99															
17-Feb	674	9	0.03	7.00	1.41623955		0.79															
18-Feb	1098	9.1	0.03	6.98			0.84															
19-Feb	628	9.1																				
20-Feb	797																					
21-Feb	797																					
22-Feb	797	8.9			0.60859642					0.87	<1					<1	<1					<1
23-Feb	796	8.9			0.7994518																	
24-Feb	895	8.9	0.02	7.00	0.91416963																	
25-Feb	675	8.9	0.03	7.00	0.91582492																	
26-Feb	850	8.8	0.03	7.03	1.19786096																	
27-Feb	789		0.02	7.02																		
28-Feb	789		0.02	7.02																		
29-Feb	789	8.9	0.02	7.03	1																	
1-Mar	1099	8.9	0.02	7.03	0.74447845																	
2-Mar	973	8.9	0.02	7.03	1.12118098		0.97	0.82	0.94			<1			<1			<1			<1	
3-Mar	762	8.9	0.02	7.04	0.95442615		0.84															
4-Mar	934	9	0.02	7.04	1.07066381		0.76															
5-Mar	820		0.03	7.04																		
6-Mar	820		0.03	7.04																		
7-Mar	820	9	0.03	7.03	1.03431717		0.74			0.67	<1					<1	<1					<1

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
8-Mar	1139	9.1	0.03	7.01	0.95777796		0.83															
9-Mar	687	9	0.02	6.97	1.05862115		0.86															
10-Mar	1046	8.9	0.02	7.02	1.1298453		1.01															
11-Mar	1100	9.1	0.03	7.00	0.82644628		0.99															
12-Mar	987		0.03	7.01																		
13-Mar	987		0.03	6.99																		
14-Mar	987	8.8	0.02	7.00	1.25921376		0.9	1.01	0.85			<1			<1			<1			<1	
15-Mar	941		0.02	6.99																		
16-Mar	941	8.8	0.03	7.01	2																	
17-Mar	960	8.7	0.03	7.01	1.13636364		0.81															
18-Mar	930		0.03	7.02																		
19-Mar	930		0.02	7.01																		
20-Mar	930		0.02	7.01																		
21-Mar	930	9	0.02	6.99	1.1485826		1.04			1.01						<1						<1
22-Mar	1114	9.1	0.03	7.01	1.06087808		0.84															
23-Mar	757	9.1	0.02	7.01	0.96073015																	
24-Mar	1134	9.1	0.02	7.01	1.12233446																	
25-Mar	275		0.04	7.01																		
26-Mar	275		0.02	7.01																		
27-Mar	275		0.02	7.01																		
28-Mar	275		0.02	6.99																		
29-Mar	275	9.3	0.02	7.01	6.23400215		1.07															
30-Mar	778	9.3	0.03	7.01	1.46062164		1.05															
31-Mar	1227	9.4	0.02	7.00	1.40772023		0.99															
1-Apr	1025	7.5	0.03	7.01	1.37472284		1.06															
2-Apr	1164		0.02	7.01																		
3-Apr	1164		0.02	7.01																		
4-Apr	1164	9.7	0.02	7.01	1.45042194		0.9	0.99	0.73			<1			<1			<1			<1	
5-Apr	676		0.02	7.01																		
6-Apr	676		0.02	7.01																		
7-Apr	676		0.02	7.00																		
8-Apr	676	9.6	0.03	7.00	1.44147607		1.07															
9-Apr	1115		0.02	6.99																		
10-Apr	1115		0.03	6.99																		
11-Apr	1115	9.7	0.03	7.00	1.38647238					0.89	<1					<1	<1					<1
12-Apr	1041	9.9	0.02	6.97	1.39725788		0.93															
13-Apr	1102	9.9	0.02	7.01	1.69114008																	
14-Apr	1206		0.03	7.01																		
15-Apr	1206	9.9	0.03	7.01	1.41397383		1.07															
16-Apr	984		0.02	6.99																		
17-Apr	984		0.03	7.00																		
18-Apr	984	9.9	0.03	7.00	1.44740084							<1			<1			<1			<1	
19-Apr	1008	9.9	0.03	7.01	1.44300144		1.09															
20-Apr	1028	9.9	0.03	6.99	1.370711																	
21-Apr	1042	10.3	0.03	7.00	1.39591694		1.06															
22-Apr	926	10.1	0.02	6.98																		
23-Apr	987		0.02	6.99																		
24-Apr	987		0.02	7.01																		
25-Apr	987	9.9	0.02	7.00	1.34213759						<1					<1	<1					<1
26-Apr	1030		0.02	7.00																		
27-Apr	1030		0.03	7.00																		
28-Apr	1030	9.9	0.03	6.98	1.4352519																	
29-Apr	1005	9.9	0.03	7.02	1.3568521																	
30-Apr	1336		0.03	7.00																		
1-May	1336		0.03	7.04																		
2-May	1336	10.2	0.04	7.03	1.41761931		1.17	0.96	1.02			<1			<1			<1			<1	
3-May	1090	10.5	0.04	7.01	1.33444537	off	1.14															
4-May	842	10.6	0.04	7.01	1.18764846		1.02															
5-May	1171	10.7	0.04	6.99	1.31977331																	
6-May	1020	10.8	0.03	7.03	1.42602496		1.13															
7-May	1357		0.03	7.01																		
8-May	1357		0.04	7.02																		
9-May	1357	10.9	0.03	7.03	1.12798749		1.08				<1					<1	<1					<1
10-May	1632	10.9	0.03	7.05	1.114082																	
11-May	1580	11.2	0.04	7.03	1.20828539																	
12-May	1288	11.2	0.03	7.04	1.27046866																	
13-May	1221	11.1	0.03	7.01	1.34018316		1.07															
14-May	1579		0.04	7.01																		

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
15-May	1579		0.03	7.00																		
16-May	1579	11.5	0.03	6.99	1.20879543		1.17					<1			<1			<1			<1	
17-May	1531	11.6	0.03	7.03	1.42509352		0.96															
18-May	1167	11.4	0.04	6.99	1.40219677		1.01															
19-May	1334	11.1	0.08	7.00	1.63554586		1.08															
20-May	1445	11.3	0.11	7.05	1.32117018		1.1															
21-May	1558		0.12	7.01																		
22-May	1558		0.11	7.03																		
23-May	1558		0.12	7.03																		
24-May	1558	11.5	0.13	7.05	1.21056547		1.06			<1						<1	<1					<1
25-May	1709	11.7	0.10	7.05	1.22346933		1.14															
26-May	2143	11.6	0.10	7.05	1.18		1.06															
27-May	1187	11.3	0.10	7.03	1.57003906																	
28-May	1290		0.10	7.02																		
29-May	1290		0.09	7.03																		
30-May	1290	11.3	0.09	7.05	1.24500822																	
31-May	1106	11.2	0.10	7.04	1.23294427																	
1-Jun	1775	11.7	0.13	6.71	1.10115237																	
2-Jun	723	11.5	0.08		1.25738715		0.78															
3-Jun	1344	12	0.03	6.98	1.08225108		0.57															
4-Jun	1823		0.03	7.21																		
5-Jun	1823		0.03	7.19																		
6-Jun	1823	12.5	0.04	7.22	1.05988562			0.75	1.05			<1			<1			<1			<1	
7-Jun	1949	12.5	0.03	7.21	1.117123																	
8-Jun	1570	12.7	0.03	6.93	1.16097279																	
9-Jun	1255	12.5	0.03	6.71	1.39442231		0.92															
10-Jun	1107	12.5	0.03	6.54	1.39607457																	
11-Jun	1096		0.04	6.49																		
12-Jun	1096		0.04	6.50																		
13-Jun	1096	12.1	0.03	6.63	1.18649224						<1					<1	<1					<1
14-Jun	793	11.9	0.03	6.85	1.38713745		0.92															
15-Jun	1066	11.8	0.04	6.90	1.2792086		1.08															
16-Jun	760	11.7	0.03	7.02	1.07655502																	
17-Jun	821	11.9	0.03	7.12	1.55021592		0.97															
18-Jun	1295		0.03	7.15																		
19-Jun	1295	11.9	0.03	7.18	0.98280098																	
20-Jun	1051	12	0.03	7.17	1.29746562	0.88	0.88	0.57	1			<1			<1			<1			<1	
21-Jun	838	12.5	0.03	7.18	0.75938381		0.77															
22-Jun	944	12.4	0.04	7.20	1.25192604		0.92															
23-Jun	637	12.4	0.03	7.21	1.35578707		1.02															
24-Jun	967	12.2	0.03	7.23	1.78621792		0.87															
25-Jun	1001		0.03	7.23																		
26-Jun	1001		0.03	7.26																		
27-Jun	1001	12.9	0.03	7.27	1.07432514		0.9				<1					<1	<1					<1
28-Jun	899	15.3	0.13	6.91	1.41571443																	
29-Jun	2224	16.4	0.20	6.63	1.49198823																	
30-Jun	1411	16.8	0.18	6.63	1.6751498																	
1-Jul	1618		0.17	6.65																		
2-Jul	1618		0.16	6.66																		
3-Jul	1618		0.15	6.68																		
4-Jul	1618	16.6	0.14	6.70	1.78859048		0.84					<1			<1			<1			<1	
5-Jul	1001	16.4	0.13	6.72	1.72554718		0.69															
6-Jul	1304	16.1	0.13	6.74	1.70803123		0.72															
7-Jul	1352	16.1	0.12	6.76	1.58015062		0.77															
8-Jul	969	15.7	0.11	6.78	1.5010789		0.88															
9-Jul	1033		0.10	6.80																		
10-Jul	1033		0.09	6.82																		
11-Jul	1033	16	0.08	6.83	1.39296188		0.57			0.43						<1						<1
12-Jul	1311	15.9	0.09	6.86	1.80292629		0.74															
13-Jul	924	15.9	0.10	6.88	1.52499016		0.68															
14-Jul	1113	16.4	0.12	6.87	1.63358654		0.65															
15-Jul	1664	16.4	0.11	6.87	1.63898601		0.68															
16-Jul	1289		0.10	6.88																		
17-Jul	1289		0.10	6.89																		
18-Jul	1289	17.9	0.10	6.89	1.64605183		0.74					<1			<1			<1			<1	
19-Jul	888	18.2	0.10	6.88	1.63800164																	
20-Jul	1376	18.1	0.10	6.90	1.78382664		0.73															
21-Jul	1093	17.5	0.10	6.92	1.74665225		0.56															

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
22-Jul	1539	17.8	0.10	6.91	1.65396657		0.71															
23-Jul	1349		0.11	6.92																		
24-Jul	1349		0.13	6.97																		
25-Jul	1349	18.4	0.10	6.95	1.28009342		0.83									<1						<1
26-Jul	1483	19	0.10	6.98	1.77772329		0.66															
27-Jul	1732	19.3	0.11	6.97	1.73210162	0.34	0.7															
28-Jul	1506	19.5	0.09	7.01	1.56947966	0.35	0.77															
29-Jul	1565	19.8	0.10	6.99	1.56839965		0.97															
30-Jul	1564		0.10	7.00																		
31-Jul	1564		0.09	7.04																		
1-Aug	1564		0.09	7.05																		
2-Aug	1564	19.2	0.09	7.08	1.63453296			0.44	0.98			<1			<1			<1			<1	
3-Aug	1279	18.7	0.08	7.11	1.67033904		0.92															
4-Aug	1365	18.9	0.09	7.07	1.53180153	0.77	0.84															
5-Aug	1468	19.1	0.08	7.10	1.48625217																	
6-Aug	966		0.09	7.12																		
7-Aug	966		0.07	7.14																		
8-Aug	966	17.8	0.08	7.16	1.70905328	0.6	0.84			0.57						<1						<1
9-Aug	961		0.08	7.18																		
10-Aug	961		0.08	7.20																		
11-Aug	961	18.1	0.09	7.17	1.49780847																	
12-Aug	1390	18.7	0.09	7.13	1.34074559	0.53	0.53															
13-Aug	1494		0.08	7.14																		
14-Aug	1494		0.08	7.12																		
15-Aug	1494	19.8	0.07	7.14	1.44992193			0.8	1.02			<1			<1			<1			<1	
16-Aug	1349	20	0.09	7.13	1.4151897																	
17-Aug	1297	19.8	0.09	7.13	1.61211187		0.78															
18-Aug	1508	19.9	0.08	7.15	1.56739812	0.69	0.86															
19-Aug	1507	20.3	0.08	7.14	1.35730229		0.7															
20-Aug	1568		0.08	7.17																		
21-Aug	1568		0.07	7.16																		
22-Aug	1568	19.7	0.07	7.18	1.55606673		0.86			0.86						<1						<1
23-Aug	1370	19.3	0.08	7.20	1.59256802																	
24-Aug	1435	19.4	0.07	7.23	1.52043079		0.97															
25-Aug	1353	19.6	0.09	7.21	1.34381509		0.7															
26-Aug	1429	20.1	0.08	7.19	1.4631974		0.91															
27-Aug	1240		0.09	7.21																		
28-Aug	1240		0.09	7.25																		
29-Aug	1240	19.1	0.08	7.28	1.25821504		0.64															
30-Aug	816	18.5	0.09	7.28	1.3368984																	
31-Aug	893	17.9	0.08	7.26	1.73063219																	
1-Sep	970		0.08	7.29																		
2-Sep	970	17.6	0.07	7.31	1.54639175																	
3-Sep	866		0.07	7.29																		
4-Sep	866		0.08	7.27																		
5-Sep	866		0.07	7.31																		
6-Sep	866	16.7	0.09	7.31	1.470511	0.3	0.92					<1	<1					<1	<1			
7-Sep	695	16.5	0.06	7.33	1.63505559	0.28	0.66															
8-Sep	718	16.1	0.07		1.32945049																	
9-Sep	995	15.9	0.07		1.64458657																	
10-Sep	872		0.09	7.30																		
11-Sep	872		0.08	7.29																		
12-Sep	872	15.5	0.08	7.29	1.47692522		0.92			0.92				<1						<1		
13-Sep	606	15.3	0.07	7.30	1.65016502		0.83															
14-Sep	1134	15.3	0.06	7.32	1.40291807	0.21	0.74															
15-Sep	897	15.5	0.07	7.33	1.46954495	0.26	0.94															
16-Sep	573	15.7	0.06	7.33	1.42789148	0.21	0.8															
17-Sep	792		0.06	7.33																		
18-Sep	792		0.05	7.35																		
19-Sep	792	15	0.06	7.37	1.56805752	0.15	0.79	0.68	0.98			<1	<1					<1	<1			
20-Sep	900	14.8	0.07	7.36	1.41414141	0.15	0.93															
21-Sep	720	14.9	0.06	7.37	1.64141414	0.17	0.94															
22-Sep	661	14.4	0.06	7.36	1.5128593	0.16	0.69															
23-Sep	715	14.3	0.07	7.39	1.52574698	0.22	0.81															
24-Sep	637		0.06	7.39																		
25-Sep	637		0.05	7.39																		
26-Sep	637	13.4	0.07	7.40	1.42639787	0.23	0.78			0.82				<1						<1		
27-Sep	752	13.3	0.07	7.38	1.45067698																	

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
					Chlorine Residuals (mg/L)						E.Coli						Total Coliforms					
	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
28-Sep	713	13.1	0.07	7.39	1.65752901	0.22	0.71															
29-Sep	714	13	0.07	7.40	1.27323657	0.29	0.78															
30-Sep	886	12.6	0.06	7.43	1.84691155	0.32	1.07															
1-Oct	627		0.06	7.42																		
2-Oct	627		0.08	7.41																		
3-Oct	627	12	0.18	7.36	1.59404888			0.87	0.9			<1	<1					<1	<1			
4-Oct	820	11	0.08	7.31	1.2195122																	
5-Oct	421	11.6	0.06	7.32	1.07968041	0.35	0.83															
6-Oct	673	11.5	0.05	7.32	1.21572336	0.35	0.77															
7-Oct	676	11.5	0.05	7.32	1.21032813		0.83															
8-Oct	738		0.05	7.32																		
9-Oct	738		0.05	7.33																		
10-Oct	738		0.05	7.31																		
11-Oct	738	10.5	0.05	7.34	1.41660508		0.9							<1						<1		
12-Oct	960	10.4	0.04	7.33	1.32575758																	
13-Oct	615	10.5	0.04	7.30	1.33037694	0.31	0.86															
14-Oct	434	10.7	0.04	7.31	1.46627566	0.31																
15-Oct	728		0.04	7.32																		
16-Oct	728		0.04	7.30																		
17-Oct	728		0.04	7.29								<1			<1			<1			<1	
18-Oct	728	10.7	0.04	7.28	1.06216807	0.29	0.99															
19-Oct	307	10.9	0.05	7.26	1.18448327	0.29	0.85															
20-Oct	664	10.9	0.05	7.26	1.23220153	0.36	0.8															
21-Oct	857	10.7	0.04	7.27	1.16686114																	
22-Oct	635		0.05	7.27																		
23-Oct	635		0.05	7.26																		
24-Oct	635	10.8	0.04	7.25	1.24010302	0.79	0.64							<1						<1		
25-Oct	677	10.8	0.04	7.25	1.07425809	0.86	0.85															
26-Oct	991	10.9	0.04	7.26	1.19255114	0.92	0.84															
27-Oct	551	10.7	0.05	7.26	0.98993565	0.98																
28-Oct	538	11	0.03	7.23	0.67590402	1.01	0.79															
29-Oct	897		0.03	7.25																		
30-Oct	897		0.04	7.24																		
31-Oct	897	10.9	0.03	7.23	1.12875972	1.09	0.57					<1			<1			<1			<1	
1-Nov	1363	10.8	0.04	7.25	1.30060695	1.1	0.75															
2-Nov	1005		0.03	7.25																		
3-Nov	1005	10.9	0.03	7.26	0.76926558	1.1	0.76															
4-Nov	715	10.9	0.04	7.25	0.82644628	1.1	0.62															
5-Nov	682		0.03	7.24																		
6-Nov	682		0.04	7.23																		
7-Nov	682	11	0.03	7.24	1.24411268		0.75							<1						<1		
8-Nov	841		0.04	7.22																		
9-Nov	841	11.1	0.03	7.24	1.21608475	1.02	0.79															
10-Nov	353	11.4	0.02	7.23	1.28766418	1	0.84															
11-Nov	769		0.03	7.22																		
12-Nov	769		0.03	7.23																		
13-Nov	769		0.03	7.23																		
14-Nov	769	10.9	0.03	7.22	1.31516728							<1	<1					<1	<1			
15-Nov	603	10.8	0.04	7.23	1.58299412	0.88	0.75															
16-Nov	888	10.7	0.03	7.24	1.22850123	0.85	0.8															
17-Nov	665	9.6	0.02	7.25	1.2303486	0.84	0.74															
18-Nov	742	10.6	0.02	7.25	1.2864494	0.87	0.84															
19-Nov	771		0.02	7.25																		
20-Nov	771		0.03	7.25																		
21-Nov	771	10.5	0.02	7.26	1.17961623	0.78	0.85							<1						<1		
22-Nov	776	10.7	0.02	7.24	1.28865979		0.94															
23-Nov	667	10.7	0.02	7.24	1.29480714																	
24-Nov	618	10.6	0.04	7.25	1.47102089		0.9															
25-Nov	889	10.3	0.02	7.26	1.12485939	0.72	0.87															
26-Nov	802		0.03	7.25																		
27-Nov	802		0.02	7.24																		
28-Nov	802	10.1	0.03	7.26	1.41750142																	
29-Nov	695	10.2	0.03	7.24	0.85022891		0.85															
30-Nov	1036	10.1	0.02	7.23	1.22850123	0.71	0.84															
1-Dec	940	10.4	0.02	7.24	1.16054159																	
2-Dec	984	10.3	0.02	7.25	1.20103474																	
3-Dec	713		0.02	7.25																		
4-Dec	713		0.02	7.25																		

Date	SOURCE WATER				DISTRIBUTION SYSTEM																	
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	Total Water Consumption (m3)	Temp (˚C)	Turbidity (NTU)	pH	Calculated Chlorine Dose	Kelland Reservoir	BC Booster	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store	Oyster River Elementary	1812 Miracle Beach	2220 Salmon Pt Rd	8527 Island Hwy	Salmon Point Pub	Black Creek Store
5-Dec	713	9.9	0.02	7.26	1.23194562	0.7	0.81					<1	<1					<1	<1			
6-Dec	749		0.02	7.28																		
7-Dec	749	9.8	0.02	7.28	1.21292983	0.7	0.85															
8-Dec	1064	9.6	0.02	7.30	1.28161312	0.7	0.85															
9-Dec	1164	9.6	0.02	7.29	1.30818494	0.73	0.9															
10-Dec	803		0.03	7.28																		
11-Dec	803		0.02	7.30																		
12-Dec	803	9.3	0.02	7.29	0.95365789	0.74	0.76							<1						<1		
13-Dec	1044	9.2	0.02	7.27	0.78369906	0.76	0.75															
14-Dec	954	9.2	0.02	7.29	1.33409567	0.78	0.5															
15-Dec	693	9.3	0.02	7.31	1.44300144		0.91															
16-Dec	1139	8.9	0.02	7.31	1.19722244																	
17-Dec	935		0.02	7.32																		
18-Dec	935		0.02	7.30																		
19-Dec	935	8.9	0.02	7.32	1.16674769	0.83	0.76						<1						<1			
20-Dec	1208	8.9	0.02	7.34	1.20409392		0.88															
21-Dec	954	9.1	0.02	7.31	0.93386697	0.84	0.83															
22-Dec	935	9.2	0.02	7.30	1.57510938	0.86	0.81															
23-Dec	968	9.2	0.02	7.32	1.1269722																	
24-Dec	891		0.02	7.33																		
25-Dec	891		0.02	7.34																		
26-Dec	891		0.02	7.33																		
27-Dec	891		0.02	7.32																		
28-Dec	891	9	0.02	7.34	1.16366903									<1						<1		
29-Dec	831	8.8	0.02	7.31	1.20336943																	
30-Dec	1058	9.1	0.02	7.35	0.68740333																	
31-Dec	841		0.02	7.35																		